Fabrication Additive

Bulletin de Veille - 17 septembre 2018

SOMMAIRE

A LA UNE

Interview: WEF and McKinsey name Industry 4.0 lighthouses

14/09/2018 - 3dprintingindustry.com

The World Economic Forum (WEF) Initiative on Shaping the Future of Production is collaborating with McKinsey & Company, a New York-based management consulting firm, to find manufacturers successfully implementing new technologies, i.e., the 4IR "[Fourth Industrial Revolution] production lighthouses."

GENERALITES

L'impression 3D à l'école, un pari gagnant?

29/08/2018 - www.3dnatives.com

Le mois dernier, l'étude publiée par Ricoh montrait que près de 9 professionnels de l'enseignement supérieur sur 10 estimaient que les compétences développées en utilisant les technologies de fabrication numérique et d'impression 3D étaient vitales pour les diplômés qui entraient sur le marché du travail. La nécessité d'étudier les technologies d'impression 3D à l'école se fait croissante puisqu'elle permet ensuite d'avoir des connaissances plus adaptées pour le secteur industriel, l'architecture ou encore le design. C'est pareil avec une imprimante 3D ou un stylo 3D.

AEROSPATIAL

La fabrication additive au service de l'aérospatial

07/09/2018 - www.industrie-techno.com

Après s'être associé en 2017 avec le laboratoire américain ORNL pour la conception d'une imprimante métal de grande dimension, le groupe britannique GKN Aerospace a annoncé avoir intégré des imprimantes 3D thermoplastiques dans son usine de Filton au Royaume-Uni. Ces outils, imprimés avec des thermoplastiques de qualité technique, possèdent des caractéristiques identiques aux éléments métalliques précédemment utilisés. « Cette technologie permettra de produire, rapidement et à faible coût, des pièces à haute valeur ajoutée », envisage Tim Hope.

GKN Aerospace to 3D print rocket engine turbines for Ariane Prometheus engines

05/09/2018 - www.3ders.org

4 awarded a contract to its Swedish supplier GKN Aerospace for turbines of re-usable rocket engine demonstrator, part of Prometheus project. GKN Aerospace's space business unit, in Trollhättan, Sweden will develop and manufacture two full-scale turbines for the Prometheus low-cost re-usable rocket engine demonstrator on liquid oxygen and methane propellants. The target price for a Prometheus engine is 1 million euros, one-tenth the cost of the Ariane 5's Vulcain 2 engine.

3D Printing Production Parts with FDM Pro

08/09/2018 - www.stratasysdirect.com

One answer to this challenge is FDM Pro. FDM Pro utilizes ULTEM 9085 CG to deliver mechanically enhanced ULTEM 9085 parts with the repeatability necessitated by high-requirements industries. The FDM Pro solution builds the material in. FDM Pro and Aircraft Interiors Aerospace companies are perfectly positioned to leverage the benefits of FDM Pro alongside their existing production specifications as well as expand the use of 3D printing for a broad array of components within aircraft interiors.

CONCEPTION

Artec 3D launches Studio 13 software with new X-Ray mode for raw 3D data

11/09/2018 - 3dprintingindustry.com

This updated software now features an X-Ray Mode which is capable of examining raw scan data for potential problem areas before it enters the processing stage. The new X-ray Mode makes raw scan data semi-transparent and deletes all the noise around a scanned object, showing users the data that they want to see. This new function makes raw scan data semi-transparent while deleting the noise around a scanned object, to show users the desired data.

TECHNOLOGIES

L'impression 3D à partir d'ondes sonores

06/09/2018 - www.3dnatives.com

Selon eux, cette technique permettra d'imprimer en 3D une multitude de matériaux à la demande et de synthétiser des produits bio-pharmaceutiques et cosmétiques, ainsi que des matériaux optiques et conducteurs. Cette viscosité change également avec la température ce qui complexifie l'optimisation des paramètres d'impression et donc la taille des gouttelettes. (impression 3D ondes sonores) C'est pour ces raisons que l'équipe de chercheurs a souhaité développé un système d'impression 3D qui serait indépendant des propriétés physiques du liquide.

