

Fabrication Additive

Bulletin de Veille - 13 décembre 2018

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A LA UNE

Mimaki joins ADAPT, MIT's 3D printing development initiative

11/12/2018 - [3dprintingindustry.com](#)

Popls Inc. , a Japanese printing company, used plaster based 3D printing before acquiring the 3DUJ-553 to supply its customers in the comic market. (Mimaki has turned 3D printing into an art with the Mimaki 3D printer 3DUJ-553.) Mimaki has turned 3D printing into an art with the Mimaki 3D printer 3DUJ-553. Other members include the automotive manufacturer General Motors , British metal 3D printer manufacturer, Renishaw , and German 3D printer maker EOS. For more news on 3D printing subscribe to our 3D printing newsletter.

GÉNÉRALITÉS - FABRICATION ADDITIVE

IDC 2019 predictions attributes \$2 billion in new spending related to 3D printed products

07/12/2018 - [3dprintingindustry.com](#)



Furthermore, the IDC analysts believe that by 2022, 75% of all new 3D printers will support new materials with properties like gel and rubber, thus driving \$2 billion in new spending related to 3D printed products. Looking at the consumer markets, it is believed that by 2021 (9), every major international footwear manufacturer will produce, market, and sell an athletics shoe line that is nearly 100% 3D printed.

Protolabs joins MIT's new center for Additive and Digital Advanced Production Technologies

07/12/2018 - [3dprintingindustry.com](#)

Protolabs , a manufacturing and 3D printing service bureau based in Minnesota, has become a founding member of the new Massachusetts Institute of Technology (MIT) Center for Additive and Digital Advanced Production Technologies (ADAPT). "We've experienced firsthand the tremendous progress that additive manufacturing has made over the past decade, and we're quickly approaching another important milestone in 3D printing's rapid ascent into industrial manufacturing space," said Vicki Holt, President and CEO at Protolabs. .

AÉROSPATIAL - FABRICATION ADDITIVE

USC Viterbi 3D printed engines are building rocket scientists of the future

07/12/2018 - [3dprintingindustry.com](#)

By way of some explanation Jordan Noone, USC Viterbi alumni, former lead of the USC Rocket Propulsion Lab, and CTO and co-founder of 3D printing-powered space exploration technology startup Relativity Space , says, "Traditional manufacturing relies on fixed tooling – think of casting molds or forging equipment. For all of the latest 3D printing in aerospace news follow 3D Printing Industry on Twitter , like us on Facebook and subscribe to our newsletter.

Italian researchers strengthen the aerospace part qualification process

expansion at Osaka Titanium Technologies

- Canon developed alumina-based ceramic material for high-res 3D printing

MARKET / BUSINESS - FABRICATION ADDITIVE

- Le retour de MakerBot avec une nouvelle imprimante 3D ?
- Siemens opens £24 million Advanced Manufacturing at the University of Nottingham
- Nanoscribe launches Photonic Professional GT2 3D printer for high-precision microfabrication

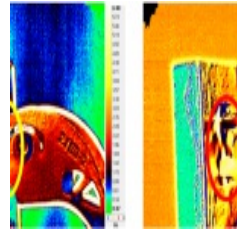
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- formnext 2018: SLM Solutions Looks Back on a Successful Trade Show
- #3DPrintingDay : la journée internationale de l'impression 3D
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- S-Squared 3D Printers unveils patent-pending Autonomous Robotic Construction System
- CECIMO Additive Manufacturing committee created to advance industrialisation of AM
- 3D Printing Health Risks Identified by UL and Georgia Tech

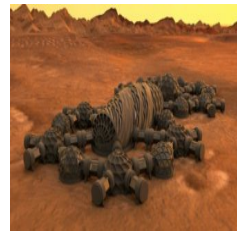
30/11/2018 - 3dprintingindustry.com



The part qualification method was tested on a 3D printed metal bracket used in satellites. According to the paper, despite there being several experimental methods for testing 3D printed parts, “no work has been done about performing stress analysis on the actual component, in order to compare the experimental results with the expected mechanical behavior. For the test case, the researchers used a 3D printed satellite bracket made with Ti-6Al-4V alloy.

