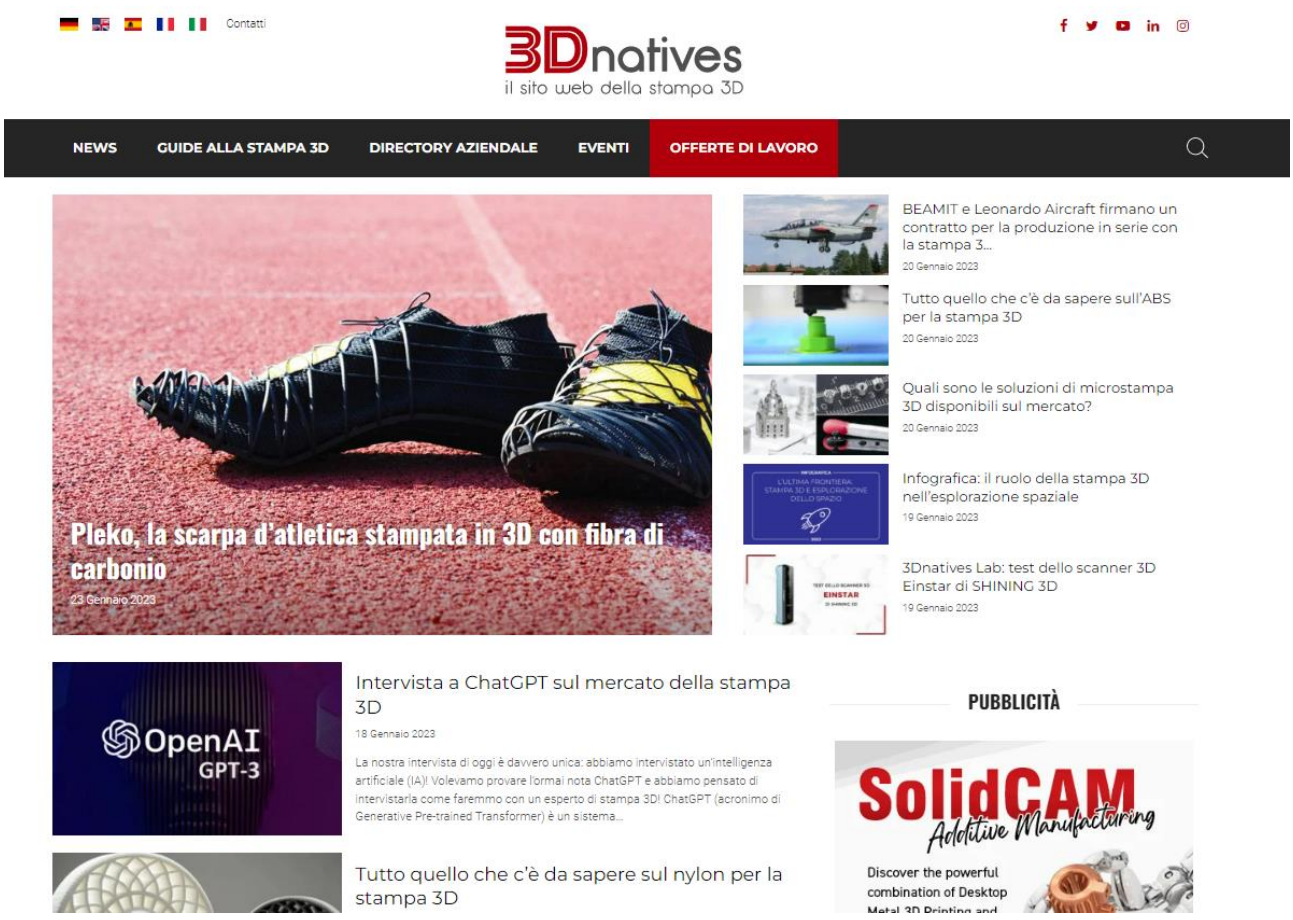
Press Office Manager
Veronica Negrelli
www.crp-group.com – www.windform.com

January 2023

3DNatives



TCT

https://www.tctmagazine.com/additive-manufacturing-3d-printing-news/ceramic-and-exotic-additive-manufacturing-news/crp-technology-teams-with-flying-cam-to-create-3d-printed-functional-tail-rotor-actuators-protection/

CRP Technology teams with FLYING-CAM to create 3D printed, functional tail rotor actuators' protection for the Discovery "super drone"

The part is 3D printed in Windform XT 2.0 composite material.

BY OLIVER JOHNSON 5 JANUARY 2023 15:58

FLYING-CAM, a company specialising in design and manufacturing of unmanned helicopters as well as professional drone filming services, recently unveiled its newest unmanned aircraft system, Discovery, when it celebrated its 30th anniversary.

The Belgium-based company turned to **CRP Technology** and its additive manufacturing solutions using powder bed fusion (PBF) with fibre-reinforced composite polymers to complete Discovery.

Discovery is a 75kg Maximum Take-Off Weight (MTOW) unmanned single rotor helicopter, and according to a FLYING-CAM press release, is the company's largest and most versatile system with increased endurance features. CRP Technology was involved in creating the tail rotor gear box housing, the main housing attached to the main tail boom.

Emmanuel Previnaire, founder and CEO of FLYING-CAM, said: "With the potential drones offer the civil market,

Composites World

CARBON FIBERS | GLASS FIBERS

Published 1/30/2023

ESA approves Windform RS, LX 3.0 for space flight applications

CRP Technology's Top-Line composite materials Windform RS and Windform LX 3.0 are compliant with outgassing requirements in accordance with ESA-TEC-PR-002015.

#space #trends

EDITED BY GRACE NEHLS
Managing Editor, *CompositesWorld*

Photo Credit: Getty Images

CRP Technology's (Modena, Italy) Windform materials have reached a new, important milestone, increasing the number of Windform Top-Line composite materials officially approved for space flight. Carbon fiber-reinforced Windform RS and glass fiber-reinforced Windform LX 3.0 have passed European Space Agency (ESA) standard screening outgassing tests in accordance with ESA-TEC-PR-002015 (based on ECSS-Q-ST-70-02C). This means that they are officially suitable for the construction of applications to launch into space.

"Passing the outgassing tests is a crucial factor for those who supply materials to the space industry," Franco Cevolini, CEO and technical director of CRP Technology,

3DNatives

Pleko, la scarpa d'atletica stampata in 3D con fibra di carbonio

Pubblicato il 23 Gennaio 2023 da **Nunzia A.**

Pleko è una **scarpa** realizzata in gran parte attraverso la **stampa 3D con materiali compositi**. La parte strutturale della scarpa (composta da soletta, intersuola, punte e nervature) è stata progettata con fibra di carbonio utilizzando la sinterizzazione laser selettiva (SLS). La scarpa risulta più flessibile, resistente alla deformazione e può essere facilmente personalizzata.

Le scarpe Pleko sono opera di Miro Buroni, un mezzofondista italiano che ha unito due delle sue passioni, il design e l'atletica. Con il supporto di Diadora, che ha contribuito all'analisi storica e alla progettazione, e di CRP Technology per la produzione, ha creato una scarpa più comoda e sostenibile, adatta agli atleti. SI inizia con una scansione 3D del piede dell'atleta e, utilizzando i dati scansionati, il software è in grado di simulare l'azione della corsa e quindi di creare un'analisi biomeccanica del movimento del piede. Questa simulazione fornisce una serie di dati matematici che danno origine a una scarpa personalizzata al 100%.

February 2023

Aerospace Manufacturing

AEROSPACE MANUFACTURING

Windform RS and Windform LX 3.0 approved for space flight

8 FEBRUARY 2023 • IN **NEWS**

Carbon fibre-reinforced composite Windform RS and Glass fibre-reinforced composite Windform LX 3.0 from CRP Technology's Windform TOP-LINE, passed ESA standard screening outgassing tests - in accordance with ESA-TEC-PR-002015 (based on ECSS-Q-ST-70-02C). They are officially approved for the construction of applications to launch into space.

Franco Cevolini, CEO and technical director of CRP Technology, said: "Passing the outgassing tests is a crucial factor for those who supply materials to the space industry. The majority of Windform TOP-LINE composites are already approved for space applications. Now that two more Windform are officially compliant with ESA outgassing requirements, we are more competitive and ready to offer further added value to our most demanding customers."

The test was conducted in the µVCM facility of the TEC-QEE laboratory at ESA's ESTEC technical centre in Noordwijk, the Netherlands.

Windform RS and Windform LX 3.0 join Windform XT 2.0 (passed both ESA and NASA standard screening outgassing tests); Windform SP and Windform GT (passed NASA standard screening outgassing tests).

www.windform.com

www.crptechnology.com

3Printr.com

PRESS RELEASES & GUEST POSTS

CRP at the Small Satellites & Services Forum

By **CRP Group** - Feb 16, 2023

CRP Technology will be attend as **exhibitor** the 2023 edition of SSSIF, **Small Satellites & Services International Forum 2023**.

The event will be held in **Málaga (Spain)** from **21st to 23rd February** 2023 at the hotel NH, floor -1. CRP Technology will be at the **booth A01**, Arlequín hall.

With the motto "High Capability Constellations," Small Satellites & Services International Forum 2023 will gather renowned professionals in the sector, including scientists, manufacturers, technicians, suppliers, investors, developers and launchers.

The forum is a unique networking opportunity for access to space, business development as well as sharing the current status and future trends of the small satellite industry.

CRP Technology will be displaying some small satellite's parts and structures 3D-printed in Windform composites that took part to important space missions successfully completed.

crptechnology.com

windform.com

Popular Posts

YouTuber gives tour of first 3D-printed home in Southern California
Applications & Case Studies Dec 7, 2023

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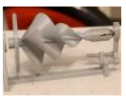
Industry Dec 18, 2023



YouTuber presents mini wind turbine with 3D printing and magnetic bearing
Practice & Makers Dec 17, 2023

Hexagon's Volume Graphics

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All · About · 3D

ESA HA APROBADO WINDFORM RS Y WINDFORM LX 3.0 PARA VUELOS ESPACIALES

Andrea Gambini febrero 11, 2023 Fabricación aditiva aeroespacial

El compuesto reforzado con fibra de carbono Windform RS y el compuesto reforzado con fibra de vidrio Windform LX 3.0 de CRP Technology pasaron recientemente las pruebas de desgasificación estándar de la Agencia Espacial Europea de acuerdo con ESA-TEC-PR-002015 (basado en ECSS -Q-ST-70- 02C), lo que hace que el materiales oficialmente aptos para la construcción de aplicaciones que se lanzarán al espacio.

La prueba se realizó en las instalaciones de µVCM del laboratorio TEC-QEE en las instalaciones ESTEC de la ESA en Noordwijk, Países Bajos.

VoxelMatters

VoxelMatters
Formerly 3dpbm

Additive Manufacturing | Advanced Materials | Advanced Polymers | AM Powders | Automotive | Materials | Sponsored | Thermoplastic Polymers

Supercars and Windform RS: a match made in heaven

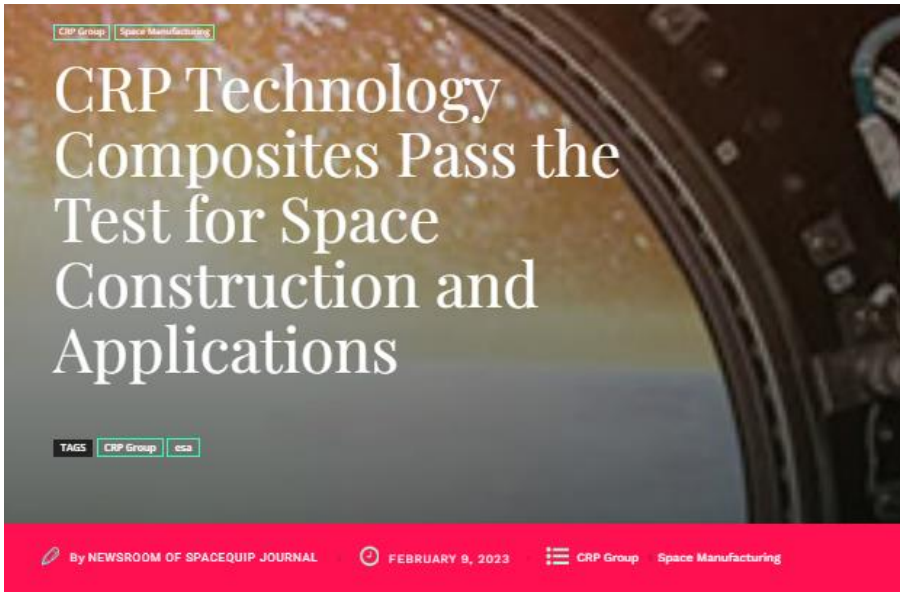
CRP Technology's Windform RS, a carbon-fiber-filled composite, has numerous applications and benefits for high-performance vehicles.

Tess Boissonneault · February 15, 2023

5 minutes read

What do Ferrari, Lamborghini, Maserati, Dallara, Ducati and Pagani have in common? Yes, they are all Italian car brands. But more than that, they all come from the same part of the country, the Emilia-Romagna Region, also fittingly known as Motor Valley. Since 1996, Motor Valley has also been home to 3D printing company CRP Technology, which has closely aligned itself and its unique range of high-performance composite SLS materials with the local (and global)

SpaceQuip



Carbon and Glass fiber reinforced composite Windform RS and Windform LX 3.0 from CRP Technology, passed ESA standard screening outgassing tests: they are officially approved for the construction of applications to launch into Space.

Franco Cevolini, CEO and Technical Director of CRP Technology, says:

> *"Passing the outgassing tests is a crucial factor for those who supply materials to the Space industry. The majority of Windform TOP-LINE composites are already approved for space applications, and now that two more Windform are officially compliant with ESA outgassing requirements, we are more competitive and ready to offer further added value to our most demanding customers."*

Applicazioni Laser

APPLICAZIONI LASER

THE ADDITIVE JOURNAL

L'ADDITIVE MANUFACTURING NEL SETTORE DELLA GIOIELLERIA

Foto: Eternha

L'azienda di gioielli Eternha ha scelto CRP Technology e il Windform® GT, materiale composito caricato fibra di vetro impermeabile, ipoallergenico e dalle elevate caratteristiche di duttilità e resistenza agli urti, per realizzare alcuni elementi della sua linea di bracciali da uomo.

di Adriano Morani

TCT

Windform RS and Windform LX 3.0 3D printing materials officially approved for spaceflight

BY OLIVER JOHNSON 9 FEBRUARY 2023 11:47

CRP Technology's carbon fibre reinforced composite Windform RS, and glass fibre reinforced composite Windform LX 3.0, from its Windform TOP-LINE series, have passed ESA standard screening outgassing tests.

The tests are in accordance with ESA-TEC-PR-002015 (based on ECSS-Q-ST-70-02C), and are officially approved for the construction of applications to launch into space.

Franco Cevolini, CEO and Technical Director of CRP Technology, said: "Passing the outgassing tests is a crucial factor for those who supply materials to the space industry. The majority of Windform TOP-LINE composites are already approved for space applications, and now that two more Windform are officially compliant with ESA outgassing requirements, we are more competitive and ready to offer further added value to our most demanding customers."

The test was conducted in the μVCM facility of the TEC-QEE laboratory at ESA's ESTEC technical centre in

01factory

Industria 4.0 | Intervista | Stampa 3D | Service stampa 3D

Service stampa 3D: intervista a Franco Cevolini, CEO di CRP

di **Moreno Soppelsa** 8 Febbraio 2023

Alba Orbital si è rivolta a CRP Technology per la costruzione di un innovativo sistema di rilascio in orbita. Il risultato è AlbaPod 2.0, il deployer interamente costruito in stampa 3D professionale e Windform XT 2.0 per il rilascio dei picosatelliti più avanzati al mondo

CRP Technology è stata fondata dalla famiglia Cevolini nel 1996 per esplorare nuove tecnologie, processi e materiali idonei alla costruzione, inizialmente, di pezzi per i team di F1 da testare in galleria del vento. Nel 1999, in collaborazione con DTM Corp, CRP Technology sviluppa il materiale **Castform PS** per realizzare modelli a perdere con processo Titanio Rapid Casting. L'obiettivo era **utilizzare il rapid casting e la migliore lega disponibile (Ti-6Al4V) per costruire componenti complessi** e dalle prestazioni molto elevate per il motorsport.

In seguito il reparto di ricerca e sviluppo di CRP Technology crea **Windform PS**, materiale a base di polistirene per la produzione di modelli complessi di microfusione; da qui nascerà la **gamma di materiali compositi a base poliammidica per sinterizzazione laser selettiva (SLS) Windform TOP-LINE.**

LE INTERVISTE DI 01FACTORY –

Nel 2004 CRP Technology lancia **Windform XT**, il primo materiale composito a base poliammidica

3DRuck

INDUSTRIE

Materialien Windform RS und Windform LX 3.0 für den Weltraum zugelassen

von **Joram** - Feb 9, 2023

Der kohlenstofffaserverstärkte Verbundwerkstoff Windform RS und der glasfaserverstärkte Verbundwerkstoff Windform LX 3.0 aus der Windform TOP-LINE von CRP Technology haben die ESA-Standardausgasungstests gemäß ESA-TEC-PR-002015 (basierend auf ECSS-Q-ST-70-02C) bestanden: Sie sind offiziell für die Konstruktion von Anwendungen für den Start in den Weltraum zugelassen.

> *Franco Cevolini, CEO und technischer Direktor von CRP Technology, sagt: "Das Bestehen der Ausgasungstests ist ein entscheidender Faktor für alle, die Materialien für die Raumfahrtindustrie liefern. Die meisten Windform TOP-LINE Verbundwerkstoffe sind bereits für Raumfahrtanwendungen zugelassen, und jetzt, da zwei weitere Windforms offiziell die ESA-Ausgasungsanforderungen erfüllen, sind wir wettbewerbsfähiger und bereit, unseren anspruchsvollen Kunden einen weiteren Mehrwert zu bieten."*

Der Test wurde in der µVCM-Anlage des TEC-QEE-Labors im technischen Zentrum ESTEC der ESA in Noordwijk (Niederlande) durchgeführt.

Windform RS und Windform LX 3.0 folgen auf Windform XT 2.0 (bestanden sowohl den ESA- als auch den NASA-Standardscreening-Ausgasungstest); Windform SP und Windform GT (bestanden den NASA-Standardscreening-Ausgasungstest).

Mehr über CRP Technology finden Sie hier.

3D Printing Industry

The Portland State Aerospace Society (PSAS) has used 3D printing technology to successfully launch OreSat0, a CubeSat system, into low Earth orbit.

PSAS manufactured the satellite's critical subsystems using CRP Technology's Windform LX 3.0 composite material and industrial 3D printing. The subsystems included a reliable deployer for their tri-band turnstile antenna, a star tracker lens and sensor assembly, and a compact battery pack. The team used low-cost Fused Deposition Modeling (FDM) machines for prototyping before transitioning to Selective Laser Sintering (SLS) with Windform LX 3.0. OreSat0.5 will launch in October 2023, and OreSat1 is scheduled to deploy from the International Space Station (ISS) in early 2024.

"OreSat is our fully open source, modular, and re-usable CubeSat system designed for educational teams," said PSAS members. "OreSat uses a card cage system, which allows cards to be reused on different missions from 1U to 3U CubeSats. Cards include everything you would expect aboard a CubeSat: an onboard computer with multi-band radios, a battery pack, a star tracker, a GPS receiver, and the beginnings of an attitude determination and control system (ADCS). Solar modules are mounted on the outside of the Aluminum frame, along with deployable omnidirectional antennas."

"We were absolutely thrilled to find CRP Technology's Windform LX 3.0 composite material and CRP USA. With Windform LX 3.0, we could design the parts for 3D printing, run quick turns to prototype on local printers, and then print our final engineering and flight units out of Windform," added PSAS members.

Composites Portal

AEROSPACE

Windform RS and Windform LX 3.0 officially approved for space flight

The test was conducted in the µVCM facility of the TEC-QEE laboratory at ESA's ESTEC technical centre in Noordwijk

Estimated time of reading 39 sec

Ph. CRP Technology

Carbon fiber reinforced composite Windform RS and Glass fiber reinforced composite Windform LX 3.0 from CRP Technology's Windform TOP-LINE passed ESA standard screening outgassing tests in accordance with ESA-TEC-PR-002015 (based on ECSS-Q-ST-70-02C): they are officially approved for the construction of applications to launch into Space.

Franco Cevolini, CEO and Technical Director of CRP Technology, says: "Passing the outgassing tests is a crucial factor for those who supply materials to the Space industry. The majority of Windform TOP-LINE composites are already approved for space applications, and now that two more Windform are officially compliant with ESA outgassing requirements, we are more competitive and ready to offer further added value to our most demanding customers."

The test was conducted in the µVCM facility of the TEC-QEE laboratory at ESA's ESTEC technical centre in Noordwijk, the Netherlands.

09 February 2023

Portale Compositi

AEROSPACE

Windform RS e Windform LX 3.0 autorizzati per il volo spaziale

Il test è stato condotto nella struttura µVCM del laboratorio TEC-QEE presso la struttura ESTEC dell'ESA a Noordwijk, Paesi Bassi

Tempo stimato di lettura 51 sec

Il composito caricato fibra di carbonio Windform RS e il composito caricato fibra di vetro Windform LX 3.0 sono stati sottoposti ai test per determinare l'indice di degassamento secondo le specifiche ESA (in conformità alla normativa standard ECSS-Q-ST-70-02C) e l'hanno superato rispettando i criteri generali di accettazione: sono ufficialmente idonei per applicazioni spaziali.

Il test è stato condotto nella struttura µVCM del laboratorio TEC-QEE presso la struttura ESTEC dell'ESA a Noordwijk, Paesi Bassi.

Franco Cevolini, CEO e direttore tecnico di CRP Technology, ha dichiarato: "Superare i test di degassamento è un fattore cruciale per chi fornisce materiali all'industria spaziale. La maggior parte dei compositi Windform TOP-LINE è approvata per applicazioni da impiegare nello spazio, e ora che altri due Windform sono ufficialmente conformi ai requisiti di degassamento dell'ESA, siamo più competitivi e pronti a offrire un ulteriore valore aggiunto ai nostri clienti più esigenti."

Windform RS e Windform LX 3.0 si aggiungono al Windform XT 2.0 (risultato

Costruire Stampi

Costruire stampi

THE ADDITIVE JOURNAL

L'ADDITIVE MANUFACTURING NEL SETTORE DELLA GIOIELLERIA

Foto: Eternha

L'azienda di gioielli Eternha ha scelto CRP Technology e il Windform® GT, materiale composito caricato fibra di vetro impermeabile, ipoallergenico e dalle elevate caratteristiche di duttilità e resistenza agli urti, per realizzare alcuni elementi della sua linea di bracciali da uomo.

di Adriano Moroni

ciale da uomo Lupho in onice con elemento logo in Windform® GT.

sa identità ai nostri bracciali, e dall'altro permettesse a chiunque di indossare qualcosa di inusuale per il mondo della moda".

A questo punto, non restava che procedere con la realizzazione dei gioielli con gli inserti hi-tech. Dopo alcuni contatti improduttivi, i ragazzi di Eternha hanno conosciuto CRP Technology, "una realtà internazionale, ma con una sede storica in Italia", precisano i titolari. "Individuato in CRP il fornitore giusto, dovevamo trovare il materiale adatto ai nostri scopi: ci piaceva l'idea di unire ai nostri prodotti un elemento indistruttibile, creato con un materiale per applicazioni estreme e funzionali, qualcosa di "eterno" appunto. Grazie alla collaborazione con CRP Technology, abbiamo scoperto un materiale composito straordinario, un poliammide caricato fibra di vetro studiato, sviluppato e prodotto proprio da CRP Technology, il Windform® GT".

REALIZZATI ALCUNI ELEMENTI DEI BRACCIALI

Il Windform® GT è stato usato per realizzare, con la tecnologia della Sinterizzazione Laser Selettiva (Laser-Powder Bed Fusion), alcuni elementi dei bracciali della collezione uomo Aquilha, Falcho, Lupho e Cobrha. "Sono elementi di ridotte dimensioni - specifica Marangoni - nell'ordine di 10-12 mm come misura massima. Le forme variano dai parallelepipedi alle sfere e ai cilindri, tutti con diverse elaborazioni grafiche. E, in un caso, con l'incisione del nostro logo

Gazzetta di Modena

GAZZETTA DI MODENA

Molti componenti prodotti negli Stati Uniti hanno partecipato a varie missioni

I materiali della Crp voleranno nello spazio

Gli ultimi due prodotti dell'azienda modenese hanno passato i test Sono risultati ufficialmente idonei a giudizio dell'Agenzia europea

di Gianni Medici

Dal Villaggio Artigiano allo spazio. CRP Technology, azienda nata nel 1996 inizialmente per esplorare nuove tecnologie, processi e materiali idonei alla costruzione di pezzi per i team di F1 da testare in galleria del vento, da tempo è operante anche al settore aerospaziale. È di pochi giorni fa la conferma che due dei materiali da essa prodotti (il composito caricato fibra di carbonio Windform RS e il composito caricato fibra di vetro Windform LX 3.0) hanno superato il test dell'Agenzia Spaziale Europea (ESA) e sono ufficialmente idonei per le applicazioni spaziali. Il test, svolto in Olanda, doveva servire a determinare l'indice di degassamento secondo le specifiche ESA. Il degassamento è il procedimento che porta alla rimozione di gas disciolti nei liquidi o dispersi in un solido. CRP Technology è oggi leader nel mercato dell'Additive Manufacturing (o Manifattura Additiva) con le tecnologie di stampa 3D professionale denominate 'sinterizzazione laser selettiva', sia in Italia che a livello globale.

L'azienda di via Cesare della Chiesa fornisce servizi di stampa 3D professionale conto terzi utilizzando le tecnologie citate sopra, e in particolare i suoi materiali Windform, ideati e creati dall'ingegner Franco Cevolini a metà degli anni '90. CRP Technology fattura 7.4 milioni di euro e ha 24 dipendenti. Franco Cevolini, amministratore delegato e direttore tecnico di CRP Technology, spiega che «superare i test di degassamento è un fattore cruciale per chi fornisce materiali all'industria spaziale. La maggior parte dei compositi Windform TOP-LINE è approvata per applicazioni da impiegare nello spazio, e ora che altri due Windform sono ufficialmente conformi ai requisiti di degassamento dell'ESA, siamo più competitivi e pronti a offrire un ulteriore valore aggiunto ai nostri clienti più esigenti».

Franco Cevolini ideatore e creatore dei materiali Windform e amministratore delegato di CRP Technology

Windform RS e Windform LX 3.0 si aggiungono infatti al Windform XT 2.0 (risultato conforme ai requisiti di degassamento ESA e NASA) e ai Windform SP e Windform GT (risultati conformi ai requisiti di degassamento NASA). In tutto sono 12 questi materiali, che vengono utilizzati in vari settori tra cui motorsport e automotive, aerospaziale e difesa, medicale, design, sport.

L'ideatore
Franco Cevolini: «Superare l'esame di degassamento fattore cruciale»

Molti dei componenti che CRP attraverso la sua consociata CRP USA ha realizzato negli ultimi dieci anni hanno partecipato con successo a importanti missioni spaziali. Tutti i materiali Windform sono a base poliammidica, caricati fibra di carbonio o fibra di vetro. E grazie alle loro caratteristiche meccaniche e termiche vengono impiegati per costruire particolari e oggetti finiti, funzionali, pronti all'uso (non solo quindi prototipi statici).

Tra questi oggetti pronti all'uso vi sono anche le strutture portanti di micro e minisatelliti e sistemi di rilascio per minisatelliti da lanciare nello spazio. Ad esempio Tu-POD, il primo satellite realizzato completamente in stampa 3D lanciato dalla Stazione Spaziale Internazionale. Inoltre CRP Technology per l'azienda scozzese Alba Orbital ha stampato AlbaPod, l'unico sistema di rilascio di satelliti PocketQube operativo e collaudato attualmente sul mercato, con tre missioni completate e 23 PocketQube lanciati in orbita. La famiglia Cevolini è la stessa che nel 1970 ha fondato a Modena la CRP Meccanica per fornire lavorazioni meccaniche di precisione. Nel 2008 dalla CRP Technology nasce CRP USA in North Carolina per il mercato americano mentre nel 2021 viene fondata invece CRP GULF con sede a Dubai. L'anno scorso la statunitense ITT Inc (quotata alla Borsa di New York) ha finalizzato un'operazione di investimento in CRP Technology e CRP USA. E non dimentichiamo che Energica Motor Company di Soliera, primo costruttore italiano di moto elettriche supersportive (da qualche mese acquisita dall'americana Ideanomics), nasce proprio dall'esperienza della famiglia Cevolini: Livia Cevolini, sorella di Franco, ne è infatti l'amministratore delegato.

La sede Sopra lo stabilimento di Crp Technology in via Cesare della Chiesa

Gazzetta di Modena

GAZZETTA DI MODENA

#FUORICLASSE

Una chiacchierata con la famiglia allargata del Corni composta da alcune delle aziende più rappresentative della nostra provincia

A tu per tu con le aziende

Parola d'ordine: dinamicità Poi umili, curiosi e appassionati

La famiglia del Corni non si limita solamente alle attività "scolastiche", composte da alunni e docenti. E infatti una famiglia allargata, in stretto contatto col suo territorio, che comprende undici aziende che fanno parte del Club dell'Alternanza di Confindustria Emilia: un progetto che ha le sue radici nel presente, tra i banchi di scuola, ma che guarda decisamente al futuro. A quattro di queste importanti aziende abbiamo deciso di porre alcune domande: Annovi Reverberi spa, Crp srl, Emilbronzo srl, Salami spa.

Perché ha scelto di entrare a far parte del Club dell'Alternanza dell'indirizzo di Meccatronica del Corni?

Franco Cevolini (Crp): «Ritengo che sia fondamentale creare un collegamento permanente tra le aziende e la scuola. In passato abbiamo lamentato l'eccessiva distanza tra il mondo del lavoro e quello dell'istruzione. Con questa iniziativa credo che si sia colmato molto il gap progresso e si creino opportunità di crescita per entrambi i settori».

Federica Reverberi (Annovi e Reverberi): «Il Club dell'Alternanza è una grande occasione di crescita non solo per gli studenti ma in primis per le aziende. È infatti il modo migliore non solo di mettere in contatto i giovani con il mondo del lavoro ma possiamo affermare di imparare ogni anno qualcosa di nuovo dai giovani studenti».

Angelo Pucci (Salami): «Iniziative come il Club dell'Alternanza meritano la massima attenzione da parte delle aziende. Da un lato i nostri ragazzi vivono in anticipo la realtà professionale facilitando il loro ingresso nel mondo del lavoro, dall'altro le aziende conoscono e formano giovani rispose gradualmente spesso consentendo il loro inserimento efficace nel proprio organico».

Chiara Corti (Emilbronzo 2000): «Da diversi anni ci stiamo resi conto dell'enorme gap generazionale nel settore metalmeccanico. I nostri lavoratori hanno iniziato ad andare in pensione e non c'è stato ricambio con nuove e giovani leve. Facendo colloqui e rivolgendoci alle agenzie di formazione di lavoratori interinali, abbiamo capito che il problema non fosse legato solamente allo scarso appeal che il nostro settore ha sui giovani, ma anche ad una certa distanza tra la teoria studiata a scuola e la realtà del mondo del lavoro».

Quali sono le competenze da voi maggiormente richieste da un perito meccatronico?

Cevolini: «Ogni azienda necessita di competenze specifiche che la scuola non potrà mai soddisfare al 100%. Ritengo che sia quindi importante mettere a disposizione degli studenti un'offerta formativa che sia il più possibile aggiornata ma allo stesso tempo ad ampio spettro. Ovviamente non può mancare la lingua inglese con indirizzo tecnico e la conoscenza di base informatica. Allo stesso tempo il diagnostico tecnico meccanico, affiancato da sistemi tridimensionali CAD/CAM moderni, deve essere il punto di partenza per poi arrivare a fare un minimo di pratica nei laboratori CNC, di stampa 3D e di controllo dimensionale».

Reverberi: «AR negli ultimi 10 anni ha fortemente investito nell'industria 4.0 con l'implementazione di impianti robotizzati, macchine automatiche per lavorazioni meccaniche di altissima precisione ed una nuova sala prove per componenti e prodotti finiti: in questo contesto diventano necessarie competenze meccaniche che uniscano profonde conoscenze elettroniche ed informatiche».

Corti: «Sicuramente la dinamicità è il requisito essenziale. Le competenze arrivano con il tempo in un lavoro di "taglia e cucì" che può avvenire solo in officina ed a stretto contatto con i lavoratori già esperti con il maggior coinvolgimento possibile nel cercare di risolvere i problemi lavorativi della quotidianità».

Pucci: «Sicuramente competenze tecniche, predisposizione al calcolo e alla programmazione, nozioni base di meccanica ed elettronica da poter consentire un immediato dialogo tra i nostri dipendenti e i ragazzi. Personalmente vorrei che avessero una maggiore conoscenza dell'inglese perché oggi è diventato un elemento molto importante da avere nel proprio bagaglio professionale».

Quanto ritiene sia importante l'esperienza di stage nel curriculum formativo di uno studente di meccatronica?

Reverberi: «Per Annovi Reverberi l'esperienza dello stage è fondamentale: lo studente vive un'esperienza lavorativa a 360° affiancando personale esperto nell'ambito delle lavorazioni meccaniche e delle linee di montaggio. Inoltre lo stage diventa un duplice elemento di valutazione: per lo studente che può comprendere i ruoli all'interno di un'industria metalmeccanica e per l'Azienda che può iniziare a valutare la persona per future opportunità».

Corti: «Senza proiettare sui giovani la conoscenza e l'esperienza maturata da noi "vecchi", non ci può essere futuro. Il passaggio generazionale non può non essere difficoltoso, ma è proprio per questo

che la scuola deve essere l'anello di congiunzione ed il portale di passaggio obbligato dal mondo della scuola "più generica ed astratta" al mondo del lavoro e degli adulti».

Cevolini: «Lo stage è sicuramente importante ma deve essere fatto bene, deve essere formazione e per fare questo servono tutor in grado di riuscire a trasmettere agli stagisti tecnica e passione allo stesso tempo. Non è semplice coordinare questa attività con l'operatività ordinaria aziendale, ma va fatto».

Pucci: «Uno stage fatto bene è molto importante per uno studente di meccatronica perché consente di dare al giovane profilo di un ragazzo un taglio "professionale" oltre che teorico. L'impresa può così allargare la sfera di selezione conoscendo al meglio la risorsa».

Quanto è importante la valutazione finale ai fini di una possibile assunzione?

Pucci: «È importante ma non è mai determinante. Specialmente per profili tecnici contano molto le conoscenze specifiche del ragazzo e la propria propensione a imparare che non sempre si traducono fedelmente nella valutazione finale».

Corti: «È importante se è positiva. Sembra assurdo ma si parla di "voglia" di fare, più che di attitudine vera e propria. La motivazione, l'entusiasmo e la curiosità sono il vero plus di un giovane che entra nel nostro mondo. Il nostro compito è quello di rendere l'approccio interessante per chi parte da zero».

Reverberi: «La valutazione finale è molto importante ma ai fini di un possibile inserimento in azienda non è l'unico requisito: in fase di colloquio viene data molta importanza alla motivazione della persona e alle caratteristiche personali della stessa per affrontare un'esperienza lavorativa all'interno di un contesto strutturato come Annovi Reverberi».

Cevolini: «Se parliamo di assunzione all'interno della stessa azienda, ovviamente la valutazione è molto importante. Se parliamo di altre aziende la valutazione va a fare curriculum e quindi ha sicuramente un certo grado di rilevanza».

Quali sono le soft skills richieste per avere successo nel mondo del lavoro?

Pucci: «Domanda impegnativa. Non esistono le soft skills ideali. Diciamo che per essere felici in ciò che si fa è importante essere pronti, umili, curiosi e soprattutto appassionati. Per me, svegliarsi ogni mattina con la voglia di affrontare le sfide del giorno è la chiave per avere successo».

Reverberi: «Per qualsiasi ruolo ricercato AR chiede alle persone un profondo spirito di curiosità, flessibilità, capacità di lavorare in team e apertura mentale».

Corti: «Il coraggio. Non deve avere paura di gettarsi completamente in un mondo di cui probabilmente conosci poco o nulla. La scuola gli ha insegnato a "leggere e scrivere" inteso in modo esagerato ovviamente come saper leggere un disegno tecnico, sapere cosa significano le tolleranze generali da tabelle ISO unificate sapere a cosa serve il calibro e come si usa ed avere una mezza idea degli angoli di spoglia degli utensili piuttosto che di un minimo di programmazione ISO. Partiti da qui si deve poi passare per un atteggiamento necessariamente umile senza del quale non si può apprendere giorno per giorno quel know-how che solo chi lavora da anni sulle macchine può avere».

Cevolini: «Direi praticamente tutte. Suggerisco di seguire attentamente la mia esposizione presso la vostra scuola».

Gazzetta di Carpi

GAZZETTA DI CARPI

L'azienda

Telai modenesi per i satelliti diretti nello spazio

Medici a pag. 16

I materiali della Crp voleranno nello spazio

Gli ultimi due prodotti dell'azienda modenese hanno passato i test Sono risultati ufficialmente idonei a giudizio dell'Agenzia europea

di **Gianni Medici**

Dal Villaggio Artigiano allo spazio. CRP Technology, azienda nata nel 1996 inizialmente per esplorare nuove tecnologie, processi e materiali idonei alla costruzione di pezzi per i team di F1 da testare in galleria del vento, da tempo è operante anche al settore aerospaziale. È di pochi giorni fa la conferma che due dei materiali da essa prodotti (il composito caricato fibra di carbonio Windform RS e il composito caricato fibra di vetro Windform LX 3.0) hanno superato il test dell'Agenzia Spaziale Europea (ESA) e sono ufficialmente idonei per le applicazioni spaziali. Il test, svolto in Olanda, doveva servire a determinare l'indice di degassamento secondo le specifiche ESA. Il degassamento è il procedimento che porta alla rimozione di gas disciolti nei liquidi o dispersi in un solido. CRP Technology è oggi leader nel mercato dell'Additive Manufacturing (o Manifattura Additiva) con le tecnologie di stampa 3D professionale denominate 'sinterizzazione laser selettiva', sia in Italia che a livello globale.

L'azienda di via Cesare della Chiesa fornisce servizi di stampa 3D professionale conto terzi utilizzando le tecnologie citate sopra, e in particolare i suoi materiali Windform, ideati e creati dall'ingegner Franco Cevolini a metà degli anni '90. CRP Technology fattura 7.4 milioni di euro e ha 24 dipendenti. Franco Cevolini, amministratore delegato e direttore tecnico di CRP Technology, spiega che «superare i test di degassamento è un fattore cruciale per chi fornisce materiali all'industria spaziale. La maggior parte dei compositi Windform TOP-LINE è approvata per applicazioni da impiegare nello spazio, e ora che altri due Windform sono ufficialmente conformi ai requisiti di degassamento dell'ESA, siamo più competitivi e pronti a offrire un ulteriore valore aggiunto ai nostri clienti più esigenti».

Windform RS e Windform LX 3.0 si aggiungono infatti al Windform XT 2.0 (risultato conforme ai requisiti di degassamento ESA e NASA) e ai Windform SP e Windform GT (risultati conformi ai requisiti di degassamento NASA). In tutto sono 12 questi materiali, che vengono utilizzati in vari settori tra cui motorsport e automotive, aerospaziale e difesa, medicale, design, sport.

Molti dei componenti che CRP attraverso la sua consociata CRP USA ha realizzato negli ultimi dieci anni hanno partecipato con successo a importanti missioni spaziali. Tutti i materiali Windform sono a base poliammidica, caricati fibra di carbonio o fibra di vetro. E grazie alle loro caratteristiche meccaniche e termiche vengono impiegati per costruire particolari e oggetti finiti, funzionali, pronti all'uso (non solo quindi prototipi statici).

Tra questi oggetti pronti all'uso vi sono anche le strutture portanti di micro e minisatelliti e sistemi di rilascio per minisatelliti da lanciare nello spazio. Ad esempio TuPOD, il primo satellite realizzato completamente in stampa 3D lanciato dalla Stazione Spaziale Internazionale. Inoltre CRP Technology per l'azienda scozzese Alba Orbital ha stampato AlbaPod, l'unico sistema di rilascio di satelliti PocketQube operativo e collaudato attualmente sul mercato, con tre missioni completate e 23 PocketQube lanciati in orbita. La famiglia Cevolini è la stessa che nel 1970 ha fondato a Modena la CRP Meccanica per fornire lavorazioni meccaniche di precisione. Nel 2008 dalla CRP Technology nasce CRP USA in North Carolina per il mercato americano mentre nel 2021 viene fondata invece CRP GULF con sede a Dubai. L'anno scorso la statunitense ITT inc (quotata alla Borsa di New York) ha finalizzato un'operazione di investimento in CRP Technology e CRP USA. E non dimentichiamo che Energica Motor Company di Soliera, primo costruttore italiano di moto elettriche supersportive (da qualche mese acquisita dall'americana Ideanomics), nasce proprio dall'esperienza della famiglia Cevolini: Livia Cevolini, sorella di Franco, ne è infatti l'amministratore delegato. ●

Tecnelab

TECNELAB

Windform RS e Windform LX 3.0 autorizzati per il volo spaziale

10/02/2023 250 volta/e

Condividi Articolo

Il composito, caricato fibra di carbonio, Windform RS, e il composito, caricato fibra di vetro, Windform LX 3.0, sono stati sottoposti ai test per determinare l'indice di degassamento secondo le specifiche ESA - in conformità alla normativa standard ECSS-Q-ST-70-02C - e l'hanno superato rispettando i criteri generali di accettazione: sono ufficialmente idonei per applicazioni spaziali.

Il test è stato condotto nella struttura μVCM del laboratorio TEC-QEE presso la struttura ESTEC dell'ESA a Noordwijk, nei Paesi Bassi.

"Superare i test di degassamento è un fattore cruciale per chi fornisce materiali all'industria spaziale. La maggior parte dei compositi Windform TOP-LINE è approvata per applicazioni da impiegare nello spazio, e ora che altri due Windform sono ufficialmente conformi ai requisiti di degassamento dell'ESA, siamo più competitivi e pronti a offrire un ulteriore valore aggiunto ai nostri clienti più esigenti", dichiara Franco Cevolini, CEO e direttore tecnico di CRP Technology.

Windform RS e Windform LX 3.0 si aggiungono al Windform XT 2.0, risultato conforme ai requisiti di degassamento ESA e NASA, e ai Windform SP e Windform GT, risultati conformi ai requisiti di degassamento NASA.

Tags: CRP Technology | Industria aerospaziale | Materiali | NASA | Windform

ZAWYA

DEFENSE

CRP GULF exhibits at IDEX 2023

The event will be held at the ADNEC in Abu Dhabi, from 20 to 24 February. CRP GULF will be setup at booth ST-028 displaying the latest 3D printed solutions manufactured in Windform composite materials and L-PBF technology for the Aerospace, Defense and the most demanding industries

Press Release

February 13, 2023

For the first time, CRP GULF **will be exhibiting** at IDEX 2023.

