

Fabrication Additive

Bulletin de Veille - 05 mars 2019

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A LA UNE

ESA completes first hot-fire test of 3D printed BERTA rocket engine

25/02/2019 - www.3ders.org

The European Space Agency (ESA) announced last week that its BERTA engine, a full scale, 3D printed rocket engine demonstrator has completed its first test run on 18 February 2019. Engines of this type can be ignited several times and are very reliable. 3D printing allows engineers to add more complex design to the cooling channels, which is intended to ensure improved cooling behavior of the combustion chamber. Hot firing a 3D-printed thrust chamber.

Launcher takes lead in space-race with new largest 3D printed rocket engine

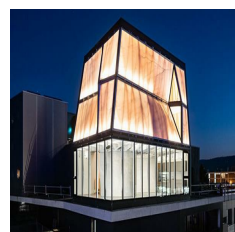
21/02/2019 - 3dprintingindustry.com



The only current objects to hold a Guinness World Record for their 3D printing achievements are Made In Space's 37.7 meter long beam, the "Longest 3D printed non-assembled piece," and a Boeing 777x wing tool, the "Largest solid 3D-printed item," made at Oak Ridge National Laboratory. (Launcher's single-piece 3D printed E-2 engine. Photo via Launcher) Launcher's single-piece 3D printed E-2 engine. Visit 3D Printing Jobs for new additive manufacturing opportunities in your area.

DFAB HOUSE, digitally-built by ETH Zurich using robots & 3D printers, opens in Switzerland

01/03/2019 - www.3ders.org



The project, developed by ETH Zurich researchers in collaboration with more than 30 industrial partners, marks the world's first inhabited "house" that was not only digitally planned, but also built largely digitally with the help of robots and 3D printers. Its living room features a delicate concrete ceiling, cast in 3D printed formwork, and a curved concrete wall created by a construction robot. Posted in 3D Printing Application.

GÉNÉRALITÉS - FABRICATION ADDITIVE

GE Power unveils 1000-sq-ft Additive Manufacturing Lab for Clemson University

22/02/2019 - www.3ders.org



GE opened a new Additive Manufacturing Lab at GE Power's Advanced Manufacturing Works facility Wednesday. It will feature three additive manufacturing machines that print in both metal and industrial plastic, including a new GE Additive Concept Laser M2 Cusing direct metal laser melting (DMLM) machine. The Additive Manufacturing Lab will make it possible for students to design and create parts needed for the project more efficiently than before, producing breakthrough results not possible with traditional manufacturing.

AÉROSPATIAL - FABRICATION ADDITIVE

- Carbon and Shapeways partnership expands access to Digital Light Synthesis 3D Printing technology

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U.S. Air Force grants Sciperio Phase 2 funding to 3D print phased array antennas

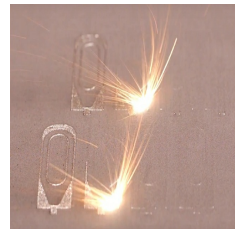
20/02/2019 - 3dprintingindustry.com



Air Force (USAF) has awarded Sciperio, a Florida-based research group, Phase II funding to develop 3D printed phased array antennas. But large-sized antennas come with their own problems such as the increase in size and weight of a vehicle or aircraft they are mounted onto. It is described as a machine that, "digitally fabricates anything from 2D and 3D printed circuit structures (PCS) to biological structures and can be used almost anywhere on the digital manufacturing floor. For more news on the uses of additive manufacturing, subscribe to our 3D printing newsletter.

Additive Manufacturing and the Next Generation of Aerospace

04/03/2019 - www.engineering.com



That's where we spent significant effort in terms of understanding the process itself, and how to apply this application so that we can really maximize the performance in terms of the heat transfer coefficient, as well as minimize the pressure drop and the weight of the heat exchangers. That is, you can start with a concept, go to the design inspiration to reduce the weight, structural optimization, that sort of thing—and ultimately, be able to build that part. ... additive manufacturing .

CONCEPTION - FABRICATION ADDITIVE

Ultimaker announces Essentium, eSUN, and Polymaker joins its Material Alliance Program, Cloud update for Cura software

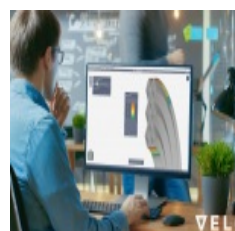
22/02/2019 - 3dprintingindustry.com



It is making profiles on Ultimaker Cura software for three materials: PETG, ePA-CF and HIPS (high-impact polystyrene). Dr. Yihu Yang, CEO at eSUN stated "We are delighted to join the Ultimaker Materials Alliance Program with material print profiles of PETG, ePA-CF, and HIPS (High Impact Polystyrene), since it allows us to speed up the development of eco-friendly 3D printed products by using renewable resources.

