

# Fabrication Additive

Bulletin de Veille - 13 juillet 2018

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## GENERALITES

### Arevo Looks to Take on Carbon Fiber 3D Printing with New Funding and CEO

18/05/2018 - [www.engineering.com](http://www.engineering.com)

(This unique bike features a cantilever frame 3D-printed using carbon fiber reinforcement from Arevo Labs. ) Among those vying for a piece of the pie is Silicon Valley's Arevo, which has developed its own method for 3D printing with carbon fiber in a way that's fast, flexible and scalable. The company has developed a process for fusing strands of continuous carbon fiber with thermoplastics, like polyether ether ketone (PEEK) and nylon, as well as a process for depositing it. (The Arevo process 3D printing with continuous carbon fiber strands.

### Cintec uses 3D printing to restore Trinidad and Tobago's historic landmark, the Red House

02/07/2018 - [3dprintingindustry.com](http://3dprintingindustry.com)

Cintec , an international structural engineering firm based in Wales, has helped in the restoration of the historical Government building in the Republic of Trinidad and Tobago, the Red House. Using the Cintec Reinforcement and Anchoring System , Cintec's approved contractor, Celtest , pre-drilled oversized holes into the structure of the Red House building to insert its anchor body – a stainless steel hollow section which is used to house cementitious grout.

### AMFG launches new automation software for Additive Manufacturing

04/07/2018 - [www.metal-am.com](http://www.metal-am.com)

AMFG, formerly RP Platform, London, UK, a provider of automation software for Additive Manufacturing, has launched a new software platform which uses artificial intelligence (AI) to automate AM production. AMFG states that its automation software solutions are used by customers in over thirty countries, including leaders in the automotive, aerospace, consumer goods and education sectors. Its new software solution also aims to provide greater traceability and efficiency to AM production, and offers custom ERP and PLM integrations.

## AEROSPATIAL

### Russian scientists 3D printing biological tissues with magnets in microgravity

28/06/2018 - [www.3ders.org](http://www.3ders.org)

The new method, which involves magnetic levitation research in conditions of microgravity, was conducted by the 3D Bioprinting Solutions company in collaboration with other Russian and foreign scientists, including the Joint Institute for High Temperatures of the Russian Academy of Sciences (JIHT RAS).

### 1. Australian researchers explore use of Laser Metal Deposition for aircraft repairs

- Kai Parthy launches new bio-degradable GROWLAY 3D printing filament for indoor farming
- ORNL uses plant-based materials for 3D printing
- Rencontre avec 3D.FAB : une plateforme lyonnaise spécialisée dans la bioimpression
- Arkema invests €20 million to double specialty polyamide powder production capacities in France

## MARKET / BUSINESS

- eSUN and Sindoh sign Global Strategic Cooperation agreement
- Aerosint raises €850K in 2nd-round funding for multi-material 3D printing

## EVENEMENTS / ETUDES

- IMTS 2018 to showcase its largest ever Additive Manufacturing Pavilion
- International Conference on Powder Metallurgy in Asia heads to India in 2019

## REGLEMENTATION / BREVETS

- America Makes and ANSI publish Additive Manufacturing Roadmap V2.0
- Sparing a thought for intellectual property

27/06/2018 - [www.metal-am.com](http://www.metal-am.com)

(Australian researchers explore use of Laser Metal Deposition for aircraft repairs) Researchers at RMIT are using LMD AM in the production and repair of steel and titanium aircraft parts (Courtesy RMIT). A team of researchers at the Royal Melbourne Institute of Technology (RMIT), Melbourne, Australia, is exploring the use of Laser Metal Deposition (LMD) Additive Manufacturing to build and repair steel and titanium parts for Australian Defence Force aircraft in collaboration with RUAG Australia and the Innovative Manufacturing Cooperative Research Centre (IMCRC).

## Zero Gravity bioprinter heads to ISS, plans to 3D print cardiac patch for damaged hearts

04/07/2018 - [www.3ders.org](http://www.3ders.org)

Rendering of the BFF in an EXPRESS rack (Credit: nScript). Expected to launch in February 2019, SpaceX CRS-17 will carry nScript 3D Bio Assembly Tool(BAT) and Techshot's ADVanced Space Experiment Processor(ADSEP). 3D printing at layers several times thinner than a human hair, the 3D bioprinter by nScript performed admirably. "It's like drawing with a fine-point pen rather than a crayon," said nScript Chairman and CEO Kenneth Church, Ph.D. The nScript BAT 3D printer uses patented SmartPump, which was designed to handle extreme material variances.