The event will be held at the ADNEC (Abu Dhabi National Convention Centre) in Abu Dhabi, United Arab Emirates, from **February 20th to February 24th** and CRP GULF will be setup at **booth ST-028**.

CRP GULF will show how CRP Technology's Windform materials for professional 3D printing, which were originally developed for the motorsports industry, are now finding a **diverse range of uses** outside of the race track. CRP GULF and their highly knowledgeable staff will be displaying the **latest 3D printed solutions** for the Aerospace, Defense, and the most demanding industries.

Windform composite materials are used **extensively in high-performing sectors** due to their mechanical properties, and CRP GULF is the **ideal technological partner** for those who want to realize their projects, even the most extreme, in a short time using a state-of-the-art technology and innovative, high-performance, lightweight also resistant composite materials.

IDEX is one of the biggest defense and security exhibition in the region. Taking place biennially, it is the venue to display innovative technology, as it benefits an increasing number of international decision-makers from within the defence industry, governments, armed forces and military personnel.

IDEX is held under The Patronage of H.H Sheikh Mohamed Bin Zayed Al Nahyan President Of The United Arab Emirates and Supreme Commander of the UAE Armed Forces and is organised by Capital Events in association and with the full support of the Ministry of Defence.

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PRESS RELEASES & GUEST POSTS

Windform RS and Windform LX 3.0 approved for space

By **CRP Group** - Feb 8, 2023

Carbon fiber reinforced composite Windform RS and Glass fiber reinforced composite Windform LX 3.0 from CRP Technology's Windform TOP-LINE, **passed ESA standard screening outgassing tests** in accordance with ESA-TEC-PR-002015 (based on ECSS-Q-ST-70-02C): they are **officially approved for the construction of applications to launch into Space**.

> *Franco Cevolini, CEO and Technical Director of CRP Technology, says: "Passing the outgassing tests is a **crucial factor** for those who supply materials to the Space industry. The majority of Windform TOP-LINE composites are already **approved** for space applications, and now that two more Windform are **officially compliant** with ESA outgassing requirements, **we are more competitive** and ready to offer **further added value** to our most demanding customers."*

The test was conducted in the µVCM facility of the TEC-QEE laboratory at ESA's ESTEC technical centre in Noordwijk, the Netherlands.

Windform RS and Windform LX 3.0 join Windform XT 2.0 (passed both ESA and NASA standard screening outgassing tests); Windform SP and Windform GT (passed NASA standard screening outgassing tests).

ETMM

Advanced materials

Ready for space: Esa approves two more Windform composite materials

22.02.2023 | From CRP Technology

Carbon fiber reinforced composite Windform RS and Glass fiber reinforced composite Windform LX 3.0 from CRP Technology's Windform Top-Line, passed Esa standard screening outgassing tests: they are officially approved for the construction of applications to launch into Space.

Composite materials for L-PBF technology Windform RS and Windform LX 3.0 passed ESA standard screening outgassing tests.
(Source: CRP Technology)

The majority of CRP Technology's Windform Top-Line composites are already approved for space applications. Now, now two more of the company's carbon fiber reinforced composite materials are officially compliant with Esa outgassing requirements. Passing the outgassing tests is a crucial factor for those who supply materials to the Space industry.

The test was conducted in the µVCM facility of the TEC-QEE laboratory at Esa's Estec technical centre in Noordwijk, the Netherlands.

Windform RS and Windform LX 3.0 join Windform XT 2.0 which passed both Esa and Nasa standard screening outgassing tests while Windform SP and Windform GT already passed Nasa standard screening outgassing tests.

VoxelMatters

VoxelMatters
Formerly 3dpbm

AM for Space | AM Press Releases | Standards

ESA approves Windform RS and Windform LX 3.0 for space flight

Making CRP Technology's materials officially suitable for the construction of applications to launch into space

VoxelMatters · February 8, 2023 · 1 minute read

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CRP Technology's carbon fiber-reinforced composite Windform RS and Glass fiber-reinforced composite Windform LX 3.0 have recently passed the European Space Agency's standard screening outgassing tests in accordance with ESA-TEC-PR-002015 (based on ECSS-Q-ST-70-02C) – making the materials officially suitable for the construction of applications to launch into space.

The test was conducted in the µVCM facility of the TEC-QEE laboratory at ESA's ESTEC facility in Noordwijk, the Netherlands.

"Passing the outgassing tests is a crucial factor for those who supply materials to the space industry. The majority of Windform TOP-LINE composites are already approved for space applications, and now that two more Windform are officially compliant with ESA outgassing requirements, we are more competitive and ready to offer further added value to our most demanding customers," said Franco Cevolini, CEO and Technical Director of CRP Technology.

The results report that "the ESA standard outgassing tests can be considered passed for Windform RS and Windform LX 3.0 samples and they respond to the general outgassing criteria based upon the micro-VCM test (as defined by ECSS-Q-ST-70-02C)."

Compositi Magazine

Stampa 3D professionale e materiale composito per il rilascio di picosatelliti avanzati

Pubblicato il 24/02/2023

Il **PocketQube** è un tipo di **satellite miniaturizzato** di circa **5 centimetri cubi** (un ottavo del volume di un CubeSat) e con una **massa** che **non supera** i **250 grammi**. Si tratta di una tipologia di satelliti alquanto giovane – i primi risalgono al 2009, da un'idea del **professor Robert J. Twiggs** della Morehead State University (MSU) – e sta crescendo la loro importanza, come **soluzione alternativa** ai **costosi lanci** di **CubeSat** nell'orbita terrestre bassa. Il primo standard risale a giugno 2018, quando è stata rilasciata una piattaforma condivisa; tra i fautori di questa piattaforma (con GAUSS Srl e TU Delft) c'è **Alba Orbital**, una PMI high-tech con sede a Glasgow, Scozia.

La sfida

Recentemente Alba Orbital ha deciso di realizzare una **versione aggiornata** del suo **dispositivo** di **lancio** di **PocketQube**, chiamato **AlbaPod**, per ottenere **miglioramenti** in termini di:

- peso
- producibilità
- caratteristiche di sicurezza
- accessibilità.

Il team di Glasgow si è rivolto a **CRP Technology** per la costruzione del sistema di rilascio: l'azienda di Modena, che da decenni si occupa di **stampa 3D professionale**, fornisce **soluzioni all'avanguardia** ai maggiori player del settore spaziale utilizzando i **materiali compositi** e **brevettati Windform® TOP-LINE**. Infatti, la maggior parte dei Windform® sono adatti ad applicazioni spaziali funzionanti, avendo superato i test di outgas NASA ed ESA.
Ridurre il peso al minimo è un obiettivo progettuale fondamentale per qualsiasi componente aerospaziale; inoltre, a causa dei rigidi requisiti di degassamento, il materiale scelto per la costruzione deve essere approvato per il volo.

La soluzione

La **sinterizzazione laser selettiva** e il **materiale** caricato **in fibra di carbonio Windform® XT 2.0**

March 2023

Aerospace Manufacturing

AEROSPACE MANUFACTURING

3D printing helps CubeSat get to orbit

9 MARCH 2023 • IN **FEATURES**

3D printed components were manufactured by CRP USA for the Portland State Aerospace Society's OreSat0 CubeSat, Oregon's first satellite, deployed into low earth orbit in March 2021 and successfully operating since then.

A turnstile antenna assembly, a star tracker camera lens and sensor assembly, and a battery assembly were all 3D printed out of Windform LX 3.0. These assemblies all met the extreme vibration, outgassing, and thermal performance requirements for low earth orbit.

3D printing in space: an introduction

The small satellite or "nanosatellite" revolution is here. Kilogram-class satellites, like CubeSats, now have functionality that were only available in larger 100 to 1,000 kg class satellites. Recently, 3D printing has helped speed up this revolution, especially in universities. CubeSats have been launched by dozens of countries, universities and companies all around the world. And the state of Oregon joined them recently thanks to the Portland State Aerospace Society (PSAS) that built OreSat0, their very own artisanally hand-crafted CubeSat system, currently in low Earth orbit. This achievement was possible thanks to their use of Windform LX 3.0 composite material and industrial 3D printing in their most critical subsystems.

The OreSat bus project

3Printr.com

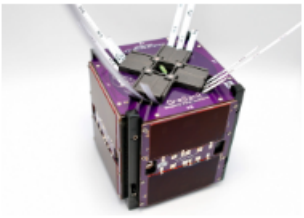
https://www.3printr.com/how-windform-helped-oresat0-cubesat-get-to-orbit-0561253/

3PRINTR.COM
THE INDEPENDENT AM MAGAZINE

PRESS RELEASES & GUEST POSTS

How Windform helped OreSat0 CubeSat Get to Orbit

By **CRP Group** · Mar 8, 2023



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The OreSat bus project

The Portland State Aerospace Society is an open source, interdisciplinary student aerospace project at Portland State University in Portland, Oregon, with collaborators at most other Oregon universities. They make sophisticated amateur rockets, small liquid fuel rocket engines, and CubeSat nanosatellites.

They currently have three satellite missions in the works. All rely on the fully open source OreSat bus which they are offering as an inexpensive (for a satellite) "DIY" platform for designing and building 1U through 3U CubeSats, paving the way for a solution to the "COTS vs DIY" dilemma.

"OreSat is our fully open source, modular, and re-usable CubeSat system designed for educational teams", said PSAS members. "OreSat uses a card cage system, which allows cards to be reused on different missions from 1U to 3U CubeSats. Cards include everything you would expect aboard a CubeSat: an on-board computer with multi-band radios, a battery pack, a star tracker, a GPS receiver, and the beginnings of an attitude determination and control system (ADCS). Solar modules are mounted on the outside of the Aluminum frame, along with deployable omnidirectional antennas."

OreSat0 was deployed into low earth orbit on March 15th, 2021 and has been successfully operating since then. OreSat0.5 is being readied for flight in October 2023, and OreSat1 is scheduled for a deployment off of the international space station in early 2024.

The project

The Portland State Aerospace Society is determined to develop better students through hands-on interdisciplinary systems engineering projects. Everything is designed, built, and tested by interdisciplinary student teams: mechanical engineers work on the structure, thermals, and CAD, Electrical engineers design the cards made of PCBs (standard two and four layers boards), and computer science students program the Linux boxes and microcontrollers that run the CubeSat.

JEC

https://www.jeccomposites.com/news/3d-printed-satellite-how-crp-usa-and-windform-lx-3-0-composite-helped-psass-oresat0-cubesat-get-to-orbit/

HOME • • ANNOUNCEMENT

3D printed satellite, how CRP USA and Windform LX 3.0 composite helped PSAS's OreSat0 CubeSat get to orbit

3D printed satellite subsystems manufactured by CRP USA for the Portland State Aerospace Society's OreSat0 CubeSat, deployed into low earth orbit in March 2021 and successfully operating since then. The 3D printed parts in Windform LX 3.0 were a turnstile antenna assembly, a star tracker camera lens and sensor assembly, and a battery assembly. These assemblies all met the extreme vibration, outgassing, and thermal performance requirements for low earth orbit.

READING TIME
6 minutes, 40 secondes

"3D printed satellite" is a term increasingly used in texts describing aerospace experiences, especially when depicted space missions involving small satellites. In fact, more and more often we come across phrases like: "The small satellite or "nanosatellite" revolution is here".

Kilogram-class satellites, like CubeSats, now have functionality that were only available in larger 100 to 1,000 kg class satellites. Recently, 3D printing has helped speed up this revolution, especially in universities. CubeSats have been launched by dozens of countries, universities and companies all around the world.

And the state of Oregon joined them recently thanks to the **Portland State Aerospace Society** (PSAS) that built OreSat0, their very own artisanally hand-crafted CubeSat system, currently in low Earth orbit. This achievement in the field of 3D printed satellite was possible thanks to their use of Windform LX 3.0 composite material and industrial 3D printing in their most critical subsystems. Windform LX 3.0 and 3D printing were supplied by **CRP USA**.

OreSat0 showing off the internal card cage and the stowed tri-band turnstile antenna. The turnstile antenna assembly on top, the star tracker camera in the middle, and the battery assembly at the bottom are all printed out of CRP's Windform LX 3.0 composite material. Courtesy PSAS

The OreSat bus project
The Portland State Aerospace Society is an open source, interdisciplinary student aerospace project at Portland State University in Portland, Oregon, with collaborators at most other Oregon universities. They make sophisticated amateur rockets, small liquid fuel rocket engines, and CubeSat nanosatellites.

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DATE
17/03/2023

CATEGORIES
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Industry of Things

Additive Fertigung

3D-Druck im Weltraum

22.03.2023 | Quelle: CRP USA | Lesedauer: 2 min

Oregons erster Satellit, der im März 2021 in eine niedrige Erdumlaufbahn gebracht wurde, besitzt 3D-gedruckte Komponenten. Die Baugruppen, zu denen auch eine Drehkreuz-Antennenbaugruppe und eine Batteriebaugruppe gehören, erfüllen die Anforderungen, die es dafür benötigt.

Der Oresat0 mit Solarmodulen und aufgestellter Dreiband-Drehkreuzantenne.
(Bild: PSAS)

Funktionen, die bisher nur für große Satelliten der 100-1000-kg-Klasse verfügbar waren, gibt es jetzt auch für Kleinsatelliten. In jüngster Zeit hat der 3D-Druck insbesondere an Universitäten dazu beigetragen, dies zu beschleunigen. Wie CRP USA berichtet, haben Dutzende von Ländern, Universitäten und Unternehmen auf der ganzen Welt Cubesats gestartet. Auch der Bundesstaat Oregon ist seit kurzem dabei, dank der Portland State Aerospace Society (PSAS), die mit Oresat0 ihr eigenes Cubesat-System gebaut hat, das sich derzeit in einer niedrigen Erdumlaufbahn befindet. Möglich wurde diese Leistung durch die Verwendung von Windform LX 3.0-Verbundmaterial und industriellem 3D-Druck in den wichtigsten Subsystemen.

Oresat

Die PSAS ist ein interdisziplinäres studentisches Raumfahrtprojekt an der Portland State University in Portland, Oregon. Sie stellen Amateurraketen, kleine Flüssigtreibstoff-Raketenmotoren und Cubesat-Nanosatelliten her. Derzeit sind drei Satellitenmissionen in Arbeit. Alle basieren auf dem Oresat-Bus, den sie, so CRP, als kostengünstige „DIY"-Plattform für die Entwicklung und den Bau anbieten. „Oresat verwendet ein Kartenkäfigsystem, das die Wiederverwendung von Karten für verschiedene Missionen von 1U bis 3U Cubesats ermöglicht. Die Karten enthalten alles, was man an Bord eines Cubesats erwarten würde: einen Bordcomputer mit Multiband-Funkgeräten, ein Batteriepaket, einen Star Tracker, einen GPS-Empfänger und die Anfänge eines Lagebestimmungs- und Kontrollsystems (ADCS). An der Außenseite des Aluminiumrahmens sind Solarmodule und ausfahrbare Rundstrahlantennen

3D Adept

Actualité de fabrication additive | Adoption de l'impression 3D | Secteurs d'activités | Aéronautique | L'actualité sur impression 3D

CRP USA imprime en 3D des composants pour le CubeSat OreSat0 de la Portland State Aerospace Society.

By **Kety S.** - mars 9, 2023

Une antenne tourniquet, un objectif de caméra et un capteur de suivi d'étoile, ainsi qu'une batterie ont été imprimés en 3D à partir de Windform LX 3.0. Ces assemblages ont tous satisfait aux exigences extrêmes en matière de vibrations, de dégazage et de performances thermiques pour l'orbite terrestre basse.

CRP USA, le producteur du matériau composite Windform LX 3.0, a collaboré avec la Portland State Aerospace Society pour la fabrication du **CubeSat OreSat0**, le premier satellite de l'Oregon, déployé en orbite basse en mars 2021 et fonctionnant avec succès depuis lors.

La société a déjà travaillé avec diverses entreprises spatiales telles qu'Alba Orbital Ltd sur la fabrication de CubeSats. Pour rappel, les CubeSats sont des satellites miniatures et légers utilisés pour la recherche spatiale, l'observation de la Terre, les télécommunications et un large éventail d'autres objectifs. Comme les CubeSats ne présentent que peu ou pas de

ETMM European Tool and Mould Making

Cube Sat project

3D printing for space: assemblies withstand extreme conditions

16.03.2023 | Source: CRP Service

3D printed components were manufactured by CRP USA for the Portland State Aerospace Society's Oresat0 Cube Sat, Oregon's first satellite, deployed into low earth orbit in March 2021 and successfully operating since then. A turnstile antenna assembly, a star tracker camera lens and sensor assembly, and a battery assembly were all 3D printed out of Windform LX 3.0.

Oresat in Orbit
(Source: PSAS)

The small satellite or "nanosatellite" revolution is here. Kilogram-class satellites, like Cube Sats, now have functionality that were only available in larger 100 to 1,000 kg class satellites. Recently, 3D printing has helped speed up this revolution, especially in universities. Cube Sats have been launched by dozens of countries, universities and companies all around the world. And the state of Oregon joined them recently thanks to the Portland State Aerospace Society (PSAS) that built Oresat0, their very own artisanally hand-crafted Cube Sat system, currently in low Earth orbit. This achievement was possible thanks to their use of Windform LX 3.0 composite material and industrial 3D printing in their most critical subsystems.

The Oresat bus project

The Portland State Aerospace Society is an open source, interdisciplinary student aerospace project at Portland State University in Portland, Oregon, with collaborators at most other Oregon universities. They make sophisticated amateur rockets, small liquid fuel rocket engines, and

CW Composites World

ADDITIVE MANUFACTURING | GLASS FIBERS

Published 3/8/2023

Windform LX 3.0 composites contribute to OreSat0 CubeSat deployment

Portland State Aerospace Society, incorporating CRP Technology's GFRP composite materials and SLS 3D printing, sent its CubeSat nanosatellite into low Earth orbit in 2021, where it continues to operate successfully.

#space

EDITED BY GRACE NEHLS
Managing Editor, *CompositesWorld*

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- Firefly Aerospace's Alpha, launch services company selected by NASA for VADR missions
- Small sat demonstrator enabled by CRP Technology's Windform composite materials
- Plant tour: Middle River Aerostructure Systems, Baltimore, Md., U.S.

OreSat0 with solar modules and deployed tri-band turnstile antenna. Photo Credit, all images: PSAS

3D-printed components were manufactured by CRP USA (Mooresville, N.C., U.S.) for the Portland State Aerospace Society's (PSAS, Oregon) OreSat0 CubeSat, Oregon's first satellite. The satellite has been operating successfully since its deployment into low Earth orbit (LEO) in March 2021. A turnstile antenna assembly, a star tracker camera lens and sensor assembly and a battery assembly were all 3D printed out of Windform LX 3.0 glass fiber-reinforced polymer (GFRP) material. These assemblies all met the extreme vibration, outgassing and thermal performance requirements for LEO.

CubeSats have been launched by dozens of countries, universities and companies all around the world. Joining the fray, the PSAS is an open source, interdisciplinary student aerospace project at Portland State University, with collaborators at most other Oregon universities. The organization develops sophisticated amateur rockets, small liquid fuel rocket engines and CubeSat nanosatellites.

PLAST DESIGN

PLAST:DESIGN
COMPONENTI E PRODOTTI DI MATERIE PLASTICHE - PLASTIC PRODUCTS AND COMPONENTS

TECNOLOGIE

MERCATO PROGETTAZIONE APPLICAZIONI

Processi e materiali digitali per applicazioni 'difficili'. Ed emozionanti.

Digital processes and materials for 'difficult' and exciting applications.

The additive goes into orbit

L'ADDITIVO VA IN ORBITA

"Superare i test di degassamento è un fattore cruciale per chi fornisce materiali all'industria spaziale" spiega CRP Technology, all'esito positivo delle prove sui compositi Windform RS e Windform LX 3.0.

"Passing the outgassing tests is a crucial factor for those who supply materials to the space industry" explains CRP Technology, following the positive outcome of the tests on the Windform RS and Windform LX 3.0 composites.

Gli apprezzabili livelli di produttività e una costanza qualitativa da serie sanciscono, settore dopo settore, la presenza dell'additive manufacturing nel mondo industriale; attraversa ora una fase di consolidamento e perfezionamento, con strategie e strumenti che migliorano la qualità dei pezzi stampati in termini di uniformità e precisione e una disponibilità di materiali ad alte prestazioni certificati o in dirittura d'arrivo nelle applicazioni più sfidanti, anche su pista e nello spazio.

PRODUTTIVITÀ E RESISTENZA HEAVY-DUTY

"Nella nuova stampante 3D professionale S7 abbiamo perfezionato le funzionalità più apprezzate dagli utenti nella S5", ha commentato Nadav Goshen, amministratore delegato di Ultimaker. La nuova pia-

The appreciable levels of productivity and a consistent series quality confirm, sector upon sector, the presence of additive manufacturing in the industrial world; it is now going through a phase of consolidation and improvement, with strategies and tools that improve the quality of the molded parts in terms of uniformity and precision and the availability of certified high-performance materials or in the pipeline in the most challenging applications, even on the track and in the space.

HEAVY-DUTY STRENGTH AND PRODUCTIVITY

"In the new professional S7 3D printer, we have enhanced the functions most appreciated by users in the S5," commented Nadav Goshen, managing direc-

PLAST:DESIGN
COMPONENTI E PRODOTTI DI MATERIE PLASTICHE - PLASTIC PRODUCTS AND COMPONENTS

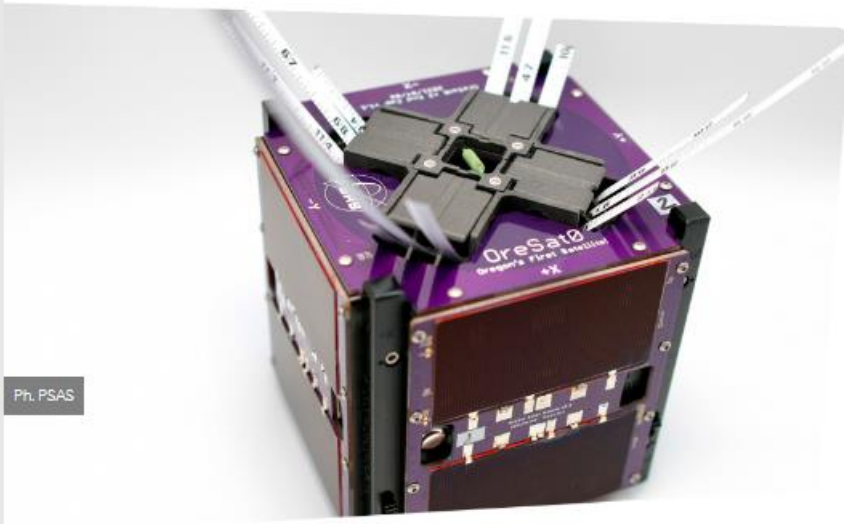
Portale Compositi

STAMPA 3D

La stampa 3D vola nello spazio

Come il composito Windform LX 3.0 ha aiutato il CubeSat "OreSat0" della Portland State Aerospace Society a viaggiare nell'orbita terrestre

Tempo stimato di lettura 4 , 03 min



Ph. PSAS

I satelliti con massa inferiore a 1 chilogrammo, come i "nanosatelliti" CubeSats, possiedono funzionalità che fino a poco tempo fa erano disponibili solo nei satelliti più grandi da 100 a 1.000 kg.

In anni recenti la stampa 3D professionale ha contribuito ad accelerare questa vera e propria rivoluzione, soprattutto nelle università. I CubeSats sono stati lanciati da molti Paesi, atenei e aziende in tutto il mondo. Lo stato dell'Oregon, Stati Uniti, si è unito di recente a questo gruppo, grazie alla Portland State Aerospace Society (PSAS) che ha costruito "OreSat", il proprio sistema CubeSat, attualmente in orbita terrestre bassa.

Questo risultato è stato possibile grazie all'utilizzo del materiale composito caricato fibra di vetro Windform LX 3.0 di CRP Technology, e della stampa 3D industriale nella creazione dei sottosistemi più critici.

Windform LX 3.0 ed il servizio di stampa 3D sono stati forniti da CRP USA.

Il progetto OreSat

La Portland State Aerospace Society (in acronimo, PSAS) rappresenta un gruppo studentesco interdisciplinare open source che si dedica a progetti aerospaziali. La sede è presso la Portland State University di Portland, Oregon,

Il progettista industriale

il progettista industriale

Mayr® a Mecspe 2023

Al Mecspe di Bologna, quest'anno per la prima volta partecipa anche **Mayr.** Al padiglione 30/stand D88 saranno presentate le numerose soluzioni per la robotica e l'automazione sviluppate: freni e giunti di sicurezza affidabili, perfettamente adattati alle esigenze del mercato e che tengono conto della tendenza alla crescente elettrificazione degli azionamenti. Fra le novità, il freno ROBA-stop®-M Eco, soluzione snella e ottimizzata per l'uso in serie, basata sulla popolare serie di freni motore ROBA-stop-M. I motori elettrici nell'industria sono di tendenza. I sistemi idraulici o pneumatici cedono sempre più spesso il passo e dove possibile vengono sostituiti da azionamenti elettrici, soprattutto se questi raggiungono una densità di potenza corrispondente.

Questo pone nuove sfide per tutti i componenti, in particolare per i giunti e i freni di sicurezza. Con il nuovo freno lineare elettromagnetico ROBA-linearstop Mayr propone un sistema con elevate forze di frenatura, in grado di agire anche dinamicamente e di convincere per i suoi brevi tempi di commutazione. Unico produttore a offrire freni lineari a comando elettrico che sono anche freni di sicurezza, Mayr propone soluzioni funzionanti secondo il principio di affidabilità fail-safe. Generano la forza frenante per mezzo di molle a compressione e sono chiusi in stato di diseccitazione. La nuova serie di freni elettromagnetici ROBA-linearstop comprende sei taglie con forze da 70 a 17.000 N. Con la serie ROBA-servostop Mayr ha sviluppato anche freni a molla per servomotori, appositamente adattati agli elevati requisiti della robotica.

Grazie al suo design, la serie ROBA-servostop Cobot può essere perfettamente integrata in queste costruzioni ad albero cavo. Affinché il robot leggero sia all'altezza del suo nome, anche i suoi componenti devono essere leggeri. I robot che assumono spesso posizioni diverse per le varie fasi di lavoro ottengono una dinamica più elevata con freni leggeri, poiché alla fine devono anche muovere i freni.

Windform RS e Windform LX 3.0 autorizzati per il volo spaziale

Il composito caricato fibra di carbonio Windform RS e il composito caricato fibra di vetro Windform LX 3.0 sono stati sottoposti ai test per determinare l'indice di degassamento secondo le specifiche ESA (in conformità alla normativa standard ECSS-Q-ST-70-02C) e l'hanno superato rispettando i criteri generali di accettazione: sono ufficialmente idonei per applicazioni spaziali. Il test è stato condotto nella struttura μVCM del laboratorio TEC-QEE presso la struttura ESTEC dell'ESA a Noordwijk, Paesi Bassi. Franco Cevolini, CEO e Direttore Tecnico di **CRP Technology**, dichiara: "Superare i test di degassamento è un fattore cruciale per chi fornisce materiali all'industria spaziale. La maggior parte dei compositi Windform TOP-LINE è approvata per applicazioni da impiegare nello spazio, e ora che altri due Windform sono ufficialmente conformi ai requisiti di degassamento dell'ESA, siamo più competitivi e pronti a offrire un ulteriore valore aggiunto ai nostri clienti più esigenti." Windform RS e Windform LX 3.0 si aggiungono ai Windform XT 2.0 (risultato conforme ai requisiti di degassamento ESA e NASA) e ai Windform SP e Windform GT (risultati conformi ai requisiti di degassamento NASA).

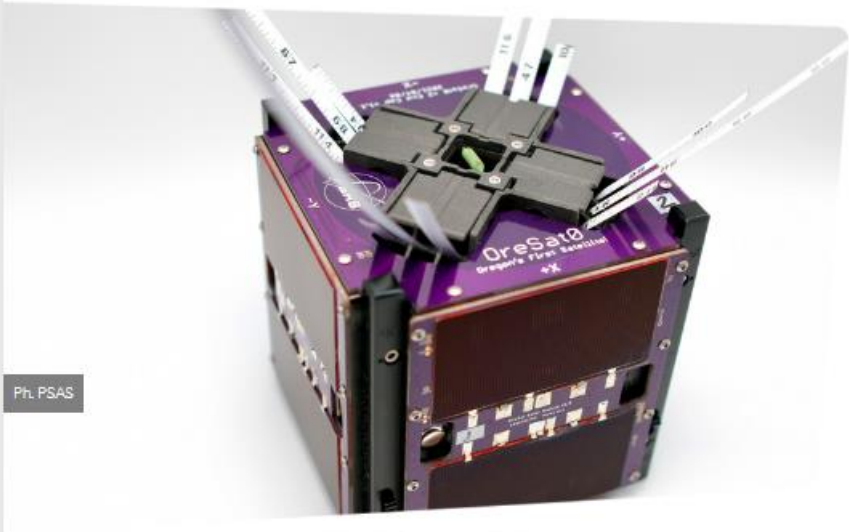
Composites Portal

3D PRINTING

The 3D printing solutions in Space

Windform LX 3.0 helped Portland State Aerospace Society's OreSat0 CubeSat Get to Orbit

Estimated time of reading 3 , 32 min



Ph. PSAS

Kilogram-class satellites, like CubeSats, now have functionality that were only available in larger 100 to 1,000 kg class satellites. Recently, 3D printing has helped speed up this revolution, especially in universities. CubeSats have been launched by dozens of countries, universities and companies all around the world.

And the state of Oregon joined them recently thanks to the Portland State Aerospace Society (PSAS) that built OreSat0, their very own artisanally hand-crafted CubeSat system, currently in low Earth orbit. This achievement was possible thanks to the use of Windform LX 3.0 and industrial 3D printing L-PBF (Selective Laser Sintering) in their most critical subsystems.

Windform LX 3.0 is a glass fiber reinforced material from the Windform TOP-LINE range of composite materials for Powder Bed Fusion 3D printing process (Selective Laser Sintering) created by CRP Technology.

For OreSat project 3D printing process and Windform LX 3.0 were supplied by CRP USA.

The OreSat bus project

The Portland State Aerospace Society is an open source, interdisciplinary student aerospace project at Portland State University in Portland, Oregon,

TCT

Windform LX 3.0 helps Portland State Aerospace Society satellite into orbit

3D printed components were manufactured by CRP USA for the Portland State Aerospace Society's OreSat0 CubeSat.

BY OLIVER JOHNSON · 9 MARCH 2023 08:30

The **Portland State Aerospace Society**'s (PSAS) OreSat0 CubeSat, what the society says is Oregon's first satellite, was deployed into low earth orbit in March 2021. **CRP USA** produced 3D printed components for the satellite, which has been successfully operating since it deployed.

Windform LX 3.0 was used for a turnstile antenna assembly, a star tracker camera lens and sensor assembly, and a battery assembly. CRP said that the assemblies all met the extreme vibration, outgassing and thermal performance requirements for low earth orbit.

Kilogram-class satellites, such as CubeSats, have functionality that formerly was only available in larger 100 to 1,000 kg class satellites according to CRP. The company says that 3D printing has helped to speed up this 'revolution', especially in universities. CubeSats have been launched by dozens of countries, universities and companies all around the world according to CRP. PSAS joined them with the OreSat0.

Before using selective laser sintering and Windform LX 3.0 for manufacturing subsystems on OreSat0, PSAS members trialled inexpensive FDM machines for prototyping according to PSAS members. After beginning to use SLS, the members said they couldn't find parts that could stand the temperature extremes and that were vacuum rated to **NASA** and **ESA** outgassing standards until they discovered **CRP Technology**'s Windform LX 3.0.

3DPrint.com

A Brighter Future for Aerospace with 3D Printed Open Source Satellites

Oregon's first satellite, complete with advanced space-ready 3D printed materials, has been successfully operating in low earth orbit for the past year. 3D printing is playing a major role in the future of aerospace, and it was this critical technology that enabled an interdisciplinary student team from Portland State University to quickly develop an open source, inexpensive, and reliable "CubeSat" nanosatellite system.

OreSat0, in orbit since March 2021, was designed from the ground up to take advantage of CRP Windform LX3.0, one of the very few space-ready, Selective Laser Sintering (SLS) additive manufacturing materials available. The satellite was designed, developed, and is being operated by the Portland State Aerospace Society (PSAS), an interdisciplinary student group whose goal was to not just build a single satellite, but to create a fully reusable, modular, yet customizable open source CubeSat development system.

Modular Hardware and PCBs with tailor made 3D printed components

The student team developed their nanosatellite system with inexpensive components and materials, including standard two and four layer PCBs and easy to machine Aluminum frames. The challenge, however, was finding a reliable 3D printing service able to supply 3D printed parts that were validated to not outgas in the vacuum of low earth orbit (~ 10 mPa), that could survive the extreme temperature range of (-40 to +100 °C), and that was nonconductive so it could be used for electronic and radio frequency systems.

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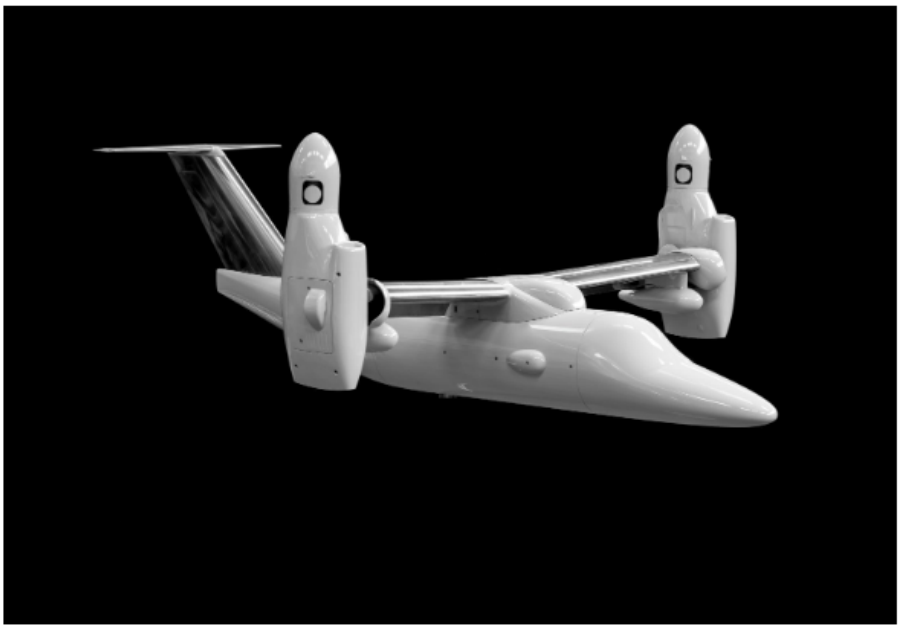
BUSINESS DEFENCE EMERGENT TECH FEATURES TECH

Italian 3D Printing leaders expanding across GCC

CRP Technology's industrial 3D Printing Service provides capabilities to deliver complex geometry that cannot be easily tooled

By DefSec Staff

April 28, 2023



Italian 3D Printing technology leaders CRP Technology are expanding their reach in the Gulf Cooperation Council defence sector, according to its chief executive.

Dubai-based subsidiary, CRP Gulf, has been delivering services to UAE-based defence companies since 2021, Franco Cevolini, CRP Technology CEO and Chief Technology Officer told *DefSec Middle East*.

"CRP GULF was established to offer in the GCC Region industrial 3D Printing services counting on the long-lasting expertise of CRP Technology," Cevolini said.

In just two years CRP GULF created an important network supplying turn-key solutions based on CRP Technology's' global defence industry experience and

May 2023

DIGITAL JOURNAL

Markforged, Stratasys Ltd., 3D Systems Corporation, Arevo Labs, Cincinnati Incorporated, Graphite Additive Manufacturing Limited, CRP Group, 3DXTech, Treed Filaments, Black Magic 3D, EOS, Prodways, EnvisionTEC, DWS Systems, and DeltaMed

Recent Development of 3D Printed Composite Materials Market:

➳ **In February 2020,** CRP Technology launched the first flame-retardant polyamide-based glass fibre reinforced material for Selective Laser Sintering (SLS). The product has some advanced properties such as electrical insulation and smoother surface owing to which it has suitable application in aerospace industry.

Compunding World

Compounding WORLD

IMAGE: CRP TECHNOLOGY

Right: A number of parts in the OreSat CubeSat satellite are produced by CRP Technology in its Windform carbon fibre reinforced PA

thermomechanical performance.

Evonik is also collaborating with industrial 3D print manufacturer **Farsoon** on a new high-performance, flexible thermoplastic co-polyester for powder bed fusion 3D printing. This Infinam thermoplastic copolyester (TPC) has been trialed using Farsoon's powder bed fusion technology at its Americas Demo Center at Austin in Texas, US, and is said to have yielded printed parts with very good tear strength, elongation at break, impact resistance, rebound and elasticity. The material processes easily on Farsoon equipment while its PLA high-temperature 3D filament incorporates TotalEnergies Corbion's Luminy PLA technology into ColorFabb's existing lightweight PLA filament, with the resulting formulation offering improved temperature and heat resistance while still delivering good 3D printability, low weight and easy processing. In addition, the filament is said to offer an improved carbon footprint when compared to competing filament technologies.

The two companies originally developed the material for production of remote-controlled 3D planes that needed to withstand high sun temperatures without deforming. However, the Luminy PLA technology is suitable for a broad range of applications where heat resistance is required. It could, for example, be used to print furniture, automotive parts, or components for construction applications.

ColorFabb claims the LW-PLA filament is the first to use active foaming technology to achieve light weight, low density PLA parts. The material starts foaming at around 230°C, increasing its volume by nearly three times. During processing, users can choose to decrease material flow by 65% to achieve lightweight parts or use the expansion to reduce print times through larger layer heights or extra thick perimeters.

Also new from ColorFabb is allPHA, a 100%

ColorFabb says allPHA materials are best printed on to a cold plate as a heated plate will induce crystallisation, leading to the risk of warping in the bottom layers. The plate is then heated to 90°C for 15 minutes at the end of the build prior to removal of the 3D printed part, inducing crystallisation and easing release.

Space programmes

Aspirations run high at Italy's **CRP Technology**, manufacturer of the Windform portfolio of carbon or glass fibre reinforced PA-based sintering powders. Its material has been performing well in a low earth orbit satellite application engineered by the Portland State Aerospace Society.

CRP USA, the Americas partner of CRP Technology, manufactured several essential subsystems for the OreSat CubeSat using its Windform LX 3.0 laser sintering process. These included a turnstile antenna assembly, star tracker camera lens and sensor assembly, and a battery assembly. All met the extreme vibration, outgassing and thermal performance requirements for the low earth orbit project when they were first put into use in March 2021, and have been successfully operating since then.

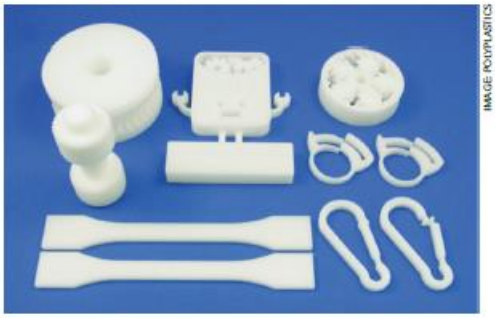


IMAGE: POLYPLASTICS

Above: MEX is a new 3D print technology from Polyplastics that uses POM resins

Japanese engineering thermoplastics supplier **Polyplastics** has developed a 3D printing technology that allows for additive production of parts made using its Duracon polyoxymethylene (POM) materials. The new Material Extrusion (MEX) technology was introduced at the K show last year and uses thermoplastic resin filaments to produce three-dimensional structures by repeatedly tracing and layering melted material extruded through a small nozzle. The 3D printed POM parts are said to

Costruire stampi

Costruire stampi

THE ADDITIVE JOURNAL

Foto: PSAS

LA RIVOLUZIONE DEI PICCOLI SATELLITI

La stampa 3D va nello spazio: come il composito Windform LX 3.0 di CRP Technology ha aiutato il CubeSat "OreSato" della Portland State Aerospace Society a navigare nell'orbita terrestre.

di Adriano Moroni

I satelliti con massa inferiore a 1 kg, come i "nanosatelliti" CubeSats, possiedono funzionalità che fino a poco tempo fa erano disponibili solo nei satelliti più grandi da 100 a 1000 kg. In anni recenti la stampa 3D professionale ha contribuito ad accelerare questa vera e propria rivoluzione, soprattutto nelle università.
I CubeSats sono stati lanciati da molti paesi, atenei e aziende in tutto il mondo. Lo stato dell'Oregon, Stati Uniti, si è unito di recente a questo gruppo, grazie alla Portland State Aerospace Society (PSAS) che ha costruito "OreSat", il proprio sistema CubeSat, attualmente in orbita terrestre bassa.
Questo risultato è stato possibile grazie all'utilizzo del materiale composito caricato fibra di vetro Windform LX 3.0 di CRP Technology e della stampa 3D industriale

Applicazioni Laser

APPLICAZIONI LASER

THE ADDITIVE JOURNAL

Foto: PSAS

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June 2023

Composites Portal

CIRCULAR ECONOMY

CRP Technology launches Windform XT 2.0 IMG

It is a high-performance composite material with thermoplastic matrix, PA12 based and Carbon fibers reinforced for injection molding

Estimated time of reading 1,39 min

Injection molded gear in Windform

CRP Technology launches the Windform XT 2.0 IMG material and initiates a new era in the world of industrial production and sustainability.

Winform XT 2.0 IMG is a high-performance composite material with thermoplastic matrix, PA12 based and Carbon fibers reinforced for injection molding (IMG is the acronym for Injection Molding Grade).

It is 100% recycled from Windform XT 2.0 industrial 3D printing material. Engineer Franco Cevolini, CEO and Technical Director of CRP Technology, says, "For some time we at CRP Technology have been studying an alternative and total use of those exhausted Windform powders for selective laser sintering, that fallen into disuse as they no longer meet our high quality standards."

The CRP's solution establishes that the exhausted Windform powders are not recycled with the addition of a percentage of virgin material, but they are

Portale compositi

ECONOMIA CIRCOLARE

CRP Technology lancia il nuovo materiale Windform XT 2.0 IMG

Si tratta del primo materiale di CRP per la tecnologia tradizionale dello stampaggio ad iniezione e sostiene l'economia circolare

Tempo stimato di lettura 1 ,53 min

Ingranaggio stampato nel materiale Windform

CRP Technology lancia il materiale Windform XT 2.0 IMG ed inaugura una nuova era nel mondo della produzione industriale e della sostenibilità. Winform XT 2.0 IMG è un materiale composito ad alte prestazioni a base poliammidica (PA12) rinforzato con fibre di carbonio per lo stampaggio ad iniezione (la sigla IMG è l'acronimo di Injection Molding Grade). E' riciclato al 100% dal composito per stampa 3D industriale Windform XT 2.0.