Rencontre avec Autodesk : un projet de construction d'habitats sur d'autres planètes avec la NASA

11/12/2018 - www.primante3d.com



Parce qu'envoyer un vaisseau spatial rempli de matériaux de construction n'aurait aucun sens, la NASA s'est associée à Autodesk pour expérimenter l'impression 3D d'habitats sur site. Vous souvenez-vous de la première fois où vous avez entendu parler d'impression 3D ? En collaborant avec le laboratoire Swamp Works de la NASA, nous expérimentons l'impression 3D d'habitacles en utilisant un procédé d'extrusion piloté par un robot et un matériau composite fait de déchets de sédiments (terre, poussière, pierre cassée...) et de plastique recyclé. .

Video: Metal Additive Manufacturing: Finding High-Value Applications in Aerospace

11/12/2018 - www.engineering.com

Aerospace is an important market for metal additive manufacturing, mainly because of the opportunity to cost-effectively print high-value parts in low volumes. For example, the GE Catalyst turboprop engine is built with 12 components that take the place of 855 parts, reducing weight, wear and leakage. For more information on metal additive in aerospace, check out Making a Business Case for Additive Manufacturing here on engineering.com.

CONCEPTION - FABRICATION ADDITIVE

Dr. Adrian Bowyer demonstrates how hollow tubes make 3D prints stronger

30/11/2018 - www.3ders.org

Users set the density of infill as a percentage, with 0% creating a part that's a completely hollow shell and 100% creating a totally solid part. One of the weaknesses of most slicers is that only one infill density can be applied to a part; the density is always uniformly dispersed throughout the 3D print. Stress is generally greater in specific areas where weight or pressure is applied. The same weight was applied to both and, sure enough, the one with the tubes was 54% more resistant to bending.

EOS North America integrates LINK3D software for optimised additive manufacturing workflow

06/12/2018 - 3dprintingindustry.com



LINK3D , a New York-based 3D printing workflow software provider, has partnered with EOS North America to accelerate its client's additive manufacturing workflow. In an ongoing proof of concept trial, LINK3D has integrated its Additive Manufacturing Execution System (AMES) & Additive Workflow Software internally as a solution for EOS and its customers to accelerate overall 3D printing operations. . .

TECHNOLOGIES - FABRICATION ADDITIVE

MIT team develops 3D printer that's 10x faster than comparable 3D printers

08/12/2018 - www.3ders.org

And there are several speed-limiting factors to FDM/FFF 3D printers, with the main four being: the amount of force that can be applied to the filament as it's pushed through the nozzle, how quickly heat can be transferred to the filament to melt it, how fast the

printhead can move around the build area, and the rate that the material solidifies after it's extruded because it needs to support the next layer. The new printer smoked the competition in speed tests, including a \$100,000 commercial 3D printer.

Purdue researchers use ultrasonic vibrations to improve 3D printing with viscous materials

07/12/2018 - www.3ders.org

There's been a growing interest in 3D printing with clay-like materials for a number of reasons, including but not limited to a more pleasing aesthetic, better mechanical and insulative properties, and even energy storage. The complex geometries that can be achieved with 3D printing could allow for more-precisely activated propellants; changing the shape and structure of a fuel cell affects the way it burns, so engineers could design fuel cells that burn more quickly in the center for improved thrust.

ORNL 3D printed neutron scattering collimators that are better and cheaper

11/12/2018 - www.3ders.org

3D printed collimators are expanding the use of neutron scattering instruments at the Department of Energy's (DOE's) Oak Ridge National Laboratory (ORNL). Her idea to 3D print collimators resulted in a more customizable component that can be produced the same day at a cost that's 66 times cheaper than the conventional method, a measly \$30. " The level of detail possible is increased with the powder 3D printing method, enhancing researchers ability to prevent neutron leakage and make precise measurements. .

Micro 3D printing mined for future 5G mobile connections

10/12/2018 - 3dprintingindustry.com



Still, the team are looking for cutting edge micro 3D printing technologies that fit the brief. The product of a co-operation between leading 3D printer manufacturer EOS and laser micromachining company 3D-Micromac , 3D MicroPrint was founded in Chemnitz, Germany, in 2013. Like its big brother, laser sintering, Micro Laser Sintering is a metal 3D printing method that relies on a powdered feedstock. Its patented technology, based in 3D printing, is designed especially for radio frequency applications combines both metal and polymer feedstocks. .