VELO3D enhances Flow software for metal 3D printing

22/02/2019 - 3dprintingindustry.com



VELO3D's technology additionally aims to allow manufacturers to 3D print parts with complex geometries without the need for supports. VELO3D's announcement follows a trend in improvements for 3D printing simulation software development. The software was chosen by BAE systems for use in metal 3D printing , specifically to reduce the number of build trials through simulation. Subscribe to the 3D Printing Industry newsletter , follow us on Twitter and like us on Facebook. Visit 3D Printing Jobs to commence your career in additive manufacturing.

TECHNOLOGIES - FABRICATION ADDITIVE

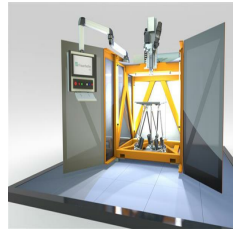
Texas Instruments Aims to Evolve SLS with New DLP Chip

22/02/2019 - www.engineering.com

Beyond SLS 3D Printing Our interest lies mainly with 3D printing, but Meza described two other applications for the new chipset that could have significance for AM. The exact applications of these examples to the world of 3D printing are best left up to the AM systems engineers, but one could imagine an inline printing process, in which multiple print beds move in front of the optical system to have a layer fused before a new print bed arrives. ...

Fraunhofer IWU develops high-speed Screw Extrusion AM system for high-performance plastics

04/03/2019 - www.3ders.org



Researchers at the Fraunhofer Institute for Machine Tools and Forming Technology IWU in Chemnitz, Germany have developed Screw Extrusion Additive Manufacturing (SEAM), a system that is eight times faster than conventional 3D printing. This experimental component is a hybrid of CFRP sheet metal and 3D printed structures – SEAM makes it possible to print on injection-molded components or sheet metal for the first time. The swiveling platform enables the ability to 3D print on existing injection-molded components.

LLNL creates multibeam metal 3D printer to understand laser-material interactions

02/03/2019 - www.3ders.org



Lawrence Livermore National Laboratory (LLNL) scientists and engineers are working alongside GE Global Research to create a research-grade, open-architecture multibeam metal 3D printer and are developing advanced diagnostics to understand the mechanics behind the multibeam process under a project funded by the Air Force Research Laboratory. GE approached LLNL to perform the experiments based on previous research conducted by LLNL physicist Ibo Matthews and his group to understand the physics behind the laser 3D printing process.

Optomec announces new LENS controlled atmosphere DED systems

01/03/2019 - www.metal-am.com



“These new systems come packed with next-generation DED components all born from signature Optomec know-how and built to provide affordable, high-quality metal additive manufacturing capabilities for industry’s most demanding requirements,” stated Tom Cobbs, Optomec LENS product manager. “The LENS CS 600 and CS 800 systems represent the latest in DED processing from precision deposition to cladding applications and extend our product portfolio to continue to provide high-value metal Additive Manufacturing solutions.

MATÉRIAUX - FABRICATION ADDITIVE

Farsoon develops advanced pure copper Additive Manufacturing process

25/02/2019 - www.metal-am.com



A pure copper heat exchanger produced by Farsoon Technologies. Farsoon Technologies, headquartered in Changsha, China, has announced the development of a pure copper Additive Manufacturing process using the company’s metal laser sintering systems. In 2017, Farsoon’s Application team joined with industrial partners to begin developing an advanced process to produce pure copper additive components. The lightweight design reduced weight by over 30% and cost by 35%.

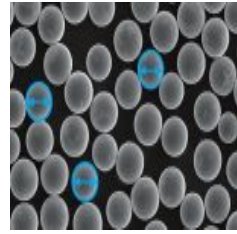
Carnegie Mellon University and Argonne National Laboratory unlock keyhole phenomenon in metal 3D printing

25/02/2019 - 3dprintingindustry.com

Quality control in 3D printing, in particular metal, is one of the most vital aspects of the technology, because, as the number of print runs necessary to create a final part increase the cost of the 3D printed part also rises. “It’s [QA] important because 3D printing, in general, is rather slow [...] It takes hours to print a part that is a few inches high. For more news on research in additive manufacturing subscribe to our 3D printing

Canada's AM metal powder industry gets \$8M boost at Equispheres

19/02/2019 - 3dprintingindustry.com



Canadian additive manufacturing powder producer Equispheres has just received an \$8 million investment from early stage and SME financing bank BDC Capital. Headquartered in Ottawa, Ontario, and driving at the green-benefits of metal 3D printing, Equishperes is well-positioned within BDC's ongoing commitment to high-potential Canadian cleantech firms. Make your nominations now for the 2019 3D Printing Industry Awards. For all of the latest additive manufacturing business news, subscribe to the 3D Printing Industry newsletter , like us on Facebook and follow us on Twitter.