## Made In Space plans to turn asteroids into spaceships using 3D printing technologies

09/07/2018 - [3dprintingindustry.com](http://3dprintingindustry.com)

Made In Space , the California-based pioneers of off-world 3D printers, plans to use 3D printing to turn asteroids into autonomous spacecrafts that can potentially fly to mining stations in outer space. ) Illustration of the asteroid spacecraft. Image via Made In Space/illustration by Zoe Brinkley. Image via Made In Space/illustration by Zoe Brinkley.Thus, the conversion of near-earth asteroids into autonomous spacecrafts can potentially be programmed to fly to a mining station in Earth or Space, to collect more resources for astronauts in need.

## CONCEPTION - FABRICATION ADDITIVE

### New GE patent for additive manufacturing blockchain points towards industrialisation of 3D printing

03/07/2018 - [3dprintingindustry.com](http://3dprintingindustry.com)

"An additive manufacturing device configured to implement a distributed ledger system, the additive manufacturing device comprising: manufacturing hardware configured to generate an object via an additive manufacturing process; and a controller configured to: receive a build file comprising instructions for controlling the manufacturing hardware to generate the object; receive a material identifier indicating a particular lot of manufacturing media; validate the build file and the material identifier via a distributed ledger to verify at least one of an author of the build file or an origin of...

## TECHNOLOGIES

### RMIT applies metal 3D printing to aircraft maintenance and repair

29/06/2018 - [3dprintingindustry.com](http://3dprintingindustry.com)

Professor Milan Brandt at Royal Melbourne Institute of Technology (RMIT) University is leading a project applying metal 3D printing to service the Australian Defence Forces. With RUAG and the IMCRC, Brandt's research group will be using LMD technology on legacy aircraft, and the fleet of 72 Lockheed Martin F-35 fighter jets which have just been acquired by the Royal Australian Air Force (RAAF). Featured image shows a fleet of the Royal Australian Air Force's fighter jets flying in formation.

### Schneider Electric accélère le prototypage industriel avec l'impression 3D

03/07/2018 - [www.3dnatives.com](http://www.3dnatives.com)

Avec ces moules imprimés en 3D, Schneider Electric explique qu'il a pu injecter des centaines de pièces en polyamide chargées et ininflammables, conformes à la géométrie finale souhaitée et surtout aux normes de certification de l'industrie.

### Fraunhofer Cluster of Excellence starts development on new generation of USP lasers

06/07/2018 - [3dprintingindustry.com](http://3dprintingindustry.com)

This venture is part of the Fraunhofer Cluster of Excellence, which includes engineers and materials scientists together with the Fraunhofer Institutes for Laser Technology ILT and the Fraunhofer Institute for Applied Optics and Precision Engineering IOF. (Partners of the Fraunhofer Cluster of Excellence met for the kick-off meeting on May 2, 2018 in Aachen. Clip via Bosch Global. The current performance of a 100-Watt class USP laser was tested at the user facility of Fraunhofer ILT which failed to fully cut ultra-hard ceramic materials and fiber-reinforced plastics.

### TU Wien develops method for high resolution 3D printing of tough photopolymers

09/07/2018 - [www.3ders.org](http://www.3ders.org)

If a growing polymer network attacks EVS instead of another monomer, an intermediate will form, and quickly split to form a terminated polymer chain in the network and a highly reactive radical (tosyl radical), which will in turn start a new chain reaction.

## MATERIAUX

### NOWLab@BigRep creates 'smart concrete wall' through 3D printing

29/06/2018 - [www.3ders.org](http://www.3ders.org)

NOWLab, the innovation department of large-format 3D printer manufacturer BigRep, has created a 'smart concrete wall' with an adaptive surface enabled by embedded capacitive sensors. This touch-activated smart concrete wall was completed using a bigrep ONE 3D printer at Immensa Technology Labs in Dubai. Initially, they created molds using the BigRep ONE, a large format 3D printer that would enable printing models in one piece. Detail view of the 3D printed formwork elements that were used to cast the wall.

### Kai Parthy launches new bio-degradable GROWLAY 3D printing filament for indoor farming

02/07/2018 - [www.3ders.org](http://www.3ders.org)

Kai Parthy, 3D printing expert and wood filament pioneer, has introduced a new patent-pending bio-degradable 3D printing material called GROWLAY. GROWLAY white after some days with grass seed put on it. German-born Kai Parthy, the brains behind Lay Filaments, has

been responsible for a number of innovations in the world of 3D printing materials. Parthy has even made a mark on construction 3D printing, with his 3D printed steel inserts making headlines late last year.

### **ORNL uses plant-based materials for 3D printing**

03/07/2018 - [www.3ders.org](http://www.3ders.org)

In Tennessee, a scalable processing technique developed by Oak Ridge National Laboratory uses plant-based materials for 3D printing and offers a promising additional revenue stream for biorefineries. Credit: Ngoc Nguyen/Oak Ridge National Laboratory, U.S. Therefore Lignin could become a valuable coproduct with its use as a 3D printing material. The micrograph shows a cross-section of the weld area between two 3D-printed layers of a plant-based composite material developed by Oak Ridge National Laboratory. Posted in 3D Printing Materials.