Using plasma jets to promote bone integration with 3D printed implants

04/12/2018 - www.3ders.org

Researchers at the Fraunhofer Institute for Surface Engineering and Thin Films have developed a method of 3D printing that uses plasma jets to promote bone integration with 3D printed implants. So it makes sense that medical professionals have been drawn to the affordability and customization offered by 3D printing, especially when it comes to 3D printing bone. Certain fillers are incorporated to increase the stiffness of the implant according to what type of bone is being repaired. Posted in 3D Printing Technology.

MATÉRIAUX - FABRICATION ADDITIVE

Study on functional mechanical properties of 3D printed lattice structures

06/12/2018 - www.3ders.org

The special mechanical attributes of 3D printed parts with an internal lattice structure have been investigated and thoroughly documented in a study recently published by Fast Radius titled "Mechanical Properties of Hexagonal Lattice Structures Fabricated Using Continuous Liquid Interface Production Additive Manufacturing. The results indicated that lattice structures, also referred to as architected materials or mechanical metamaterials, can be reliably fabricated with 3D printing that have predictable properties.

AM powder demand drives capacity expansion at Osaka Titanium Technologies

29/11/2018 - www.metal-am.com

, Ltd., Amagasaki, Hyōgo Prefecture, Japan, is expanding its powder production capacity to meet increasing demand for titanium alloy powders from the metal Additive Manufacturing industry. The company will invest approximately JPY 1 billion in a new factory with a planned powder production capacity of 100 t/year, expected to open in early 2020. The company has been manufacturing titanium low oxygen powders using gas atomisation since 1994, primarily for use in sputtering targets, in liquid crystal displays and in Metal Injection Moulding (MIM).

Canon developed alumina-based ceramic material for high-res 3D printing

28/11/2018 - www.3ders.org



Some companies specialize in large-scale 3D printing while others focus on high-speed production, and of course many focus on producing the most detailed and precise 3D prints. The substrate is an alumina-based ceramic powder that is sintered together with a selective laser melting 3D printer. Unlike other ceramic-infused resins that are cured with an SLA (stereolithography) 3D printer and experience up to 20% shrinkage in the final annealing bake, the Canon ceramic parts experience dimensional differences after the annealing stage of less than 0.8%.

MARKET / BUSINESS - FABRICATION ADDITIVE

Le retour de MakerBot avec une nouvelle imprimante 3D ?

30/11/2018 - www.primante3d.com

La date du 11 décembre pourrait signer le come-back du fabricant le plus emblématique de l'impression 3D grand public. Malheureusement, comme beaucoup de fabricants, la pépite new-yorkaise n'est pas ressortie indemne du tsunami de l'impression 3D grand public en 2013. Nous avons toujours adopté cette approche consistant à partager et à éduquer les gens avec ce qu'ils peuvent débloquer en 3D. Avec cette fusion, nous pouvons maintenant la porter à un tout autre niveau.

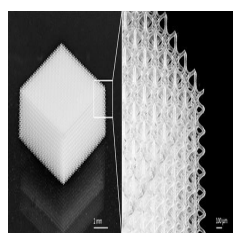
Siemens opens £24 million Advanced Manufacturing at the University of Nottingham

11/12/2018 - 3dprintingindustry.com

With a total research portfolio of £80 million, the Advanced Manufacturing Building (AMB) will support the UK's manufacturing industry by developing new processes involving additive manufacturing, bioengineering, and Operations Management (OM) and Information Systems (IS). The AMB follows the recent establishment of Siemens' £27 million 3D printing facility in Worcester, UK. Also, for all the latest 3D printing news, subscribe to the 3D Printing Industry newsletter, follow us on Twitter, and like us on Facebook.

Nanoscribe launches Photonic Professional GT2 3D printer for high-precision microfabrication

05/12/2018 - www.3ders.org



Germany's Nanoscribe, a company specializing in nano-, micro-, and meso-scale 3D printing, has introduced the Photonic Professional GT2 3D printer for high-resolution microfabrication and maskless lithography. Nanoscribe's Photonic Professional GT 3D printer uses a process of two-photon polymerization (2PP) process to fabricate objects.