"Da tempo – spiega l'Ingegner Franco Cevolini, CEO e direttore tecnico di CRP Technology – il reparto di Ricerca e Sviluppo di CRP Technology sta studiando l'utilizzo alternativo e totale delle polveri per sinterizzazione laser selettiva Windform esauste, ovvero quelle polveri dismesse perché non rispettano più i nostri standard qualitativi, che sono molto alti".

Più nello specifico, non si tratta del loro riciclo con l'aggiunta di una percentuale di materiale vergine, ma del riutilizzo al 100% di queste polveri stressate che, adeguatamente trasformate, vengono impiegate con altre tecnologie, che possono essere sia tradizionali che additive. "In questo caso – continua Franco Cevolini – siamo riusciti a rigranulare il cake del Windform XT 2.0 e a renderlo compatibile con lo stampaggio ad iniezione. La fase di test si è

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PRESS RELEASES & GUEST POSTS

CRP launches a IM material 100% recycled

By **CRP Group** - Jun 9, 2023

CRP Technology launches the **Windform XT 2.0 IMG material** and initiates **a new era** in the world of industrial production and sustainability.

Winform XT 2.0 IMG is a high-performance composite material with thermoplastic matrix, PA12 based and Carbon fibers reinforced for injection molding (IMG is the acronym for **Injection Molding Grade**).

It is **100% recycled** from Windform XT 2.0 industrial 3D printing material.

Engineer Franco Cevolini, CEO and Technical Director of CRP Technology, says, "For some time we at CRP Technology have been studying an **alternative and total use of those exhausted Windform** powders for selective laser sintering, that fallen into disuse as they no longer meet our high quality standards."

The CRP's solution establishes that the exhausted Windform powders are not recycled with the addition of a percentage of virgin material, but they are **100% reused and properly transformed** to be suitable for other technologies, which can be both traditional and additive. "In this case – continues Franco Cevolini – we regranulated the Windform XT 2.0 powder cake, and make it suitable for injection molding technology.

The test phase ended with **excellent results** and now we are ready to sell it to those who manufacture on large volumes basis."

Windform XT 2.0 IMG formulation features premium performances ranking from high stiffness and resistance to shock to extreme details accuracy even with thin thicknesses

Its excellent properties makes it ideal for demanding application in a variety of industries such as automotive, transport, e-mobility, agriculture, robotics and industrial design.

With the launch on the market of Windform XT 2.0 IMG injection molding material, CRP Technology begins to offer **top-of-the-range materials for different technologies**, such as injection molding grade, which permit the companies to **shorten the supply chain,** and **save time and money**.

Indeed, the high quality injection molded parts in Windform XT 2.0 IMG preserve same performances of prototypes realized in AM with Windform XT 2.0

"Furthermore – Franco Cevolini adds – the companies that use our Windform XT 2.0 IMG for production, **limit their carbon footprint** as they are employing a 100% recycled material."

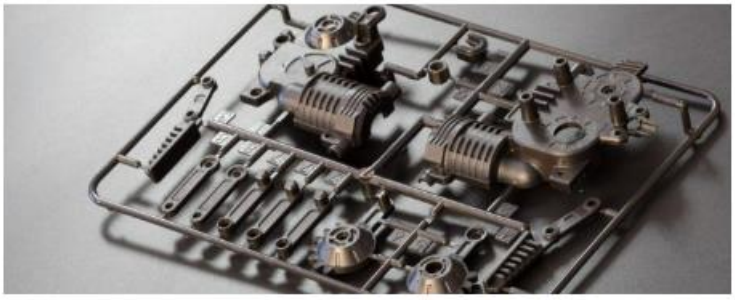
Plastix

Materiali | Riciclo | Stampa 3D | Stampaggio

Un nuovo materiale per lo stampaggio dalle polveri esauste per la stampa 3D

Redazione 8 Giugno 2023

La società **CRP Technology** lancia il nuovo materiale **Windform XT 2.0 IMG** per lo stampaggio a iniezione e si impegna sempre di più nella sostenibilità e nell'economia circolare.



Lanciando il materiale Windform XT 2.0 IMG, CRP Technology inaugura una nuova era nel mondo della produzione industriale e della sostenibilità

Windform XT 2.0 IMG è un materiale composito ad alte prestazioni, a **base poliammidica (PA12) e rinforzato con fibre di carbonio**. Si tratta del primo materiale di CRP per la tecnologia tradizionale dello stampaggio a iniezione e l'acronimo IMG sta infatti per: Injection Moulding Grade. È sostenibile poiché **deriva dal riciclo al 100% delle polveri di Windform XT 2.0 usate** e non più idonee per la stampa 3D.

"Da tempo", spiega **Franco Cevolini**, CEO e direttore tecnico di CRP Technology, "il reparto di Ricerca e Sviluppo di CRP Technology sta studiando l'utilizzo alternativo e totale delle **polveri per sinterizzazione laser selettiva Windform esauste**, ovvero quelle polveri dismesse perché **non rispettano più i nostri standard qualitativi**, che sono molto alti".

Più nello specifico, non si tratta del loro riciclo con l'aggiunta di una percentuale di materiale vergine, ma del **riutilizzo al 100% di queste polveri** "stressate" che, adeguatamente trasformate, vengono impiegate con altre tecnologie, che possono essere sia tradizionali che additive. "In questo caso", continua Franco Cevolini, "siamo riusciti a rigranulare il *cake* di Windform XT 2.0 e a **renderlo compatibile con lo stampaggio a iniezione**. La fase di test si è conclusa con ottimi risultati e ora siamo pronti a venderlo a chi deve produrre in grandi volumi".

OpenPR

CRP Technology launches Windform XT 2.0 IMG, high performance material for injection molding 100% derived from TOP-LINE range for 3D printing

06-08-2023 08:10 AM CET | Energy & Environment
Press release from: CRP Technology

Injection molded parts

A composite with thermoplastic matrix, PA12 based and Carbon fibers reinforced, Windform XT 2.0 IMG is the first CRP Technology's injection molding material. It is 100% recycled with no addition of virgin powder from exhausted Windform XT 2.0 for Laser Sintering

CRP Technology launches the Windform XT 2.0 IMG material and initiates a new era in the world of industrial production and sustainability.
Winform XT 2.0 IMG is a high-performance composite material with thermoplastic matrix, PA12 based and Carbon fibers reinforced for injection molding (IMG is the acronym for Injection Molding Grade).
It is 100% recycled from Windform XT 2.0 industrial 3D printing material.
Engineer Franco Cevolini, CEO and Technical Director of CRP Technology, says, "For some time we at CRP Technology have been studying an alternative and total use of those exhausted Windform powders for selective laser sintering, that fallen into disuse as they no longer meet our high quality standards."

The CRP's solution establishes that the exhausted Windform powders are not recycled with the addition of a percentage of virgin material, but they are 100% reused and properly transformed to be suitable for other technologies, which can be both traditional and additive. "In this case - continues Franco Cevolini - we regranulated the Windform XT 2.0 powder cake, and make it suitable for injection molding technology. The test phase ended with excellent results and now we are ready to sell it to those who manufacture on large volumes basis."

Windform XT 2.0 IMG formulation features premium performances ranking from high stiffness and resistance to shock to extreme details accuracy even with thin thicknesses
Its excellent properties makes it ideal for demanding application in a variety of industries such as automotive, transport, e-mobility, agriculture, robotics and industrial design.
With the launch on the market of Windform XT 2.0 IMG injection molding material, CRP Technology begins to offer top-of-the-range materials for different technologies, such as injection molding grade, which permit the companies to shorten the supply chain, and save time and money.
Indeed, the high quality injection molded parts in Windform XT 2.0 IMG preserve same performances of prototypes realized in AM with Windform XT 2.0
"Furthermore - Franco Cevolini adds - the companies that use our Windform XT 2.0 IMG for production, limit their carbon footprint as they are employing a 100% recycled material."

windform.com
crptechnology.com

CW Composites World

CARBON FIBERS | INJECTION/OVERMOLDING | THERMOPLASTICS | ADDITIVE MANUFACTURING

Published 6/9/2023

Windform XT 2.0 IMG brings sustainability to injection molding

Carbon fiber-reinforced PA12 thermoplastic launched by CRP Technology is a 100% recycled high-performance material derived from the Top-Line range for 3D printing.

EDITED BY GRACE NEHLS
Managing Editor, *CompositesWorld*

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Photo Credit: CRP Technology

CRP Technology (Modena, Italy) launches Windform XT 2.0 IMG, a high-performance carbon fiber-reinforced PA12 thermoplastic material that is said to be bringing a new era of industrial production and sustainability for injection molding. It is 100% recycled from Windform XT 2.0 industrial 3D printing material, thus limiting a company's carbon footprint.

"For some time we at CRP Technology have been studying an alternative and total use of those exhausted Windform powders for selective laser sintering [SLS] that have fallen into disuse as they no longer meet our high quality standards," explains Franco Cevolini, engineer, CEO and technical director of CRP Technology.

CRP emphasizes that the "exhausted" Windform powders are not recycled with the addition of a percentage of virgin material, but are 100% reused and properly transformed to be suitable for other traditional *and* additive technologies. "In this case," continues Cevolini, we regranulated the Windform XT 2.0 powder cake, and make it suitable for injection molding technology. The test phase ended with excellent results and now we are ready to sell it to those who manufacture on a large-volume basis."

The Windform XT 2.0 IMG formulation is reported to feature optimal

UST Unmanned System Technology

New High Performance Material Released for Injection Molding

A composite with thermoplastic matrix, PA12 based and Carbon fibers reinforced, Windform XT 2.0 IMG is the first injection molding material from CRP Technology

By **Phoebe Grinter** / 08 Jun 2023

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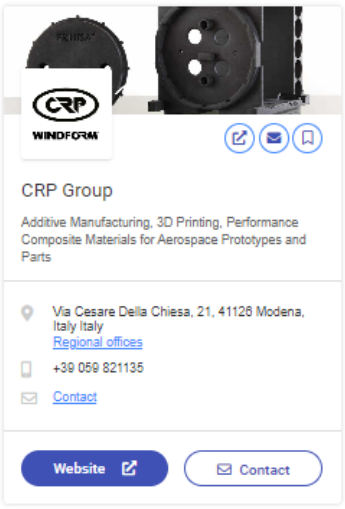
CRP Technology has launched the Windform XT 2.0 Injection Molding Grade (IMG) material, a high-performance composite material with thermoplastic matrix, PA12 based and Carbon fibers reinforced for injection molding.

100% recycled from Windform XT 2.0 industrial 3D printing material, CRP's solution establishes that the exhausted Windform powders are not recycled with the addition of a percentage of virgin material, but are reused and properly transformed to be suitable for other technologies, which can be both traditional and additive.

"For some time we at CRP Technology have been studying an alternative and total use of those exhausted Windform powders for selective laser sintering, that fallen into disuse as they no longer meet our high quality standards," said engineer Franco Cevolini, CEO and Technical Director of CRP Technology. "In this case we regranulated the Windform XT 2.0 powder cake, and make it suitable for injection molding technology. The test phase ended with excellent results and now we are ready to sell it to those who manufacture on large volumes basis."

"Furthermore, the companies that use our Windform XT 2.0 IMG for production limit their carbon footprint as they are employing a 100% recycled material," Cevolini concluded.

Windform XT 2.0 IMG formulation features premium performances ranking from high stiffness and resistance to shock to extreme details accuracy even with thin thicknesses. Its properties make it ideal for demanding applications in a variety of industries such as automotive, transport, e-mobility, agriculture, robotics and industrial design.



Manufacturing Tomorrow

CRP Technology attends Paris Air Show 2023

Visit https://www.crptechnology.com/ for further information

For the first time as an exhibitor at the le Bourget air show 2023, CRP will be sharing ITT Inc.'s booth in the USA Pavilion and display advanced 3D printed parts for aerospace applications

06/14/23, 05:49 AM | Additive & 3D Printing, Engineering | CRP Technology

For the first time, CRP Technology will attend the Paris Air Show with its partner, ITT Inc.

More Headlines

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Arduino PRO to Make the Case for Open Source in Commercial Applications at Sensors Converge 2023

Addverb Revolutionizes Warehouse Automation through Partnership with Amazon AWS.

The event will take place at the Le Bourget Parc des Expositions from 19 June to 25 June 2023.
CRP Technology will be sharing booth A148 in Hall 3, USA Pavilion, with ITT brands Cannon, Enidine, Aerospace Controls, Micro-Mode and Matrix Composites.

The show will be a great opportunity for attendees to discover how the use of Windform composite materials for industrial 3D printing, which was originally developed for the motorsports industry, is being used in space exploration applications.

CRP Technology representatives will also demonstrate how employment of the Windform range of materials has contributed to the most important technological advancements of aero structures and small satellites, ranging from pico- to mini-satellites.

Functional prototypes of flight-ready parts manufactured by CRP Technology and partner company CRP USA will be on display. These prototypes, including the retaining ring, stator, cubesat and TuPOD, have been used on different in-flight operational experiences and space missions.
TuPOD achieved an important milestone in the small satellite arena by becoming the first complete 3D printed satellite deployer launched from the International Space Station - a unique 3D printed 3U CubeSat and a dispensing system for two tube satellites.

CRP Technology representatives look forward to meeting you at the le Bourget air show 2023 for productive discussions about the value

CIM – Composites in Manufacturing

CRP launches high performance material for injection moulding

15 JUNE 2023 • IN **NEWS**

15 JUNE 2023 • IN **NEWS**

Example of an injection moulded gear in Windform XT 2.0 IMG material

CRP Technology has launched the Windform XT 2.0 IMG material, initiating what it says is a new era in the world of industrial production and sustainability.

Winform XT 2.0 IMG is a high-performance composite material with thermoplastic matrix, PA12-based and carbon fibres reinforced for injection moulding (IMG is the acronym for Injection Molding Grade).

It is 100% recycled from Windform XT 2.0 industrial 3D printing material.

Engineer Franco Cevolini, CEO and technical director of CRP Technology, said: "For some time we at CRP Technology have been studying an alternative and total use of those exhausted Windform powders for selective laser sintering, that fallen into disuse as they no longer meet our high quality standards."

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Cevolini added: "In this case, we regranulated the Windform XT 2.0 powder cake, and make it suitable for injection molding technology. The test phase ended with excellent results and now we are ready to sell it to

Tecnelab

TECNELAB

CRP Technology per la prima volta all'edizione 2023 del Paris Air Show

19/06/2023 138 volta/e

Condividi Articolo

Per la prima volta CRP Technology partecipa come espositore al Paris Air Show, il principale appuntamento fieristico per l'industria aeronautica mondiale. Foto su gentile concessione di Alba Orbital.

Per la prima volta **CRP Technology** partecipa come espositore al **Paris Air Show**, il principale appuntamento fieristico per **l'industria aeronautica mondiale** che si svolge ogni due anni presso l'**aeroporto di Parigi-Le Bourget Parc des Expositions**. L'edizione 2023 si svolge **dal 19 al 25 giugno**: gli ultimi tre giorni di fiera sono aperti al pubblico e alle scolaresche.

CRP Technology è presente allo **stand A148 di ITT Inc. nella hall 3, padiglione USA,** insieme ad altre aziende del colosso di Stamford quali: Cannon, Enidine, Aerospace Controls, Micro-Mode e Matrix Composites.

Tutti i partecipanti al Salone che si recano allo stand ITT, potranno scoprire come l'uso dei **materiali compositi Windform per stampa 3D industriale**, sviluppati inizialmente per il settore del motorsport, vengano ora ampliamente utilizzati per realizzare **componenti aerospaziali funzionali e innovativi**.

Infatti, i materiali **Windform** permettono di creare **strutture leggere, altamente resistenti agli urti, conformi agli standard di degassamento della NASA e dell'ESA**.

I rappresentanti di CRP Technology dimostreranno, inoltre, come l'impiego dei compositi Windform ha contribuito ad **accelerare i progressi tecnologici delle strutture aerospaziali e dei sottosistemi più critici** soprattutto di piccoli satelliti, dai pico ai satelliti cubo.

Al Paris Air Show vengono esposti alcuni **prototipi funzionali** realizzati da **CRP Technology** e **CRP USA** e utilizzati in diverse **missioni spaziali che si sono concluse con successo**.

Tra questi spicca **TuPOD** che ha segnato un importante traguardo, poiché è stato il **primo minisatellite interamente stampato in 3D ad essere lanciato dalla Stazione Spaziale Internazionale**. Doppia la sua funzione: satellite cubo e sistema di rilascio di due satelliti tubo.

Manufacturing Tomorrow

CRP Technology launches new injection molding material 100% recycled

Visit https://windform.com for further information

A composite with thermoplastic matrix, PA12 based and Carbon fibers reinforced, Windform XT 2.0 IMG is the first CRP Technology's injection molding material. It is 100% recycled with no addition of virgin powder from exhausted Windform XT 2.0 for Laser Sintering

06/07/23, 09:33 AM | Additive & 3D Printing, Engineering | CRP Technology

CRP Technology launches the Windform XT 2.0 IMG material and initiates a new era in the world of industrial production and sustainability.

More Headlines

IFS Acquires Poka

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Xaba and Lockheed Martin Collaborate to Test Cognitive Autonomous Robots in Airframe Manufacturing

SMBs Bring Hiring to a Halt as the Economy Continues to Shift Downward

Winform XT 2.0 IMG is a high-performance composite material with thermoplastic matrix, PA12 based and Carbon fibers reinforced for injection molding (IMG is the acronym for Injection Molding Grade). It is 100% recycled from Windform XT 2.0 industrial 3D printing material.

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The test phase ended with excellent results and now we are ready to sell it to those who manufacture on large volumes basis."

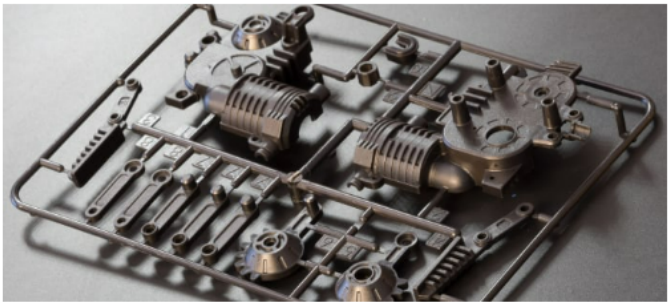
Windform XT 2.0 IMG formulation features premium performances ranking from high stiffness and resistance to shock to extreme

Polimerica

Tecnopolimero da riciclo di polveri SLS

Poliammide 12 e fibra di carbonio con le stesse proprietà del materiale sviluppato per sinterizzazione laser selettiva e ridotta carbon footprint.

8 giugno 2023 08:50



Messo a punto e prodotto dalla società modenese **CRP Technology, Windform XT 2.0 IMG** è un tecnopolimero ad alte prestazioni, per **stampaggio a iniezione**, interamente ottenuto dal **recupero** delle **polveri** di **Windform XT 2.0** "stressate", non idonee per la stampa 3D. Il materiale, a base poliammidica (**PA12**) con rinforzo in **fibre di carbonio,** consente di stampare pezzi resistenti agli **urti** e dettagli con **spessori sottili**, assicurando una buona **resa estetic**a e un'**impronta di carbonio** ridotta grazie alla provenienza da riciclo.

"Da tempo - spiega **Franco Cevolini**, CEO e Direttore tecnico della società – stiamo studiando l'utilizzo alternativo e totale delle polveri per **sinterizzazione laser selettiva** Windform esauste, ovvero quelle polveri dismesse perché non rispettano più i nostri standard qualitativi, che sono molto alti". "Siamo riusciti a rigranulare il cake del Windform XT 2.0 e a renderlo compatibile con lo stampaggio ad iniezione - aggiunge -. La fase di **test** si è **conclusa** con ottimi risultati, e ora siamo pronti a **venderlo** a chi deve produrre in **grandi volumi**".

Con l'introduzione di Windform XT 2.0 IMG, CRP Technology inizia ad offrire materiali ad elevate prestazioni per tecnologie diverse dalla manifattura additiva, come lo stampaggio a iniezione. "Ora siamo in grado di fornire una soluzione di **continuità** a tutte quelle imprese che sono restie a realizzare **prototipi** o **preserie** con i nostri Windform e la stampa additiva perché temono di non trovare un materiale analogo quando passano alla **produzione industriale** - sottolinea Cevolini –. Con il Windform XT 2.0 IMG il problema di cambiare materiale non c'è più: le sue prestazioni meccaniche sono molto vicine al Windform XT 2.0 per sinterizzazione laser selettiva".

CRP Technology | fibre di carbonio | PA12 | riciclo | tecnopolimeri

PT Plastics Technology

AUTOMOTIVE

Published 6/7/2023

Carbon Fiber Reinforced Nylon 12 for Injection Molding

CRP Technology's new composite is 100% recycled from Windform XT 2.0 IMG industrial 3D printing material.

#sustainability

EDITED BY LILLI MANOLIS SHERMAN
Senior Editor

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- Troubleshooting Leaky Temperature-Control Units
- Advanced Recycling: Beyond Pyrolysis
- Lead the Conversation, Change the Conversation

Photo Credit: CRP Technologies

A new carbon fiber reinforced nylon 12 composite for injection molding is newly available from CRP Technology. Said to be the first of a family of sustainable materials for industrial production, Windform XT 2.0 IMG is 100% recycled from the company's exhausted Windform XT2.0 industrial 3D printing material for laser sintering.

The Windform XT 2.0 IMG formulation boasts premium performance ranging from in high stiffness and resistance to shock to allowing for extreme detail accuracy even with thin thicknesses. Its excellent properties reportedly make it ideal for demanding applications in industries such as automotive, transport, e-mobility, agriculture, robotics and industrial design.

Said CRP Technology's CEO and technical director Franco Cevolini, "For some time, we at CRP Technology have been studying an alternative and total use of those exhausted Windform powders for selective laser sintering, that fallen into disuse as they no longer meet our high quality standards...In this case, we regranulated the Windform XT 2.0 powder cake, and make it suitable for injection molding technology. The test phase ended with excellent results and now we are ready to sell it to those who manufacture on large volumes basis."

Indeed, the high-quality injection molded parts made of Windform XT 2.0 IMG are said to exhibit the same performance of prototypes realized in additive manufacturing with Windform XT 2.0.

3Druck.com

MATERIALIEN

CRP bringt Material auf den Markt, das zu 100 % recycelt ist

von **3Druck.com** - Jun 9, 2023

CRP Technology bringt das Material Windform XT 2.0 IMG auf den Markt. Dabei handelt es sich um ein Hochleistungs-Verbundwerkstoff mit thermoplastischer Matrix auf PA12-Basis und mit Kohlenstofffasern verstärkt für das Spritzgießen (IMG ist die Abkürzung für Injection Molding Grade). Es wird zu 100 % aus Windform XT 2.0, einem industriellen 3D-Druckmaterial, recycelt.

Ingenieur Franco Cevolini, CEO und Technischer Direktor von CRP Technology, sagt: "Seit einiger Zeit haben wir bei CRP Technology eine alternative und vollständige Nutzung der verbrauchten Windform-Pulver für das selektive Lasersintern untersucht, die nicht mehr verwendet werden, da sie unseren hohen Qualitätsstandards nicht mehr entsprechen."

"Die Lösung von CRP sieht vor, dass die verbrauchten Windform-Pulver nicht durch Zugabe von Neuware recycelt werden, sondern zu 100 % wiederverwendet und so umgewandelt werden, dass sie für andere Technologien geeignet sind, die sowohl traditionell als auch additiv sein können. In diesem Fall", so Franco Cevolini weiter, "haben wir den Windform XT 2.0-Pulverkuchen regranuliert und für die Spritzgusstechnik geeignet gemacht. Die Testphase endete mit ausgezeichneten Ergebnissen, und jetzt sind wir bereit, es an diejenigen zu verkaufen, die in großen Mengen produzieren."

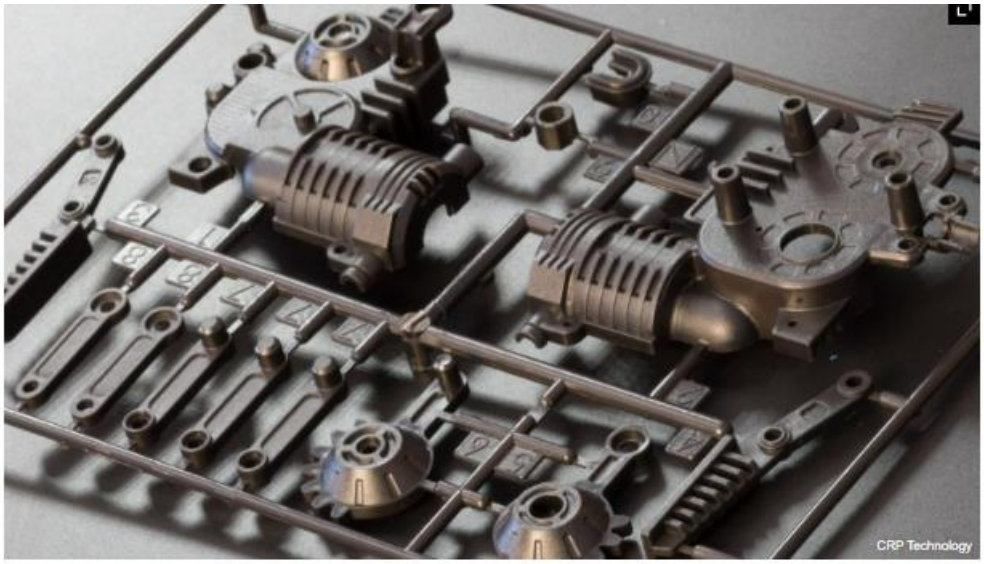
Die Windform XT 2.0 IMG-Formulierung zeichnet sich durch erstklassige Eigenschaften aus, die von hoher Steifigkeit und Stoßfestigkeit bis hin zu extremer

TCT

CRP Technology launches Windform XT 2.0 IMG injection moulding material derived from recycled 3D printing powders

Windform XT 2.0 IMG is a PA12 -based, carbon fibre-reinforced composite with thermoplastic matrix.

BY **OLIVER JOHNSON** 12 JUNE 2023 13:57



Parts created in Windform XT 2.0 IMG

CRP Technology has launched the Windform XT 2.0 IMG material and 'initiates a new era in the world of industrial production and sustainability' according to the company. The material is a high-performance composite material with thermoplastic matrix, PA12-based and carbon fibre-reinforced for injection moulding.

The material is 100% recycled from the Windform XT 2.0 industrial 3D printing powder.

Franco Cevolini, CEO and Technical Director of CRP Technology said: "For some time we at CRP Technology have been studying an alternative and total use of those exhausted Windform powders for selective laser sintering, that fallen into disuse as they no longer meet our high quality standards."

CRP's solution establishes that the exhausted Windform powders are '100% reused and properly transformed' to be suitable for other technologies, which can be both traditional and additive according to

Internet of Things – Mission manufacturing

Pulverrecycling

CRP Technology recycelt SLS-Pulver zu Spritzgussgranulat

14.06.2023 | Von Dipl.-Ing. Dorothee Quitter | Lesedauer: 1 min

Der italienische Kunststoffhersteller CRP Technology hat eine Lösung entwickelt, nicht mehr einsatzfähiges 3D-Druck-Pulver Windform XT 2.0 aus dem Lasersintern weiter zu verwenden.

CRP Technology recycelt dieses Restpulver jetzt ohne Zugabe von Neuware zu Spritzgussgranulat. Aus Windform XT 2.0 IMG hergestellte Spritzgussteile sollen gleichwertig jenen Bauteilen sein, die additiv mit Windform XT 2.0 realisiert wurden.
(Bild: CRP Technology)

Der Verbundwerkstoff Windform XT 2.0 von CRP Technology ist ein Hochleistungspulver für das selektive Lasersintern. Er besteht aus einer Polyamidbasis mit Carbonfaserverstärkung. Kann Restpulver nach wiederholtem Auffrischen nicht mehr für die additive Fertigung eingesetzt werden, wurde es bisher als Abfall entsorgt. CRP Technology hat nun eine Möglichkeit für eine vollständige Weiterverwendung gefunden.

Der Kunststoffhersteller recycelt dieses Restpulver jetzt ohne Zugabe von Neuware zu Spritzgussgranulat. Wie CRP Technology mitteilt, wird dabei der Windform XT 2.0-Pulverkuchen regranuliert und für die Spritzgusstechnik aufbereitet. Das neue Material hat den Namen Windform XT 2.0 IMG. IMG steht für Injection Molding Grade. Es ist wie das Ausgangspulver ein

VoxelMatters

VoxelMatters
Formerly 3dpbm

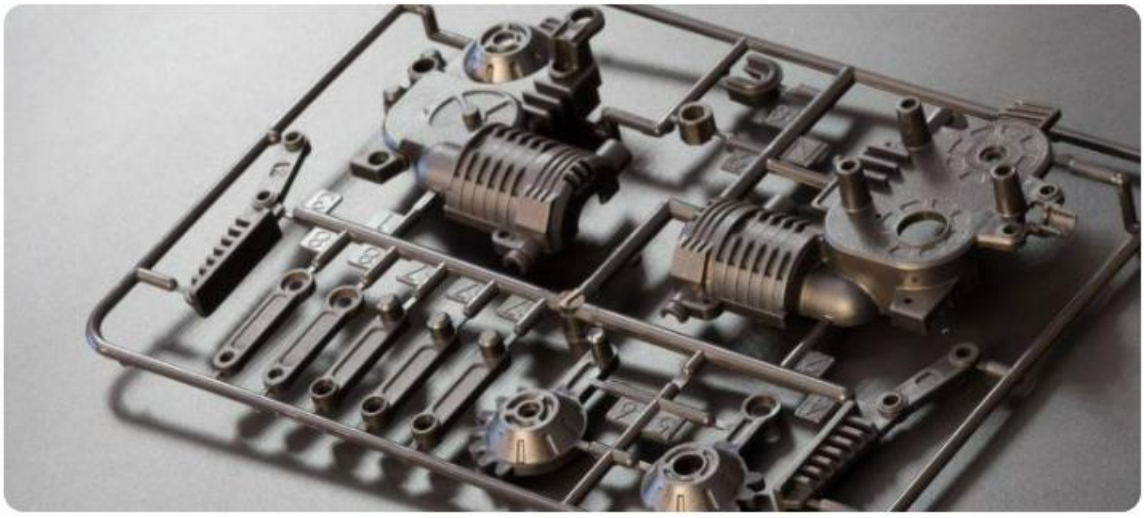
Home / Decision Makers / AM Press Releases / CRP Technology launches Windform XT 2.0 IMG from used SLS powders

Advanced Materials | AM Powders | AM Press Releases | Composites | Materials | Sustainability | Thermoplastic Polymers

CRP Technology launches Windform XT 2.0 IMG from used SLS powders

A high performance material for injection molding, 100% derived from TOP-LINE range for 3D printing

VoxelMatters · June 15, 2023 · 1 minute read



CRP Technology launched the Windform XT 2.0 IMG material, initiating a new industrial production and sustainability era.

Winform XT 2.0 IMG is a high-performance composite material with a thermoplastic matrix, PA12-based and carbon fiber reinforced for injection molding (IMG is the acronym for Injection Molding Grade).

It is 100% recycled from Windform XT 2.0 industrial 3D printing material.

Engineer Franco Cevolini, CEO and Technical Director of CRP Technology, said, "For some time we at CRP Technology have been studying an alternative and total use of those exhausted Windform powders for selective laser sintering, that fallen into disuse as they no longer meet our high-quality standards."

CRP's solution establishes that the exhausted Windform powders are not recycled with the addition of a percentage of virgin material, but they are 100% reused and properly transformed to be suitable for other technologies, which can be both traditional and additive. "In this case – continues Franco Cevolini – we re-granulated the Windform XT 2.0 powder cake, and made it suitable for injection molding technology.

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Home › Industrie › CRP Technology nimmt an der Paris Air Show 2023 teil

INDUSTRIE

CRP Technology nimmt an der Paris Air Show 2023 teil

von **Joram** - Jun 15, 2023

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Zum ersten Mal wird CRP als Aussteller auf der Le Bourget Air Show 2023 den Stand von ITT Inc. im USA-Pavillon teilen und fortschrittliche 3D-gedruckte Teile für Luft- und Raumfahrtanwendungen zeigen.

Zum ersten Mal wird CRP Technology gemeinsam mit seinem Partner ITT Inc. an der Paris Air Show teilnehmen.

Die Veranstaltung findet vom 19. Juni bis 25. Juni 2023 im Le Bourget Parc des Expositions statt.

CRP Technology wird sich den Stand A148 in Halle 3, USA Pavillon, mit den ITT-Marken Cannon, Enidine, Aerospace Controls, Micro-Mode und Matrix Composites teilen.

Die Messe bietet den Besuchern eine gute Gelegenheit zu erfahren, wie Windform-Verbundwerkstoffe für den industriellen 3D-Druck, die ursprünglich für die Motorsportindustrie entwickelt wurden, in der Weltraumforschung eingesetzt werden.

Vertreter von CRP Technology werden auch demonstrieren, wie der Einsatz der Windform-Materialien zu den wichtigsten technologischen Fortschritten bei Flugzeugstrukturen und kleinen Satelliten, von Pico- bis zu Minisatelliten, beigetragen hat.

Zu sehen sind Funktionsprototypen von flugfähigen Teilen, die von CRP Technology und dem Partnerunternehmen CRP USA hergestellt wurden. Diese Prototypen, darunter der Haltering, der Stator, der Cubesat und TuPOD, wurden bereits bei verschiedenen Flugerfahrungen und Weltraummissionen eingesetzt.

VoxelMatters

Decision Makers | VoxelMatters Podcast

VM Podcast S02E05, making better parts with Windform materials

A conversation with Franco Cevolini, CEO of CRP Technology, on the advantages of high-performance materials in AM for aerospace and automotive

Davide Sher · June 19, 2023 · 1 minute read

Our guest in the latest episode of the VM Podcast is Franco Cevolini, CEO of CRP Technology. CRP is a very interesting company because it has been active in the AM industry for well over two decades and has built unique expertise in both AM production services and advanced AM powder materials.

Services are offered mainly via polymer PBF technologies, such as SLS and HSS, catering to advanced automotive and aerospace users. Materials are offered under the Windform brand of CFR/GFR composite powders.

In both cases the main target is not just prototyping but small production series, limited editions and preproduction. As Franco Cevolini explains, CRP Technology supplies production series destined for the automotive, avionics and aerospace markets that, together with industrial applications make up the company's primary customer base.

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PARIS AIR SHOW

AEROSPACE

CRP Tech Showcasing 3D-printed Composite Aero Parts

by Chad Trautvetter - June 18, 2023, 10:28 AM

CRP Technology is exhibiting functional prototypes of flight-ready, 3D composite parts. (Photo: David McIntosh)

CRP Technology is exhibiting functional prototypes of flight-ready, 3D composite parts for the aerospace industry this week at the Paris Airshow. The company shares booth A148 in Hall 3, USA Pavilion, with ITT brands Cannon, Enidine, Aerospace Controls, Micro-Mode, and Matrix Composites.

Windform composite materials developed by CRP for industrial printing originally were created for the motorsports industry but now also are used in space exploration applications. Prototypes on display at its booth include the retaining ring, stator, cubesat, and TuPOD used on different space missions.

The company's materials contribute to technological advancements in aerospace structures and small satellites, ranging from pico- to mini-satellites, CRP noted. In fact, TuPOD—consisting of the 3U CubeSat and a dispensing system for two tube satellites—in late 2017 became the first completely 3D printed satellite deployer launched from the International Space Station.

MACPLAST - MPonline

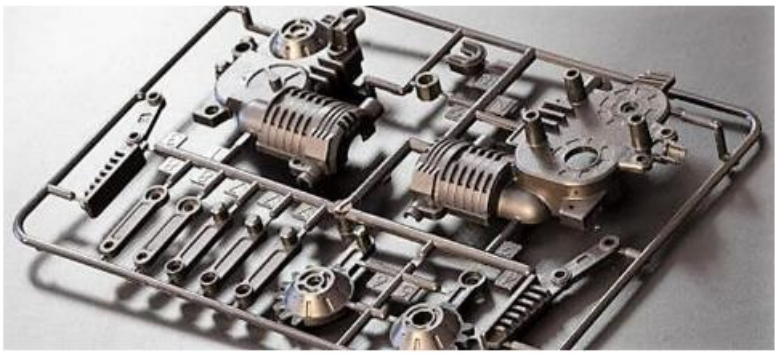
MACPLAS MP ONLINE

MATERIALI

Composito per stampaggio a iniezione dal riciclo di polveri per SLS

15 Giugno 2023

Sviluppato e prodotto da **CRP Technology**, **Winform XT 2.0 IMG** è un materiale composito ad alte prestazioni a **base poliammidica (PA 12) rinforzata con fibre di carbonio** destinato allo **stampaggio a iniezione**, come indicano anche le lettere IMG, acronimo di Injection Molding Grade, ed **è ottenuto al 100% dal riciclo delle polveri esauste del materiale Windform XT 2.0 per la stampa 3D** industriale, sempre di CRP Technology.



Windform XT 2.0 IMG è contraddistinto da **prestazioni meccaniche molto vicine a Windform XT 2.0 per la sinterizzazione laser selettiva**, che lo rendono adatto alla realizzazione di pezzi resistenti agli urti e dettagli anche con spessori sottili, con una elevata resa estetica e una ridotta impronta di carbonio, data la provenienza da fonti riciclate. Con il lancio di Windform XT 2.0 IMG, CRP Technology inizia a offrire materiali per tecnologie diverse dalla stampa 3D, come lo stampaggio a iniezione appunto.

"Da tempo, il reparto di ricerca e sviluppo di CRP Technology sta studiando **l'utilizzo alternativo e totale delle polveri per sinterizzazione laser selettiva Windform esauste**, ovvero quelle polveri dismesse perché non rispettano più i nostri standard qualitativi, che sono molto alti", ha spiegato **Franco Cevolini, CEO e direttore tecnico di CRP Technology**. "In questo caso siamo riusciti a rigranulare il cake del Windform XT 2.0 e a renderlo compatibile con lo stampaggio a iniezione. La fase di test si è conclusa con ottimi risultati e ora siamo pronti a offrirlo a chi deve produrre in grandi volumi", ha aggiunto Cevolini.

Costruire Stampi

Costruire stampi

CRP Technology lancia il nuovo materiale Windform XT 2.0 IMG per stampaggio ad iniezione

Giugno 22, 2023 · 45 Views · CRP Technology, Materiali, riciclo, stampa 3D, stampaggio ad iniezione

Windform XT 2.0 IMG è il primo materiale di CRP per la tecnologia tradizionale dello stampaggio ad iniezione. Deriva dal riciclo al 100% delle polveri di Windform XT 2.0 usate e non più idonee per la stampa 3D.

Windform XT 2.0 IMG è un materiale composito ad alte prestazioni a base poliammidica (PA12) rinforzato con fibre di carbonio per lo **stampaggio ad iniezione** (la sigla IMG è l'acronimo di Injection Molding Grade).
È **riciclato al 100%** dal composito per stampa 3D industriale **Windform XT 2.0**.
"*Da tempo – spiega l'Ingegner **Franco Cevolini**, CEO e Direttore Tecnico di **CRP Technology** – il nostro reparto di Ricerca e Sviluppo sta studiando l'utilizzo alternativo e totale delle polveri per sinterizzazione laser selettiva **Windform** esauste, ovvero quelle polveri dismesse perché non rispettano più i nostri standard qualitativi, che sono molto alti*".

La fase di test si è conclusa con ottimi risultati

Più nello specifico, non si tratta del loro riciclo con l'aggiunta di una percentuale di materiale vergine, ma del riutilizzo al 100% di queste polveri stressate che, adeguatamente trasformate, vengono impiegate con altre tecnologie, che possono essere sia tradizionali che additive. "*In questo caso – continua **Franco Cevolini** – siamo riusciti a rigranulare il cake del **Windform XT 2.0** e a renderlo compatibile con lo **stampaggio ad iniezione**. La fase di test si è conclusa con ottimi risultati, e ora siamo pronti a venderlo a chi deve produrre in grandi volumi*".
Windform XT 2.0 IMG consente di realizzare pezzi resistenti agli urti e dettagli con spessori sottili. La resa estetica è molto alta.

Il progettista Industriale

Windform XT 2.0 IMG: nuovo materiale di CRP Technology per stampaggio a iniezione

Riccardo Fioretto 08/06/2023

CRP Technology lancia il nuovo materiale Windform XT 2.0 IMG per stampaggio ad iniezione e si impegna sempre di più nella sostenibilità e nell'economia circolare.

E' il primo materiale di CRP per la tecnologia tradizionale dello stampaggio ad iniezione. Deriva dal riciclo al 100% delle polveri di Windform XT 2.0 usate e non più idonee per la stampa 3D. Si tratta di un materiale composito a matrice termoplastica basata su PA12 e rinforzato con fibre di carbonio

CRP Technology **lancia il materiale Windform XT 2.0 IMG** ed inaugura una **nuova era** nel mondo della **produzione industriale** e della **sostenibilità**. Si tratta di un materiale composito ad alte prestazioni a **base poliammidica (PA12)** rinforzato con **fibre di carbonio** per lo **stampaggio ad iniezione** (la sigla IMG è l'acronimo di Injection Molding Grade). E' **riciclato al 100%** dal composito per stampa 3D industriale Windform XT 2.0.

JEC

CRP launches Windform XT 2.0 IMG, a new injection molding material totally recycled

High performance composite material with thermoplastic matrix, PA12 based and carbon fibers reinforced, Windform XT 2.0 IMG is the first CRP's injection molding material. It derives from the 100% reuse of exhausted Windform XT 2.0 then regranulated.

READING TIME
1 minute, 50 secondes

Injection molding materials increase in number every year, but only a few guarantee high performance with the future of the planet at heart. With this in mind CRP Technology launches the Windform XT 2.0 IMG material and initiates a new era in the world of industrial production and sustainability.

Winform XT 2.0 IMG is a high-performance composite with thermoplastic matrix, polyamide based (nylon PA12) and Carbon fibers reinforced material for injection molding (IMG is the acronym for Injection Molding Grade).

It is 100% recycled from Windform XT 2.0 industrial 3D printing material.

Engineer Franco Cevolini, CEO and Technical Director of CRP Technology, says, "For some time we at CRP Technology have been studying an alternative and total use of those exhausted Windform powders for selective laser sintering, that fallen into disuse as they no longer meet our high quality standards."

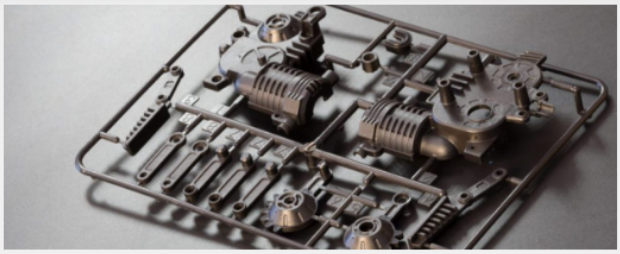
The CRP's solution establishes that the exhausted Windform powders are not recycled with the addition of a percentage of virgin material, but they are 100% reused and properly transformed to be suitable for other technologies, which can be both traditional and additive. "In this case – continues Franco Cevolini – we regranulated the Windform XT 2.0 powder cake, and make it suitable for injection molding technology.