Yale researchers develop an easy way to 3D print with metal

07/09/2018 - www.3ders.org

Schroers and colleagues simplifies the additive manufacturing of metallic components by exploiting the unique-amongst-metals softening behavior of BMGs. Due to the similarity between FFF of thermoplastics and BMGs, this method may leverage the technology infrastructure built by the thermoplastic

FFF community as many of the engineering challenges that have been solved in thermoplastic FFF can be readily translated to the printing of BMGs.

HP Announces Metal Jet 3D Printing at IMTS

10/09/2018 - www.engineering.com

As HP took the spotlight at RAPID 2016 with the introduction of its Multi Jet Fusion (MJF) 3D-printing technology, the printing company plans to once again take the lead at IMTS 2018 with the unveiling of its MetalJet technology. (A metal part 3D printed with Metal Jet technology from HP.) What Is Metal Jet? The HP Behind HP Metal JetThe larger strategy behind the invention of Metal Jet is tackling the $12 trillion manufacturing industry, which can't be done with MJF and plastics alone.

Could bulk metallic glass 3D printing be Desktop Metal's next move?

11/09/2018 - 3dprintingindustry.com

A research paper co-authored by researchers at Yale University , MIT and engineers at Massachusetts 3D printer manufacturer Desktop Metal , demonstrates the possibility of 3D printing amorphous metals. (Schematic of the BMG 3D printing process and samples. According to Jittisa Ketkaew, co-author of the study and graduate student at Yale, when the 3D printed BMG samples were tested, "We expected high strength in the parallel-to-the-printing orientation, but were very surprised by the strength in the perpendicular orientation.

New SCRIM 3D concrete printing uses mesh to produce lightweight structures

13/09/2018 - www.3ders.org

Researchers at the Centre for Information Technology and Architecture (CITA) of the Royal Danish Academy of Fine Arts and at the Danish Technological Institute have developed a new hybrid construction concept called "Sparse Concrete Reinforcement In Meshworks" (SCRIM) that intersects robot-based 3D Concrete Printing and textile reinforcement meshes to produce lightweight elements.

Researchers use a team of mobile robots to 3D print large-scale structures

29/08/2018 - www.3ders.org

As a proof of concept the team has created a prototype that can print "a single-piece concrete structure [using] two mobile robots operating concurrently. " The big advantage to this method of 3D printing is that the system is freed of the special constraints of a more traditional 3D printer by the robotic arm out front. Their research was published a paper, titled "Large-scale 3D Printing by a Team of Mobile Robots " in the journal Automation in Construction.

MATERIAUX

BASF highlights potential of Ultrafuse 316LX in PIM International exclusive

14/09/2018 - www.metal-am.com

Taking advantage of the reliability and high productivity of catalytic debinding, Ultrafuse 316LX enables the simple production of fully-sintered 316L stainless steel components, making it an ideal option for companies already using catalytic debinding and sintering in their manufacturing operations, who can easily step into and explore metal AM and debind and sinter their parts alongside traditional MIM components, eliminating the cost and time involved in special furnace runs, toll-sintering or equipment acquisitions. ... additive manufacturing

Victrex and the University of Exeter Invest in Making the Prospect of PAEK Additive Manufacturing a Reality

11/09/2018 - www.azom.com

The strategic partnership of Victrex and the University of Exeter Center for Additive Layer Manufacturing introduces the next-generation PAEK polymers and composites solutions (© University of Exeter) Additive manufacturing is a key productivity tool of the future, which grew at ~21% last year.1 The materials and technology to support AM continue to emerge, including the first PAEK polymers designed, developed and optimized specifically for AM.

uDiamond: VTT and Carbodeon speed up 3D printing with nanodiamonds

12/09/2018 - www.3ders.org

The uDiamond filament , patented by Carbodeon and now available on the market, improves the usability of 3D technology and broadens the applications of 3D printing. VTT together with Carbodeon has developed methods for evenly dispersing the nanodiamonds in the PLA material in such a way that the finished product is a PLA composite optimised for 3D printing, manufactured at industrial scale. In addition, VTT has tested the properties of plastic materials and 3D printouts.

UK research collaborative uncovers 4D printed potential of cellulose

13/09/2018 - 3dprintingindustry.com

In this development, a team from the University of Bristol and University of Bath , creates a 3D printed ink that harnesses cellulose fibers to transform in response to water. As one next-stage development of 3D printing, the term 4D printing has grown in popularity in recent years, even earning itself a position “On the Rise” in Gartner’s 2018 Hype Cycle for 3D Printing. Many 4D printing experiments rely on tuneable stresses in a 3D printed object to transform.