EVÈNEMENTS / ÉTUDES - FABRICATION ADDITIVE

formnext 2018: SLM Solutions Looks Back on a Successful Trade Show

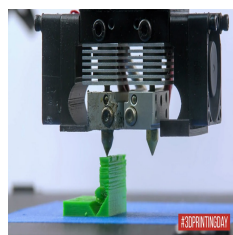
07/12/2018 - www.azom.com

Formnext 2018, the leading trade show for additive manufacturing, set a record for visitor numbers as it closed in Frankfurt last week. SLM Solutions also featured a visitor-magnet display of the world's first 3D-printed car chassis from Divergent3D, a long-term customer

that SLM Solutions' supports as a strategic development partner. SLM Solutions presented itself as a partner in additive manufacturing with integrated, intelligent solutions. During the show SLM Solutions also demonstrated live 3D printing on the new SLM@280 Production Series selective laser melting system.

#3DPrintingDay : la journée internationale de l'impression 3D

03/12/2018 - www.3dnatives.com



Cette utilisation croissante des technologies 3D se remarque également dans les écoles, collèges et lycées où les élèves apprennent dès leur plus jeune âge à se servir d'une imprimante 3D. (3D printing day) La Hun School de Princeton utilise l'impression 3D dans ses cours. Enfin, cette journée internationale de l'impression 3D nous permet de constater que les évènements liés aux technologies 3D s'organisent dans tous les pays du monde et ce à un rythme plus soutenu que les années passées

Additive Manufacturing for Aerospace and Space Forum heads to London

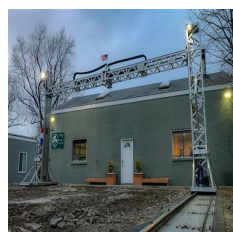
29/11/2018 - www.metal-am.com

- Dr Paul Unwin, Chairman, UK Additive Manufacturing Strategy Steering Group - Steven Catt, AM Technical Lead, Thales UK - Advenit Makaya, Advanced Manufacturing Engineer, European Space Agency - Dr Rob Scudamore, Vice Chair AM UK & Associate Director, Group Manager – Joining Technologies, Additive Manufacturing, TWI - Andy Schofield, Manufacturing & Materials Strategy and Technology Director, BAE Systems – Air - Richard Minter, Chief Expert – Airframe, European Aviation Safety Agency - Sébastien Messé, Additive Manufacturing Chief Engineer, Safran Landing Systems - Dr Katy Milne, Chief...

RÉGLEMENTATION / BREVETS - FABRICATION ADDITIVE

S-Squared 3D Printers unveils patent-pending Autonomous Robotic Construction System

07/12/2018 - www.3ders.org



S-Squared 3D Printers (SQ3D), a 3D printer manufacturing and service company based out of Long Island, NY. According to the company, this specialized 3D printer outperforms traditional construction by reducing both time and cost up to 70%. S-Squared 3D Printer's Autonomous Robotic Construction System (A.R.C.S. Taking the core principles of 3D printing, SQ3D apply it to large scale projects and builds. According to SQ3D, the 3D printed structures are impervious to water and are fire and mold resistant and can withstand severe weather. .

CECIMO Additive Manufacturing committee created to advance industrialisation of AM

04/12/2018 - 3dprintingindustry.com

A new Additive Manufacturing committee created by the European Association of the Machine Tool Industries and related Manufacturing Technologies (CECIMO) has been established to improve dialogue between policy makers and the 3D printing industry. Specifically, CECIMO has published updates on a range of projects using additive manufacturing and participates in committees such as the ISO Technical Committee on Additive Manufacturing , known as ISO/TC 261. For more of the latest 3D printing news subscribe to the 3D Printing Industry newsletter and follow us on Twitter , and Facebook.

3D Printing Health Risks Identified by UL and Georgia Tech

28/11/2018 - www.engineering.com

UL and Georgia Tech's Research UL Chemical Safety and Georgia Tech published two papers, "Characterization of particle emissions from consumer fused deposition modeling 3D printers " and "Investigating particle emissions and aerosol dynamics from a consumer fused deposition modeling 3D printer with a lognormal moment aerosol model ," in Aerosol Science and Technology.