The test phase ended with excellent results and now we are ready to sell it to those who manufacture on large volumes basis."

AM Chronicle

News

CRP Technology launches Windform XT 2.0 IMG, high performance material for injection molding 100% derived from TOP-LINE range for 3D printing



June 9, 2023

AM Chronicle Editor

AM Chronicle Editor

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A composite with thermoplastic matrix, PA12 based and Carbon fibers reinforced, Windform XT 2.0 IMG is the first CRP Technology's injection molding material. It is 100% recycled with no addition of virgin powder from exhausted Windform XT 2.0 for Laser Sintering

CRP Technology launches the Windform XT 2.0 IMG material and initiates a new era in the world of industrial production and sustainability.

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MaschinenMarkt

Pulverrecycling

CRP Technology recycelt SLS-Pulver zu Spritzgussgranulat

21.06.2023 | Von Dipl.-Ing. Dorothee Quitter | Lesedauer: 1 min

Der italienische Kunststoffhersteller CRP Technology hat eine Lösung entwickelt, nicht mehr einsatzfähiges 3D-Druck-Pulver Windform XT 2.0 aus dem Lasersintern weiter zu verwenden.

CRP Technology recycelt dieses Restpulver jetzt ohne Zugabe von Neuware zu Spritzgussgranulat. Aus Windform XT 2.0 IMG hergestellte Spritzgussteile sollen gleichwertig jenen Bauteilen sein, die additiv mit Windform XT 2.0 realisiert wurden.
(Bild: CRP Technology)

Der Verbundwerkstoff Windform XT 2.0 von CRP Technology ist ein Hochleistungspulver für das selektive Lasersintern. Er besteht aus einer Polyamidbasis mit Carbonfaserverstärkung. Kann Restpulver nach wiederholtem Auffrischen nicht mehr für die additive Fertigung eingesetzt werden, wurde es bisher als Abfall entsorgt. CRP Technology hat nun eine Möglichkeit für eine vollständige Weiterverwendung gefunden.

Der Kunststoffhersteller recycelt dieses Restpulver jetzt ohne Zugabe von Neuware zu Spritzgussgranulat. Wie CRP Technology mitteilt, wird dabei der Windform XT 2.0-Pulverkuchen regranuliert und für die Spritzgusstechnik aufbereitet. Das neue Material hat den Namen

COMPSMAG

Technology News

Revolutionizing Aerospace Manufacturing: CRP Technology Unveils Cutting-Edge 3D-Printed Composite Parts at 2023 Paris Air Show

written by Tech Desk • June 19, 2023 • 1 minutes read

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As per the report, CRP Technology is making waves in the aerospace industry with its innovative 3D composite parts. This week, the company is showcasing working prototypes of these ready-to-fly parts at the prestigious Paris Air Show.

Initially developed for the motorsports industry, CRP's windform composites have found applications in space exploration as well. The company's booth at the show features an array of prototypes including retaining rings, stators, cubesats, and TuPOD components that are integral to various space missions.

COMPSMAG

Technology News

Revolutionizing Sustainable Manufacturing: CRP Technology's Windform XT 2.0 IMG Utilizes Recycled 3D Printing Powders for Eco-Friendly Injection Moulding

written by Tech Desk • June 12, 2023 • 1 minutes read

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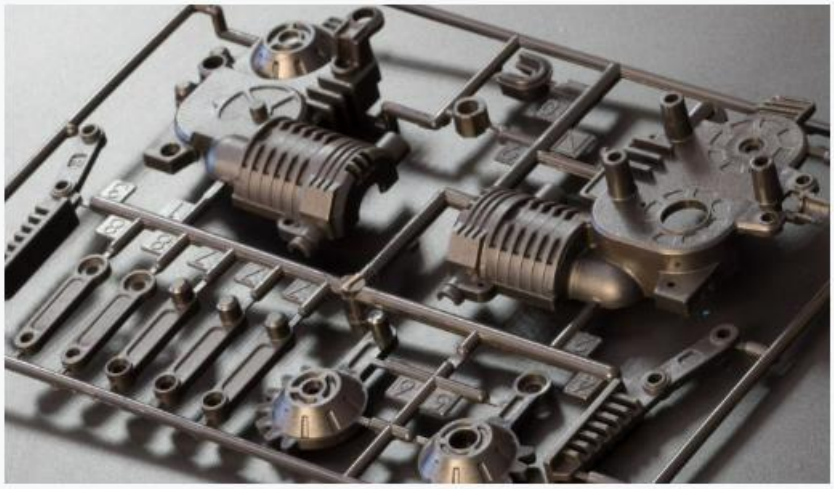

CRP Technology has launched a new material that it claims will "start a new era in the world of industrial production and sustainability". The Windform XT 2.0 IMG material is a high-performance composite material with a thermoplastic matrix, based on PA12 and reinforced with carbon fiber for injection moulding. What makes this material stand out is that it is 100% recycled from Windform XT 2.0 industrial 3D printing powder.

It is alleged to be, Franco Cevolini, CEO and Technical Director of CRP Technology said: "For some time at CRP Technology we have been studying an alternative and total use of those exhausted Windform powders for selective laser sintering, which fell into disuse because they no longer meet our requirements. high quality requirements. rules."

July 2023

NEWSMEC

NEWSMEC
TECNOLOGIE D'AVANGUARDIA PER PRODURRE

UN NUOVO MATERIALE PER LO STAMPAGGIO A INIEZIONE

CRP Technology presenta il materiale Windform XT 2.0 IMG destinato allo stampaggio a iniezione e si impegna sempre di più nella sostenibilità e nell'economia circolare.

Nello specifico, Winform XT 2.0 IMG è un materiale composito ad alte prestazioni a base poliammidica (PA12) rinforzato con fibre di carbonio per lo stampaggio a iniezione (la sigla IMG è l'acronimo di Injection Molding Grade). È riciclato al 100% dal composito per stampa 3D industriale Windform XT 2.0.

"Da tempo - spiega Franco Cevolini, CEO e Direttore Tecnico di CRP Technology - il reparto di Ricerca e Sviluppo di CRP Technology sta studiando l'utilizzo alternativo e totale delle polveri per sinterizzazione laser selettiva Windform esauste, ovvero quelle polveri dismesse perché non rispettano più i nostri standard qualitativi, che sono molto alti".

Più precisamente, non si tratta del loro riciclo con l'aggiunta di una percentuale di materiale vergine, ma del riutilizzo al 100% di queste polveri stressate che, adeguatamente trasformate, vengono impiegate con altre tecnologie, che possono essere sia tradizionali che additive. "In questo caso - continua Franco Cevolini - siamo riusciti a rigranulare il *cake* del Windform XT 2.0 e a renderlo compatibile con lo stampaggio a iniezione. La fase di test si è conclusa con ottimi risultati, e ora siamo pronti a venderlo a chi deve produrre in grandi volumi".

Windform XT 2.0 IMG è un materiale *premium*: la sua base è PA12 ed è rinforzato con fibre di carbonio. Consente di realizzare pezzi resistenti agli urti e dettagli con spessori sottili. La resa estetica è molto alta.

Con il lancio sul mercato del Windform XT 2.0 IMG, CRP Technology inizia a offrire materiali top di gamma per tecnologie diverse, come la stampa a iniezione, che permettono di accorciare la filiera produttiva di un'azienda, che può così risparmiare tempo e denaro.✔

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PRESS RELEASES & GUEST POSTS

CRP Technology attends Paris Air Show 2023

By **CRP Group** - Jun 14, 2023

For the first time as an exhibitor at the le Bourget air show 2023, CRP will be sharing ITT Inc.'s booth in the USA Pavilion and display advanced 3D printed parts for aerospace applications.

For the first time, CRP Technology will attend the **Paris Air Show** with its partner, ITT Inc.

The event will take place at the **Le Bourget Parc des Expositions from 19 June to 25 June 2023**.

CRP Technology will be sharing **booth A148 in Hall 3**, USA Pavilion, with ITT brands Cannon, Enidine, Aerospace Controls, Micro-Mode and Matrix Composites.

The show will be a great opportunity for attendees to discover how the use of Windform composite materials for industrial 3D printing, which was originally developed for the motorsports industry, is being used in space exploration applications.

CRP Technology representatives will also demonstrate how employment of the Windform range of materials has contributed to the most **important technological advancements** of aero structures and small satellites, ranging from pico- to mini-satellites.

Functional prototypes of flight-ready parts manufactured by CRP Technology and partner company CRP USA will be on display. These prototypes, including the **retaining ring, stator, cubesat and TuPOD**, have been used on different in-flight operational experiences and space missions.

TuPOD achieved an **important milestone** in the small satellite arena by becoming the **first complete 3D printed satellite** deployer launched from the International Space Station – a unique 3D printed 3U CubeSat and a dispensing system for two tube satellites.

Il Replicatore

Replicatore

Home / Aerospaziale / Windform of change: la stampa 3D CRP democratizza lo spazio

Aerospaziale

Windform of change: la stampa 3D CRP democratizza lo spazio

I materiali compositi Windform PBF sono utilizzati da agenzie spaziali e centri di ricerca per satelliti e schieratori in miniatura

Andrea Gambini • 31/07/2023

6 minuti di lettura

0 CONDIVISI

Di solito pesano meno di 2 kg, i microsatelliti possono essere piccoli, ma stanno avendo un grande impatto nel mondo aerospaziale. I satelliti in miniatura, compatti e facili da lanciare, sono oggi utilizzati da enti commerciali, governativi, militari e civili per molteplici scopi, dal monitoraggio dell'inquinamento da elettrosmog, al miglioramento delle telecomunicazioni, alla raccolta di dati, alla cattura di segnali ad alta frequenza immagini della Terra dallo spazio. Ma cosa c'è dietro la recente proliferazione e il successo di questi piccoli dispositivi? Per prima cosa, i satelliti in miniatura offrono enormi vantaggi rispetto a quelli più grandi (come costi di lancio molto meno costosi) e sono resi possibili dalla continua tendenza alla miniaturizzazione nell'elettronica. Ma c'è anche un altro fattore che rende possibile e accessibile il loro sviluppo: la tecnologia di produzione additiva.

I materiali compositi Windform di grado ingegneristico del Gruppo CRP per il processo di fusione a letto di polvere hanno aperto nuove opportunità per lo sviluppo di mini satelliti a basso costo che soddisfano i rigori dell'uso nello spazio. I materiali rinforzati con fibra di vetro e carbonio dell'azienda sono stati sviluppati pensando alle applicazioni aerospaziali.

CRP technology collabora da tempo con leader del settore aerospaziale come JAXA, l'agenzia giapponese per l'esplorazione aerospaziale), con alcuni gradi che resistono con successo alla forza G e soddisfano gli standard di degassamento della NASA e dell'ESA. Come vedremo più in dettaglio, **i materiali Windform sono importanti per la produzione di mini satelliti**, come dimostra il fatto che molti satelliti Windform sono stati lanciati nel corso degli anni e sono ancora in orbita con successo.

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3D printing industry

MATERIALS

CRP TECHNOLOGY LAUNCHES 100% RECYCLED 3D PRINTING MATERIAL FOR INJECTION MOLDING

ADA SHAIKHNAG - JULY 17TH 2023 - 9:00AM 0 0

3D printing materials and services provider CRP Technology has launched new material, dubbed Windform XT 2.0 IMG (Injection Molding Grade).

Derived entirely from the "esteemed TOP-LINE range" for 3D printing, this high-performance material showcases a composite structure with a thermoplastic matrix, PA12 base, and enhanced reinforcement from carbon fibers. A notable feature of this material is 100% recycled with no addition of virgin powder from exhausted Windform XT 2.0 for Laser Sintering.

"For some time we at CRP Technology have been studying an alternative and total use of those exhausted Windform powders for selective laser sintering (SLS) that have fallen into disuse as they no longer meet our high quality standards," said Franco Cevolini, engineer, CEO and technical director of CRP Technology.

Windform XT 2.0 IMG is suitable for automotive, transportation, e-mobility, and more. Image via CRP Technology.

A 3D printing material for injection molding with superior performance

According to the company, the Windform XT 2.0 IMG formulation offers superior performance characteristics, including high-level stiffness, shock resistance, and precise detailing, even in thin layers. Furthermore, the high-grade injection molded components made from this material retain several key attributes found in

PT Plastics Technology

RECYCLED MATERIALS

Published 7/18/2023

Recycled Nylon-based Composite Injection Molding Material

CRP Technology announced the launch of its Windform XT 2.0 IMG, a nylon/carbon fiber composite.

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- Get 'Actionable' Data on Manufacturing to Help You Make Better Decisions
- Lead the Conversation, Change the Conversation
- Advanced Recycling: Beyond Pyrolysis

CRP Technology, a supplier of additive manufacturing materials, announced the launch of its Windform XT 2.0 IMG, a nylon/carbon fiber composite.

Windform XT 2.0 IMG is made from 100% recycled Windform XT 2.0 industrial 3D printing material, with no addition of virgin material.

Injection molded front nose for Energica Electric Motorcycle.
Photo Credit: CRP Technology

Windform XT 2.0 IMG is PA12-based and carbon reinforced. According to CRP, the results of product testing of the regranulated material have yielded excellent impact resistance and aesthetic results.

By providing a material that can be processed with multiple technologies, CRP hopes to supply manufacturers who may not use additive manufacturing, or who opt for the continuity of using a material that can be processed by additive technologies or injection molding, thereby enabling a transition from prototype to production lifecycle stages without a change in material.

3D printing industry

3D printing makes space exploration more affordable and accessible

The Portland State Aerospace Society (PSAS) successfully launched OreSat0, a CubeSat system, into LEO. CRP Technology's Windform LX 3.0 composite material and industrial 3D printing technology played a crucial role in manufacturing the satellite's essential subsystems, such as the reliable deployer for the tri-band turnstile antenna, the star tracker lens and sensor assembly, and a compact battery pack. PSAS employed a cost-effective approach by utilizing low-cost Fused Deposition Modeling (FDM) for prototyping and later transitioned to Selective Laser Sintering (SLS) with Windform LX 3.0 for the final production. The organization's accomplished missions, OreSat0.5 in October 2023, and OreSat1's deployment from the International Space Station (ISS) early next year.

3DPRINT.COM

3D Printing News Unpeeled: IndoMIM, Windform & Center Street

July 20, 2023 • by Joris Peels • 3D Printing • 3D Printing News Unpeeled

We throw around half of all powder bed fusion powder away. So it's great that Windform XT 2.0´s old powder that can not be reused on the 3D printer is now to be made into an injection molding material. Usually this would entail the adding of new virgin powder to the mix but the team has succeeded in doing this without any new material going into the final mix which is wonderful news. The Italian firm is offering the Windform XT 2.0 IMG for sale now.

Leichtbauwelt

LEICHTBAUWELT
INSPIRATION FÜR IHREN FORTSCHRITT IM LEICHTBAU

Windform: Vom Sinter-Reststoff zum Rohstoff für's Spritzgießen

ON: 26. JULI 2023 / IN: AUTOMOBIL + MOTORRAD, NETZSPLITTER | TECHNOLOGIE, THEMEN, WERKSTOFFE / TAGGED: CRP TECHNOLOGY, KOHLENSTOFFFASERVERSTÄRKTE KUNSTSTOFFE (CFK), RECYCLINGMATERIAL, SELEKTIVES LASERSINTERN

Spritzgegossene Frontnase für das Energica Electric Motorcycle EVA Ribelle (Quelle: CRP Technology)

Das Material Windform XT 2.0 IMG ist ein Hochleistungsverbundwerkstoff aus thermoplastischer Matrix auf Polyamidbasis (Nylon PA12) und Carbonfaserverstärkung für das Spritzgießen. Der Namenszusatz IMG steht dabei für Injection Molding Grade. Interessant ist der Ursprung des Materials: Es wird zu 100 Prozent aus Windform XT 2.0, einem industriellen 3D-Druckmaterial, recycelt.

Beispiel eines spritzgegossenen Getriebezahnrads aus Windform XT 2.0 IMG Material – von vorne (Quelle: CRP Technology)

Das Unternehmen **CRP Technology** hat eine Lösung entwickelt, nach die verbrauchten Windform-Pulver aus dem selektiven Lasersintern nicht durch Zugabe von Neuware wiederverwendet, sondern zu 100 Prozent so aufbereitet werden, dass sie als Ausgangsmaterial für andere Technologien geeignet sind – darunter das Spritzgießen oder andere additive Verfahren.

> *„Die Testphase endete mit ausgezeichneten Ergebnissen, und jetzt sind wir bereit, es an diejenigen zu verkaufen, die in großen Mengen produzieren."*
> ***Franco Cevolini**, CEO und Technischer Direktor von CRP Technology*

Der Recycling-Werkstoff eignet sich für Bauteile die stoßfest sein müsse oder Details mit geringen Wandstärken aufweisen. Die ästhetischen Ergebnisse der Probebauteile sind auch bei der Oberflächenqualität überzeugend.

Da das Spritzgussmaterial nun aus demselben Werkstoff besetht, wie der additiv via Lasersintern gefertigte funktionelle Prototyp, sind die Herausforderungen durch einen Materialwechsels von einer Phase zur anderen obsolet. Darüber hinaus reduzieren die Unternehmen, die das Windform

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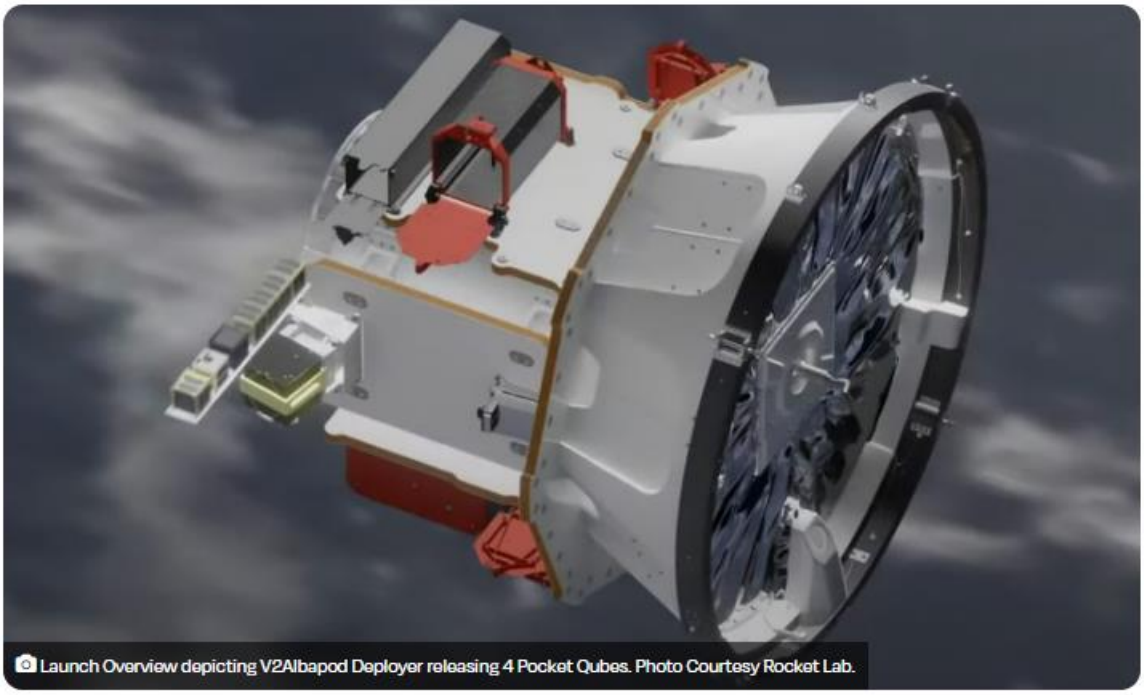
Aerospace AM | AM for Space | Drones/UAV

Windform of change: CRP 3D printing democratizes space

Windform PBF composite materials are used by space agencies and research centers for miniature satellites and deployers

VoxelMatters · July 28, 2023 · 6 minutes read



Launch Overview depicting V2Albapod Deployer releasing 4 Pocket Qubes. Photo Courtesy Rocket Lab.

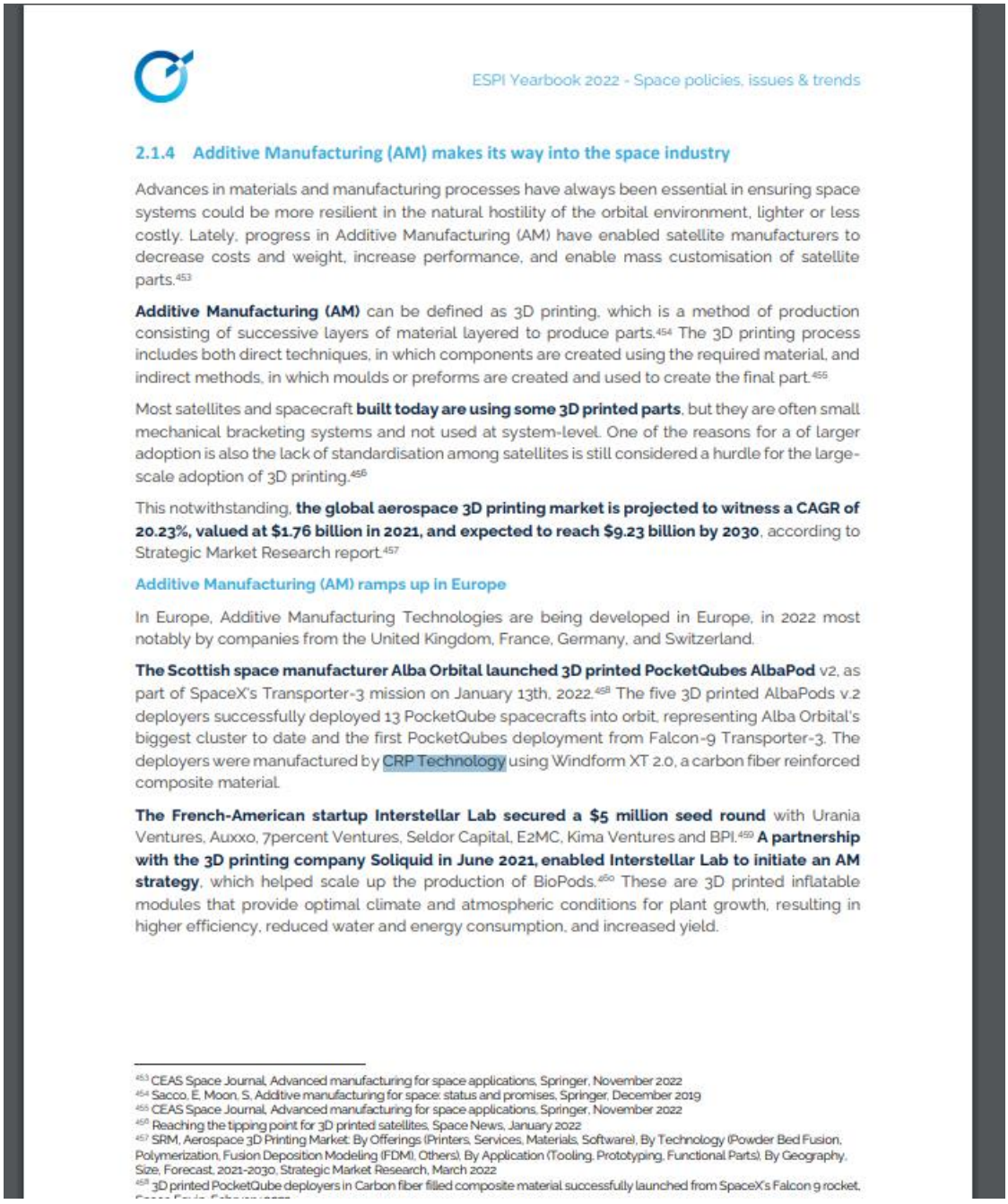
Stay up to date with everything that is happening in the wonderful world of AM via our LinkedIn community.

Typically weighing less than 2 kg, microsatellites may be small, but they are having a big impact in the world of aerospace. The miniature satellites, which are compact and easy to launch, are today being used by commercial, governmental, military, and civil entities for multiple purposes, from monitoring electro-smog pollution, to improving telecommunications, to collecting data, to capturing high-frequency images of the Earth from space. But what is behind the recent proliferation and success of these small devices? For one, miniature satellites offer massive benefits

August 2023

ESPI Yearbook 2022

European Space Policy Institute



2.1.4 Additive Manufacturing (AM) makes its way into the space industry

Advances in materials and manufacturing processes have always been essential in ensuring space systems could be more resilient in the natural hostility of the orbital environment, lighter or less costly. Lately, progress in Additive Manufacturing (AM) have enabled satellite manufacturers to decrease costs and weight, increase performance, and enable mass customisation of satellite parts.[453]

Additive Manufacturing (AM) can be defined as 3D printing, which is a method of production consisting of successive layers of material layered to produce parts.[454] The 3D printing process includes both direct techniques, in which components are created using the required material, and indirect methods, in which moulds or preforms are created and used to create the final part.[455]

Most satellites and spacecraft **built today are using some 3D printed parts**, but they are often small mechanical bracketing systems and not used at system-level. One of the reasons for a of larger adoption is also the lack of standardisation among satellites is still considered a hurdle for the large-scale adoption of 3D printing.[456]

This notwithstanding, **the global aerospace 3D printing market is projected to witness a CAGR of 20.23%, valued at $1.76 billion in 2021, and expected to reach $9.23 billion by 2030**, according to Strategic Market Research report.[457]

Additive Manufacturing (AM) ramps up in Europe

In Europe, Additive Manufacturing Technologies are being developed in Europe, in 2022 most notably by companies from the United Kingdom, France, Germany, and Switzerland.

The Scottish space manufacturer Alba Orbital launched 3D printed PocketQubes AlbaPod v2, as part of SpaceX's Transporter-3 mission on January 13th, 2022.[458] The five 3D printed AlbaPods v.2 deployers successfully deployed 13 PocketQube spacecrafts into orbit, representing Alba Orbital's biggest cluster to date and the first PocketQubes deployment from Falcon-9 Transporter-3. The deployers were manufactured by CRP Technology using Windform XT 2.0, a carbon fiber reinforced composite material.

The French-American startup Interstellar Lab secured a $5 million seed round with Urania Ventures, Auxxo, 7percent Ventures, Seldor Capital, E2MC, Kima Ventures and BPI.[459] **A partnership with the 3D printing company Soliquid in June 2021, enabled Interstellar Lab to initiate an AM strategy**, which helped scale up the production of BioPods.[460] These are 3D printed inflatable modules that provide optimal climate and atmospheric conditions for plant growth, resulting in higher efficiency, reduced water and energy consumption, and increased yield.

[453] CEAS Space Journal, Advanced manufacturing for space applications, Springer, November 2022
[454] Sacco, E, Moon, S, Additive manufacturing for space: status and promises, Springer, December 2019
[455] CEAS Space Journal, Advanced manufacturing for space applications, Springer, November 2022
[456] Reaching the tipping point for 3D printed satellites, Space News, January 2022
[457] SRM, Aerospace 3D Printing Market: By Offerings (Printers, Services, Materials, Software), By Technology (Powder Bed Fusion, Polymerization, Fusion Deposition Modeling (FDM), Others), By Application (Tooling, Prototyping, Functional Parts), By Geography, Size, Forecast, 2021-2030, Strategic Market Research, March 2022
[458] 3D printed PocketQube deployers in Carbon fiber filled composite material successfully launched from SpaceX's Falcon 9 rocket,

CW Composites World

CARBON FIBERS | ADDITIVE MANUFACTURING | AUTOMOTIVE

Published 8/9/2023

CRP 3D printing composites optimize Formula SAE team's racing performance

Long-term CRP USA and UVic Formula Racing partnership has culminated in the development of versatile, durable carbon fiber-filled components that continue deliver on the track.

EDITED BY GRACE NEHLS
Managing Editor, *CompositesWorld*

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3D-printed composite intake component. Photo Credit, all images: CRP Technology

Over the years, the partnership between CRP USA (Mooresville, N.C., U.S.) and the University of Victoria's UVic Formula Racing (British Columbia, Canada) team has culminated in the creation of several highly functional composite parts using CRP's carbon fiber-filled Windform materials and the laser sintering process. These components are distinguished by their versatility, mechanical properties and durability. One of UVic's latest examples include the steering wheel and elements of the engine lubrication system, which have become integral parts of the car.

"Like every year, the industry judges at the competition were very interested in the

Manufacturing Tomorrow

How professional 3D printing and Carbon fiber filled composites help Formula SAE team to optimize their racing performance

08/09/23, 05:33 AM | Additive & 3D Printing, Engineering | CRP USA LLC

The CRP USA and UVic Formula Racing partnership have created across the years many functional parts in Carbon fiber filled composite materials and Laser Sintering as manufacturing process. These components distinguish for versatility, mechanical properties and durability

How professional 3D printing and Carbon fiber filled composites help Formula SAE team to optimize their racing performance

Visit https://www.crp-usa.net/ for further information

The CRP USA and UVic Formula Racing partnership have created across the years many functional parts in Carbon fiber filled composite materials and Laser Sintering as manufacturing process. These components distinguish for versatility, mechanical properties and durability

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The versatility and mechanical properties of the functional components made in Windform materials are well recognized by specialists and insiders. One of the latest examples comes from the world of Formula SAE.

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Luke Wooldridge, Powertrain Lead of UVic Formula Racing from University of Victoria, says, "like every years the industry judges at the competition were very interested in the parts that CRP USA 3D printed for our racing car."

The partnership between CRP USA and UVic Formula Racing has been going on for some time now and has involved the manufacturing and featuring of several components, including the steering wheel and elements of the engine lubrication system, which have become integral parts of the car. Let's have a deep dive into these parts.

Oil and water catch cans

The team designed new oil and water catch cans which integrated better with the chassis packaging.

OpenPR

Press release

How professional 3D printing and Carbon fiber filled composites help Formula SAE team to optimize their racing performance

08-09-2023 04:44 PM CET | Science & Education
Press release from: CRP USA LLC

UVic Formula SAE's 3D printed, race-ready intake manifold

The CRP USA and UVic Formula Racing partnership have created across the years many functional parts in Carbon fiber filled composite materials and Laser Sintering as manufacturing process. These components distinguish for versatility, mechanical properties and durability

The versatility and mechanical properties of the functional components made in Windform materials are well recognized by specialists and insiders. One of the latest examples comes from the world of Formula SAE.
Luke Wooldridge, Powertrain Lead of UVic Formula Racing from University of Victoria, says, "like every years the industry judges at the competition were very interested in the parts that CRP USA 3D printed for our racing car."
The partnership between CRP USA and UVic Formula Racing has been going on for some time now and has involved the manufacturing and featuring of several components, including the steering wheel and elements of the engine lubrication system, which have become integral parts of the car. Let's have a deep dive into these parts.

Oil and water catch cans
The team designed new oil and water catch cans which integrated better with the chassis packaging.
These components were made from Windform SP, one of the Carbon fiber filled composite from the Windform range of materials for professional 3D printing.
The Windform SP held up especially well to the high heat of the overflowing oil and coolant. Luke Wooldridge states, "No significant damage was noted to either modules with water coolant temperature reaching ~125C and the oil reaching ~150C."

Steering wheel
This year the team had a new faceplate made for their steering wheel, for use with improved driver control switches. The part was made using Windform XT 2.0, another Carbon fiber filled composite from the Windform range.
Luke Wooldridge adds, "Windform XT 2.0 provided a better finished part as none of the in-house prints we made could provide the resistance to heat, impact, and direct sunlight needed from the part."
3D printed parts from previous years featuring on the current car
Continuing in the powertrain system of the car, CRP USA has helped the UVic team develop a number of iterations of their oil pan over the last years, each made from Windform SP due to its impact resistance and resistance to high temperatures.
"The flexibility in the manufacturing process has allowed us to design a reduction in the overall height of the oil pan and incorporate anti-sloshing features such as one-way baffle doors directly into the print", Luke Wooldridge states.
Reducing the overall height allows the team to drop the engine's position in the chassis, lowering the weight distribution of the car and improving on-track, dynamic performance.

VoxelMatters

Additive Manufacturing | Advanced Materials | AM Press Releases | Automotive | Materials

How 3D printing and carbon fiber-filled composites helped a Formula SAE team improve their racing performance

VoxelMatters · August 24, 2023 · 4 minutes read

CRP USA and UVic Formula Racing have collaborated over the years to create many functional parts using carbon fiber-filled composite materials and laser sintering as a manufacturing process. These components stand out for their versatility, mechanical properties and durability. The versatility and mechanical properties of the functional components made using Windform materials are well-recognized by specialists and insiders. One of the latest examples comes from the world of Formula SAE.

Luke Wooldridge, Powertrain Lead of UVic Formula Racing from the University of Victoria, said, "Like every year the industry judges at the competition were very interested in the parts that CRP USA 3D printed for our racing car."

The partnership between CRP USA and UVic Formula Racing has been going on for some time now and has involved the manufacturing and featuring of several components, including the steering wheel and elements of the engine lubrication system, which have become integral parts of the car. Let's have a deep dive into these parts.

3D printing industry

Similarly, it was recently announced that the Portland State Aerospace Society (PSAS) had leveraged 3D printing technology to successfully launch OreSat0, a CubeSat system, into low earth orbit. The 3D printed satellite's critical subsystems were produced using CRP Technology's Windform LX 3.0 composite material. Low-cost Fused Deposition Modeling (FDM) 3D printers were used for prototyping before the team transitioned to Selective Laser Sintering (SLS) with Windform LX 3.0 to 3D print the final parts.

OreSat0.5 is set to launch in October 2023, whilst OreSat1 is scheduled to deploy from the International Space Station (ISS) in early 2024.

ETMM European Tool and Mould Making

Durable material

3D printing and carbon fibre composites help optimise racing performance

31.08.2023 | Source: CRP | Reading Time: 4 min

The partnership between CRP USA and U-Vic Formula Racing has produced many functional parts over the years using carbon fibre filled composites and laser sintering as a manufacturing process. These components are characterised by their versatility, mechanical properties and durability.

The intake used by the U-Vic team was manufactured in 2019 by CRP USA from Windform XT 2.0.
(Source: CRP)

The versatility and mechanical properties of functional components made from Windform materials are well recognised by experts and insiders. One of the latest examples comes from the world of Formula SAE. Luke Wooldridge, Powertrain Lead of U-Vic Formula Racing at the University of Victoria, says: "As in previous years, the industry judges at the competition were very interested in the parts that CRP USA 3D printed for our race car".

The partnership between CRP USA and U-Vic Formula Racing has been going on for some time now, and has involved the production and fitting of several components, including the steering wheel and elements of the

September 2023

3D printing industry

3D printing materials and service provider CRP USA has partnered with the University of Victoria's UVic Formula SAE Racing team to develop 3D printed carbon fiber-filled racing car components.

As part of a long-term relationship, the two companies have produced several integral components, including the steering wheel and elements of the lubrication system. Carbon fiber-filled composite Windform materials have been used to 3D print the components through the Laser Sintering additive manufacturing process.

In a recently published case study, the companies claim that 3D printing with Windform materials has allowed the team to produce functional parts that are versatile and boast optimal mechanical properties.

"The durability of all the components 3D-printed by CRP USA is incredible. In all honesty, we ask a lot of these parts when we are out on the track, and they continue to deliver," commented Luke Wooldridge, Powertrain Lead of UVic Formula Racing from the University of Victoria. "For example, this year, during testing, we struck a traffic cone hard enough to shear off the screw attaching the front wing to the chassis and bend our aluminum mounting arm without damaging the wing insert in Windform XT 2.0 attached to the other side."

Portale Compositi

STAMPA 3D

Stampa 3D e materiali compositi supportano la Formula SAE

La partnership tra il service americano di stampa 3D professionale CRP USA e UVic Formula Racing è in corso da tempo, e riguarda la produzione di diversi componenti race-ready

Tempo stimato di lettura 3 , 42 min

Vaschetta di raccolta liquidi in Windform SP

La versatilità e le proprietà meccaniche dei componenti funzionali realizzati nei materiali Windform (creati dal service italiano di stampa 3D professionale CRP Technology) sono riconosciute da specialisti e addetti ai lavori.

Uno degli ultimi esempi arriva dal mondo della Formula SAE. Luke Wooldridge, Powertrain Lead di UVic Formula Racing dell'Università di Victoria, Canada, afferma: "Da anni la giuria tecnica della Formula SAE mostra interesse per le parti realizzate da CRP USA in stampa 3D per la nostra auto da corsa".

La partnership tra il service americano di stampa 3D professionale CRP USA e UVic Formula Racing è in corso da tempo, e riguarda la produzione di diversi componenti race-ready, tra cui il volante e gli elementi del sistema di lubrificazione del motore, che sono diventati parte integrante della vettura da gara. Guardiamo alcune di queste applicazioni più nel dettaglio.

Vaschetta di raccolta olio e acqua

Il team UVic ha progettato le nuove vaschette per la raccolta dell'olio e dell'acqua per integrarsi meglio con la struttura della scocca.
Questi componenti sono stati realizzati in Windform SP, uno dei compositi

Composites Portal

3D PRINTING

3D printing and carbon fiber filled composites help Formula SAE team

The partnership between CRP USA and UVic Formula Racing has been going on for some time now and has involved the manufacturing and featuring of several components

Estimated time of reading 3 , 44 min

Manifold in Windform XT 2.0

The versatility and mechanical properties of the functional components made in Windform materials are well recognized by specialists and insiders. One of the latest examples comes from the world of Formula SAE.

Luke Wooldridge, Powertrain Lead of UVic Formula Racing from University of Victoria, says, "like every years the industry judges at the competition were very interested in the parts that CRP USA 3D printed for our racing car."

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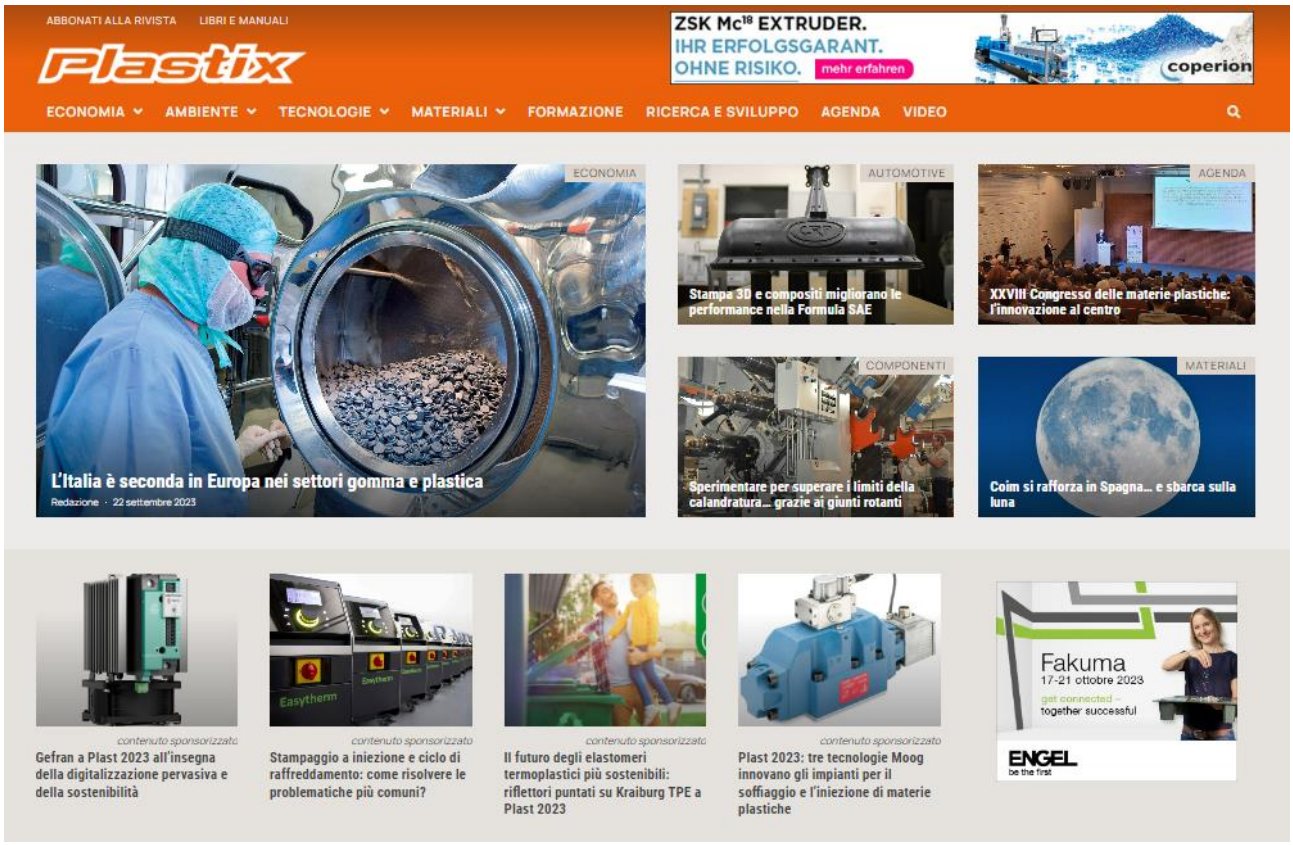
Oil and water catch cans

The team designed new oil and water catch cans which integrated better with the chassis packaging. These components were made from Windform SP, one of the Carbon fiber filled composite from the Windform range of materials for professional 3D printing.

Plastix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Stampa 3D e compositi migliorano le performance nella Formula SAE

AUTOMOTIVE COMPOSITI STAMPA 3D

21 settembre 2023 | Redazione

La versatilità e le proprietà meccaniche dei componenti funzionali realizzati in **compositi Windform** per la stampa 3D, sviluppati dalla società italiana CRP Technology, sono ormai riconosciute da specialisti e addetti ai lavori. Uno degli ultimi esempi arriva dal mondo della **Formula SAE**.

"Da anni la giuria tecnica della Formula SAE mostra interesse per le parti realizzate da CRP USA per la nostra auto da corsa", ha infatti dichiarato **Luke Wooldridge**, powertrain lead di UVic Formula Racing dell'Università di Victoria, Canada.

La partnership tra CRP USA e UVic Formula Racing è in corso da tempo e riguarda la produzione di diversi **componenti "race-ready"**, tra cui il volante e gli elementi del sistema di lubrificazione del motore, che sono diventati parte integrante della vettura da gara. Ma esaminiamo alcune di queste applicazioni più in dettaglio.

Vaschetta di raccolta dell'olio e dell'acqua

Il team di UVic ha progettato le nuove vaschette per la raccolta dell'olio e dell'acqua per integrarsi meglio con la struttura della scocca. Questi componenti sono stati realizzati in **Windform SP**, uno dei **compositi rinforzati con fibre di carbonio** della gamma Windform per la stampa 3D professionale.

Windform SP ha resistito particolarmente bene al calore elevato dell'olio e del refrigerante. "Nessun danno significativo è stato notato su entrambi i moduli con la **temperatura del refrigerante dell'acqua** che ha raggiunto all'incirca i **125°C** e l'**olio** che ha

MACPLAS MP INTERNATIONAL

MACPLAS MP THE MAGAZINE FOR THE PLASTICS & RUBBER INDUSTRY

Carbon fibre-reinforced polyamide 12

Composite for injection moulding from SLS powder recycling

Developed and produced by CRP Technology, Winform XT 2.0 IMG is a high-performance composite material based on polyamide (PA 12) reinforced with carbon fibres for injection moulding, as also indicated by the letters IMG, an acronym for Injection Molding Grade, and is obtained 100% from the recycling of spent powder of the Windform XT 2.0 material for industrial 3D printing, also by CRP Technology.