Metalysis enters commercial production of metal powders for additive manufacturing

10/09/2018 - 3dprintingindustry.com

Metal additive manufacturing materials producer Metalysis , headquartered in South Yorkshire, UK, has entered into industrial scale production of its metal powders. The key benefits of the FFC process lie in its eco-friendliness and low-cost relative to the traditional method of alloy extraction: the input for the FFC process costs $2.50/kg rather than the current $70. When 3D Printing Industry visited the facility at this time, we were given a preview of Metalysis’ Generation

1 and 2 development processes: production for proof of concept and technical demonstration only.

Evonik présente une nouveau matériau d'impression 3D flexible pour le frittage laser

03/09/2018 - www.primante3d.com

On apprend que la poudre flexible est compatible avec la plupart des procédés d'impression 3D par fusion laser sur lit de poudre, mais aussi les techniques à jet de liant. « Les matériaux polymères flexibles élargissent considérablement les options de fabrication additive, car ils nous permettent de réaliser de nouvelles applications exigeantes sur des marchés attractifs ». Si la compatibilité avec cette dernière n'est pas précisée, on apprend que Evonik présentera sa nouvelle gamme polymère lors du prochain salon FAKUMA en Allemagne, du 16 au 20 octobre.

MARKET / BUSINESS

Pourquoi BMW a-t-il parié sur la fabrication additive?

12/09/2018 - www.3dnatives.com

Alors qu'il annonçait l'ouverture d'un nouveau centre de fabrication additive en 2019, il présentait récemment son prototype de moto au châssis imprimé en 3D , repoussant ainsi certaines limites de conception. En 2012, j'ai pris la direction du centre de fabrication additive du groupe BMW, où je suis responsable du développement des technologies 3D, de la construction de prototypes et de la production en série. (bmw impression 3D) Le châssis de BMW3DN : Pouvez-vous nous en dire plus sur le nouveau campus de fabrication additive de BMW ?

EOS launches M 300-4 industrial metal 3D printer with ten times productivity

10/09/2018 - 3dprintingindustry.com

German industrial 3D printing solutions provider EOS has unveiled the M 300 series of direct metal laser sintering (DMLS) systems. The first in this series, the EOS M 300-4, was launched today at the 2018 International Manufacturing Technology Show (IMTS) in Chicago and serves and substantial upgrade on the M 290. Speaking to 3D Printing Industry, an EOS representative confirms "The system will offer a productive increase of 4-10 times that is currently offered by EOS M 290,".

Des chercheurs créent un prototype d'oeil bionique imprimé en 3D

30/08/2018 - www.3dnatives.com

L'oeil bionique imprimé en 3D serait plus efficace Ce groupe de chercheurs est d'ailleurs déjà un adepte de l'impression 3D et est à l'origine de nombreux projets innovants, comme l'impression de composants électroniques sur la peau.

EVENEMENTS / ETUDES

IMTS 2018 Preview

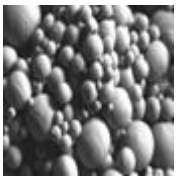
07/09/2018 - www.stratasysdirect.com

IMTS 2018 Preview As has been the rising trend, additive metals continue to be a growing market and hot topic in the 3D printing industry. (advancing thermal management with 3d printing) Advancing Thermal Management with 3D Printing Discover the unique performance capabilities for thermal control enabled by DMLS. (getting the most out of metal 3d printing) Getting the Most Out of Metal 3D Printing Learn how to overcome conventional manufacturing challenges & deliver incredible metal parts with metal 3D printing. ..

REGLEMENTATION / BREVETS

Carpenter additive manufacturing facility receives aerospace quality certification

28/08/2018 - 3dprintingindustry.com



Carpenter Technology Corporation , a Pennsylvania-headquartered manufacturer of premium specialty metals alloys and powders, has announced that its additive manufacturing production facility, CalRAM received Aerospace Standard 9100 Revision D (AS9100 Rev D) certification for its quality management system. Earlier this year, Carpenter acquired the 25,000 square foot facility of powder-bed fusion additive manufacturing specialist CalRAM.