### **Rencontre avec 3D.FAB : une plateforme lyonnaise spécialisée dans la bioimpression**

05/07/2018 - [www.primante3d.com](http://www.primante3d.com)

PRIMANTE 3D est allé à la rencontre de Christophe Marquette, fondateur de cette nouvelle plateforme d'impression 3D née sur les bancs de l'université Lyon 1. La plateforme est née d'un besoin du groupe pour le prototypage et d'un intérêt pour l'utilisation de la fabrication additive dans le domaine du diagnostic in vitro ; Les première machines (photochimie) ont été achetées afin d'explorer les possibilités d'intégration de biomolécules dans des objets 3D (impression 4D). Nous sommes dans de nouveaux locaux de 100 m2 totalement dédiés à l'impression 3D. ... surfaces ... surface ...

### **Arkema invests €20 million to double specialty polyamide powder production capacities in France**

10/07/2018 - [3dprintingindustry.com](http://3dprintingindustry.com)

Arkema , a French chemical and materials company, has announced plans to expand its global specialty polyamides powder production capacities at its French Pyrenees facilities by 50%. "Having recently announced very substantial investments in Asia for our Rilsan polyamide 11 and Rilsamid polyamide 12 product lines, we now shift our focus to the Orgasol specialty powders portfolio," said Pezron.

## **MARKET / BUSINESS**

### **eSUN and Sindoh sign Global Strategic Cooperation agreement**

03/07/2018 - [3dprintingindustry.com](http://3dprintingindustry.com)

eSUN , a China-based manufacturer of 3D printing filaments, and Sindoh , a 3D printer manufacturer based in South Korea have signed an agreement for global strategic cooperation at the Inside 3D Printing Conference, in Seoul, Korea. Following this partnership, iSUN3D , an affiliated company of eSUN, has become a key player for manufacturing 3D printing consumables within the Asian market; This is due to the popularity of the iSUN3D's 3D printing pen.

### **Aerosint raises €850K in 2nd-round funding for multi-material 3D printing**

07/07/2018 - [www.3ders.org](http://www.3ders.org)

“Peter brings more than 15 years of experience in 3D printing to the project,” said Edouard Moens, Co-Founder and CEO of Aerosint. Aerosint has invented what it calls the “first multi-material powder bed 3D printing process,” enabling high-performance polymer 3D printing with zero waste and extensive material possibilities. There are bigger advantages to the new Aerosint technology than just combining multiple powders in a single 3D printing process.

## EVENEMENTS / ETUDES

### IMTS 2018 to showcase its largest ever Additive Manufacturing Pavilion

26/06/2018 - [www.metal-am.com](http://www.metal-am.com)

(IMTS 2018 to showcase its largest ever Additive Manufacturing Pavilion) IMTS is said to be the largest manufacturing event in North America (Courtesy IMTS). The Association For Manufacturing Technology’s International Manufacturing Technology Show (IMTS) 2018, set to take place at McCormick Place in Chicago, Illinois, USA, September 10–15, will host nearly triple the number of exhibitors at its Additive Manufacturing Pavilion compared to the most recent event in 2016.

### International Conference on Powder Metallurgy in Asia heads to India in 2019

02/07/2018 - [www.metal-am.com](http://www.metal-am.com)

The 5th International Conference on Powder Metallurgy in Asia (APMA 2019) will be held at the JW Marriot Hotel in Pune, India, from February 18–21, 2019. In the exhibit hall, suppliers to and users of press & sinter PM, Metal Injection Moulding, Powder Injection Moulding and Additive Manufacturing will demonstrate their goods and services to the PM industry, with many exhibiting in India for the first time.

## REGLEMENTATION / BREVETS - FABRICATION ADDITIVE

### America Makes and ANSI publish Additive Manufacturing Roadmap V2.0

29/06/2018 - [3dprintingindustry.com](http://3dprintingindustry.com)

additive manufacturing development organization America Makes , and its partner the American National Standards Institute (ANSI) have published the Standardization Roadmap for Additive Manufacturing (Version 2.0). An update of the original document published in March 2017, the Standardization Roadmap for Additive Manufacturing V 2.0 lists 93 “gaps” in appropriate standards and specifications for 3D printing and its related processes.

### Sparing a thought for intellectual property

02/07/2018 - [3dprintingindustry.com](http://3dprintingindustry.com)

As such, all parties in the supply chain need to be acutely aware of the very real risks of IP infringement in this evolving space, says Jason Teng, partner and patent attorney at leading full service IP law firm, Potter Clarkson. On the one hand, with some eye-watering estimates in circulation as to the potential annual global IP losses from additive manufacturing, robustly enforcing your IP rights could be seen as an obvious route to increased profits.

## Service Information Numérique - Pôle IES

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