Windform XT 2.0 IMG is characterised by a mechanical performance very close to that of Windform XT 2.0 for Selective Laser Sintering, making it suitable for the production of impact resistant parts and details, even at low thicknesses, with a high aesthetic yield and a reduced carbon footprint due to its origin from recycled sources. With the launch of Windform XT 2.0 IMG, CRP Technology begins to offer materials for technologies other than 3D printing, such as injection moulding.

"For some time now, CRP Technology's R&D department has been studying the alternative and full use of used Windform selective laser sintering powders, i.e. powders that are discarded because they no longer meet our very high quality standards," explains Franco Cevolini, CEO and Technical Director of CRP Technology. "In this case, we were able to regranulate the Windform XT 2.0 cake and make it compatible with injection moulding. The test phase has been completed with excellent results and we are now ready to offer it to those who need to produce in large volumes," added Cevolini. ■

Strong technical component, attention to details, aesthetics and reduced carbon footprint: all possible thanks to the use of injection-moulded Winform XT 2.0 IMG composite.

Innovation POST

I DATI DELL'EPO

Stampa 3D, Italia seconda in Europa per applicazioni industriali e sesta per brevetti

Home > Tecnologie > Additive Manufacturing

La stampa 3D non è più una tecnologia di nicchia, ma è oggetto di interesse da parte di università e imprese: secondo un'analisi realizzata dall'Ufficio Europeo dei Brevetti (EPO) nel periodo 2013-2020 i brevetti depositati sono infatti cresciuti con un tasso medio annuo del 26,3%. L'Europa si conferma leader dell'innovazione dietro agli Stati Uniti, mentre l'Italia si trova al 2° posto in Europa per numero di sistemi industriali di stampa 3D installati e al 6° posto per i brevetti.

Aggiornato il 19 Set 2023

Michelle Crisantemi

(2,3%, 57 IPF) e delle costruzioni, dove si concentra il 2,0% dei brevetti depositati (17 IPF).

In Italia, oltre alle filiali di aziende multinazionali – come Nuovo Pignone S.p.A. (Gruppo GE) e STMicroelectronics S.p.A. – anche le **PMI e le start-up** danno un importante contributo all'innovazione della stampa 3D. Tra queste ci sono aziende come **Sisma**, **CRP Technology** e **Desamanera**. Realtà che, in diversi casi, sono specializzate in un particolare settore della stampa 3D, con un portafoglio di brevetti a sostegno del loro sviluppo commerciale.

AMFG

Energica EGO electric motorcyle's soft seat and seat plate functional prototypes

Energica team took advantage of the support and expertise of CRP Technology to create EGO electric motorcycle's seat and seat plate with Windform® composite materials.

Description

CRP Technology swiftly created two vital prototypes by employing the PBF process and the exceptional Windform® high-performance composite materials. They harnessed the laser sintering technique along with Windform materials to craft prototypes for the soft seat and seat plate of the motorcycle components, facilitating a speedier market launch for the bike. Understanding that the comfort and aesthetics of the seats were paramount, CRP Technology opted for RL material for the seat's soft portion and GT material for the seat frame due to its remarkable durability and flexibility. The seat frame, specifically, had to possess enough strength to support the soft part bearing the rider's weight, and these two components were expertly bonded, coated, and secured with staples. CRP Technology managed the production of the fully functional 3D-printed seat and passenger seat to be used during the research and testing phases. The Energica seats consist of both a pliable seat and a sturdy seat plate. The seat plate plays a vital role as it supports the soft portion, bearing the rider's weight while ensuring flexibility to withstand the rigours of rough roads and spirited riding. Through the utilisation of advanced 3D printing technology and Windform® composite materials, the Energica team expedited the design and product development phases significantly.

1 0

October 2023

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PRESS RELEASES & GUEST POSTS

Windform TPU, new rubber-like material for AM

By **CRP Group** - Oct 12, 2023

It's a versatile thermoplastic polyurethane, extremely elastic, flexible, soft thanks to its elongation at break value > 400%. It is suitable for many industrial sectors and applications.

CRP Technology launches on the AM market a new material of the TOP-LINE range for industrial 3D printing service, the rubber-like **Windform TPU**.

Windform TPU is a **thermoplastic polyurethane**, white coloured, **extremely elastic, flexible, resistant** to impact and **soft** thanks to its elongation at break > 400%.

Franco Cevolini, CEO and Technical Director of CRP Technology: "With Windform TPU, the number of rubber-like materials of the Windform TOP-LINE range, rises to two. We can satisfy many more customers' needs, as they are two rubber-like SLS materials with different characteristics: Windform RL – the first of the Windform range – is a TPE, and it is more rigid, whereas Windform TPU is a thermoplastic polyurethane and it is softer, more flexible."

There are many industrial sectors that can benefit from the use of Windform TPU thanks to its versatility, from **transport to robotics, from design to footwear, sports equipment and fashion accessories**.

Windform TPU is suitable for manufacturing, for example but not limited to, **automotive** interior components, gimbal bellows, air cleaner covers, hoses, grips, connectors, joints, snap fits. And again: components for the **sport sector**, from the sports protections to the running shoes outsoles thanks to its high abrasion resistance.

Windform TPU is also suitable for parts to be used at **low temperatures**, or that have to be **immersed in oils or greases or solvents**.

With Windform TPU, the total number of Windform TOP-LINE materials for professional 3D printing (that is Selective Laser Sintering) rises to eleven.

International Design Engineer

International Design Engineer
October 2022
For Engineers... by Engineers
www.engineerlive.com

The 3D printed oil and water catch can

RACING AHEAD

How professional 3D printing and carbon fibre-filled composites are helping to optimise racing performance

Over several years, CRP USA and UVic Formula Racing have partnered to create many functional parts in carbon fibre-filled composite materials using the laser sintering 3D printing process. Made from CRP USA's specifically engineered Windform materials, these components are distinguished for their versatility, mechanical properties and durability. One of the latest examples of the enhanced mechanical properties of such components comes from the world of Formula SAE, a student competition managed by SAE International (formerly known as the Society of Automotive Engineers).

The partnership between CRP USA and UVic has seen the manufacturing of several components, including the steering wheel and elements of the engine lubrication system, which have become integral parts of the team's racing car. Luke Wooldridge, Powertrain Lead of UVic Formula Racing from the University of Victoria, says: "Like every year, the industry judges at the competition were very interested in the parts that CRP USA 3D printed for our racing car."

He continues, "Carbon fibre-filled composites have become a core element of our car's construction since we began our partnership with CRP. In our current car, Windform is utilised in all of our major systems, from our driver controls to the aerodynamics in our powertrain. The carbon filled composites provide an amazing strength-to-weight ration which is a critical property for any automotive project, but even more so in Formula SAE where every gram counts."

OIL AND WATER CATCH CANS

The team designed new oil and water catch cans which were designed to integrate better with the car's chassis packaging. These components were made from Windform SP, one of the carbon fibre-filled composites from CRP USA's Windform range of 3D printing

Composites Portal

3D PRINTING

CRP Technology launches a new thermoplastic polyurethane

With Windform TPU, the total number of Windform TOP-LINE materials for professional 3D printing (that is Selective Laser Sintering) rises to eleven

Estimated time of reading 40 sec

Ph. CRP Technology

CRP Technology launches on the AM market a new material of the TOP-LINE range for industrial 3D printing service, the rubber-like Windform TPU.

Windform TPU is a thermoplastic polyurethane, white coloured, extremely elastic, flexible, resistant to impact and soft thanks to its elongation at break > 400%.

Franco Cevolini, CEO and Technical Director of CRP Technology: "With Windform TPU, the number of rubber-like materials of the Windform TOP-LINE range, rises to two. We can satisfy much more customers' needs, as they are two rubber-like SLS materials with different characteristics: Windform RL – the first of the Windform range - is a TPE, and it is more rigid, whereas Windform TPU is a thermoplastic polyurethane and it is softer, more flexible."

With Windform TPU, the total number of Windform TOP-LINE materials for professional 3D printing (that is Selective Laser Sintering) rises to eleven.

11 October 2023

Portale Compositi

STAMPA 3D

CRP Technology lancia sul mercato un nuovo poliuretano termoplastico

Con Windform TPU sale a undici il numero complessivo dei materiali Windform TOP-LINE per il processo di sinterizzazione laser selettiva

Tempo stimato di lettura 40 sec

Ph. CRP Technology

CRP Technology lancia sul mercato un nuovo materiale della gamma Windform TOP-LINE per stampa 3D professionale, il simil-gomma Windform TPU.

Windform TPU è un poliuretano termoplastico di colore bianco che viene impregnato con sigillante nero, estremamente elastico, flessibile, resistente agli impatti e morbido grazie al suo allungamento percentuale a rottura superiore a 400%.

Franco Cevolini, CEO e direttore tecnico di CRP Technology, dichiara: "Con Windform TPU sale a due il numero dei materiali simil-gomma della linea TOP-LINE. In questo modo possiamo soddisfare più esigenze, perché si tratta di due simil-gomma con caratteristiche diverse: il Windform RL, il primo rubber-like che abbiamo realizzato, è un TPE ed è più rigido, mentre questo nuovo Windform TPU è più morbido, più elastico e più resistente all'abrasione."

Con Windform TPU sale a undici il numero complessivo dei materiali Windform TOP-LINE per il processo di sinterizzazione laser selettiva.

11 ottobre 2023

Urethanes Technology International

October 13, 2023 09:51 AM

CRP adds a TPU to its 3D printing range

SARAH HOULTON

Modena, Italy – CRP Technology has added a TPU grade to its Top-Line portfolio for 3D printing. The new material, Windform TPU, is designed for industrial SLS printing, and is the second rubber-like material in the range, joining a TPE.

The company said the TPU is elastic, flexible, resistant to impact and soft, with an elongation at break of more than 400%. It is suitable for parts used at low temperatures, and is compatible with oils, greases and solvents.

Applications include components for automotive interiors, gimbal bellows, air cleaner covers, hoses, grips, connectors, joints and snap fits. Another example is sports shoe outsoles. It also suitable for the production of comb structures.

Franco Cevolini, the company's CEO and technical director, said that the TPU will allow them to satisfy more customer requirements. "Windform RL is a TPE, and it is more rigid, whereas Windform TPU is a thermoplastic polyurethane and it is softer, more elastic and more resistant to abrasion," he said.

Manufacturing Tomorrow

CRP Technology launches on the Additive Manufacturing market Windform TPU, new rubber-like material for SLS process

Visit https://www.windform.com/ for further information

It's a versatile thermoplastic polyurethane, extremely elastic, flexible, soft thanks to its elongation at break value > 400%. It is suitable for many industrial sectors and applications.

10/11/23, 07:30 AM | Additive & 3D Printing, Engineering | CRP Technology

CRP Technology launches on the AM market a new material of the TOP-LINE range for industrial 3D printing service, the rubber-like Windform TPU.

More Headlines

COMAU POWERS THE EFFICIENT AUTOMATION PRODUCTION OF NEXT-GENERATION ELECTRIC DRIVE SYSTEMS FOR NIO

MOTION CONTROL FROM ALIO INDUSTRIES OPTIMISES ACCURACY OF DIGITAL PATHOLOGY INSTRUMENTS

Windform TPU is a thermoplastic polyurethane, white coloured, extremely elastic, flexible, resistant to impact and soft thanks to its elongation at break > 400%.

Franco Cevolini, CEO and Technical Director of CRP Technology: "With Windform TPU, the number of rubber-like materials of the Windform TOP-LINE range, rises to two. We can satisfy many more customers' needs, as they are two rubber-like SLS materials with different characteristics: Windform RL - the first of the Windform range - is a TPE, and it is more rigid, whereas Windform TPU is a thermoplastic polyurethane and it is softer, more flexible."

There are many industrial sectors that can benefit from the use of Windform TPU thanks to its versatility, from transport to robotics, from design to footwear, sports equipment and fashion accessories.

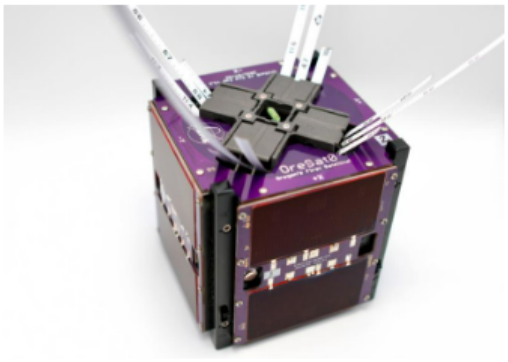
Windform TPU is suitable for manufacturing, for example but not limited to, automotive interior components, gimbal bellows, air

OpenPR

Press release

3D printing in Space: Laser sintering process and composite material helped Portland State Aerospace Society's OreSat0 CubeSat Get to Orbit

10-13-2023 08:55 AM CET | Science & Education
Press release from: CRP USA LLC



OreSat0 cubesat

Kilogram-class satellites, like CubeSats, now have functionality that were only available in larger 100 to 1,000 kg class satellites. Recently, 3D printing has helped speed up this revolution, especially in universities. CubeSats have been launched by dozens of countries, universities and companies all around the world. And the state of Oregon joined them recently thanks to the Portland State Aerospace Society (PSAS) that built OreSat0, their very own artisanally hand-crafted CubeSat system, currently in low Earth orbit.

This achievement was possible thanks to the use of Windform LX 3.0 and industrial 3D printing L-PBF (Selective Laser Sintering) in their most critical subsystems.

Windform LX 3.0 is a glass fiber reinforced material from the Windform TOP-LINE range of composite materials created by CRP Technology.
For OreSat0 project, 3D printing process and Windform LX 3.0 were supplied by CRP USA.
Windform LX 3.0 allowed the PSAS team to use 3D printing on their critical parts, including their extremely reliable deployer for their tri-band turnstile antenna.
The antenna has three separate antennas (UHF at 436.5 MHz, L band at 1.265 GHz, and L1 at 1.575 GHz) each with 4 elements; all 12 of these elements are deployed using nylon monofilament lines and only a single melt resistor.
Moreover, thanks to CRP's Windform LX 3.0, PSAS members were able to mount their star tracker sensor and lens on a small daughterboard that kept the entire assembly to a single 10 mm tall card form factor.
The composite material and Laser Sintering were used for battery back as well: The battery pack needed to reliably hold 18650 cells through vibration testing while also providing thermal and electrical insulation from the rest of the satellite. Windform LX 3.0 allowed PSAS to make an extremely compact battery assembly that was still extremely rugged.
Before integration into the launch vehicle, OreSat0 was subjected to the following testing: Three axis 14 g random vibration, -40 to +80 °C thermal cycling, and vacuum cycling. Windform performed flawlessly for all of these tests.

CIM Composites in Manufacturing

CRP Technology launches new rubber-like material for SLS process

11 OCTOBER 2023 • IN **NEWS**

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CRP Technology has launched into the additive manufacturing (AM) market a new material of the TOP-LINE range for industrial 3D printing service, the rubber-like Windform TPU.

Windform TPU is a thermoplastic polyurethane, white coloured, extremely elastic, flexible, resistant to impact and soft thanks to its elongation at break > 400%.

"With Windform TPU, the number of rubber-like materials of the Windform TOP-LINE range, rises to two," stated Franco Cevolini, CEO and technical director of CRP Technology. "We can satisfy many more customers' needs, as they are two rubber-like SLS materials with different characteristics: Windform RL – the first of the Windform range - is a TPE, and it is more rigid, whereas Windform TPU is a thermoplastic polyurethane and it is softer, more flexible."

There are many industrial sectors that can benefit from the use of Windform TPU thanks to its versatility, from transport to robotics, from design to footwear, sports equipment and fashion accessories.

Windform TPU is suitable for manufacturing, for example but not limited to, automotive interior components, gimbal bellows, air cleaner covers, hoses, grips, connectors, joints, snap fits. And again: components for the sport sector, from the sports protections to the running shoes outsoles thanks to its high abrasion resistance.

Windform TPU is also suitable for parts to be used at low temperatures, or that have to be immersed in oils or greases or solvents.

With Windform TPU, the total number of Windform TOP-LINE materials for professional 3D printing (that is Selective Laser Sintering) rises to eleven.

www.crp-group.com

3DRUCK

Home › Materialien › CRP Group bringt neues Gummi-ähnliches Material für 3D-Druck

MATERIALIEN

CRP Group bringt neues Gummi-ähnliches Material für 3D-Druck

von **3Druck.com** - Okt 12, 2023

Das italienische Unternehmen CRP Group hat ein neues Material für den 3D-Druck vorgestellt. Bei dem neuen Werkstoff Windform TPU handelt es sich um ein gummi-artiges Thermoplastisches Polyurethan (TPU).

Laut Firmenangaben zeichnet sich das neue Material durch hohe Elastizität, Flexibilität und eine sehr große Bruchdehnung von über 400 Prozent aus. Es sei damit ideal für den Druck von Produkten geeignet, die weich und stoßunempfindlich sein müssen.

Anwendungsbeispiele seien Bauteile für die Automobil- und Sportartikelindustrie sowie Schuhsohlen. Auch der Einsatz bei niedrigen Temperaturen oder in Kontakt mit Ölen und Lösungsmitteln sei möglich.

Windform TPU sei der elfte Werkstoff der Windform-Reihe von CRP für das selektive Lasersintern. Anders als das bereits verfügbare Windform RL auf TPE-Basis sei das neue TPU-Material jedoch weicher und elastischer.

Laut CRP-CEO Franco Cevolini decke man mit den beiden gummi-ähnlichen Windform-Materialien nun ein breiteres Anwendungsspektrum ab. Insgesamt profitierten Kunden von der großen Vielfalt an technischen Kunststoffen für den 3D-Druck in industrieller Qualität.

CRP Group zählt zu den Pionieren im Bereich des selektiven Lasersinterns. Nach eigenen Angaben bietet das Unternehmen einen kompletten Service vom Design bis zur Serienfertigung additiv gefertigter Bauteile.

Polimerica

Polimerica
Attualità e notizie dal mondo della plastica

TPU per sinterizzazione laser selettiva

CRP Technology propone un nuovo materiale 'simil-gomma' destinato alla manifattura additiva industriale.

12 ottobre 2023 08:44

La società modenese **CRP Technology** ha formulato un nuovo materiale 'simil-gomma', a base di poliuretano termoplastico (**TPU**), idoneo alla trasformazione mediante sinterizzazione laser selettiva (**SLS**).

Elastico, flessibile, morbido, con un allungamento a rottura superiore al 400%, il nuovo grado Windform TPU è destinato ad **applicazioni** in diversi ambiti **industriali**, dai trasporti alla robotica, dagli oggetti di design alle calzature e attrezzature sportive, fino alla moda e accessori. Esempi sono componenti per interni auto, alloggiamenti dei filtri aria, soffietti per giunto cardanico, tubi, connettori, suole di scarpe da corsa.
Con Windform TPU - sottolinea l'azienda modenese - si possono realizzare anche pezzi da impiegare a **basse temperature**, o che devono essere immersi in **oli**, **grassi**, o **solventi**.

Si tratta del secondo materiale simil-gomma della famiglia **Windform TOP-LINE** per stampa 3D professionale, dopo **Windform RL**, su base **TPE**. Rispetto a quest'ultimo, **Windform TPU** è più morbido, più elastico e più resistente all'abrasione.
Con l'introduzione del nuovo gradi, sale a **undici** il numero dei **materiali** Windform TOP-LINE formulati da per CRP Technology per i processi di **sinterizzazione laser selettiva**.

TCT

CRP Technology launches Windform TPU material for SLS 3D printing

The rubber-like material is elastic, flexible and resistant to impact according to the company.

BY OLIVER JOHNSON 12 OCTOBER 2023 14:53

CRP Technology has announced the launch of Windform TPU, a rubber-like material for the selective laser sintering (SLS) 3D printing process. The material is a thermoplastic polyurethane, and is 'extremely' elastic, flexible, resistant to impact and soft thanks to its elongation at break of > 400% according to the company.

Franco Cevolini, CEO and Technical Director of CRP Technology said: "With Windform TPU, the number of rubber-like materials of the Windform TOP-LINE range, rises to two. We can satisfy many more customers' needs, as they are two rubber-like SLS materials with different characteristics: Windform RL – the first of the Windform range, is a TPE, and it is more rigid, whereas Windform TPU is a thermoplastic polyurethane and it is softer, more flexible."

The company says that there are many industrial sectors that can benefit from the use of Windform TPU due to its versatility. CRP says it suits sectors such as transport, robotics, footwear, sports equipment and fashion accessories.

PT Plastics Technology

ADDITIVE MANUFACTURING

Published 10/13/2023

TPU for Selective Laser Sintering

CRP Technology introduced Windform TPU material for additive manufacturing.

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- People 4.0 – How to Get Buy-In from Your Staff for Industry 4.0 Systems
- Processor Turns to AI to Help Keep Machines Humming
- Advanced Recycling: Beyond Pyrolysis

CRP Technology announced the introduction of its Windform TPU, a thermoplastic polyurethane (TPU) for additive manufacturing by selective laser sintering (SLS).

According to the company, the material is highly impact resistance and flexible, with an elongation at break greater than 400%.

Industrial pipe in Windform TPU, black sealing finish. Photo Credit: CRP Technology

"With Windform TPU, the number of rubber-like materials of the Windform Top-Line range rises to two. We can satisfy much more customers' needs, as they are two rubber-like SLS materials with different characteristics: Windform RL is a TPE and it is more rigid, whereas Windform TPU is a thermoplastic polyurethane and it is softer, more elastic and more resistant to abrasion," says Franco Cevolini, CEO and technical director at CRP Technology.

According to the company, Windform TPU is suitable for a variety of applications,

Tecnelab

TECNELAB

CRP Technology: Windform TPU, nuovo materiale simil-gomma per tecnologia SLS

16/10/2023 57 volta/e

CRP Technology ha presentato sul mercato un nuovo materiale della gamma **Windform TOP-LINE** per **stampa 3D** professionale, il simil-gomma **Windform TPU**. Si tratta di un **poliuretano termoplastico** di colore bianco che viene impregnato con sigillante nero, **estremamente elastico, flessibile, resistente agli impatti e morbido** grazie al suo **allungamento percentuale a rottura superiore a 400%**.

"*Con Windform TPU sale a 2 il numero dei materiali simil-gomma della linea TOP-LINE. In questo modo, possiamo soddisfare più esigenze, perché si tratta di due simil-gomma con caratteristiche diverse: il Windform RL, il primo rubber-like che abbiamo realizzato, è un TPE ed è più rigido, mentre questo nuovo Windform TPU è **più morbido, più elastico e più resistente all'abrasione***", dice **Franco Cevolini, CEO e Direttore Tecnico di CRP Technology**.

Molti sono i settori industriali che possono trarre beneficio dall'impiego del Windform TPU grazie alla sua **versatilità**: dai trasporti alla robotica, dal design alle calzature e attrezzature sportive fino al settore moda e accessori.

Questo materiale è adatto per realizzare, ad esempio ma non solo, componentistica per interni auto, telai dei filtri dell'aria, soffietti per giunto cardanico, tubi, connettori.

Manufacturing Tomorrow

CRP Technology exhibits at Airtec 2023 News Space Expo & Conference

Visit https://www.crptechnology.com/ for further information

Held from 25 to 27 October in Munich. CRP Technology team will be in the AM Pavilion, Hall 1, booth D90, to share key solutions and achieved challenges in Aerospace industry

10/19/23, 07:36 AM | Additive & 3D Printing, Engineering | CRP Technology

CRP Technology will be exhibiting at Airtec 2023 in the Additive Manufacturing Pavilion, Hall 1, booth D90. The event, recognized as an international hub for technology and innovation, will be held from 25 to 27 October in the new Augsburg Fair, Munich.

More Headlines

MARKT-PILOT Launches Its Newest Innovative Solution, PRICEGUIDE

Flexxbotics to Present Breakthroughs in Robot-Driven Manufacturing at Universal Robots Collaborate & Automate

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YAMAHA to Showcase Intelligent Factory Solutions at Productronica

AMT's Michael Horth Honored with Prestigious PMMI 'On the Rise' Award for Exceptional Leadership Potential in Packaging and Manufacturing Industry

The latest applications for the Aerospace sector manufactured on the behalf of customers using Windform and industrial 3D printing service will be displayed. The key part is represented by TuPOD, the innovative cubesat manufactured in Windform XT 2.0 Carbon fiber composite material, that inaugurated a new era for scientists involved in the use of small but reliable satellites. TuPOD has been the first entirely 3D printed satellite to be launched from the International Space Station (ISS) being at the same time a cubesat and a dispenser of two cylindrical tubesats.

CRP Technology team will share their expertise and discuss with attendees some hot topics such as:

- Advantages of additive manufacturing with Windform SLS materials tested to Outgassing and to the highest quality requirements of NASA and ESA
- How to minimize risk of satellite equipment failure due to harsh environment conditions and how to maximize test safety and performances
- How to reach extreme lightness and strength vital for the Aerospace engineering

Airtec is a central, international meeting place for the entire aerospace supply chain from engineering to production, components and systems and life cycle support. With its focus on the whole aerospace supply chain, Airtec facilitates an important international business platform for the dialogue among first, second and third tier

Industry of Things

3D-Druck-Pulver

CRP Technology stellt gummiartiges 3D-Druck-Material vor

19.10.2023 | Quelle: Pressemitteilung CRP Technology | Lesedauer: 1 min

CRP Technology bringt mit Windform TPU ein neues, gummiartiges Material für das selektive Lasersintern auf den Markt der industriellen additiven Fertigung.

Windform TPU ein thermoplastisches Polyurethan, das extrem elastisch, flexibel und weich ist.
(Bild: CRP Technology)

Mit Windform TPU bringt CRP Technology ein zweites gummiartiges Material der Windform-Top-Line auf den Markt. Wie CRP mitteilt, ist Windform TPU ein thermoplastisches Polyurethan, das extrem elastisch, flexibel und weich ist. Es besitzt eine Bruchdehnung > 400 Prozent. Damit eigne es sich für viele Industriezweige und Anwendungen.

Windform TPU eignet sich laut CRP beispielsweise für die Herstellung von Innenraumkomponenten für Kraftfahrzeuge, kardanischen Faltenbälgen, Luftfilterabdeckungen, Schläuchen, Griffen, Verbindungsstücken, Gelenken und Schnappverbindungen. Dank seiner hohen Abriebfestigkeit kann es auch im Sportsektor von Schutzvorrichtungen bis hin zu Laufschuhsohlen eingesetzt werden. Aber auch für Teile, die bei niedrigen Temperaturen eingesetzt werden oder in Öle, Fette oder Lösungsmittel getaucht werden müssen, ist Windform TPU interessant.

Manufacturing Tomorrow

CRP Technology is back to Formnext the hub for AM as exhibitor

Visit https://www.crptechnology.com/ for further information

On display at booth B41, hall 11.1 the latest CRP's materials for manufacturing processes launched on the market and many parts and in Windform. The mockup of FLYING-CAM's Discovery UAS and Experia new no-emission Green Tourer motorcycle, both with 3D printed parts in Windform, will be showcased

10/26/23, 07:38 AM | Additive & 3D Printing, Engineering | CRP Technology

CRP Technology will be attending for the second year in a row Formnext as exhibitor. The event will be held from 7th to 10th November at Messe Frankfurt, Germany.

More Headlines

RIVELIN RELEASES VIDEO SHOWING ITS METAL AM POST PROCESSING TECHNOLOGY IN ACTION IN ADVANCE OF FORMNEXT 2023

Desktop Metal and Schaeffler to Collaborate on Additive Manufacturing of Multi-Material Powders, including Metals and Ceramics

voxeljet Showcases Its Next-Gen 3D Printers VJET X in Action at BMW Group: With 10x Faster Performance, the New 3D Printers Are Integrated Into a

CRP Technology experts will welcome the Formnext attendees at booth B41, Hall 11.1, to discuss the benefits of using Windform materials and professional 3D printing in their production process.

The participants who will come and stop by CRP's booth will see first-hand some functional parts manufactured in the latest materials launched on the market: Windform TPU, the second rubber-like material of the Windform TOP-LINE range for selective laser sintering process, and Windform XT 2.0 IMG, the first injection molding material 100% recycled from unsintered Windform powders.

Franco Cevolini, CEO and CTO CRP Technology, says, "This year we show up two new materials, two important "technological partners" for companies in search for reliable, durable and sustainable solutions. Windform TPU bridges the gap for those who need rubber-like material, very elastic, flexible, soft; its elongation at break, density and shore A hardness are key values with no rivals in the AM world; Windform XT 2.0 IMG ensures a continuity in material selection from prototyping to large scale production."

CRP Technology will be also displaying the latest parts manufactured in Windform for the Aerospace and Automotive sectors. Also on display, a model of Experia, the Energica Motor Company's new no-emission Green Tourer motorcycle, and the mockup of FLYING-CAM's UAS Discovery. Both have mounted some parts in Windform.

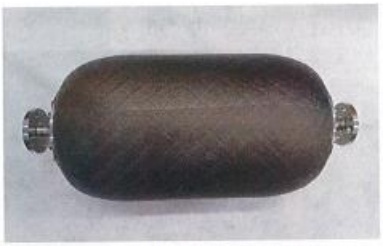
PLAST DESIGN

PLAST:DESIGN
COMPONENTI E PRODOTTI DI MATERIE PLASTICHE - PLASTIC PRODUCTS AND COMPONENTS

MERCATO

Il National Composites Centre ha intrapreso un programma di test su serbatoi in fibra di carbonio senza rivestimento per lo stoccaggio criogenico di idrogeno liquido.

The National Composites Center has embarked on a test program of unlined carbon fiber tanks for the cryogenic storage of liquid hydrogen.



Il Carbogreen Project condurrà Sabelt alla realizzazione di sedili per auto sportive dove la fibra di lino Bcomp sostituisce quella di carbonio o di vetro normalmente usate.

The Carbogreen Project will lead Sabelt to create seats for sports cars where Bcomp flax fiber replaces the normally used carbon or glass fiber.

In Cina, è stato recentemente installato un radome di protezione delle antenne a banda Ku per il 5G alto 30 m e largo 40, realizzato da Tianyi Technology montando su un telaio metallico circa 1000 pannelli sandwich triangolari, in compositi in grado di fornire un'elevata trasmissione delle onde, alta resistenza e bassa perdita del segnale ad alta frequenza (0,3 dB).

SEMPRE PIÙ VERDI

Oltre ad alleggerire i mezzi di trasporto, i materiali compositi concorrono alla sostenibilità supportando la creazione delle batterie per i veicoli elettrici grazie alle loro proprietà di isolamento, impermeabilità e resistenza al fuoco; e alla produzione dei serbatoi pressurizzati per lo stoccaggio dell'idrogeno impiegati nelle celle a combustibile.
Inoltre alleggeriscono macchine e attrezzature industriali, riducendo il consumo di energia, e costituiscono parte delle infrastrutture per le energie alternative. Un altro aspetto 'green' è legato al crescente utilizzo di fibre naturali o di materiali riciclati quali elementi di rinforzo. Ad esempio, il progetto r-LightBioCom, finanziato dalla Commissione Europea e condotto da protagonisti della ricerca e dell'industria automobilistica, aeronautica e delle costruzioni, ha allo sviluppo nuovi tipi di bioresine, nanoriempitivi e additivi derivati da biomassa. Un'iniziativa congiunta di Sabelt e Bcomp, denominata Carbogreen Project, porterà alla realizzazione di sedili per auto sportive in cui le fibre di carbonio o di vetro sono rimpiazzate al 100% da fibre di lino. Tra gli esempi più recenti di riciclo troviamo re-Evo RRC, materiale caricato con fibra di carbonio riciclata di CCI, dedicato alla produzione di

of pressurized tanks for hydrogen storage used in fuel cells. They also reduce weight in industrial machinery and equipment, reducing energy consumption, and form part of the alternative energy infrastructure. Another 'green' aspect is linked to the growing use of natural fibers or recycled materials as reinforcing elements. For example, the r-Light-BioCom project, funded by the European Commission and led by key players in research and the automotive, aeronautical and construction industries, is developing new types of bioresins, biomass-derived nanofillers and additives.
A joint initiative by Sabelt and Bcomp, called the Carbogreen Project, will lead to the creation of seats for sports cars in which carbon or glass fibers are 100% replaced by flax fibres. Among the most recent examples of recycling we find re-Evo RRC, material filled with recycled carbon fiber by CCI, dedicated to the production of large composite structures with high mechanical properties such as ultralight sports items; the XEGREEN thermoplastic composites by Xenia Materials, the result of the combination of fibers and polymers recycled from industrial and end-of-life waste; Recarbon's carbon fiber reuse solutions (prepregs, cores and organo-sheets for high-performance applications of aircraft, sporting goods, industrial and automotive) that won the Startup Booster competition, during the 1st JEC Forum Italy. Toray Resins Europe has developed a recycling process of glass fiber reinforced polyphenylene sulfide waste which leads to a PPS that retains at least 90% of the mechanical strength delivered by the original materials but, according to SKZ – Das Kunststoff-Zentrum, with a carbon footprint about 45% lower. The composite material based on polyamide 12 Windform XT 2.0 IMG, suitable for injection molding, is obtained by CRP Technology by recycling used Windform XT 2.0 powders and no longer suitable for 3D printing. Its high performance allows producing impact resistant parts and details with thin walls, in which the aesthetic result is also remarkable. ❑

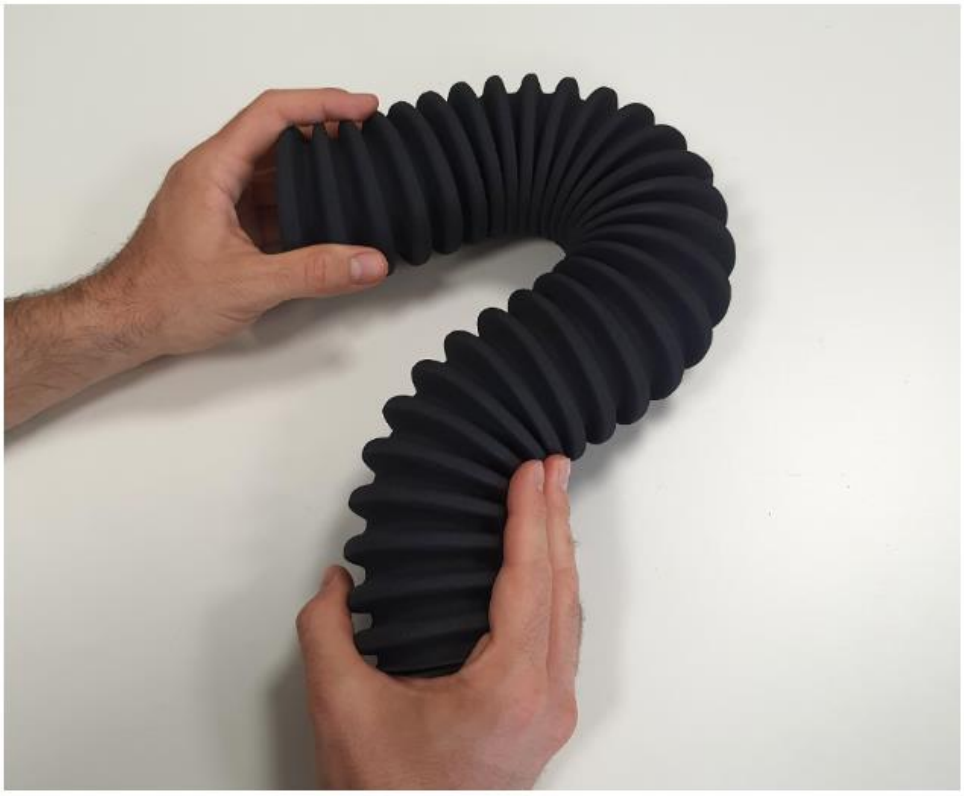
Ingranaggio stampato a iniezione in Windform XT 2.0 IMG, composito a base PA12 prodotto da CRP Technology riciclando Windform XT 2.0 usato e non più adatto alla stampa 3D.

Gear injection molded in Windform XT 2.0 IMG, PA12 based composite produced by CRP Technology by recycling used Windform XT 2.0 no longer suitable for 3D printing.

3D Printing Industry

CRP Technology introduces Windform TPU

CRP Technology has launched Windform TPU, a highly elastic thermoplastic polyurethane, that offers versatility in various sectors, including transport, robotics, design, and sports equipment. It is suitable for manufacturing automotive components, gimbal bellows, air cleaner covers, hoses, grips, connectors, joints, snap fits, sports protection gear, and running shoe outsoles due to its excellent abrasion resistance. Windform TPU can also be used for low-temperature applications and in contact with oils, greases, and solvents. This expands the Windform TOP-LINE 3D printing materials to eleven in total.



3D printed part created using Windform TPU. Photo via CRP Technology.

3D Adept

3D Printing News | Actualité de fabrication additive | L'actualité sur impression 3D | Materials | Matériaux

CRP Technology ajoute un nouveau matériau d'impression 3D à sa gamme Windform TOP-LINE

By **Pratiti** - octobre 17, 2023

CRP Technology has launched a new rubber like 3D printing material with greater than 400% elongation at break value called Windform TPU.

Le fournisseur italien de services d'impression 3D CRP Technology a fait un pas en avant dans l'amélioration de ses services en introduisant un nouveau matériau composite semblable au caoutchouc pour le processus SLS appelé **Windform TPU**.

Ce nouveau matériau composite est un polyuréthane thermoplastique polyvalent qui est extrêmement élastique, flexible et souple en raison de son allongement à la rupture supérieur à 400 %. Cette caractéristique rend le nouveau matériau d'impression 3D adapté à la fabrication de pièces imprimées en 3D pour toutes les industries.

Le polyuréthane thermoplastique Windform TPU, de couleur blanche, est un matériau d'impression 3D industriel de la gamme TOP-LINE, flexible et résistant aux chocs. Il peut être utilisé pour créer des pièces imprimées en 3D dans différents secteurs tels que le transport,

3D Adept

3D Printing News | AM news | Materials

CRP Technology adds a new 3D printing material to its Windform TOP-LINE range

By **Pratiti** - October 17, 2023

CRP Technology has launched a new rubber like 3D printing material with greater than 400% elongation at break value called Windform TPU.

Italian 3D printing service provider **CRP Technology** moved a step ahead in improving its services by introducing a new rubber-like composite material for the SLS process called **Windform TPU.**

The new composite material is a versatile thermoplastic polyurethane which is extremely elastic, flexible and soft because of its greater than **400% elongation at break value**. This feature makes the new 3D printing material suitable for use in 3D printed parts manufacturing for all industries.

November

AM Chronicle

https://amchronicle.com/news/crp-technology-signed-a-new-technical-partnership-for-space-exploration-and-technology-development/

Middle East, News

CRP Technology signed a new technical partnership for space exploration and technology development

November 26, 2023

AM Chronicle Editor

AM Chronicle Editor

SHARE

CRP Technology officially joined the UAE private aerospace company Orbital Space as a partner for their Lunaris Moon Mission. CRP Technology will 3D print in Windform composites the lunar payload

CRP Technology announced today an official partnership with Orbital Space, a leading private aerospace company based in the United Arab Emirates, dedicated to the exploration and development of space technologies.

The partnership was signed within the Orbital Space's Lunaris Moon Mission for the lunar exploration.

Established in 2018, Orbital Space is a leading private aerospace company based in the United Arab Emirates, dedicated to the exploration and development of space technologies. With a focus on educational space missions and scientific research, Orbital Space is at the forefront of commercial space exploration in the Arab Gulf Countries, collaborating with both public and private partners to make space accessible to everyone.

"We continue to forge new partnerships with leading companies in different industries to allow us to achieve our aspirations in making space accessible to all. We are honored to partner with CRP Technology to support our upcoming lunar mission. We believe CRP Technology knowledge and expertise in space qualified materials will bring great value to the mission and contribute to its success – said Dr. Bassam Alfeeli, General Manager of Orbital Space.

"We have gained a lot of experience in the Aerospace sector – Franco Cevolini, CEO and CTO at CRP Technology, shared about the partnership -. Our space qualified Windform materials are achieving resounding success and appreciation as they meet the rigid mechanical properties required for space applications. I'm sure we could play a pivotal role in making the Lunaris Moon Mission a reality."

Mourad Mountassir, co-founder CRP Gulf, the company that supplies 3D printing services with Windform in the Arabian Gulf area, added, "We consider the involvement of our mother company CRP Technology a special opportunity. I'm sure that CRP Technology and CRP Gulf will be contributing to an epoch-making milestone in the UAE's space exploration history."

CRP Technology will be manufacturing some functional parts and components for the lunar payload using professional 3D printing (Powder Bed Fusion process that is Selective Laser Sintering) and the Windform high performance composite materials that successfully fulfill the Space environment requirements.

3DPrintr.com

https://www.3printr.com/crp-technology-launches-technical-partnership-with-orbital-space-1567149/

3PRINTR.COM
THE INDEPENDENT AM MAGAZINE

INDUSTRY

CRP Technology launches Technical Partnership with Orbital Space

By **Lucia Gartner** - Nov 24, 2023

Picture: Orbital Space & CRP Technology

CRP Technology has officially joined the private space company Orbital Space from the United Arab Emirates as a partner for its Lunaris lunar mission. CRP Technology will manufacture the lunar payloads for the test and mission phase from Windform composite materials.

Orbital Space, founded in 2018, has established itself as a leading private space company in the United Arab Emirates. It focuses on educational space missions and scientific research, putting it at the forefront of commercial space exploration in the Arab Gulf States. The company works with public and private partners to make space accessible to all.

> *"We continue to forge new partnerships with leading companies in different industries to allow us to achieve our aspirations in making space accessible to all. We are honored to partner with CRP Technology to support our upcoming lunar mission. We believe CRP Technology knowledge and expertise in space qualified materials will bring great value to the mission and contribute to its success – said Dr. Bassam Alfeeli, General Manager of Orbital Space.*
>
> *"We have gained a lot of experience in the Aerospace sector – Franco Cevolini, CEO and CTO at CRP Technology, shared about the partnership -. Our space qualified Windform industrial 3D printing materials are achieving resounding success and appreciation as they meet the rigid mechanical properties required for space applications. I'm sure we could play a pivotal role in making the Lunaris Moon Mission a reality."*
>
> *Mourad Mountassir, co-founder CRP Gulf, added, "We consider the involvement of our mother company CRP Technology a special opportunity. I'm sure that CRP Technology and CRP Gulf will be contribuiting to an epoch-making milestone in the UAE's space exploration history."*

CRP Technology will provide its industrial 3D printing service by producing functional parts and components for the lunar mission payload using the powder bed fusion process in Windform SLS composites that successfully meet the requirements of space.

JEC Composites

https://www.jeccomposites.com/news/crp-technology-signed-a-new-technical-partnership-for-space-exploration-and-technology-development/

HOME • • ANNOUNCEMENT

CRP Technology signed a new technical partnership for space exploration and technology development

CRP Technology officially joined the UAE private aerospace company Orbital Space as a partner for their Lunaris Moon Mission. CRP Technology will manufacture in Windform composites the lunar payloads for both testing and mission phase, contributing to a momentous milestone in the UAE's space exploration history.