Carbon and Shapeways partnership expands access to Digital Light Synthesis 3D Printing technology

28/02/2019 - 3dprintingindustry.com

Carbon , based in Silicon Valley, has partnered with Shapeways , a 3D printing marketplace and service bureau, expanding access to its Digital Light Synthesis (DLS) additive manufacturing technology and materials. As a result of its technology, Carbon has developed sports helmet lining for American football equipment provider Riddell , 3D printed Futurecraft 4D shoes in collaboration with Adidas , and dental models, casting and implant guides through its FDA-approved 3D printable DENTCA resins and M2 3D printers.

MARKET / BUSINESS - FABRICATION ADDITIVE

INTERVIEW: Fast Radius' CEO Lou Rassey on embracing industrial additive manufacturing

25/02/2019 - 3dprintingindustry.com

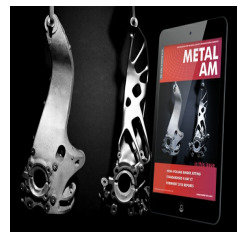


A 3D printed part created using HP's Multi Jet Fusion 3D printer. Fast Radius integrates a four-pronged business model: they help companies discover new additive applications, design for additive manufacturing (DfAM), make industrial-grade products, and fulfill those products on demand.

EVÈNEMENTS / ÉTUDES - FABRICATION ADDITIVE

Annual Event focuses on role of Additive Manufacturing in precision engineering

25/02/2019 - www.metal-am.com



Also of interest is the topic of design for Additive Manufacturing (DFAM), focusing on the issues design engineers need to consider in order to enable the manufacture of highly complex, often customised parts with graded material composition. As the additive manufacturing sector matures, the event organiser states that there is a necessity to characterise the performance of AM machines, focusing on in situ process monitoring, in-process measurement, and process feedback and correction, all of which will be discussed at the event, as will be the subject of AM standards.

Clariant to Present Industrial 3D Printing Materials, Solutions and Services at TCT Asia 2019

21/02/2019 - www.azom.com

"Clariant is excited to be expanding its range of 3D printing materials, solutions and services to advance the potential offered by 3D printing to more industrial applications," comments David McCann, Senior Business Architect at Clariant's 3D printing business. In addition to material support, Clariant offers advice for choosing 3D printers, 3D printing

specific design guidance and post-processing options of printed parts.

RÉGLEMENTATION / BREVETS - FABRICATION ADDITIVE

UL opens access to global standards library to advance fourth industrial revolution

21/02/2019 - 3dprintingindustry.com



Earlier this month, the company published the “Standard Method for Testing and Assessing Particle and Chemical Emissions from 3D Printers” for stakeholders seeking to mitigate indoor air pollution risks from 3D printer emissions. This program allows customers to have published data that facilitates pre-selection of 3D printed materials and components for use in various end products. For more 3D printing news subscribe to the 3D Printing Industry newsletter , follow us on Facebook and like us on Twitter.

Northrop Grumman granted patent for composite fiber 3D printing

19/02/2019 - 3dprintingindustry.com

Alongside NASA and Oxford Performance Materials the company co-developed the OPM B-Basis database , and its Selective Laser Sintering (SLS) additive manufactured Nylon 12 Database is available through America Makes. As stipulated in the patent copy, potential feedstocks for the system include PLA, ABS, PEI, nylon, polystyrene, PEEK, PEKK and PES, with “fiberglass, carbon, aramid, polyester and cotton or other plant-based” fiber reinforcements.

Chinese researchers use 3D printing to reinvent the wheel for SAR robotics

04/03/2019 - 3dprintingindustry.com

Researchers from China’s National University of Defense Technology (NUDT) are using 3D printing to improve the design of Search and Rescue (SAR) and Explosive Ordnance Disposal (EOD) robots. Five kinds of supporting 3D printed spokes in different modes. For more of the latest 3D printing research follow us on Twitter , like us on Facebook and subscribe to our newsletter. Featured image shows five kinds of supporting 3D printed spokes in different modes.

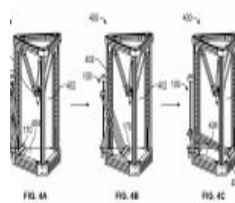
USPTO approves Authentise secure streaming and monitoring patent for digital manufacturing

28/02/2019 - www.3ders.org

Utah-based 3D printing software company Authentise today announced that the USPTO has approved its patent : ‘System, method and Program Product for Digital Production Management. First is that data-enabled manufacturing processes such as additive manufacturing can deliver entirely new functionality such as digital quality assurance and seamless intellectual property protection.

Virginia Tech inventor granted patent for 3D printing vending machine

04/03/2019 - 3dprintingindustry.com



The document is published under the title ‘3D printing part removal and interface for a 3D printing vending machine ’ assigned to the university’s IP asset manager Virginia Tech Intellectual Properties, Inc.. Once a print file is selected the user can see the live preview of the model powered by Helix 3D toolkit, an open source 3D library. There are a number of new career opportunities currently available in additive manufacturing, visit our 3D Printing Jobs page to find out more.