READING TIME
1 minute, 30 secondes

CRP Technology announced today an official partnership with **Orbital Space**, a leading private aerospace company based in the United Arab Emirates, dedicated to the exploration and development of space technologies.

The partnership was signed within the Orbital Space's Lunaris Moon Mission for the lunar exploration. **CRP Technology will manufacture the payloads and some parts using Windform SLS materials**.

Established in 2018, Orbital Space is a leading private aerospace company based in the United Arab Emirates, dedicated to the exploration and development of space technologies. With a focus on educational space missions and scientific research, Orbital Space is at the forefront of commercial space exploration in the Arab Gulf Countries, collaborating with both public and private partners to make space accessible to everyone.

DATE
27/11/2023

CATEGORIES
Announcement

3DPRINT.COM

https://3dprint.com/305358/lunaris-mission-crp-and-orbital-space-to-send-3d-printed-payloads-to-the-moon/

3DPRINT.COM™ THE VOICE OF 3D PRINTING

Lunaris Mission: CRP and Orbital Space to Send 3D Printed Payloads to the Moon

November 30, 2023 • by Vanesa Listek • 3D Printing • MENA • Science & Technology • Space 3D Printing

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CRP Technology has officially joined forces with the United Arab Emirates (UAE) private aerospace company, Orbital Space. A combination of innovation and ambition, this partnership marks a significant milestone in the UAE's journey into space, particularly with the Lunaris Moon Mission (an ambitious lunar exploration project to send payloads to the moon).

Within the Lunaris mission, CRP plays a crucial role in manufacturing the payloads that will be sent to the moon. Moreover, CRP will use its specially designed Windform composite materials to build them, offering the durability and resilience necessary to withstand the harsh conditions of space. This is another partnership that seeks to democratize space exploration.

The team involved in Orbital Space's Lunaris Moon Mission. Image courtesy of

PN Plastics News

https://www.plasticsnews.com/kickstart/looking-little-wins-during-treaty-talks-3d-printing-going-moon-vinyl-records-drive-demand

Plastics News

CRP Technology

CRP Technology staff working on the Lunaris project.

Printing for the moon

3D printing is going to the moon.

Italy-based CRP Techology srl announced Nov. 21 it has signed on to produce functional parts for Orbital Space's Lunaris Moon Mission using the powder bed fusion process in Windform SLS composite materials.

Orbital Space is a private aerospace company based in the United Arab Emirates that aims to be a leader in space exploration for Arabic countries in the Persian Gulf. It says it will develop a lunar rover and send it to the moon in 2024.

"I'm sure we could play a pivotal role in making the Lunaris Moon Mission a reality," Franco Cevolini, CEO and chief technology officer at CRP Technology, said in a news release.

Ts2.space

https://ts2.space/en/lunaris-moon-mission-receives-technological-boost-from-3d-printing-innovator/#gsc.tab=0

Lunaris Moon Mission Receives Technological Boost from 3D Printing Innovator

by Jerzy Lewandowski in !!!, *BG, *ES, *RS, *SK, Artificial intelligence on 22 November 2023 0

CRP Technology's innovative 3D printing methods will soon be venturing beyond the confines of our planet as they join forces with Orbital Space to craft components critical for the UAE's Lunaris Moon Mission. Employing their proprietary Windform composite materials, renowned for their ability to withstand the challenging conditions of space, CRP is set to utilize Selective Laser Sintering (SLS) technology in the manufacturing process.

The collaboration with Orbital Space, which began its journey in 2018, highlights the burgeoning sector of educational space missions, wherein Orbital Space aims to democratize access to space exploration. CRP Technology's strategic partnership with a company immersed in educational initiatives underlines a commitment to leveraging new technologies to empower the next generation of space exploration.

Laser Focus World

LASER PROCESSING

Thermoplastic polyurethane has use in laser sintering

Windform TPU is a thermoplastic polyurethane that is white-colored, elastic, flexible, resistant to impact, and soft, with elongation at break value >400%.

LFW Staff

Nov. 8, 2023

Windform TPU is a thermoplastic polyurethane that is white-colored, elastic, flexible, resistant to impact, and soft, with elongation at break value >400%. The rubber-like material is designed for selective laser sintering processes. It is suited for parts used at low temperatures or that will be immersed in oils, greases, or solvents.

CRP Technology

Modena, Italy

www.crp-group.com

Manufatura Digital

https://www.manufaturadigital.com/crp-e-orbital-space-firmam-parceria/

CRP Technology e Orbital Space firmam parceria para exploração espacial

23 de novembro de 2023 / Marcus Figueiredo

A CRP Technology firmou parceria com a **Orbital Space**, uma empresa aeroespacial privada líder com sede nos Emirados Árabes Unidos. A parceria foi firmada dentro da Missão Lunaris Moon da Orbital Space para a exploração lunar. Com foco em missões espaciais educacionais e na investigação científica, a **Orbital Space** está na vanguarda da exploração espacial comercial nos países árabes do Golfo, colaborando com parceiros públicos e privados para tornar o espaço acessível a todos.

Fonte:(https://www.voxelmatters.com)

"Continuamos a estabelecer novas parcerias com empresas líderes em diferentes setores para nos permitir alcançar as nossas aspirações de tornar o espaço acessível a todos. Estamos honrados em fazer parceria com a **CRP Technology** para apoiar nossa próxima missão lunar. Acreditamos que o conhecimento e a experiência da CRP Technology em materiais qualificados para o espaço trarão grande valor à missão e contribuirão para o seu sucesso", disse o **Dr. Bassam Alfeeli**, Gerente Geral do Espaço Orbital.

ETMM

Formnext 2023

Rubber-like: New materials for 3D printing

09.11.2023 · Source: CRP Technology · Reading Time: 1 min ·

At Formnext, CRP Technology showcased its latest materials for manufacturing processes. The mock-up of Flying-CAM's Discovery UAS and Experia's new zero-emission Green Tourer motorcycle, both with parts 3D printed in Windform, were on display.

Windform TPU is the second rubber-like material of the Windform Top-Line range for selective laser sintering process.
(Source: CRP Technology)

CRP Technology experts welcomed Formnext attendees to discuss the benefits of using Windform materials and professional 3D printing in their manufacturing process.

Visitors were able to see first-hand some functional parts produced in the latest materials to be launched: Windform TPU, the second rubber-like material in the Windform Top-Line range for the selective laser sintering process, and Windform XT 2.0 IMG, the first injection moulding material that is 100 percent recycled from unsintered Windform powders. Windform TPU fills the gap for those who need a rubber-like material, very elastic, flexible and soft; its elongation at break, density and Shore A hardness are key values unrivalled in the AM world; Windform XT 2.0 IMG ensures continuity in material selection from prototyping to large scale production.

CRP Technology also showed the latest parts produced in Windform for the aerospace and automotive sectors. Also on display was a model of the Experia, Energica Motor Company's new zero-emission Green Tourer motorcycle, and the mock-up of FLYING-CAM's UAS Discovery. Both have some parts mounted in Windform.

(ID:49785207)

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CRP Technology launches on the Additive Manufacturing market Windform TPU, new rubber-like material for SLS process

11-13-2023 02:50 PM CET | Business, Economy, Finances, Banking & Insurance
Press release from: CRP Technology

3D printed pipe realized in Windform TPU

It's a versatile thermoplastic polyurethane, extremely elastic, flexible, soft thanks to its elongation at break value > 400%. It is suitable for many industrial sectors and applications.

CRP Technology launches on the AM market a new material of the TOP-LINE range for industrial 3D printing service, the rubber-like Windform TPU.
Windform TPU is a thermoplastic polyurethane, white coloured, extremely elastic, flexible, resistant to impact and soft thanks to its elongation at break > 400%.
Franco Cevolini, CEO and Technical Director of CRP Technology: "With Windform TPU, the number of rubber-like materials of the Windform TOP-LINE range, rises to two. We can satisfy many more customers' needs, as they are two rubber-like SLS materials with different characteristics: Windform RL - the first of the Windform range - is a TPE, and it is more rigid, whereas Windform TPU is a thermoplastic polyurethane and it is softer, more flexible."

There are many industrial sectors that can benefit from the use of Windform TPU thanks to its versatility, from transport to robotics, from design to footwear, sports equipment and fashion accessories.
Windform TPU is suitable for manufacturing, for example but not limited to, automotive interior components, gimbal bellows, air cleaner covers, hoses, grips, connectors, joints, snap fits. And again: components for the sport sector, from the sports protections to the running shoes outsoles thanks to its high abrasion resistance.
Windform TPU is also suitable for parts to be used at low temperatures, or that have to be immersed in oils or greases or solvents.
With Windform TPU, the total number of Windform TOP-LINE materials for professional 3D printing (that is Selective Laser Sintering) rises to eleven.

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Home / Decision Makers / AM Press Releases / CRP Technology launches new Windform TPU

AM Press Releases | Materials | Product Launch

CRP Technology launches new Windform TPU

The versatile thermoplastic polyurethane material is designed for use with SLS technology

VoxelMatters · November 2, 2023 · 1 minute read

Stay up to date with everything that is happening in the wonderful world of AM via our LinkedIn community.

CRP Technology has launched a new material of the TOP-LINE range for industrial 3D printing service, the rubber-like Windform TPU. It is extremely elastic, flexible, and soft – thanks to its elongation at break value of >400% – and is suitable for many industrial sectors and applications.

"With Windform TPU, the number of rubber-like materials of the Windform TOP-LINE range rises to two. We can satisfy many more customers' needs, as they are two rubber-like SLS materials with different characteristics: Windform RL – the first of the Windform range – is a TPE, and it is more rigid, whereas Windform TPU is a thermoplastic polyurethane and it is softer, more flexible," said Franco Cevolini, CEO and Technical Director of CRP Technology.

Due to its versatility, many industries – from transport to robotics, from design to footwear, sports equipment, and fashion accessories – can benefit from the material. Windform TPU is suitable for manufacturing, for example but not limited to, automotive interior components, gimbal bellows, air cleaner covers, hoses, grips, connectors, joints, and snap

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3D Printing Events | Advanced Materials | Advanced Polymers | AM Powders | Formnext 2023 | Materials | Thermoplastic Polymers

CRP Technology closes successful Formnext edition featuring its newest materials

The recently launched Windform TPU and Windform XT 2.0 IMG were used to produce several functional parts on display

Davide Sher · November 18, 2023

2 minutes read

FLYING-CAM's UAS "Discovery."

The strong interest recorded for the latest innovations from CRP Technology marked the conclusion of another noteworthy edition of the Formnext exhibition for the Italian leader in functional materials for polymer PBF. CRP Technology showcased functional examples manufactured with its recently launched Windform TPU, the second rubber-like material in the Windform TOP-LINE range designed for the selective laser sintering process, and Windform XT 2.0 IMG, the first injection molding material made from 100% recycled unsintered Windform powders.

The functional components made from Windform TPU, Windform XT 2.0 IMG, and PA12 SLS Black generated significant interest among attendees. Additionally, there were numerous parts on display made from Windform SLS composites for the Aerospace and Automotive sectors. The mockup of FLYING-CAM's Discovery UAS and Experia's new zero-emission Green Tourer motorcycle, both featuring 3D printed parts made from Windform, garnered considerable attention and were met with great success.

CIM Composites in Manufacturing

https://www.composites.media/crp-technology-signs-new-partnership-for-space-exploration

CRP Technology signs new partnership for space exploration

22 NOVEMBER 2023 • IN NEWS

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CRP Technology has announced an official partnership with Orbital Space, a leading private aerospace company based in the United Arab Emirates, dedicated to the exploration and development of space technologies. The partnership was signed within the Orbital Space's Lunaris Moon Mission for the lunar exploration.

Established in 2018, Orbital Space is a leading private aerospace company based in the United Arab Emirates, dedicated to the exploration and development of space technologies. With a focus on educational space missions and scientific research, Orbital Space is at the forefront of commercial space exploration in the Arab Gulf Countries, collaborating with both public and private partners to make space accessible to everyone.

"We continue to forge new partnerships with leading companies in different industries to allow us to achieve our aspirations in making space accessible to all," said Dr Bassam Alfeeli, general manager of Orbital Space. "We are honoured to partner with CRP Technology to support our upcoming lunar mission. We believe CRP Technology knowledge and expertise in space qualified materials will bring great value to the mission and contribute to its success."

Franco Cevolini, CEO and CTO at CRP Technology added: "We have gained a lot of experience in the Aerospace sector. Our space qualified Windform materials are achieving resounding success and appreciation as they meet the rigid mechanical properties required for space applications. I'm sure we could play a pivotal role in making the Lunaris Moon Mission a reality."

Polimerica

https://www.polimerica.it/articolo.asp?id=30882

Polimerica
Attualità e notizie dal mondo della plastica

Compositi italiani per Lunaris Moon

CRP Technology ha siglato un accordo di collaborazione tecnologica con la compagnia aerospaziale emiratina Orbital Space.

23 novembre 2023 11:32

CRP Technology, società modenese attiva nella produzione di **tecnopolimeri** e **compositi** per la **stampa 3D** industriale, ha siglato un accordo di collaborazione tecnologica con la compagnia aerospaziale privata degli Emirati Arabi Uniti **Orbital Space**, in qualità di partner tecnologico nella missione **Lunaris Moon** per l'esplorazione della Luna.

In base all'accordo, CRP Technology realizzerà, attraverso la filiale **CRP Gulf**, il **payload lunare** utilizzando la sinterizzazione laser selettiva (**SLS**) e i materiali compositi ad alte prestazioni **Windform**, di propria produzione.

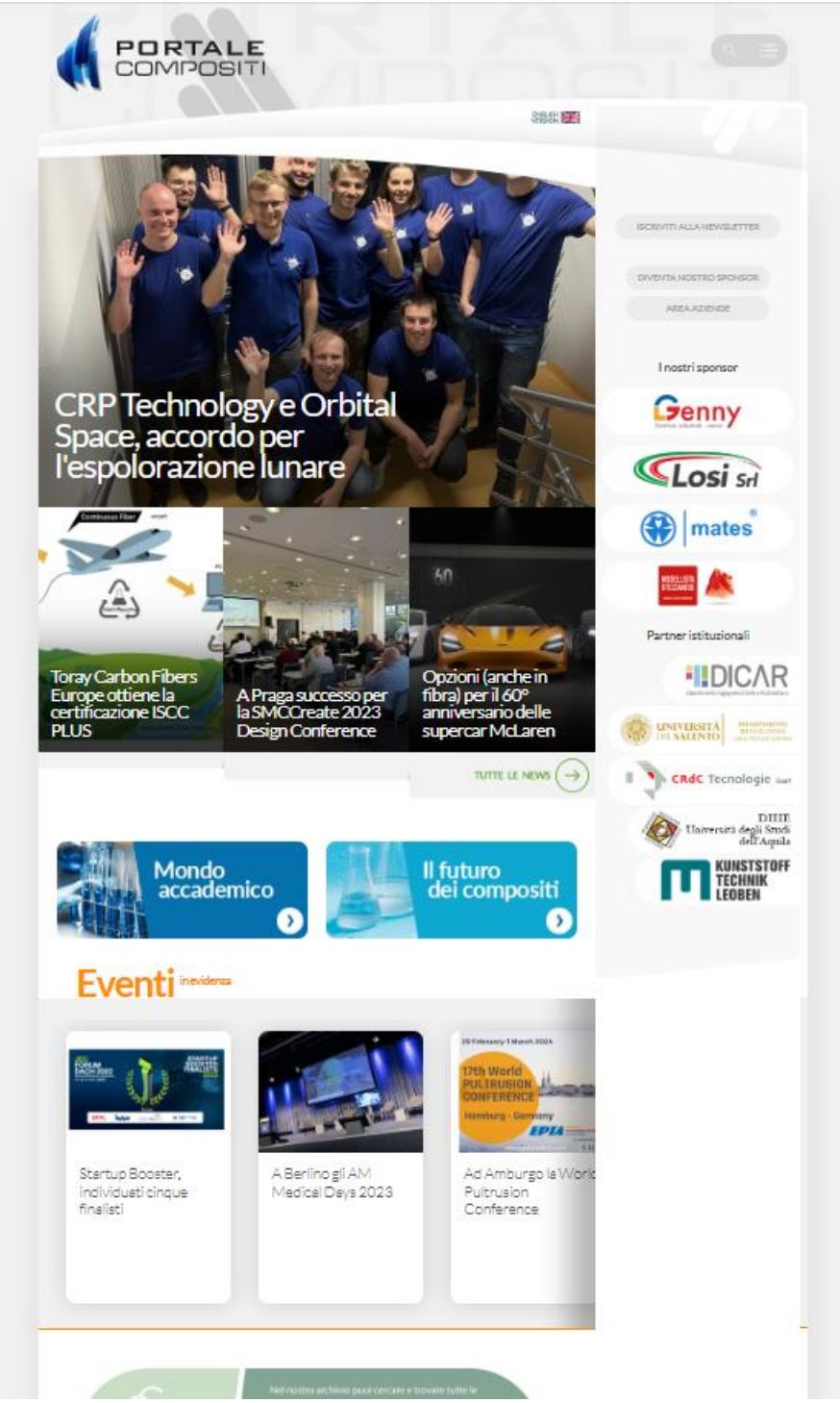
"Abbiamo maturato **molta esperienza** nel settore **aerospaziale** – commenta **Franco Cevolini**, CEO e Direttore tecnico di CRP Technology -. I nostri materiali Windform, qualificati per lo spazio, stanno ottenendo successi e apprezzamenti clamorosi poiché soddisfano i rigidi requisiti meccanici richiesti per le applicazioni spaziali. Sono sicuro che potremmo svolgere un **ruolo fondamentale** nel rendere la missione Lunaris Moon una realtà".

CRP opera nella formulazione di tecnopolimeri e compositi per la stampa 3D industriale, con il marchio Windform, oltre che nei servizi di stampa, dove offre un supporto personalizzato in termini di analisi di progetto, scelta dei materiali e test di validazione. Dall'anno scorso, la società modenese è partecipata, con una quota di minoranza, dal gruppo industriale statunitense **ITT** (leggi articolo).

aerospaziale | compositi | CRP Technology | Orbital Space | stampa 3d

Portale compositi

(home page)



https://www.portalecompositi.it/news/crp-technology-e-orbital-space-accordo-per-lespolorazione-lunare-13115.html

MISSIONI SPAZIALI

CRP Technology e Orbital Space, accordo per l'espolorazione lunare

Fondata nel 2018, Orbital Space è una delle principali aziende aerospaziali private con sede negli Emirati Arabi Uniti

Tempo stimato di lettura 1 , 31 min

Il team di Lunaris. Credit: Sandra Lichoń

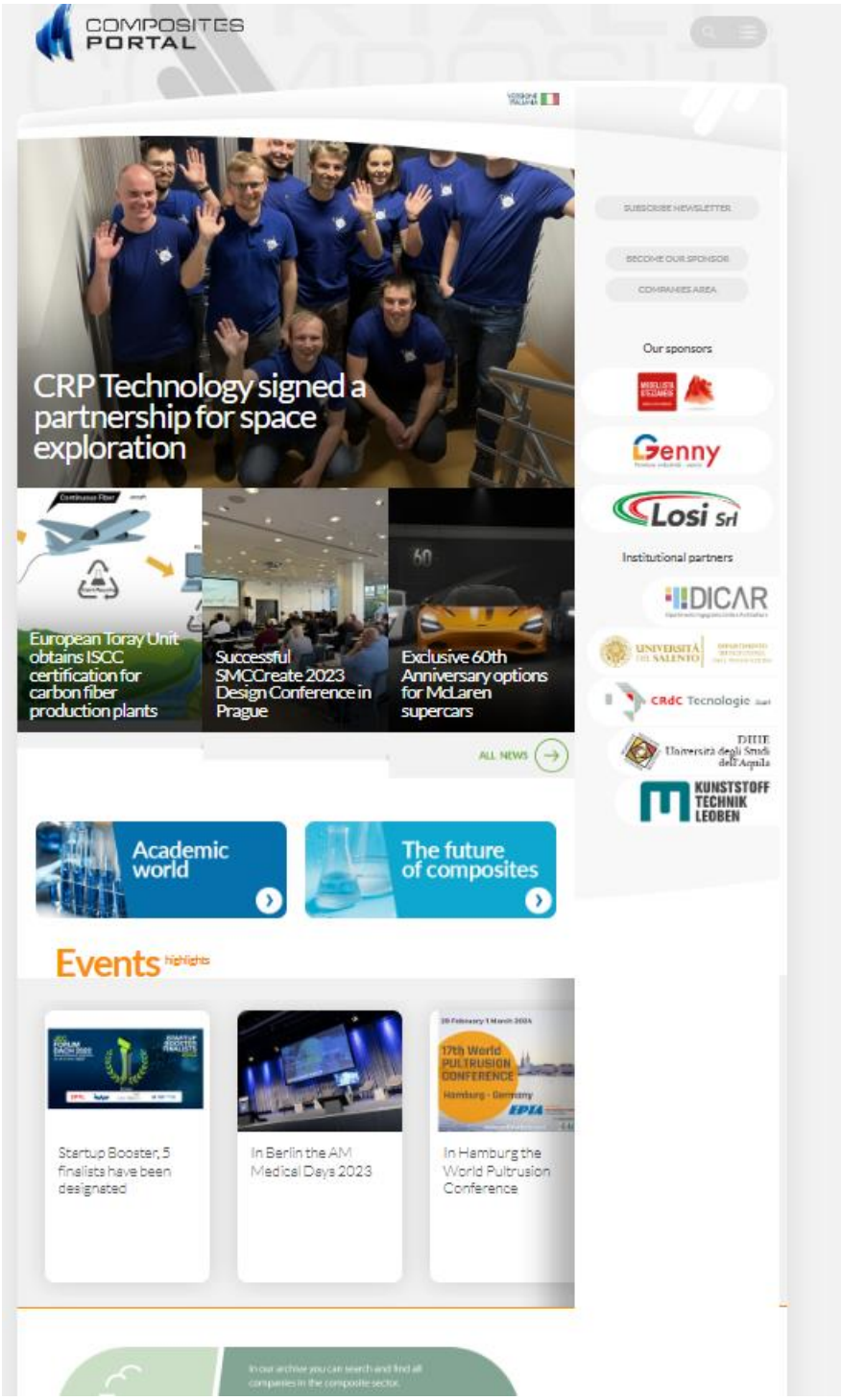
CRP Technology ha annunciato la partnership con Orbital Space, azienda leader nel settore aerospaziale privato con sede negli Emirati Arabi Uniti.

L'accordo è stato siglato nell'ambito della missione Lunaris Moon di Orbital Space per l'esplorazione lunare.

Fondata nel 2018, Orbital Space è una delle principali aziende aerospaziali private con sede negli Emirati Arabi Uniti, dedicata all'esplorazione e allo sviluppo di tecnologie per lo spazio. Ponendo particolare attenzione alle missioni spaziali educative e alla ricerca scientifica, Orbital Space è in prima linea nell'esplorazione spaziale commerciale nei Paesi arabi del Golfo, collaborando con partner pubblici e privati per rendere lo spazio accessibile a tutti.

"Continuiamo a stringere nuove partnership con aziende leader in diversi settori per poter realizzare le nostre aspirazioni di democratizzazione dello spazio. Siamo onorati di collaborare con CRP Technology che ci supporterà

Composites Portal



https://www.compositesportal.com/news/crp-technology-signed-a-partnership-for-space-exploration-13116.html

SPACE MISSION

CRP Technology signed a partnership for space exploration

Established in 2018, Orbital Space is a leading private aerospace company based in the United Arab Emirates

Estimated time of reading 1 , 38 min

Lunaria team. Credit: Sandra Lichoń

CRP Technology announced an official partnership with Orbital Space, a leading private aerospace company based in the United Arab Emirates, dedicated to the exploration and development of space technologies.

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"We continue to forge new partnerships with leading companies in different industries to allow us to achieve our aspirations in making space accessible to all. We are honored to partner with CRP Technology to support our upcoming lunar mission. We believe CRP Technology knowledge and expertise in space

Gazzetta di Modena

https://www.gazzettadimodena.it/modena/cronaca/2023/11/24/news/i-materiali-di-modena-porteranno-sulla-luna-gli-emirati-arabi-1.100427334?

GAZZETTA DI MODENA

La storia

I materiali di Modena porteranno sulla luna gli Emirati Arabi

Crp Technology al fianco di Orbital Space

24 novembre 2023 2 MINUTI DI LETTURA

MODENA. Ci sarà anche un po' di Modena nello spazio e sulla luna, questo grazie a Crp Technology. La società modenesi ha annunciato la partnership con Orbital Space, azienda leader nel settore aerospaziale privato con sede negli Emirati Arabi Uniti. L'accordo è stato siglato nell'ambito della missione Lunaris Moon di Orbital Space per l'esplorazione lunare.

Crp Technology aveva intuito il potenziale della stampa 3D professionale già nel 1996 e ha quindi deciso di investire in questa tecnologia, sviluppando e creando la propria linea di materiali compositi innovativi, caricati fibra di carbonio o fibra di vetro: Windform, che trova impiego in applicazioni funzionali estreme. È disponibile in un'ampia gamma di varianti create per offrire soluzioni alle sfide ingegneristiche più ardue e ai progetti più impegnativi. La parte fondamentale del servizio di stampa personalizzato di Crp Technology è quella consulenziale. Il team di pre-production è altamente specializzato nei vari settori applicativi grazie ad una lunga collaborazione con aziende leader nei settori più esigenti, fra cui l'automotive, il motorsport, il medicale, la robotica e appunto quella aerospaziale.

Da qui l'accordo con Orbital Space è una delle principali aziende aerospaziali private con sede negli Emirati Arabi Uniti, dedicata all'esplorazione e allo sviluppo di tecnologie per lo spazio. Ponendo particolare attenzione alle missioni spaziali educative e alla ricerca scientifica, Orbital Space è in prima linea nell'esplorazione spaziale commerciale nei Paesi arabi del Golfo, collaborando con partner pubblici e privati per rendere lo spazio accessibile a tutti.

«Siamo onorati di collaborare con Crp Technology che ci supporterà nella nostra prossima missione lunare – ha affermato Bassam Alfeeli, direttore generale di Orbital Space –. Riteniamo che la conoscenza e l'esperienza di Crp Technology nei materiali qualificati per lo spazio apporteranno un grande valore alla missione, e contribuiranno al suo

Tecnelab

https://www.tecnelab.it/news/attualita/accordo-tra-crp-technology-e-orbital-space-nellambito-della-missione-lunaris-moon

TECNELAB

HOME > NEWS > ATTUALITÀ

Accordo tra CRP Technology e Orbital Space nell'ambito della missione Lunaris Moon

24/11/2023 246 volta/e

Condividi Articolo

L'accordo di partnership tra CRP Technology e Orbital Space è stato siglato nell'ambito della ***missione Lunaris Moon di Orbital Space****, per l'esplorazione lunare.*

CRP Technology ha annunciato la partnership con **Orbital Space**, azienda leader nel settore **aerospaziale** privato, con sede negli Emirati Arabi Uniti. L'accordo è stato siglato nell'ambito della **missione Lunaris Moon di Orbital Space** per l'esplorazione lunare.

Fondata nel 2018, Orbital Space è una delle principali aziende aerospaziali private con sede negli Emirati Arabi Uniti, dedicata all'esplorazione e allo sviluppo di tecnologie per lo spazio.

Ponendo particolare attenzione alle missioni spaziali educative e alla ricerca scientifica, Orbital Space è in prima linea nell'esplorazione spaziale commerciale nei Paesi arabi del Golfo, collaborando con partner pubblici e privati per rendere lo spazio accessibile a tutti.

"*Continuiamo a stringere nuove partnership con aziende leader in diversi settori per poter realizzare le nostre aspirazioni di democratizzazione dello spazio. Siamo onorati di collaborare con CRP Technology che ci supporterà nella nostra prossima missione lunare*", afferma il **Dott. Bassam Alfeeli, Direttore Generale di Orbital Space**.

"*Riteniamo che la conoscenza e l'esperienza di CRP Technology nei materiali qualificati per lo spazio apporteranno un grande valore alla missione e contribuiranno al suo successo*", specifica **Alfeeli**.

"*Abbiamo maturato molta esperienza nel settore aerospaziale*", dichiara **Franco Cevolini, CEO e Direttore**

AM Additive Manufacturing

Published 11/3/2023

CRP Technology's Windform TPU Rubber-Like Material for SLS process

Windform TPU is a versatile thermoplastic polyurethane which is extremely elastic, flexible and soft because its elongation at break value is less than 400%.

SLS POLYMER MATERIALS

Edited by: Angela Osborne
Managing Editor, *Gardner Business Media*

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CRP Technology has expanded its material portfolio with the addition of Windform TPU, a versatile thermoplastic polyurethane for selective laser sintering (SLS) 3D printing. The material is white colored, extremely elastic, flexible, impact resistant and soft because of its elongation at break value which is less than 400%.

Photo Credit: CRP Technology

This durable polyurethane material has exceptional rubber-like distinguishing features. Its mechanical properties make it particularly well suited for applications that require softness, flexibility, elasticity and where robustness is a key requisite. It shows excellent durability and stability, and combines superior tensile strength with high shock absorption and high abrasion resistance. The rubber-like material is now available for the company's industrial 3D printing service and is suitable for many industrial sectors and applications.

UST

CRP Technology Launches Windform TPU for Industrial 3D Printing

Windform TPU by CRP Technology is a thermoplastic polyurethane that can benefit many industrial sectors including robotics and unmanned systems

By **Sarah Simpson** / 13 Oct 2023

CRP Technology has launched a new material of the TOP-LINE range for industrial 3D printing service, the rubber-like Windform TPU.

Designed for the Additive Manufacturing (AM) market, Windform TPU is a thermoplastic polyurethane, white coloured, extremely elastic, flexible, resistant to impact, and soft thanks to its elongation at break > 400%.

Franco Cevolini, CEO and Technical Director of CRP Technology: "*With Windform TPU, the number of rubber-like materials of the Windform TOP-LINE range, rises to two. We can satisfy many more customers' needs, as they are two rubber-like SLS materials with different characteristics: Windform RL – the first of the Windform range – is a TPE, and it is more rigid, whereas Windform TPU is a thermoplastic polyurethane and it is softer, more flexible.*"

There are many industrial sectors that can benefit from the use of Windform TPU thanks to its versatility, from transport to robotics, from design to footwear, sports equipment and fashion accessories.

Windform TPU is suitable for manufacturing, for example but not limited to:

Stampare in 3D

Stampare in 3D

https://stamparein3d.it/orbital-space-utilizza-i-materriali-windform-di-crp-technology-per-la-missione-lunaris-moon/

ECONOMIA

Orbital Space utilizza i materriali Windform di CRP Technology per la Missione Lunaris Moon

Di **Fantasy**

NOV 22, 2023

Orbital Space Affida ai Materiali di Stampa 3D Windform di CRP Technology per la Missione Lunaris Moon

In una significativa collaborazione, CRP Technology si unisce a Orbital Space, un'azienda aerospaziale con sede negli Emirati Arabi Uniti, per facilitare lo sviluppo di componenti cruciali per la prossima missione Lunaris Moon.

CRP Technology, un pioniere nella stampa 3D, produrrà componenti per il carico utile lunare utilizzando i suoi avanzati materiali compositi Windform. Questi materiali compositi ad alte prestazioni, noti per soddisfare le rigorose esigenze dell'ambiente spaziale, verranno integrati in modo impeccabile con la tecnologia di stampa 3D a sinterizzazione laser selettiva.

Fondata nel 2018, la missione principale di Orbital Space è quella di sviluppare tecnologie spaziali che consentano l'esplorazione dello spazio. L'azienda si è dedicata alle missioni spaziali educative e ha collaborato con partner sia pubblici che privati, tra cui CRP Technology.

Il dottor Bassam Alfeeli, CEO di Orbital Space, ha espresso entusiasmo per questa collaborazione, dichiarando: "Continuiamo a stringere nuove partnership con aziende leader in vari settori per realizzare la nostra visione di rendere lo spazio accessibile a tutti. Siamo onorati di collaborare con CRP Technology per sostenere la nostra prossima missione lunare. Crediamo che l'esperienza di CRP Technology nei materiali qualificati per lo spazio possa apportare un valore significativo alla missione e contribuire al suo successo".

Franco Cevolini, CEO e CTO di CRP Technology, ha sottolineato l'ampia esperienza dell'azienda nell'industria aerospaziale e le eccezionali proprietà dei loro materiali Windform qualificati per lo spazio. Ha dichiarato: "I nostri materiali Windform hanno ottenuto un grande successo e riconoscimento per soddisfare i rigorosi requisiti meccanici delle applicazioni spaziali. Sono fiducioso che possiamo svolgere un ruolo fondamentale nel rendere la Missione Lunaris Moon una realtà".

Mourad Mountassir, co-fondatore di CRP Gulf, l'azienda che fornisce servizi di stampa 3D con Windform nella regione del Golfo Arabico, ha espresso ottimismo, affermando: "Consideriamo il coinvolgimento della nostra società madre, CRP Technology, come un'opportunità unica. Sono certo che CRP Technology e CRP Gulf contribuiranno a segnare una pietra miliare significativa nella storia dell'esplorazione spaziale negli Emirati Arabi Uniti".

Make Parts Fast

CRP Technology launches new rubber-like material for SLS

OCTOBER 12, 2023 BY RACHAEL PASINI — LEAVE A COMMENT

CRP Technology launched a new material for industrial 3D printing — the rubber-like Windform TPU.

Windform TPU is a thermoplastic polyurethane, white colored, extremely elastic, flexible, resistant to impact, and soft due to its elongation at break greater than 400%.

The new Windform TPU is a flexible thermoplastic polyurethane suitable for many industrial sectors and applications. Image courtesy of CRP Technology.

"With Windform TPU, the number of rubber-like materials of the Windform Top-Line range rises to two. We can satisfy many more customers' needs, as they are two rubber-like SLS

Make Parts Fast

CRP and Windform are back at Formnext 2023

NOVEMBER 2, 2023 BY RACHAEL PASINI — LEAVE A COMMENT

CRP Technology will be attending Formnext as an exhibitor for the second year in a row. The event will be held Nov. 7-10, 2023, at Messe Frankfurt, Germany. CRP Technology experts will welcome the Formnext attendees at booth B41, Hall 11.1, to discuss the benefits of using Windform materials and professional 3D printing in their production process.

The participants who will come and stop by CRP's booth will see first-hand some functional parts manufactured in the latest materials launched on the market: Windform TPU, the second rubber-like material of the Windform TOP-LINE range for selective laser sintering process, and Windform XT 2.0 IMG, the first injection molding material 100% recycled from unsintered Windform powders.

"This year we show up two new materials, two important 'technological partners' for companies in search for reliable, durable, and sustainable solutions," said Franco Cevolini, CEO and CTO CRP Technology. "Windform TPU bridges the gap for those who need rubber-like material, very elastic, flexible, soft; its elongation at break, density, and shore A hardness are key values with no rivals in the AM world; Windform XT 2.0 IMG ensures a continuity in material selection from prototyping to large scale production."

CRP Technology will be also displaying the latest parts manufactured in Windform for the Aerospace and Automotive sectors. Also on display is a model of Experia, the Energica Motor Company's new no-emission Green Tourer motorcycle, and the mockup of FLYING-CAM's UAS Discovery. Both have mounted some parts in Windform.

CRP Technology
crptechnology.com

Make Parts Fast

https://www.makepartsfast.com/carbon-filled-composites-optimize-formula-sae-racing-performance/

Carbon-filled composites optimize Formula SAE racing performance

AUGUST 22, 2023 BY RACHAEL PASINI — LEAVE A COMMENT

The versatility and mechanical properties of the functional components made in Windform materials are well recognized by specialists and insiders. One of the latest examples comes from the world of Formula SAE.

"Like every year, the industry judges at the competition were very interested in the parts that CRP USA 3D printed for our racing car," said Luke Wooldridge, powertrain lead of UVic Formula Racing from the University of Victoria.

The partnership between CRP USA and UVic Formula Racing has been ongoing. It involves the manufacturing and featuring several components, including the steering wheel and elements of the engine lubrication system, which have become integral parts of the car. Let's have a deep dive into these parts.

Oil and water catch cans

The team designed new oil and water catch cans that integrated better with the chassis packaging. These components were made from Windform SP, one of the carbon fiber-filled composites from Windform's range of materials for professional 3D printing. Windform SP held up especially well to the high heat of the overflowing oil and coolant.

Costruire Stampi

THE ADDITIVE JOURNAL

Collettore di aspirazione realizzato da CRP USA in Windform XT 2.0, con coperchio separato.

LA TECNOLOGIA ADDITIVA SUPPORTA LA FORMULA SAE

La partnership tra il service statunitense di stampa 3D professionale CRP USA e UVic Formula Racing ha dato vita negli anni a molte parti funzionali realizzate con la tecnologia additiva della sinterizzazione laser selettiva in materiali compositi caricati fibra di carbonio. Questi componenti da gara si distinguono per versatilità, proprietà meccaniche e durata.

di Adriano Moroni

RPD - Rapid Product Development

NUOVE ENERGIE PER L'AM

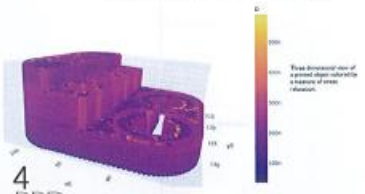
Nell'ambito della 9a edizione della internazionale Start-up Challenge, Formnext ha premiato le imprese emergenti dell'additive manufacturing per le loro innovative idee di business e gli sviluppi tecnologici. E i vincitori sono... Endless Industries si è dedicata allo sviluppo di una fibra di carbonio continua, un software e un ugello brevettato che stampa fibre di carbonio e materiale plastico simultaneamente, realizzando anche parti di grandi dimensioni. Helio Additive utilizzerà il suo software Dragon per migliorare la stampa 3D di materie plastiche e materiali compositi: suddivide i modelli 3D in singoli voxel e registra la loro progressione termica. Ciascun polimero è soggetto all'espansione in misura differente durante l'esposizione al calore e dà luogo a una resa differente nel processo di stampa.
Odapt ha presentato una soluzione stampata in 3D che può migliorare l'utilizzo della borsa ostomica riducendo le fuoriuscite: una piastra in silicone che può essere adattata a qualsiasi forma di stoma e a qualsiasi sacca disponibile in commercio. Progresja New Materials è specializzata nel riciclaggio del titanio, raccogliendo scarti che vengono puliti e sottoposti a trattamento termochimico, lavorazione meccanica e atomizzazione per diventare una polvere per AM. Vitro3D ha sviluppato una tecnologia volumetrica per lavorare un'ampia gamma di materiali, comprese le resine altamente viscose, e combinare le proprietà di materiali diversi nello stesso pezzo. I vincitori presentano le loro innovazioni presso i propri stand e durante l'evento Formnext Pitchnext in calendario il 7 novembre 2023.

L'ALLUMINIO FORTE MA CONVENIENTE

EOS Aluminium AlSX1 è una nuova lega di alluminio progettata specificamente da Eos per la produzione additiva, caratterizzata da proprietà di resistenza e allungamento simili a quelle di altre leghe di alluminio, ma a un costo più competitivo. Poiché richiede un trattamento termico in un'unica fase senza HIP (pressatura isostatica a caldo), permette di produrre parti più velocemente e a un costo totale inferiore.
Le applicazioni stampate in 3D con l'alluminio EOS AlSX1 possono essere elettrolucidate e anodizzate (Tipo II e Tipo III) per conferire protezioni sia estetiche (colorate) che resistenti alla corrosione. La nuova lega è stata sperimentata da numerose aziende, ad esempio nei settori dei semiconduttori, aerospaziale e della difesa.

FLESSIONI RESISTENTI IN SLS

Elastico, flessibile, resistente agli impatti e morbido, con un allungamento percentuale a rottura superiore al 400%, Windform TPU è un poliuretano termoplastico di colore bianco che viene impregnato con sigillante nero.
Si affianca a un altro materiale con proprietà simili alla gomma della gamma Top Line di CRP Technology dedicato alla sinterizzazione laser selettiva: il TPE Windform. Il TPU è versatile, adatto per realizzare componentistica per interni auto, telai dei filtri dell'aria, soffietti per giunti cardanici, tubi, connettori per applicazioni nei trasporti, nella robotica, nel design.



Il Progettista Industriale

il progettista industriale

CRP Technology lancia sul mercato dell'additive manufacturing Windform TPU, nuovo materiale simil-gomma per tecnologia SLS

CRP Technology lancia sul mercato un nuovo materiale della gamma Windform TOP-LINE per stampa 3D professionale, il simil-gomma Windform TPU.
Windform TPU è un poliuretano termoplastico di colore bianco che viene impregnato con sigillante nero, estremamente elastico, flessibile, resistente agli impatti e morbido grazie al suo allungamento percentuale a rottura superiore a 400%.
Franco Cevolini, CEO e Direttore Tecnico di CRP Technology: "Con Windform TPU sale a 2 il numero dei materiali simil-gomma della linea TOP-LINE. In questo modo possiamo soddisfare più esigenze, perché si tratta di due simil-gomma con caratteristiche diverse: il Windform RL, il primo rubber-like che abbiamo realizzato, è un TPE ed è più rigido, mentre questo nuovo Windform TPU è più morbido, più elastico e più resistente all'abrasione."

Molti sono i settori industriali che possono trarre beneficio dall'impiego del Windform TPU grazie alla sua versatilità: dai trasporti alla robotica, dal design alle calzature e attrezzature sportive fino al settore moda e accessori.
Questo materiale è adatto per realizzare, ad esempio ma non solo, componentistica per interni auto, telai dei filtri dell'aria, soffietti per giunto cardanico, tubi, connettori.
E ancora: particolari per il settore sport e tempo libero, dalle protezioni alle suole delle scarpe da corsa, grazie alla sua elevata resistenza all'abrasione. In Windform TPU si possono realizzare anche pezzi da impiegare a basse temperature, o che devono essere immersi in oli, grassi, solventi.
Con Windform TPU sale a undici il numero complessivo dei materiali Windform TOP-LINE per il processo di sinterizzazione laser selettiva.

VoxelMatters

https://www.voxelmatters.com/crp-technology-and-orbital-space-enter-space-exploration-partnership/

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Home / Aerospace AM / CRP Technology and Orbital Space enter space exploration partnership

Acquisitions, Mergers & Partnerships | Aerospace AM

CRP Technology and Orbital Space enter space exploration partnership

As part of Orbital Space's Lunaris Moon Mission, CRP Technology will 3D print the lunar payload in Windform composites

Edward Wakefield · November 22, 2023 · 1 minute read

Stay up to date with everything that is happening in the wonderful world of AM via our LinkedIn community.

CRP Technology has entered a partnership with Orbital Space, a leading private aerospace company based in the United Arab Emirates. The partnership was signed within the Orbital Space's Lunaris Moon Mission for the lunar exploration. With a focus on educational space missions and scientific research, Orbital Space is at the forefront of commercial space exploration in the Arab Gulf Countries, collaborating with both public and private partners to make space accessible to all.

"We continue to forge new partnerships with leading companies in different industries to allow us to achieve our aspirations in making space accessible to all. We are honored to partner with CRP Technology to support our upcoming lunar mission. We believe CRP Technology's knowledge and expertise in space-qualified materials will bring great value to the mission and contribute to its success," said Dr. Bassam Alfeeli, General Manager of Orbital Space.

Composites World

https://www.compositesworld.com/news/crp-technology-signs-technical-partnership-for-space-exploration-tech-development

ADDITIVE MANUFACTURING

Published 11/24/2023

CRP Technology signs technical partnership for space exploration, tech development

Collaboration with UAE private aerospace company will bring 3D-printed Windform composite materials to development of the Lunaris moon mission payload.

#space

EDITED BY GRACE NEHLS
Managing Editor, *CompositesWorld*

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- ESA StarTiger project showcases innovation, collaboration in space industry
- CRP 3D printing composites optimize Formula SAE team's racing performance
- Carbon Fiber 2023: See you there

Photo Credit: CRP Technology

Industrial 3D printing service CRP Technology (Modena, Italy) has officially joined UAE private aerospace company Orbital Space (Dubai, UAE) as a partner for its Lunaris moon mission. CRP Technology will 3D print the lunar payload using its Windform composite materials.

Established in 2018, Orbital Space is dedicated to the exploration and development of space technologies. With a focus on educational space missions and scientific research, Orbital Space claims that it is at the forefront of commercial space exploration in the Arab Gulf countries, collaborating with public and private partners to make space accessible to everyone.

"We continue to forge new partnerships with leading companies in different industries to allow us to achieve our aspirations in making space accessible to all," Dr. Bassam Alfeeli, general manager of Orbital Space, says. "We believe CRP Technology's knowledge and expertise in space-qualified materials will bring great value to the mission and contribute to its success."

TCT

https://www.tctmagazine.com/additive-manufacturing-3d-printing-news/latest-additive-manufacturing-3d-printing-news/orbital-space-crp-technology-windform-materials-lunaris-moon-mission/

3D PRINTING & ADDITIVE MANUFACTURING INTELLIGENCE

Orbital Space to lean on CRP Technology's Windform 3D printing materials as part of Lunaris Moon Mission

BY SAM DAVIES 22 NOVEMBER 2023 16:18

CRP Technology has partnered with Orbital Space to help the UAE-based aerospace company develop parts for its Lunaris Moon Mission.

The 3D printing company will produce parts for the lunar payload in its Windform composites materials. It will team its high-performance composite materials, that are said to fulfil space environment requirements, with Selective Laser Sintering 3D printing technology.

Orbital Space was founded in 2018 to develop space technologies capable of enabling space exploration. In doing so, it has placed a focus on educational space missions, and has collaborated with both public and private partners, with CRP Technology now among them.

"We continue to forge new partnerships with leading companies in different industries to allow us to achieve our aspirations in making space accessible to all," commented Dr. Bassam Alfeeli, General Manager of Orbital Space. "We are honoured to partner with CRP Technology to support our upcoming lunar mission. We believe CRP Technology knowledge and expertise in space qualified materials will bring great value to the mission and contribute to its success."

"We have gained a lot of experience in the Aerospace sector," offered Franco Cevolini, CEO and CTO at CRP Technology, shared about the partnership. "Our space qualified Windform materials are achieving resounding success and appreciation as they meet the rigid mechanical properties required for space applications. I'm sure we could play a pivotal role in making the Lunaris Moon Mission a reality."

Mourad Mountassir, co-founder of CRP Gulf, the company that supplies 3D printing services with Windform in the Arabian Gulf area, added: "We consider the involvement of our mother company CRP Technology a special opportunity. I'm sure that CRP Technology and CRP Gulf will be contributing to

3DRUCK

https://3druck.com/industrie/crp-technology-startet-technische-partnerschaft-mit-orbital-space-56124603/

INDUSTRIE

CRP Technology startet technische Partnerschaft mit Orbital Space

von **Joram** - Nov 24, 2023

Foto: Orbital Space & CRP Technology

CRP Technology ist dem privaten Raumfahrtunternehmen Orbital Space aus den Vereinigten Arabischen Emiraten offiziell als Partner für dessen Lunaris-Mondmission beigetreten. CRP Technology wird die Mondnutzlasten für die Test- und Missionsphase aus Windform-Verbundwerkstoffen herstellen.

Orbital Space, gegründet im Jahr 2018, hat sich als führendes privates Raumfahrtunternehmen in den Vereinigten Arabischen Emiraten etabliert. Es konzentriert sich auf Bildungsraummissionen und wissenschaftliche Forschung und ist damit an der Spitze der kommerziellen Raumfahrtexploration in den Arabischen Golfstaaten. Das Unternehmen arbeitet mit öffentlichen und privaten Partnern zusammen, um den Weltraum für alle zugänglich zu machen.

> *"Wir schmieden weiterhin neue Partnerschaften mit führenden Unternehmen in verschiedenen Branchen, um unser Ziel, den Weltraum für alle zugänglich zu machen, zu erreichen. Wir fühlen uns geehrt, mit CRP Technology zusammenzuarbeiten, um unsere bevorstehende Mondmission zu unterstützen. Wir sind davon überzeugt, dass das Wissen und die Erfahrung von CRP Technology in Bezug auf weltraumtaugliche Materialien einen großen Wert für die Mission darstellen und zu ihrem Erfolg beitragen werden", sagte Dr. Bassam Alfeeli, General Manager von Orbital Space.*
>
> *Franco Cevolini, CEO und CTO von CRP Technology, sagte über die Partnerschaft: "Wir haben viel Erfahrung in der Luft- und Raumfahrtbranche gesammelt. Unsere raumfahrttauglichen Windform-Materialien für den industriellen 3D-Druck sind ein durchschlagender Erfolg und werden sehr geschätzt, da sie die strengen mechanischen Eigenschaften erfüllen, die für Raumfahrtanwendungen erforderlich sind. Ich bin mir*

CIO News

https://cionews.co.in/crp-technology-signed-a-new-technical-partnership/

Industries | IT/ ITES | Technology

CRP Technology signed a new technical partnership for space exploration and technology development

By **Editor Team** - November 23, 2023

CRP Technology signed a new technical partnership for space exploration and technology development

The partnership was signed within Orbital Space's Lunaris Moon Mission for lunar exploration.

CRP Technology officially joined the UAE private aerospace company Orbital Space as a partner for their Lunaris Moon Mission. CRP Technology will 3D print in Windform composites the lunar payload.

ZAWYA

https://www.zawya.com/en/press-release/companies-news/crp-technology-signed-a-new-technical-partnership-for-space-exploration-and-technology-development-k3rghnyh

CRP Technology announced today an official partnership with Orbital Space, a leading private aerospace company based in the United Arab Emirates, dedicated to the exploration and development of space technologies. Image courtesy: CRP Technology

AEROSPACE

CRP Technology signed a new technical partnership for space exploration and technology development

The partnership was signed within the Orbital Space's Lunaris Moon Mission for the lunar exploration

Press Release

November 23, 2023

CRP Technology officially joined the UAE private aerospace company Orbital Space as a partner for their Lunaris Moon Mission. CRP Technology will 3D print in Windform composites the lunar payload

CRP Technology announced today an official partnership with Orbital Space, a leading private aerospace company based in the United Arab Emirates, dedicated to the exploration and development of space technologies.

The partnership was signed within the Orbital Space's Lunaris Moon Mission for the lunar exploration.

Established in 2018, Orbital Space is a leading private aerospace company based in the United Arab Emirates, dedicated to the exploration and development of space technologies. With a focus on educational space missions and scientific research, Orbital Space is at the

VoxelMatters

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3D Printing Events | Formnext 2023 | Industry Analysis | Money & Funding

If you can't have the technology you love, love the one you've got

Formnext is the place where new AM technologies are shown to the world. But in 2023 it's time to show what existing technologies can do

Davide Sher • November 13, 2023 13 minutes read

Don't get us wrong. Polymer and Metal AM are far larger segments of AM (to put it into context, Metal AM is worth about $3 billion and Polymer AM is worth about $5 billion, whereas all ceramic AM is worth about $300 million, yearly). Both Polymer AM and Metal AM have their own virtuous example of companies targeting and promoting production applications.

Said of the efforts made by Siemens Digital Industries in the industrialization of both polymer and metal AM, strongly driven by years of efforts from the company's VP of AM Karsten Heuser, among the companies that stand out the most are OECHSLER and Prototek, with both entities leveraging Carbon DLS technology primarily. In this case, as well, material manufacturers play a major role in enabling production applications. Giants such as Arkema and Evonik, or highly targeted companies such as CRP Technology, with its latest TPU material introduced at Formnext 2023, have been making significant efforts and remain instrumental in enabling the transition toward production.

3D Printing Industry

3D printing materials and services provider CRP Technology will be showcasing its latest materials and functional parts made with Windform at booth B41, Hall 11.1 during Formnext this week. Visitors can explore the innovative Windform TPU, a new rubber-like material, and the sustainable Windform XT 2.0 IMG, an injection molding material made from recycled unsintered Windform powders. The company will also display parts manufactured with Windform for the Aerospace and Automotive sectors. Notable exhibits include a mockup of FLYING-CAM's UAS Discovery and a model of Experia, Energica Motor Company's no-emission Green Tourer motorcycle, both featuring Windform components.

3D printed part created using Windform TPU. Photo via CRP Technology.

ENGINEERLIVE

https://www.engineerlive.com/content/racing-ahead

ENGINEERLIVE

Racing ahead

6th November 2023 | Hayley Everett

The 3D printed oil and water catch can

The catch cans were made using Windform SP

The intake is manufactured using Windform XT 2.0 composite material

How professional 3D printing and carbon fibre-filled composites are helping to optimise racing performance.

Over several years, CRP USA and UVic Formula Racing have partnered to create many functional parts in carbon fibre-filled composite materials using the laser sintering 3D printing process. Made from CRP USA's specifically engineered Windform materials, these components are distinguished for their versatility, mechanical properties and durability. One of the latest examples of the enhanced mechanical properties of such components comes from the world of Formula SAE, a student competition managed by SAE International (formerly known as the Society of Automotive Engineers).

The partnership between CRP USA and UVic has seen the manufacturing of several components, including the steering wheel and elements of the engine lubrication system, which have become integral parts of the team's racing car. Luke Wooldridge, Powertrain Lead of UVic Formula Racing from the University of Victoria, says: "Like every year, the industry judges at the competition were very interested in the parts that CRP USA 3D printed for our racing car."

He continues, "Carbon fibre-filled composites have become a core element of our car's construction since we began our partnership with CRP. In our current car, Windform is utilised in all of our major systems, from our driver controls to the aerodynamics in our powertrain. The carbon filled composites provide an amazing strength-to-weight ration which is a critical property for any automotive project, but even more so in Formula SAE where every gram counts."

OIL AND WATER CATCH CANS

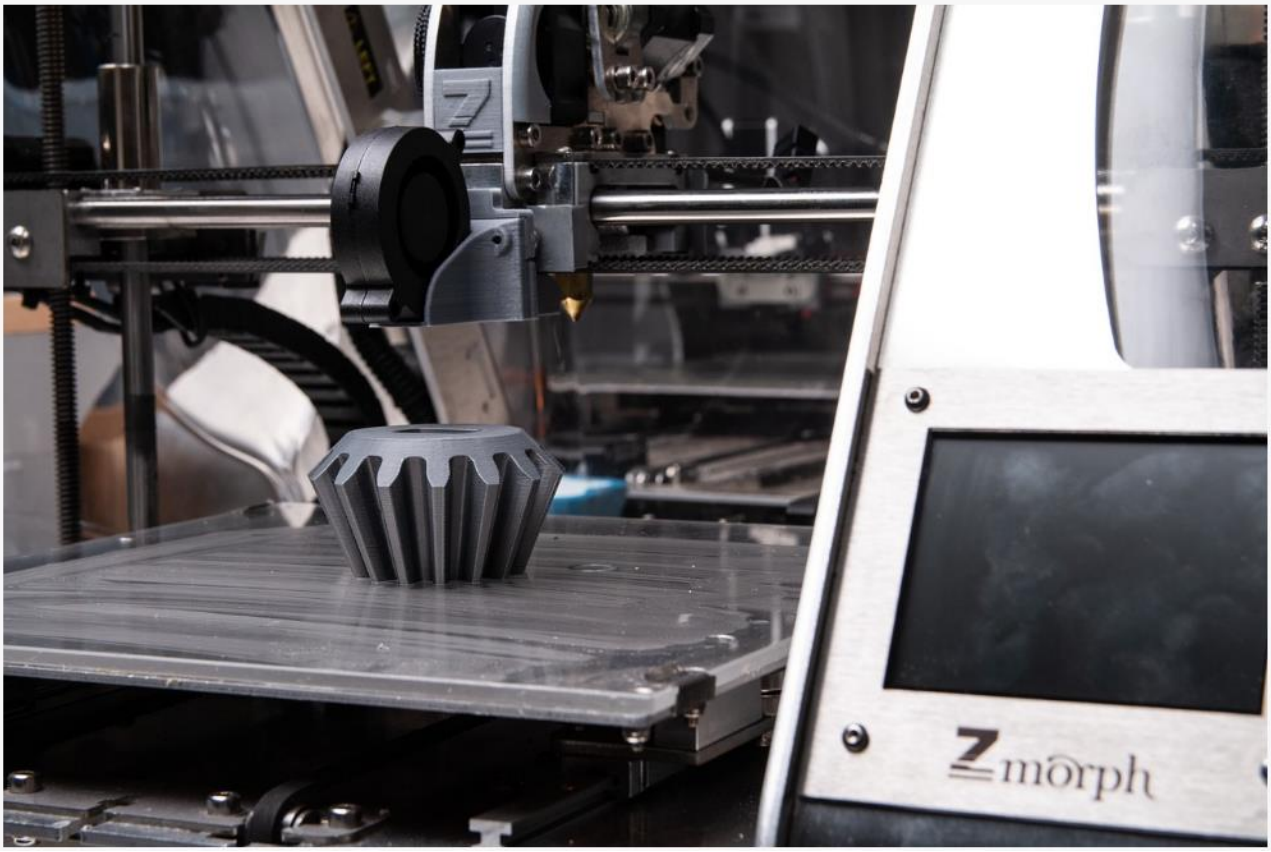
Publicist Records

Industry news

Formnext 2023 Showcases Latest Innovations in 3D Printing Industry

2 min read

3 weeks ago Thomas Johnson



One of the key themes at the event is the introduction of new materials. CRP Technology, a 3D printing materials and services provider, is showcasing its latest materials and functional parts made with Windform. The company is presenting the Windform TPU, a rubber-like material, and the sustainable Windform XT 2.0 IMG, an injection molding material made from recycled unsintered Windform powders. These materials have applications in the aerospace and automotive sectors, and CRP Technology emphasizes its commitment to delivering innovative and cost-effective solutions.

Costruire Stampi

CRP Technology sigla un accordo per lo sviluppo tecnologico dell'esplorazione spaziale e lunare

Novembre 28, 2023 45 Views Aerospaziale, CRP Technology, Orbital Space, stampa 3D, Windform

CRP Technology collaborerà ufficialmente con l'azienda aerospaziale privata degli Emirati Arabi Uniti **Orbital Space** in qualità di partner tecnologico nella missione Lunaris Moon. L'azienda modenese realizzerà nei materiali compositi Windform il payload lunare.

CRP Technology ha annunciato la partnership con **Orbital Space**, **azienda ai vertici nel settore aerospaziale privato con sede negli Emirati Arabi Uniti**. L'accordo è stato siglato nell'ambito della **missione Lunaris Moon** di **Orbital Space** per l'esplorazione lunare.
Fondata nel 2018, **Orbital Space** è una delle principali aziende aerospaziali private con sede negli **Emirati Arabi Uniti**, dedicata all'esplorazione e allo sviluppo di tecnologie per lo spazio. Ponendo particolare attenzione alle missioni spaziali educative e alla ricerca scientifica, **Orbital Space** è in prima linea nell'esplorazione spaziale commerciale nei Paesi arabi del Golfo, collaborando con partner pubblici e privati per rendere lo spazio accessibile a tutti.

Democratizzazione dello spazio

"Continuiamo a stringere nuove partnership con aziende leader in diversi settori per poter realizzare le nostre

December 2023

Plastix

https://www.plastix.it/compositi-ad-alte-prestazioni-per-lesplorazione-lunare/

Home » Compositi ad alte prestazioni per l'esplorazione lunare

Compositi ad alte prestazioni per l'esplorazione lunare

COMPOSITI

4 Dicembre 2023 | Redazione

L'azienda modenese **CRP Technology** ha annunciato ufficialmente la propria collaborazione, in qualità di partner tecnologico, con **Orbital Space**, una delle principali compagnie aerospaziali private con sede negli Emirati Arabi Uniti. L'accordo è stato siglato nell'ambito della **missione Lunaris Moon** di Orbital Space, per la quale CRP Technology realizzerà il **payload lunare** utilizzando la stampa 3D professionale (processo **Powder Bed Fusion**, ovvero **SLS**: sinterizzazione laser selettiva) e i suoi **materiali compositi ad alte prestazioni Windform**.

Fondata nel 2018, Orbital Space è in prima linea nell'esplorazione spaziale commerciale tra i Paesi arabi del Golfo, collaborando con partner pubblici e privati per **rendere lo spazio accessibile a tutti**. Pone inoltre particolare attenzione alle **missioni spaziali educative** e alla **ricerca scientifica**.

"Continuiamo a stringere nuove partnership con aziende leader in diversi settori per poter realizzare le nostre aspirazioni di **democratizzazione dello spazio**. Siamo onorati di collaborare con CRP Technology, che ci supporterà nella nostra prossima missione lunare. Riteniamo che la conoscenza e l'esperienza di CRP Technology nei **materiali qualificati per lo spazio** apporteranno un grande valore alla missione e contribuiranno al suo successo", ha affermato **Bassam Alfeeli**, direttore generale di Orbital Space.

Il team di Orbital Space impegnato nella missione Lunaris Moon (foto: Sandra Lichori)

Materiali su misura per il settore aerospaziale

Composites Portal

https://www.compositesportal.com/news/composites-for-the-usabss-bobsled-13139.html

Composites for the USABS's bobsled

The 3D printed parts supplied by CRP USA include: push handles, hand grips, seat

Estimated time of reading 1 , 16 min

USABS team at CRP USA's headquarters. Credit: USAB

CRP USA, a leading U.S.-based 3D printing company, has collaborated with USA Bobsled/Skeleton (USABS) to manufacture cutting-edge, race-ready 3D printed bobsled parts, leveraging the innovative Windform family of high-performance materials.

Following the officialization of the technology partnership, CRP USA has played a crucial role in advancing Winter Olympics athletes' performance through the creation of functional, stress-resistant, and flexible 3D printed components for the USABS's bobsled. These parts, including push handles, hand grips, and seats, have been pivotal in optimizing acceleration, minimizing forces, and ensuring enhanced performance during races.

The partnership between CRP USA and USABS aligns with the ongoing project initiated by USABS to develop new bobsleds for the upcoming Olympic Winter Games in 2026. All components are proudly made in the USA through the collaborative efforts of various partners participating in the Made in-USA project.

CRP USA was introduced to USABS by one of their technical partner, a local company specializes in carbon fiber products. Since then CRP USA team of experts and USABS team had different meetings which resulted in a joint effort

Portale Compositi

https://www.portalecompositi.it/news/i-compositi-per-i-nuovi-bob-della-nazionale-usa-13140.html

I compositi per i nuovi bob della nazionale USA

CRP USA ha fornito alla squadra americana alcuni componenti funzionali che sono stati testati in diverse gare ufficiali

Tempo stimato di lettura 42 sec

La squadra USABS nella sede di CRP (Ph. USABS)

CRP USA, azienda statunitense specializzata in servizi di stampa 3D con i materiali ad alte prestazioni Windform e partner dell'italiana CRP Technology, sta collaborando al progetto made in USA della nazionale statunitense di bob e skeleton, USA Bobsled/Skeleton (USABS), finalizzato alla realizzazione dei nuovi bob per i Giochi Olimpici Invernali del 2026.

CRP USA ha fornito alla squadra americana alcuni componenti funzionali che sono stati testati in diverse gare ufficiali.

Le parti stampate in 3D da CRP USA includono: maniglie di spinta, impugnature, sedili.
Tutte queste parti sono realizzate nei materiali Windform: le maniglie di spinta in Windform SP, le impugnature e i sedili in Windform XT 2.0.

Windform XT 2.0 e Windform SP sono due compositi caricati fibra di carbonio della gamma di materiali Windform TOP-LINE per la stampa 3D professionale, ovvero la Sinterizzazione Laser Selettiva. I materiali Windform sono stati creati da CRP Technology.

07 dicembre 2023

MPE Manufacturing & Production Engineering Magazine

https://mpemagazine.co.uk/2023/12/06/how-3d-printing-and-composite-materials-support-the-stars-and-stripes-winter-olympics-athletes/

MANUFACTURING & PRODUCTION ENGINEERING MAGAZINE

How 3D Printing And Composite Materials Support The Stars And Stripes Winter Olympics Athletes

Featured Latest News

December 6, 2023

After the officialization of the technology partnership, US-based 3D printing company CRP USA manufactured some functional, race-ready 3D printed parts for the USABS's bobsled to use in the sliding season and Olympic games. The parts improve the athletes' performance guaranteeing increased stress resistance, flexibility, strength, easy changing out

USABS team with Brian Shimer, Head coach; Curt Tomasevicz, High Performance Director; Marc van den Berg, Technology and Equipment Lead at CRP USA's headquarters in the day of the wind tunnel test. Credit: USABS

3D printed bobsled parts are among the latest, most advanced functional examples of the fruitful union between additive manufacturing and winter sports. In the recent years industrial 3D printing has been used to create customized winter sports' equipment – such as helmets and spike attachment – to improve performance and athletes' safety. And if these two factors are fundamental for every sport, they are especially so for bobsled, which is undoubtedly one of the most spectacular winter sports.

Considered an iconic part of the Winter Olympics – being featured in every Winter Games except 1960 –this sport discipline is, along with skeleton, one of the most thrilling sports to enthusiasts around the world.

Indeed over the years, since its developing in the 1880s and since the first organized competition in 1898 on the Cresta Run at Saint Moritz, Switzerland, more and more fans have approached bobsled, thanks to one of its highly attractive characteristics: the speed.

As Hannah Osborn explains in the article "The perfect slide: The science of bobsledding", Smithsonian, "the speed of the bobsled is a combination of maximizing acceleration of the sled at the start of the run and minimizing forces that slow down the sled. Therefore, the perfect slide is a combination of the run, the equipment, and the team."

VoxelMatters

https://www.voxelmatters.com/crp-usa-3d-prints-race-ready-parts-for-the-usabss-bobsled/

VoxelMatters
Formerly 3dpbm

Home / Consumer Products / Sports Equipment / CRP USA 3D prints race-ready parts for the USABS's bobsled

Case Studies | Sports Equipment

CRP USA 3D prints race-ready parts for the USABS's bobsled

Playing a crucial role in advancing the Winter Olympics athletes' performance through the creation of functional, stress-resistant, and flexible Windform components

Edward Wakefield · December 7, 2023 · 4 minutes read

The push handles during the assembly phase. Credit: USABS.

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CRP USA, a leading US-based 3D printing company, has collaborated with USA Bobsled/Skeleton (USABS) to manufacture cutting-edge, race-ready 3D printed bobsled parts – leveraging the innovative Windform family of high-performance materials.

Following the officialization of the technology partnership, CRP USA has played a crucial role in advancing Winter Olympics athletes' performance through the creation of functional, stress-resistant, and flexible 3D printed components for the USABS's bobsled. These parts, including push handles, hand grips, and seats, have been pivotal in optimizing acceleration, minimizing forces, and ensuring enhanced performance during races. All these parts are manufactured using Windform materials – push handles using Windform SP, and hand grips and seats using Windform XT 2.0.

Windform XT 2.0 and Windform SP are two Carbon fiber-filled composites from the Windform TOP-LINE range of materials for professional 3D printing – Selective Laser Sintering – created by the Italy-based company CRP Technology.

Manufacturing Tomorrow

https://www.manufacturingtomorrow.com/news/2023/12/06/revolutionizing-winter-sports-crp-usas-3d-printed-bobsled-parts-propel-usa-bobsledskeleton-team-to-victory/21841/

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Revolutionizing Winter Sports: CRP USA's 3D Printed Bobsled Parts Propel USA Bobsled/Skeleton Team to Victory

Visit https://www.crp-usa.net/ for further information

After the officialization of the technology partnership, US-based 3D printing company CRP USA manufactured some functional, race-ready 3D printed parts for the USABS's bobsled to use in the sliding season and Olympic games. The parts improve the athletes' performance guaranteeing increased stress resistance, flexibility, strength, easy changing out.

12/06/23, 05:21 AM | Additive & 3D Printing, Engineering | CRP USA LLC

CRP USA, a leading U.S.-based 3D printing company, has collaborated with USA Bobsled/Skeleton (USABS) to manufacture cutting-edge, race-ready 3D printed bobsled parts, leveraging the innovative Windform family of high-performance materials.

More Headlines

Department of Defense Awards 6K Additive a $23.4 million Grant as Part of a More Than $50 Million Investment Program for Upcycling Critical Metals for use in Key Defense Applications

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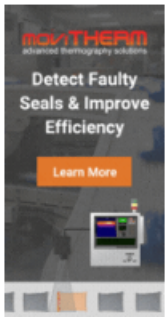

Following the officialization of the technology partnership, CRP USA has played a crucial role in advancing Winter Olympics athletes' performance through the creation of functional, stress-resistant, and flexible 3D printed components for the USABS's bobsled. These parts, including push handles, hand grips, and seats, have been pivotal in optimizing acceleration, minimizing forces, and ensuring enhanced performance during races.

The partnership between CRP USA and USABS aligns with the ongoing project initiated by USABS to develop new bobsleds for the upcoming Olympic Winter Games in 2026. All components are proudly made in the USA through the collaborative efforts of various partners participating in the Made in-USA project.

CRP USA was introduced to USABS by one of their technical partner, a local company specializes in carbon fiber products. Since then CRP USA team of experts and USABS team had different meetings which resulted in a joint effort from both parties on determining the right materials for their components.

The 3D printed parts supplied by CRP USA include: push handles,

3D Printing Industry

Newsletter

3D Printing Industry

THE AUTHORITY ON ADDITIVE MANUFACTURING

Monday 11 December 2023

This email in your browser

Your latest news

CRP USA powers USABS to victory with innovative 3D printed components

US-based 3D printing company CRP USA has partnered with the USA Bobsled/Skeleton team (USABS) to develop a novel bobsled design for the 2026 Olympic Winter Games. The partnership between CRP USA and USABS originated through a connection with a local carbon fiber products company. In this collaboration, CRP USA assumed the role of supplying USABS […] Read more ...

Lithoz's Laser-Induced Slipcasting meets ORNL's expertise: a breakthrough for extreme-temperature ceramics

Austrian ceramic 3D printing specialist Lithoz and the U.S. Department of Energy's (DOE) Oak Ridge National Laboratory (ORNL) have entered into a Cooperative R&D Agreement (CRADA) to explore the applications of Lithoz's 3D printing technology. This partnership showcases a collective

3D Printing Industry

https://3dprintingindustry.com/news/crp-usa-powers-usabs-to-victory-with-innovative-3d-printed-components-226966/

US-based 3D printing company CRP USA has partnered with the USA Bobsled/Skeleton team (USABS) to develop a novel bobsled design for the 2026 Olympic Winter Games.

The partnership between CRP USA and USABS originated through a connection with a local carbon fiber products company. In this collaboration, CRP USA assumed the role of supplying USABS with 3D printed functional parts designed specifically for racing bobsleds. Crucial elements, including push handles, hand grips, and seats, were developed using CRP's Windform family of high-performance materials. These components play a pivotal role in optimizing the performance of bobsleds and ensuring the safety of athletes.

"The big advantage of 3D printing for the USA Bobsled/Skeleton team is that no mold's need to be made," said Marc van den Berg, Technology and Equipment Lead for USABS. "So a huge amount of time is saved and the costs remain much lower. Not to mention a much faster delivery of the parts because no mold is required. The 3D process also has many advantages because more complex parts can be made."

3D Printing Industry

https://3dprintingindustry.com/news/from-windform-to-moonshot-crp-technology-fuels-orbital-spaces-lunar-exploration-226681/

CRP Technology has collaborated with Orbital Space, a UAE-based private aerospace company to support Orbital Space's Lunaris Moon Mission, dedicated to lunar exploration.

Within the framework of this partnership, CRP Technology is set to employ advanced 3D printing techniques, specifically utilizing the Powder Bed Fusion (PBF) process. This approach will be instrumental in the production of functional components and parts for the lunar payload. The anticipated outcome is that Windform's high-performance composite materials will fulfill the stringent mechanical properties necessary for applications in space.

"We continue to forge new partnerships with leading companies in different industries to allow us to achieve our aspirations in making space accessible to all. We are honored to partner with CRP Technology to support our upcoming lunar mission. We believe CRP Technology knowledge and expertise in space qualified materials will bring great value to the mission and contribute to its success," said Dr. Bassam Alfeeli, General Manager of Orbital Space.

Orbital Space's team. Photo via Orbital Space.

CRP Technology elevates UAE's aerospace efforts

3DRUCK

https://3druck.com/case-studies/us-bobteam-setzt-auf-massgeschneiderte-3d-gedruckte-komponenten-35124948/

Home › Anwendungen › US-Bobteam setzt auf maßgeschneiderte 3D-gedruckte Komponenten

ANWENDUNGEN

US-Bobteam setzt auf maßgeschneiderte 3D-gedruckte Komponenten

von **3Druck.com** - Dez 6, 2023

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Foto: CRP USA

Das amerikanische Bob- und Skeletonteam (USABS) rüstet seine Schlitten mit individualisierten 3D-gedruckten Teilen auf. Diese sollen nicht nur leichter und belastbarer sein, sondern auch die Leistung der Sportler steigern. Geliefert werden die Komponenten vom Anbieter CRP USA.

Laut USABS-Teamleiter Marc van den Berg ermöglichen die additiv gefertigten Komponenten wie Griffe und Sitzschalen eine schnellere Anpassung an die Bedürfnisse der Athleten als herkömmliche Fertigungsverfahren. Auch Crashs ließen sich durch den Einsatz faserverstärkter Hightech-Kunststoffe besser abfedern.

Beim Material setzt CRP USA auf die hauseigenen Windform-Compounds. Die Teile bestehen etwa aus „Windform XT 2.0" oder „Windform SP", die hohe Festigkeit bei relativ geringem Gewicht bieten. In Tests habe sich gezeigt, dass die Komponenten Stürzen des Schlittens schadlos standhalten, so van den Berg.

Mittelfristig denkbar sei sogar die komplette additive Fertigung eines hightech Bob-Schlittens. Schon jetzt sei durch die maßgeschneiderten Komponenten eine bislang nicht mögliche Individualisierung und Performance-Steigerung gelungen.

Il Replicatore

https://www.replicatore.it/come-la-stampa-3d-e-materiali-compositi-migliorano-le-prestazioni-degli-atleti-olimpionici/

Replicatore

Home / Materiali / Come stampa 3D e materiali compositi migliorano le prestazioni degli atleti olimpionici

Materiali Sport

Come stampa 3D e materiali compositi migliorano le prestazioni degli atleti olimpionici

L'azienda CRP USA, partner dell'italiana CRP Technology, ha stampato per il bob della nazionale statunitense alcuni componenti funzionali

Andrea Gambini · 5 giorni fa 0 3 minuti di lettura

CRP USA, azienda statunitense specializzata in servizi di stampa 3D con **i materiali ad alte prestazioni Windform** e partner **dell'italiana CRP Technology**, sta collaborando al progetto Made in-USA della nazionale statunitense di bob e skeleton, USA Bobsled/Skeleton (USABS), finalizzato alla realizzazione dei nuovi bob per i Giochi Olimpici Invernali del 2026.

CRP USA ha fornito alla squadra americana alcuni componenti funzionali che sono stati testati in diverse gare

Polimerica

https://www.polimerica.it/articolo.asp?id=30960

Polimerica
Attualità e notizie dal mondo della plastica

Compositi al carbonio per i bob da gara

CRP USA ha sviluppato e stampato in 3D alcuni componenti delle attrezzature da competizione della nazionale USA Bobsled/Skeleton.

6 dicembre 2023 14:16

CRP USA, azienda statunitense specializzata in servizi di **stampa 3D** con materiali compositi ad alte prestazioni e partner dell'italiana CRP Technology, ha sviluppato alcuni **componenti** dei **bob** utilizzati dalla nazionale USA Bobsled/Skeleton (**USABS**) per la stagione di gare 2023/2024 e le prossime olimpiadi invernali.

Realizzati in materiali compositi caricati con fibra di carbonio **Windform SP** e **Windform XT 2.0** di CRP Technology, i componenti stampati mediante **Sinterizzazione Laser Selettiva** (SLS) comprendono **maniglie di spinta**, **impugnature** e **sedili**, assicurando maggiore resistenza allo stress, flessibilità, robustezza e facilità di cambio.

"Il grande vantaggio della stampa 3D è che **non necessita dello stampo**, quindi si risparmia un'enorme quantità di **tempo** e i **costi** rimangono molto più bassi - afferma **Marc van den Berg**, Technology and Equipment Lead di USABS -. Per non parlare della **consegna** dei pezzi, che avviene in **tempi rapidi** proprio perché non bisogna sottostare alle tempistiche dello stampaggio ad iniezione. Inoltre con la stampa 3D è possibile realizzare parti e componenti più complessi".
"Il **vincolo** principale - aggiunge van den Berg - ha riguardato la **conformità** alle norme dell'**Autorità Sportiva Olimpica** in termini di forma e dimensione dei pezzi". Un altro aspetto critico da valutare in fase di progetto è la **resistenza** agli **stress**: "In ogni gara, durante la partenza ci sono **grandi forze** che spingono sul bob. Inoltre, bisogna considerare le **cadute**. Per questi motivi i materiali di costruzione dei vari pezzi devono possedere caratteristiche di flessibilità e resistenza, per evitare rotture e cedimenti delle parti stesse".

MACPLAST MP online

https://www.macplas.it/it/materiali/materiali-compositi-avanzati-stampati-3d-lesplorazione-lunare

MACPLAS MP ONLINE

MATERIALI

Materiali compositi avanzati stampati in 3D per l'esplorazione lunare

06 Dicembre 2023

(Foto da sito internet CRP Technology)

Il produttore modenese di materiali compositi **CRP Technology** ha recentemente siglato un accordo di collaborazione con **Orbital Space**, azienda attiva nel settore aerospaziale con sede negli Emirati Arabi Uniti.

Fondata nel 2018, Orbital Space sviluppa tecnologie per l'esplorazione spaziale e la collaborazione rientra nell'ambito della sua missione **Lunaris Moon**. Ponendo particolare attenzione alle missioni spaziali educative e alla ricerca scientifica, l'azienda degli Emirati Arabi Uniti è in prima linea nell'esplorazione spaziale commerciale nei Paesi arabi del Golfo persico, collaborando con partner pubblici e privati per rendere lo spazio accessibile a tutti.

CRP Technology, in qualità di partner tecnologico realizzerà il payload lunare e altri vari componenti utilizzando la sua gamma **Windform** di materiali compositi ad alte prestazioni mediante stampa 3D con tecnologia a sinterizzazione laser selettiva.

"Continuiamo a stringere nuove partnership con aziende leader in diversi settori per poter realizzare le nostre aspirazioni di democratizzazione dello spazio. Siamo onorati di collaborare con CRP Technology che ci supporterà nella nostra prossima missione lunare. Riteniamo che la conoscenza e l'esperienza di CRP Technology nei materiali qualificati per lo spazio apporteranno un grande valore alla missione e contribuiranno al suo successo", **ha dichiarato Bassam Alfeeli, direttore generale di Orbital Space**.

"Abbiamo maturato molta esperienza nel settore aerospaziale. I nostri materiali Windform, qualificati per lo spazio, stanno ottenendo successi e apprezzamenti clamorosi poiché soddisfano i rigidi requisiti meccanici richiesti per le applicazioni spaziali. Sono sicuro che potremmo svolgere un ruolo fondamentale nel rendere la missione Lunaris Moon una realtà", **ha commentato Franco Cevolini, CEO e direttore tecnico di CRP Technology**.

"Consideriamo il coinvolgimento dell'azienda madre CRP Technology un'opportunità speciale. Sono sicuro che CRP Technology e CRP Gulf contribuiranno a segnare una pietra miliare epocale nella storia dell'esplorazione spaziale degli Emirati Arabi Uniti", **ha aggiunto Mourad Mountassir, cofondatore di CRP Gulf**.

Stampare in 3D

https://stamparein3d.it/le-componenti-di-bob-stampate-in-3d-prodotte-da-crp-usa-per-la-squadra-usa-bobsled-skeleton/

Stampare in 3D

APPLICAZIONI 3D

Le componenti di bob stampate in 3D, prodotte da CRP USA per la squadra USA Bobsled/Skeleton

Di **Fantasy**

DIC 6, 2023

Parti di Bob Stampate in 3D Rivoluzionano il Mondo dello Sport Invernale

Le parti di bob stampate in 3D, prodotte da CRP USA per la squadra USA Bobsled/Skeleton, stanno rivoluzionando il mondo degli sport invernali. Queste parti, sviluppate per la stagione delle competizioni e per i Giochi Olimpici, promettono di potenziare le prestazioni degli atleti offrendo maggiore resistenza allo stress, flessibilità, forza e facilità di sostituzione.

La Stampa 3D nel Mondo dello Sport Invernale

Le parti di bob stampate in 3D rappresentano l'ultima frontiera dell'integrazione tra produzione additiva e sport invernali. In tempi recenti, la stampa 3D industriale è stata utilizzata per creare attrezzature personalizzate, come caschi e attacchi chiodati, al fine di migliorare le prestazioni e la sicurezza degli atleti impegnati in sport come il bob, noto per la sua spettacolarità e la sua presenza costante alle Olimpiadi invernali.

Il bob, insieme allo skeleton, offre uno spettacolo emozionante per gli appassionati di tutto il mondo grazie alla sua velocità e alla sua storia affascinante. Questo sport richiede una perfetta combinazione di

ISP

https://isp.page/news/from-windform-to-moonshot-crp-technology-fuels-orbital-spaces-lunar-exploration/#gsc.tab=0

DECEMBER 4, 2023 BY OLIWIER GŁOGULSKI

CRP Technology and Orbital Space Collaborate for Lunar Exploration

CRP Technology, a leading 3D printing company, has partnered with UAE-based private aerospace company Orbital Space to support the upcoming Lunaris Moon Mission. The collaboration aims to utilize advanced 3D printing techniques, specifically the Powder Bed Fusion (PBF) process, to produce functional components and parts for the lunar payload. By leveraging CRP Technology's expertise and utilizing their high-performance composite materials, the mission aims to meet the stringent mechanical requirements needed for space applications.

Orbital Space, founded in 2018, focuses on educational space missions and scientific research to advance space technologies in the UAE. With the mission to make space exploration accessible to all, they collaborate with various public and private partners. Dr. Bassam Alfeeli, the General Manager of Orbital Space, expressed his excitement about partnering with CRP Technology and believes that their knowledge and expertise will greatly contribute to the success of the lunar mission.

CRP Technology's subsidiary, CRP Gulf, which supplies 3D printing services in the Arabian Gulf area, sees this collaboration as a unique opportunity. Mourad Mountassir, Co-Founder of CRP Gulf, expressed his confidence in the contribution of CRP Technology and CRP Gulf to the UAE's space exploration history, emphasizing the significance of this partnership.

In addition to the Lunar mission, CRP Technology's 3D printing technology and Windform materials have also been deployed in other aerospace projects. For example, the Portland State Aerospace Society (PSAS) used CRP Technology's 3D printing and Windform LX 3.0 material to deploy a CubeSat system into low Earth orbit. The strength and performance of the material met the requirements for low Earth orbit, showcasing the potential of 3D printing in accelerating satellite production.

The collaboration between CRP Technology and Orbital Space, along with other notable projects in the aerospace industry, highlights the growing significance of 3D printing in space innovation. As advancements continue, the future of 3D printing in the next decade holds promising opportunities to tackle engineering challenges in additive manufacturing. With ongoing developments, the additive manufacturing sector is poised to make significant strides in space exploration and beyond. Stay tuned for the latest updates in the 3D printing industry as this transformative technology

Replicador

https://www.replicador.es/2023/12/07/como-la-impresion-3d-y-los-materiales-compuestos-mejoran-el-rendimiento-de-los-atletas-olimpicos/

REPLICADOR
All About 3D

CÓMO LA IMPRESIÓN 3D Y LOS MATERIALES COMPUESTOS MEJORAN EL RENDIMIENTO DE LOS ATLETAS OLÍMPICOS

Andrea Gambini diciembre 7, 2023 Materiales

CRP USA, empresa americana especializada en servicios de impresión 3D con materiales Windform de altas prestaciones y socio de la italiana CRP Technology, colabora en el proyecto Made in-USA de la selección estadounidense de bobsleigh y esqueleto, USA Bobsled/Skeleton (USABS), destinado a crear los nuevos trineos para los Juegos Juegos Olímpicos de Invierno de 2026.

DE Digital Engineering

https://www.digitalengineering247.com/article/bobsled-gets-a-3d-printed-makeover/?utm_source=Newsletter&utm_medium=Email&utm_campaign=Newswire&oly_enc_id=9796E3309167J1D

DE · Topics · Additive Manufacturing

Bobsled Gets a 3D Printed Makeover

CRP USA partners with USA Bobsled/Skeleton team for 3D printed components for the bobsled.

By DE Editors
December 12, 2023

CRP USA forged a partnership with the USA Bobsled/Skeleton team (USABS). This collaboration involves the supply of 3D printed functional components for racing bobsleds, a venture facilitated by CRP USA's introduction to USABS through a local technical partner specializing in carbon fiber products.

The collaboration has seen extensive meetings between CRP USA's team of experts and the USABS team, resulting in a joint effort to identify the ideal materials for critical components. The 3D printed parts provided by CRP USA include push handles, hand grips and seats, all manufactured using Windform SLS materials. Specifically, two Carbon fiber reinforced composites, Windform SP—which is used for push handles—while hand grips and seats are crafted from Windform XT 2.0.

One advantage of 3D printing highlighted by Marc van den Berg, technology and equipment lead at USABS team, is the time and cost savings achieved. The absence of the need for molds expedites the production process and reduces costs, enabling faster delivery of components, according to CRP USA. The flexibility of 3D printing also allows for the creation of more complex parts.

Despite these advantages, the USABS team faced challenges in complying with regulations related to shapes and dimensions. Stress resistance emerged as a critical factor, especially given the significant forces experienced by bobsleds during races and potential crashes. The selected Windform materials addressed these concerns by providing flexibility and strength, preventing part breakage.

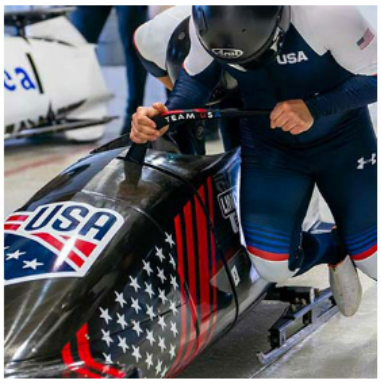
The customization of components, such as push handles, demonstrated the efficiency of 3D printing when combined with the right manufacturing materials.

Nathanael "Nate" Baker, senior project coordinator at CRP USA, emphasized the need for easily producible and customizable push handles tailored to each athlete. Windform SP, with its shock resistance and other valuable properties, was identified as the optimal material for these specific components.

Upon successful 3D printing with Windform and delivery of the push handles, the USABS team conducted some tests, assessing stress resistance and ergonomics. The ability to iterate quickly without the need for expensive molds allowed for optimal design adjustments. The 3D printed bobsled push handles withstood a real race crash, meeting the team's requirement of remaining intact.

The collaboration reached a significant milestone as the 3D printed parts made their official debut at the IBSF North American Cup (NAC) from November 15-19, 2023. The USABS team achieved outstanding results, securing victories in 2-man bobsleigh, Women's monobob, 2-woman bobsleigh, and 4-man bobsleigh events, CRP USA reports.

The case study text can be accessed on the Windform website.



3D printed bobsled parts were manufactured by CRP USA for the USA Bobsled/Skeleton team for the racing season and Olympic games. Image courtesy of CRP USA.

Latest in Additive Manufacturing

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Press release

CRP Technology's Role in Industrial 3D Printing for Michael Mann's Film, "Ferrari"

12-14-2023 04:44 PM CET | Science & Education
Press release from: CRP Technology

3D printed visor helmet in Windform GT. Assembly test (left), on set (right).

Nestled in the soul of Modena, a city echoing with the thunderous symphony of engines and steeped in the storied tradition of automotive prowess, the eclectic and innovative filmmaker Michael Mann assumed the directorial helm to breathe life into the enthralling saga of Enzo Ferrari, the mastermind behind Ferrari cars.

Drawing inspiration from Brock Yates' seminal 1991 biography, "Enzo Ferrari: The Man and the Machine", Mann's new cinematic masterpiece, "Ferrari" - whose Italian release date is December 14th - meticulously explores the profound impact of this visionary Italian luminary on the realms of both automotive engineering and motorsport history.

CRP Technology proudly collaborated with Michael Mann's film production team, swiftly manufacturing and delivering functional 3D printed props, and showcasing remarkable efficiency in record time. Rooted in the Motor Valley, CRP Technology shares its birthplace and headquarters with Ferrari, adding a unique layer of significance to this cinematic collaboration.
The components were commissioned to CRP Technology while the film crew was shooting in Modena, to be used right during the filming immediately, in Modena and northern Italy. CRP Technology thanks to its highly skilled staff managed to provide the required 3D printed parts in a short amount of time thus ensuring the strict shooting schedule.

The collaboration involved crafting 3D printed props. These components, created with precision using CRP Technology's expertise, included driver helmet parts (visor), pit components and cat's eyes, which contributed significantly to the film's narrative. Indeed the mathematics of the parts was appropriately aged to adapt the 3D components to the scene needs.
Specifically Windform XT 2.0 (manufacturing material for the pit parts), Windform GT (visor), and the rubber-like Windform RL (cat's eye) have been chosen for their exceptional mechanical properties and suitability in diverse applications.

The materials are part of the Windform TOP-LINE range for selective laser sintering process: Windform XT 2.0 is a Carbon fiber filled composite, Windform GT is a glass fiber filled, and Windform RL is a thermoplastic elastomer.

The film production team expressed satisfaction with CRP Technology's contribution, acknowledging the company for availability, efficient production, and timely deliveries. Additionally, they appreciated the quality of the 3D printed components, emphasizing CRP Technology's dedication to providing effective solutions.

This collaboration illustrates CRP Technology's commitment to advancing industrial 3D printing and reinforces its position as a reliable partner for innovative projects, even in the dynamic film production landscape.

www.windform.com
www.crptechnology.com

TECNELAB

https://www.tecnelab.it/news/attualita/crp-technology-stampa-componenti-in-3d-per-i-bob-della-squadra-olimpionica-usa

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CRP Technology stampa componenti in 3D per i bob della squadra olimpionica USA

14/12/2023 109 volta/e

Condividi Articolo

Maniglia di spinta, versione definitiva, finita e pronta per essere montata sul bob. Foto: ©USABS

CRP USA, azienda statunitense specializzata in servizi di **stampa 3D** con i **materiali** ad alte prestazioni **Windform**, e partner dell'italiana **CRP Technology**, sta collaborando al **progetto Made in-USA** della nazionale statunitense di **bob e skeleton**, USA Bobsled/Skeleton (USABS), finalizzato alla realizzazione dei nuovi bob per i Giochi Olimpici Invernali del 2026.

CRP USA ha fornito alla squadra americana alcuni **componenti funzionali** che sono stati testati in diverse gare ufficiali. Le parti stampate in 3D da **CRP USA** includono: maniglie di spinta, impugnature, sedili. Tutte queste parti sono realizzate nei materiali Windform: le maniglie di spinta in **Windform SP**, le impugnature e i sedili in Windform XT 2.0.

Windform XT 2.0 e **Windform SP** sono due **compositi**, caricati in fibra di carbonio, della gamma di materiali Windform Top-Line per la stampa 3D professionale, ovvero la Sinterizzazione Laser Selettiva. I materiali Windform sono stati creati da CRP Technology.

"Per noi", specifica **Marc van den Berg, Technology and Equipment Lead di USABS**, "*il grande vantaggio della stampa 3D è che non necessita di alcuno stampo e, quindi, che si risparmia un'enorme quantità di tempo e i costi rimangono molto più bassi. Per non parlare della consegna dei pezzi, che avviene in tempi rapidi proprio perché non bisogna sottostare alle tempistiche dello stampaggio a iniezione. Inoltre, con la stampa 3D è possibile realizzare parti e componenti più complessi*".

I materiali per la stampa 3D

Il risparmio di tempo e denaro, insieme alla possibilità di realizzare forme complesse, sono tra le caratteristiche più conosciute della stampa 3D e senza dubbio le più apprezzate. Tuttavia, l'uso di qualsiasi processo di stampa 3D può risultare inefficiente se non affiancato dai materiali giusti di costruzione.

Quindi, nello specifico, quali sono state le criticità che il team USABS ha dovuto affrontare, e ha potuto superare, grazie alla stampa 3D e ai compositi Windform?

"*Il vincolo principale*", risponde **van den Berg**, "*ha riguardato la conformità alle norme dell'Autorità Sportiva Olimpica in termini di forma e dimensione dei pezzi*".

La resistenza agli stress è stata un'altra criticità. "*In ogni gara, durante la partenza*" continua **van den Berg** "*ci sono grandi forze che spingono sul bob. Inoltre, bisogna considerare le cadute. Per questi motivi, i materiali di costruzione dei vari pezzi devono possedere caratteristiche di flessibilità e resistenza, per evitare rotture e cedimenti delle parti stesse*".

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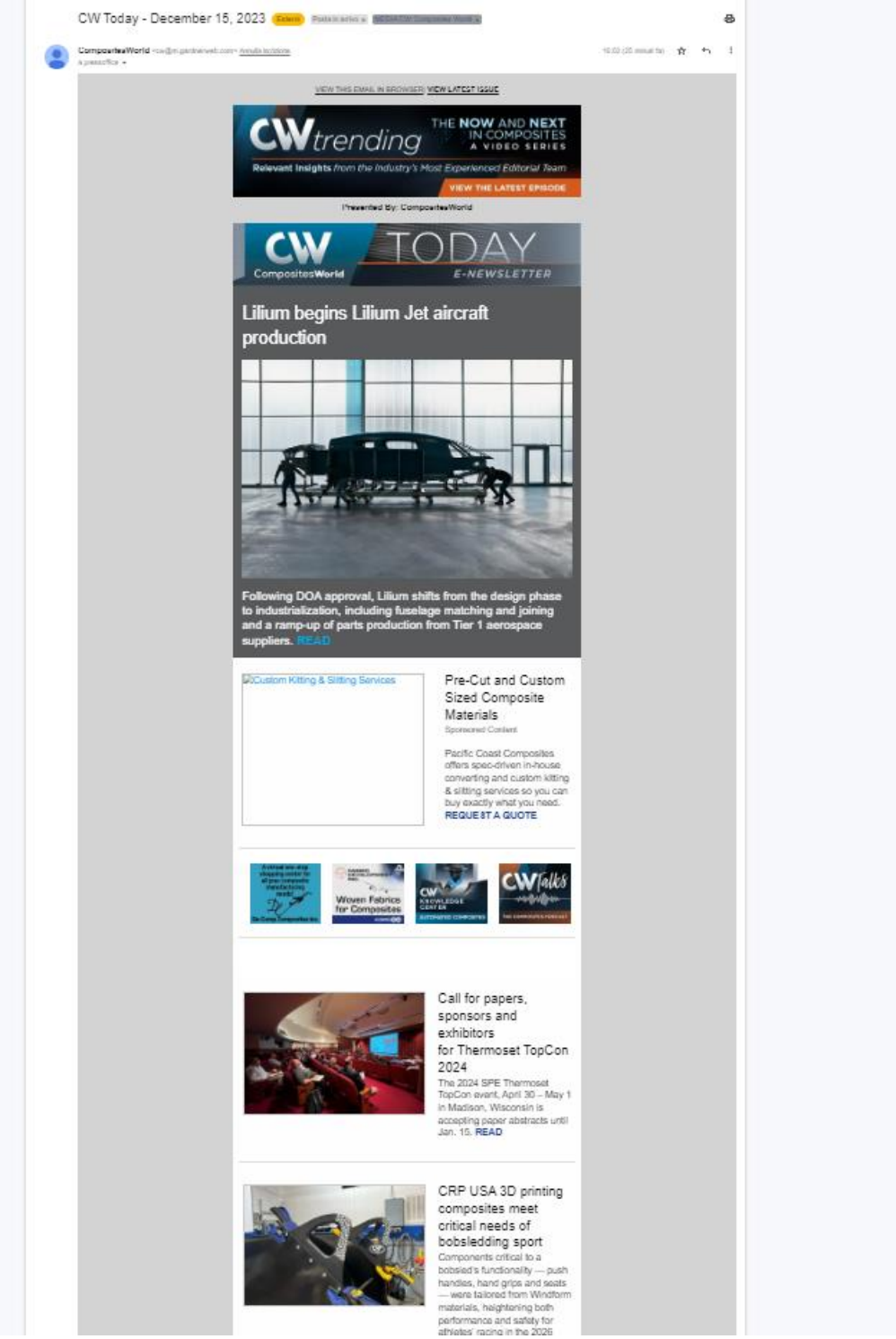

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Components critical to a bobsled's functionality — push handles, hand grips and seats — were tailored from Windform materials, heightening both performance and safety for athletes' racing in the 2026

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Published 12/14/2023

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CRP 3D printing composites optimize Formula SAE team's racing performance

USABS team with Brian Shimer, head coach; Curt Tomasevicz, high-performance director; and Marc van den Berg, technology and equipment lead at CRP USA's headquarters during wind tunnel testing. Photo Credit: USABS

3D printing company CRP USA (Mooresville, N.C., U.S.) teamed up with the United States Bobsled and Skeleton Federation (USABS, Colorado Springs, Colo., U.S.), crafting race-ready 3D-printed composite components for the USABS' bobsled to use in sliding season and the Winter Olympics. The parts improved the athletes' performance, guaranteeing increased stress resistance, flexibility, strength and the ease of switching/replacing parts as needed.

Bobsledding, an iconic fixture of the Winter Olympics, dates back to the late 19th century, embodying the pursuit of velocity and technical finesse. The essence of bobsledding hinges on maximizing acceleration at the race's onset while mitigating forces that impede speed — a delicate balance achieved through a fusion of adept teamwork, superior equipment and the nuances of the course. In recent years, industrial 3D printing has been used to create customized winter sports' equipment — such as helmets and spike attachment — to improve performance and athletes' safety, and this collaboration proved no different.

Recognizing the needs behind bobsledding equipment, the USABS embarked on an endeavor to create next-generation bobsleds for the forthcoming 2026 Olympic Winter Games. The initiative brought together diverse domestic partners under the "Made in-USA" project, including CRP USA and a local carbon fiber products company, ushering in an exploration of materials and

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How 3D printing aided in the production of Michael Mann's 'Ferrari'

The production team collaborated with CRP Technology to provide 3D printed props and components essential for the film

Edward Wakefield · December 14, 2023 · 1 minute read

CRP Technology, an Italian 3D printing company, has played a pivotal role in the making of Michael Mann's latest film, 'Ferrari', which was filmed in the heart of Modena, a city renowned for its automotive heritage. The film is inspired by Brock Yates' 1991 biography, 'Enzo Ferrari: The Man and the Machine'. It delves into the life of Enzo Ferrari, the legendary founder of the luxury sports car brand.

3D printed visor for the helmet in glass fiber reinforced composite Windform GT, assembly test (on left) and helmet built, on the scene on actor and dummy (on the right).

CRP Technology, situated in the 'Motor Valley' near Ferrari's headquarters, collaborated with Michael Mann's production team to provide 3D printed props and components essential for the film. These props were crafted using CRP's advanced Windform materials, renowned in the motorsport industry. The company's expertise in AM allowed for the

Manufacturing Tomorrow

The Role of CRP Technology's Industrial 3D Printing for Michael Mann latest Film, "Ferrari"

Visit https://www.crptechnology.com/ for further information

Italy-based 3D printing company CRP Technology, renowned for its composite materials "Windform" extensively used in the most advanced sectors, collaborated with Michael Mann's "Ferrari" movie production team. The partnership involved the manufacturing of functional 3D printed props on-set, seamlessly blending cutting edge technology with cinematic artistry to enhance the visual narrative of Enzo Ferrari's story.

12/18/23, 04:41 AM | Additive & 3D Printing, Engineering | CRP Technology

Nestled in the soul of Modena, a city echoing with the thunderous symphony of engines and steeped in the storied tradition of automotive prowess, the eclectic and innovative filmmaker Michael Mann assumed the directorial helm to breathe life into the enthralling saga of Enzo Ferrari, the mastermind behind Ferrari cars.

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Drawing inspiration from Brock Yates' seminal 1991 biography, "Enzo Ferrari: The Man and the Machine", Mann's new cinematic masterpiece, "Ferrari" - whose Italian release date is December 14th - meticulously explores the profound impact of this visionary Italian luminary on the realms of both automotive engineering and motorsport history.

CRP Technology proudly collaborated with Michael Mann's film production team, swiftly manufacturing and delivering functional 3D printed props, and showcasing remarkable efficiency in record time. Rooted in the Motor Valley, CRP Technology shares its birthplace and headquarters with Ferrari, adding a unique layer of significance to this cinematic collaboration.

The components were commissioned to CRP Technology while the film crew was shooting in Modena, to be used right during the filming immediately, in Modena and northern Italy. CRP Technology thanks to its highly skilled staff managed to provide the required 3D printed parts in a short amount of time thus ensuring the strict shooting schedule.

The collaboration involved crafting 3D printed props. These

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CRP Technology's Role In Industrial 3D Printing For Michael Mann's Film, "Ferrari"

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December 18, 2023

Nestled in the soul of Modena, a city echoing with the thunderous symphony of engines and steeped in the storied tradition of automotive prowess, the **eclectic and innovative filmmaker Michael Mann** assumed the directorial helm to breathe life into the enthralling saga of Enzo Ferrari, the mastermind behind Ferrari cars.

Drawing inspiration from Brock Yates' seminal 1991 biography, "Enzo Ferrari: The Man and the Machine", **Mann's new cinematic masterpiece, "Ferrari" – Italian release: December 14th; worldwide: December 25th** – meticulously explores the profound impact of this visionary Italian luminary on the realms of both automotive engineering and motorsport history.

CRP Technology, Italy-based 3D Printing company **known for its advancements in the Additive Manufacturing sector**, proudly collaborated with Michael Mann's film production team, **swiftly manufacturing and delivering functional 3D printed props**, and **showcasing remarkable efficiency in record time**. Rooted in the Motor Valley, CRP Technology shares its birthplace and headquarters with Ferrari, adding a **unique layer of significance to this cinematic collaboration**.

Indeed applying **cutting-edge Additive Manufacturing techniques** and **employing its advanced Windform materials for Laser Sintering** well known amongst the Motorsports key leaders, CRP Technology **contributed significantly** to the creation of functional components, some impacting on the film's visual narrative.

The components were commissioned to CRP Technology while the film crew was shooting in Modena, to be used immediately, during the filming in Modena and northern Italy. CRP Technology thanks to its **highly skilled staff** managed to provide the required 3D printed parts in **a short amount of time** thus ensuring the strict shooting schedule.

The collaboration involved crafting 3D printed props. These components, created with precision using CRP Technology's expertise and professional 3D printing (Selective Laser Sintering process), included: **driver helmet parts (visor), pit components and cat's eyes**, which contributed significantly to the film's narrative.

The mathematics of the parts was **appropriately aged to adapt the 3D components to the scene needs**.

The 3D printed props also highlight the versatility of CRP Technology's Windform composites: in fact, for many years Windform materials have been used in the most advanced industrial sectors such as Motorsport, Aerospace, UAV and now are proving to be also suitable for high-performance props.

Specifically the Carbon fiber filled **Windform XT 2.0 (manufacturing material for the pit parts)**, the Glass fiber filled **Windform GT (visor), and the rubber-like thermoplastic elastomer Windform RL (cat's eye)** have been chosen for their **exceptional mechanical**

3D Printing Industry

Italy-based 3D printing company CRP Technology partnered with Michael Mann's film production team to craft 3D printed components for the upcoming movie, Ferrari.

Derived from Brock Yates' pivotal 1991 biography, "Enzo Ferrari: The Man and the Machine," Mann's latest film, "Ferrari," meticulously delves into the visionary Italian luminary's impact on automotive engineering and motorsport history. Scheduled for a worldwide release on December 25th, and already released in Italy on December 14th, this movie presents a comprehensive portrayal of Enzo Ferrari's enduring influence.

The 3D printed components, including driver helmet parts, pit elements, and cat's eyes, were manufactured using CRP Technology's Windform materials and Selective Laser Sintering (SLS). Commissioned during the filming in Modena, these props played a role in enhancing the visual narrative of Enzo Ferrari's world.

3D printed cat's eye in rubber-like thermoplastic Windform RL with special surface before delivering (small rectangle) and on the road on set. Photo via Prop On-Set

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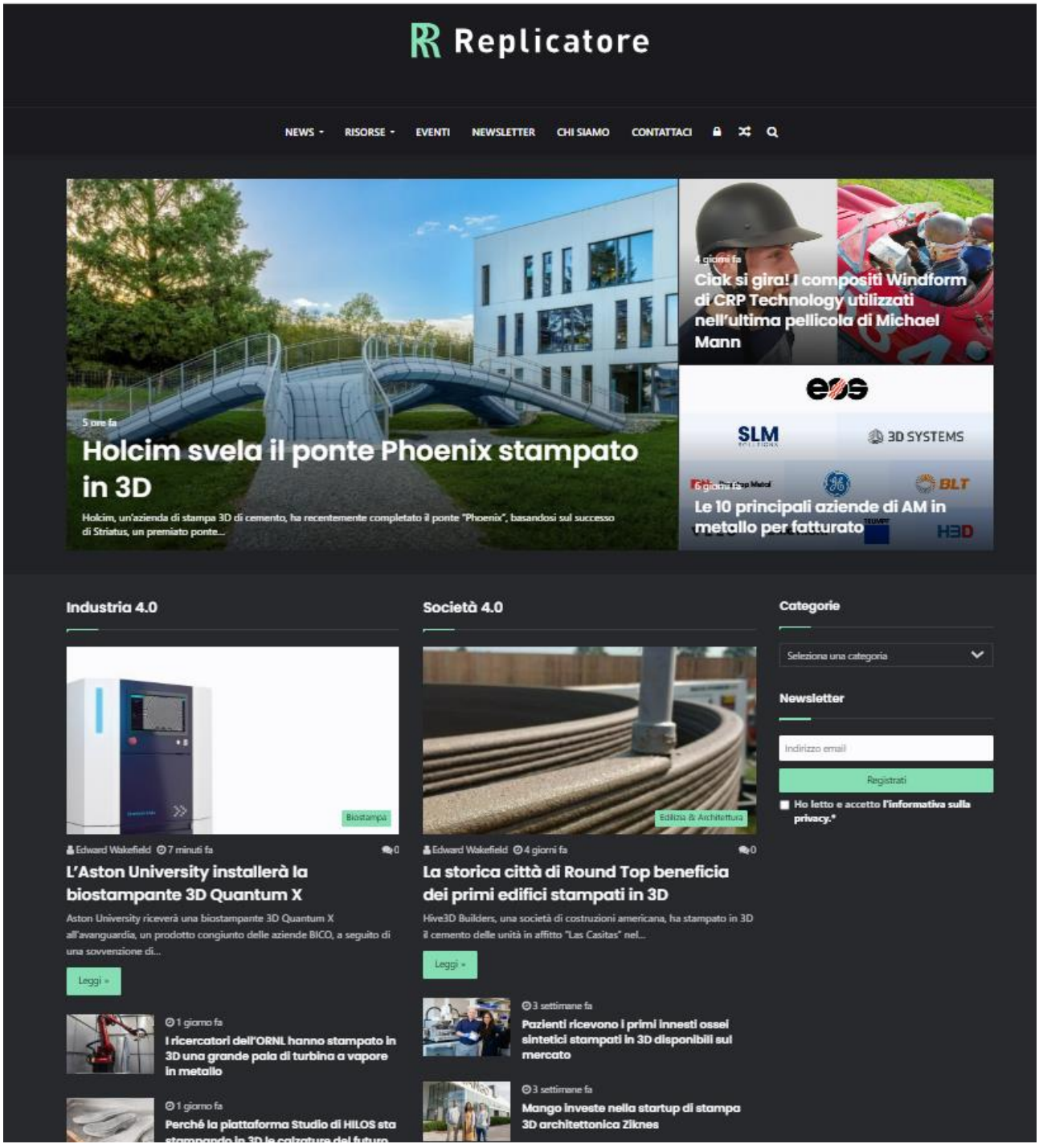

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Immersa nel cuore di Modena, città intrisa di tradizione ed eccellenza automobilistica, l'entusiasmate saga di Enzo Ferrari prende di nuovo vita nell'ultimo film dell'eclettico ed innovativo regista e produttore Michael Mann.

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Andrea Gambini • 4 giorni fa 0 2 minuti di lettura

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Immersa nel cuore di Modena, città intrisa di tradizione ed eccellenza automobilistica, l'entusiasmate saga di Enzo Ferrari prende di nuovo vita nell'ultimo film dell'eclettico ed innovativo regista e produttore Michael Mann. La pellicola, che dopo Venezia 80 e la candidatura ai Gotham Independent Film Awards2023 arriverà nelle sale italiane il 14 dicembre, è tratta dalla biografia del 1991 "Enzo Ferrari: L'uomo e la macchina" di Brock Yates, ed esplora il profondo impatto di Enzo Ferrari nei campi dell'ingegneria automobilistica e della storia del motorsport narrando gli eventi accaduti nella Mille Miglia del 1957.

CRP Technology, azienda high-tech di Modena conosciuta in tutto il mondo per gli avanzamenti tecnologici nel campo dei materiali compositi per stampa 3D/sinterizzazione laser selettiva, ha collaborato al film di Michael Mann realizzando e consegnando rapidamente oggetti di scena stampati in 3D, dimostrando una notevole efficienza in tempi record. Radicata nella Motor Valley italiana, CRP Technology condivide con la Ferrari il luogo di fondazione e sede, aggiungendo un significato unico a questa collaborazione cinematografica.

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APPLICATIONS & CASE STUDIES

CRP Technology's 3D Printing Innovations enrich Michael Mann's 'Ferrari'

By **Lucia Gartner** - Dec 18, 2023

Picture: CRP Technology

CRP Technology's Windform composite materials add an innovative touch to the cinematic landscape as these precision-engineered 3D printed props add a dynamic layer to Michael Mann's latest film, "Ferrari". These props emphasize not only the versatility, but also the high-performance capabilities of Windform materials.

Among the manufactured parts are visors for driver's helmets, pit parts and cat's eyes, which were strategically placed in the scenes shot in Modena and Northern Italy. The integration of these components into the film was achieved by using the latest additive manufacturing techniques and harnessing the power of Windform.

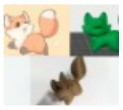
Michael Mann, the renowned director and producer, returns to the forefront after almost a decade to unveil his masterpiece 'Ferrari'. The film, which was released in Italian cinemas on December 14, will be released worldwide on Christmas Day. It pays tribute to the legendary Enzo Ferrari, played by Adam Driver, and highlights his unparalleled influence on the world of motorsport.

CRP Technology received the order for the components during the shoot in Modena, and they had to be used immediately during the shoot in both Modena and Northern Italy. CRP Technology's highly skilled workforce ensured on-time delivery, allowing the strict filming schedule to be met.

The precisely manufactured 3D printed props, including driver helmet parts (visor), pit components and cat eyes, became integral parts of the film narrative. The Windform composites, including Windform XT 2.0 (for pit components), Windform GT (for visors) and the rubber-like thermoplastic Windform RL (for cat's eyes), were chosen for their excellent mechanical properties.

The film production team praised CRP Technology for its fast availability, efficient production and on-time deliveries, and recognized the exceptional quality of the 3D printed components – a testament to CRP's unwavering commitment.

This collaboration not only reaffirms CRP Technology's commitment to the advancement of



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News 18 December 2023 by Sarah Morgan

Ferrari film partners with CRP Technology

An Italian-based 3D Printing company, CRP Technology, has collaborated with Michael Mann's film production team on Ferrari, based on Enzo Ferrari's life.

3D printed visor for helmet in Glass fiber reinforced composite Windform GT, assembly test (on left) and helmet built, on the scene on actor and dummy (on the right). Courtesy Prop On-Set Team

Drawing inspiration from Brock Yates' 1991 biography, *Enzo Ferrari: The Man and the Machine*, Mann's new film, *Ferrari* explores the impact of this famous Italian on the realms of both automotive engineering and motorsport history.

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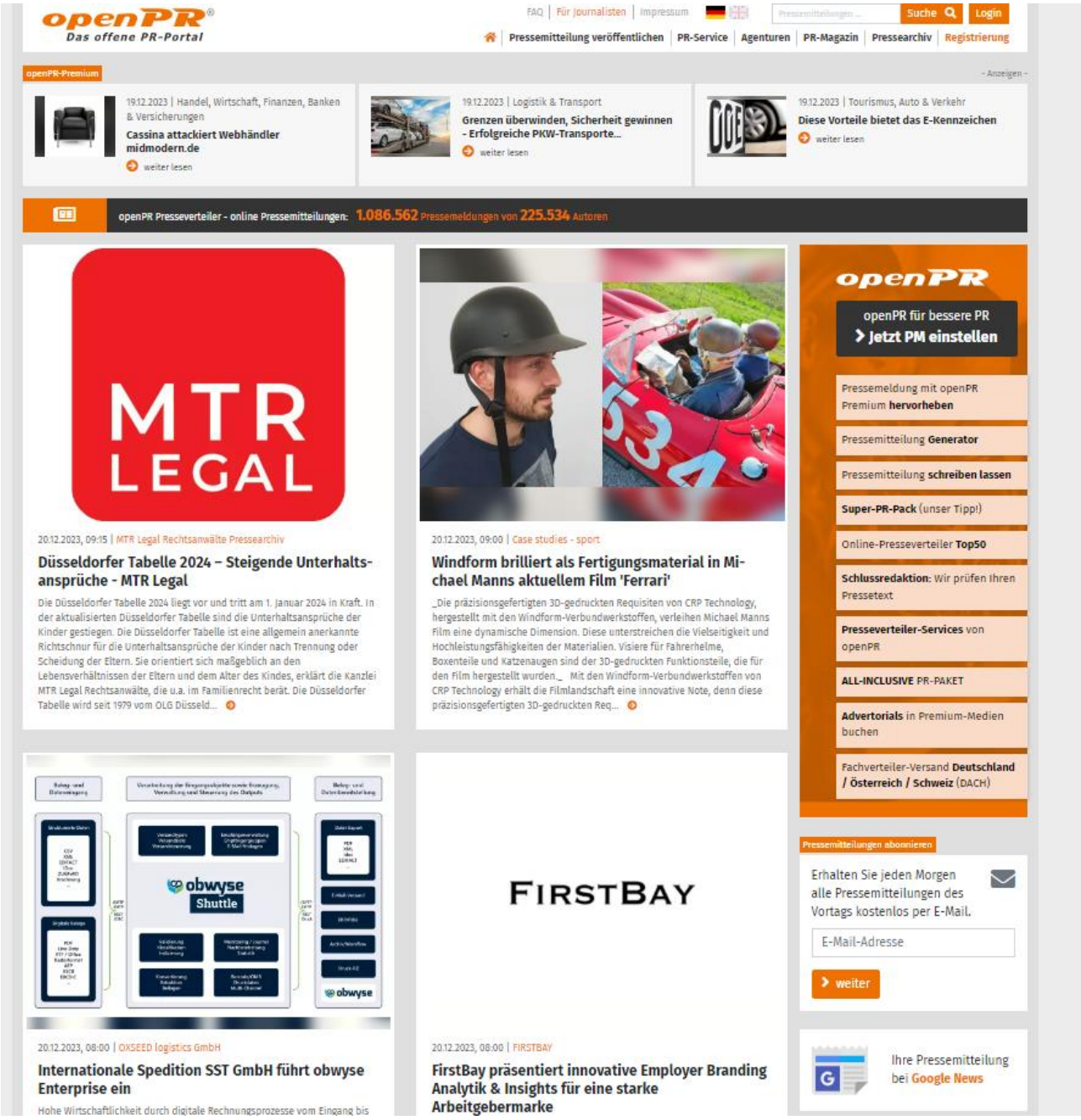
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(openPR) *Die präzisionsgefertigten 3D-gedruckten Requisiten von CRP Technology, hergestellt mit den Windform-Verbundwerkstoffen, verleihen Michael Manns Film eine dynamische Dimension. Diese unterstreichen die Vielseitigkeit und Hochleistungsfähigkeiten der Materialien. Visiere für Fahrerhelme, Boxenteile und Katzenaugen sind der 3D-gedruckten Funktionsteile, die für den Film hergestellt wurden.*

Mit den Windform-Verbundwerkstoffen von CRP Technology erhält die Filmlandschaft eine innovative Note, denn diese präzisionsgefertigten 3D-gedruckten Requisiten verleihen Michael Manns aktuellem Film, "Ferrari", eine dynamische Ebene. Diese Requisiten betonen nicht nur die Vielseitigkeit, sondern auch die Hochleistungsfähigkeiten der Windform-Materialien.

Unter den gefertigten Teilen befinden sich Visiere für Fahrerhelme, Boxenteile und Katzenaugen, die strategisch in den Szenen platziert wurden, die in Modena und Norditalien gedreht wurden. Die Integration dieser Komponenten in den Film wurde durch den Einsatz modernster additiver Fertigungstechniken und die Nutzung der Leistungsfähigkeit von Windform erreicht.

Michael Mann, der renommierte Regisseur und Produzent, kehrt nach fast einem Jahrzehnt an die Spitze zurück und enthüllt sein Meisterwerk 'Ferrari'. Der Film, der am 14. Dezember in die italienischen Kinos kam, wird weltweit am Weihnachtstag veröffentlicht. Er würdigt den legendären Enzo Ferrari, gespielt von Adam Driver, und unterstreicht seinen beispiellosen Einfluss auf die Welt des Motorsports.

CRP Technology erhielt den Auftrag für die Komponenten während des Drehs in Modena, und sie mussten sofort während der Dreharbeiten sowohl in Modena als auch in Norditalien eingesetzt werden. Die hochqualifizierten Mitarbeiter von CRP Technology gewährleisteten die pünktliche Lieferung, wodurch der strenge Drehplan eingehalten werden konnte.

Die präzise gefertigten 3D-gedruckten Requisiten, darunter Fahrerhelmteile (Visier), Boxenkomponenten und Katzenaugen, wurden zu integralen Bestandteilen der Filmerzählung. Die Windform-Verbundwerkstoffe, darunter Windform XT 2.0 (für Boxenteile), Windform GT (für Visiere) und der gummiartige Thermoplast Windform RL (für Katzenaugen), wurden aufgrund ihrer hervorragenden mechanischen Eigenschaften ausgewählt.

Das Filmproduktionsteam lobte CRP Technology für die schnelle Verfügbarkeit, die effiziente Produktion und die pünktlichen Lieferungen und würdigte die außergewöhnliche Qualität der 3D-gedruckten Komponenten – ein Beweis für das unerschütterliche Engagement von CRP.

3PRINTR.COM

https://www.3printr.com/us-bobsled-team-relies-on-customized-3d-printed-components-0567423/

APPLICATIONS & CASE STUDIES

US bobsled team relies on customized 3D-printed components

By **3Printr.com** - Dec 6, 2023

Picture: CRP USA

The American bobsleigh and skeleton team (USABS) is upgrading its sleds with individualized 3D-printed parts. These should not only be lighter and more resilient, but also improve the athletes' performance. The components are supplied by CRP USA.

According to USABS team leader Marc van den Berg, the additively manufactured components such as grips and seat shells can be adapted to the athletes' needs more quickly than conventional manufacturing processes. The use of fiber-reinforced high-tech plastics also allows crashes to be cushioned better.

When it comes to materials, CRP USA relies on its own Windform compounds. The parts are made of "Windform XT 2.0" or "Windform SP", for example, which offer high strength at a relatively low weight. According to van den Berg, tests have shown that the components can withstand sled crashes without damage.

In the medium term, the complete additive manufacturing of a high-tech bobsleigh sled is even conceivable. The tailor-made components have already enabled a previously impossible level of individualization and increased performance.

Primante3d

https://www.primante3d.com/bobsleigh-07122023/

La fédération américaine de bobsleigh met de l'impression 3D carbone dans ses bolides

Alexandre Moussion / 07/12/2023 / Sport

Poignées de bobsleigh imprimées dans un polyamide chargé en fibres de carbone (crédits photo : CRP USA)

L'impression 3D n'a pas fini de faire la démonstration de ses bénéfices dans le monde du sport. Qu'il s'agisse d'apporter plus de confort aux athlètes et/ou repousser leurs performances, les acteurs de cette industrie exploitent de mieux en mieux cette technologie. Dans le sport de haut niveau où les résultats peuvent se jouer au millième de seconde près, l'importance de capitaliser sur la fabrication additive s'affirme de manière encore plus évidente.

Confirmant cette évolution, aux Etats-Unis, la fédération de bobsleigh/skeleton (l'USABS) a fait appel au savoir faire de CRP, l'une des principales sociétés d'impression 3D du pays, pour fabriquer certaines pièces de ses bolides. En préparation des JO d'hiver pour améliorer les performances de ses « bobeurs », l'organisme a misé sur cette technologie pour créer des composants imprimés en 3D fonctionnels, résistants au stress et flexibles. Des pièces comprenant notamment des poignées de poussée, et qui ont joué un rôle essentiel dans l'optimisation de l'accélération et la minimisation des forces de poussée générée au départ et la traînée pendant la descente.

Le CRP USA raconte avoir été mis en relation avec l'USABS par l'un de ses partenaires techniques, une entreprise locale spécialisée dans les produits en fibre de carbone. Par la suite, leurs équipes d'experts respectives ont tenu plusieurs réunions visant notamment à déterminer les matériaux les plus appropriés pour les composants visés.

Le grand avantage de l'impression 3D pour l'équipe USA Bobsled/Skeleton est qu'aucun moule n'a besoin d'être fabriqué, ce qui permet un gain de temps considérable et des coûts bien inférieurs. Autorisant des designs autrement plus complexes qu'avec les techniques classiques, la fabrication additive permet aussi d'ajuster les pièces à volonté, sans limites d'itérations.

Kunststoffe

Kunststoffe.de

Windform-Verbundwerkstoffe

3D-Druck am Film-Set für „Ferrari“

CRP Technology liefert wichtige Requisiten für den Film „Ferrari“. Das Besondere: Teile des Helms, Boxenkomponenten und Katzenaugen wurden aus Windform-Verbundwerkstoffen direkt am Set gefertigt.

News
20. Dezember 2023

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Seit dem 14. Dezember kann das Kino-Publikum in Italien den neuen Film „Ferrari“ von Michael Mann sehen, der Rest der Welt muss noch bis Weihnachten warten, bevor das Werk des renommierten Regisseurs und Produzenten weltweit in die Kinos kommt. „Ferrari“ würdigt den legendären Enzo Ferrari, gespielt von Adam Driver, und unterstreicht seinen beispiellosen Einfluss auf die Welt des Motorsports.

Bei so einem Vorhaben kommt es auf jedes Detail an, schließlich werden nicht wenige Kenner der Ferrari-Schlitten in den Kinosälen sitzen. Für die Herstellung wichtiger Requisiten erhielt CRP Technology den Auftrag. Direkt während der Dreharbeiten in Modena wurden Helmbestandteile, Boxenkomponenten und Katzenaugen aus Windform-Verbundwerkstoffen gedruckt.

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Fun und Freizeit, Fahrräder

Windform brilliert als Fertigungsmaterial in Michael Manns aktuellem Film »Ferrari«

Die präzisionsgefertigten 3D gedruckten Requisiten von CRP Technology, hergestellt mit den Windform Verbundwerkstoffen, verleihen Michael Manns Film eine dynamische Dimension.

21. Dezember 2023, Lesedauer 2 Minuten, 33 Sekunden, DOI:10.DE170236410/GÜTSEL.80759

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Windform brilliert als Fertigungsmaterial in Michael Manns aktuellem Film » #Ferrari«

Case Studies Sport, 21. Dezember 2023

Die präzisionsgefertigten 3D gedruckten Requisiten von CRP Technology, hergestellt mit den Windform Verbundwerkstoffen, verleihen Michael Manns Film eine dynamische Dimension. Diese unterstreichen die Vielseitigkeit und #Hochleistungsfähigkeiten der Materialien. Visiere für Fahrerhelme, Boxenteile und Katzenaugen sind der 3D gedruckten Funktionsteile, die für den Film hergestellt wurden.

Meisterwerk 'Ferrari'. Der Film, der am 14. Dezember in die italienischen Kinos kam, wird weltweit am Weihnachtstag veröffentlicht. Er würdigt den legendären Enzo Ferrari, gespielt von Adam Driver, und unterstreicht seinen beispiellosen Einfluss auf die Welt des Motorsports.

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die Weiterentwicklung des industriellen 3D Drucks, sondern festigt auch seine Position als vertrauenswürdiger Partner für bahnbrechende Projekte in der dynamischen Filmproduktionslandschaft. Die nahtlose Integration von Windform Verbundwerkstoffen und fortschrittlichen AM Technologien in das Kino unterstreicht das enorme Potenzial des 3D Drucks und der richtigen Fertigungsmaterialien bei der Herstellung maßgeschneiderter, erstklassiger Komponenten für verschiedene Branchen. Mehr …

CRP Technology hat seinen Hauptsitz in Modena, Italien, und zeichnet sich durch sein Know how als professioneller 3D Druck

3DNatives

3D PRINTING NEWS NEWS

3D Printing at the Heart of the "Ferrari" Movie

Published on December 21, 2023 by **Madeleine P.**

Released on December 14 in Italy, Michael Mann's "Ferrari" takes place in the heart of Modena, a city renowned for its automotive past. Based on Brock Yates' 1991 biography "Enzo Ferrari: Man and Machine", the film delves into the life of Enzo Ferrari, the legendary founder of the luxury sports car brand and stars Adam Driver, Penélope Cruz, Shailene Woodley and Patrick Dempsey along other Hollywood A-listers. What sets this film project apart, however, is the contribution of CRP Technology, an Italian company specializing in 3D printing. Indeed, 3D printing technology played a crucial role in the making of Ferrari, giving an innovative dimension to this production.

Located in "Motor Valley," near Ferrari's headquarters, CRP Technology worked closely with Michael Mann's production team. Thanks to a 3D printing technique, selective laser sintering or SLS, and the use of Windform composite materials, the company contributed greatly to creating functional parts for the film. What's more, the company's expertise in additive manufacturing enabled rapid creation and delivery of these parts.

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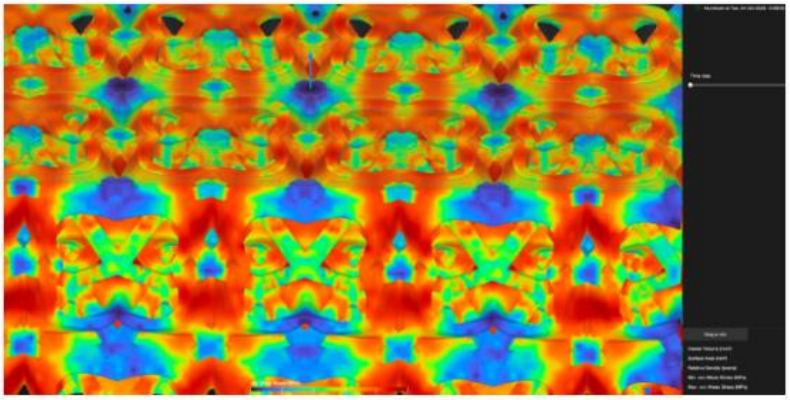
NOTICIAS DE ÚLTIMA HORA CRP Technology y Orbital Space se asocian para la exploración espacial



Metafold ha lanzado la nueva edición de la plataforma DfAM basada en la nube

Andrea Gambini

3D Printing Media Network

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COMPUESTOS WINDFORM DE CRP TECHNOLOGY UTILIZADOS EN LA ÚLTIMA PELÍCULA DE MICHAEL MANN

Andrea Gambini diciembre 15, 2023 AM Entrenamiento

Inmersa en el corazón de Módena, ciudad cargada de tradición y excelencia automovilística, la apasionante saga de Enzo Ferrari vuelve a cobrar vida en la última película del ecléctico e innovador director y productor Michael Mann. La película, que tras Venezia 80 y la nominación a los Gotham Independent Film Awards 2023 llegará a los cines italianos el 14 de diciembre, está basada en la biografía de 1991 "Enzo Ferrari: Man and the Machine" de Brock Yates, y explora el profundo impacto de Enzo Ferrari en los campos de la ingeniería automotriz y la historia del automovilismo narrando los hechos ocurridos en la Mille Miglia de 1957.

CRP Technology, una empresa de alta tecnología de Módena conocida en todo el mundo por sus avances tecnológicos en el campo de los materiales compuestos para la impresión 3D/sinterización selectiva por láser, colaboró en la película de Michael Mann creando y entregando rápidamente accesorios impresos en 3D, demostrando una eficiencia notable en récord. tiempo. Con raíces en el Valle del Motor de Italia, CRP Technology comparte su fundación y sede con Ferrari, lo que añade un significado único a esta colaboración cinematográfica.