

SOMMAIRE	GENERALITES
GENERALITES - The best aerospace and automotive 3D printing applications of 2018 AEROSPATIAL - Aeroprobe's patented MELD is first-ever metal 3D printing technology without melting - Aeromet receives crucial funding to advance new A20X aerospace-grade additive material - EOS releases aerospace grade PEKK 3D printer material in collaboration with Boeing - German BAM institute 3D prints a metal tool for the first time in zero-gravity - Metal Tool 3D-Printed in Zero Gravity CONCEPTION - nScript Demonstrates Ability to 3D Print Embedded Sensors for Medical Devices - CMU scientists create self-folding materials using cheap desktop 3D printer - New Microsoft open source 3D printing tech creates multi-device workspaces TECHNOLOGIES - Researchers combine 3D printing and microfluidics in cost-effective method for preparing bio-chips - New Essentium High Speed Extrusion 3D printer runs at 1 m/s - Vader Systems announces new developments in its liquid metal AM technology - Sandia's first 3D printed wind turbine blade mold wins national Technology Focus Award - How to make cheap, scalable multi-material 3D printing with powder deposition process	The best aerospace and automotive 3D printing applications of 2018 14/04/2018 - 3dprintingindustry.com In the interest of keeping the 3D Printing Industry Awards in time with the rapidly evolving additive manufacturing landscape, we've opted to include a wildcard option to bring in new challengers to the race. (Phil Hatherley, General Manager, Materials Solutions – A Siemens Business, accepts the award for the 3D printed superalloy gas turbine blades at the 3D Printing Industry Awards 2017. Below are some of the best aerospace or automotive 3D printing applications of 2018, as voted for by our readers:. AEROSPATIAL Aeroprobe's patented MELD is first-ever metal 3D printing technology without melting 13/04/2018 - www.3ders.org A start-up company based in Montgomery County, Virginia, has recently pioneered a new form of 3D printing technology that has the potential to revolutionize the metal AM field. MELD Manufacturing Corporation is a subsidiary of established tech firm Aeroprobe, and is named after its own groundbreaking 3D printing technique. The MELD 3D printing technique, which has been in development for over 10 years, has metal powders and rods as its base material. Aeromet receives crucial funding to advance new A20X aerospace-grade additive material 13/04/2018 - 3dprintingindustry.com Aeromet International Ltd , is a UK-based manufacturer of aluminum and cast metal parts for aerospace and defense industries. The UK's National Aerospace Technology Exploitation Programme (NATEP) has just awarded funding to Aeromet and its partners, which now include Rolls-Royce , Renishaw and Phoenix Scientific Industries Ltd (PSI), for the further development of A20X in 3D printing. Photo via Aeromet International Ltd.) Aeromet's A20X aluminum alloy. (Part of a winglet manufactured by Aeromet. EOS releases aerospace grade PEKK 3D printer material in collaboration with Boeing 23/04/2018 - 3dprintingindustry.com It is suitable for use on a new EOS P 810 system that was also announced today at RAPID + TCT 2018. In addition, "Our EOS P 810 polymer 3D printing platform and the ALM HT-23 material enabled us to help Boeing reach high demands for weight reduction, cost efficiency and reduced assembly time for components. (The EOS P 180 additive manufacturing system. Featured image shows the EOS P 800 additive manufacturing system. German BAM institute 3D prints a metal tool for the first time in zero-gravity

MATERIAUX

- BioNEEK knee brace exploits INTAMSYS 3D printing and ultra-light PEEK material for improved endurance and mobility
- Taking 3D printing to the extreme – fiber reinforced PA6 is up to 250% stronger than ABS
- Roboze adopts leading SABIC filament for FFF 3D printers
- FDM Nylon 12CF Offers New Possibilities for 3D Printed Production Parts

MARKET / BUSINESS

- U.S. Navy will rely on 1,000 3D printed parts by end of 2018
- What Happened to 3D Printing Marketplaces After the Consumer Bubble?
- Is 3D printing ready for mass production?
- Prodways on track for Euro 100M annual sales in 2019

EVENEMENTS / ETUDES

- HP et GE Additive font désormais partie des plus gros vendeurs d'imprimantes 3D
- 3D Printed Trophies for Rapid + TCT 2018
- GE dévoile sa nouvelle imprimante 3D métal, l'Arcam EBM Spectra H
- Behind the Scenes at RAPID + TCT 2018
- The insiders view of AMUG 2018 with ANSYS, Carbon, Renishaw and more

25/04/2018 - www.3ders.org

German research institute BAM (Federal Ministry of Materials Research and Testing) has successfully 3D printed a metal tool in zero-gravity conditions for the first time. The printing of a spanner in zero-gravity points the way forward for increased implementation of 3D printing technology in space exploration missions. As the additive manufacturing process for metals makes use of a bed of powder, which is selectively melted or fused by lasers, a method is required to stabilize this powder bed in zero-gravity conditions.

Metal Tool 3D-Printed in Zero Gravity

27/04/2018 - www.mro-network.com



Southwest Airlines Southwest Technical Operations Team performs detailed ultrasonic inspections of engine blades. Maintenance, Repair & Overhaul >Engines & Engine Systems CFM56 Inspections Progressing; No Fleet-Wide Issues Found Southwest Airlines and industry inspections of CFM56-7B engines are not pointing to fleet-safety issues. "CFM technicians are overall very pleased with how the fan blades have been maintained by the airlines," a GE spokesman said.

CONCEPTION

nScript Demonstrates Ability to 3D Print Embedded Sensors for Medical Devices

23/04/2018 - www.engineering.com



nScript, a manufacturer of industrial 3D printers and bioprinting tools, has announced the ability to 3D print medical implants with embedded circuits and sensors. Florida-based nScript is a unique company, in that it has developed a range of industrial 3D printing and bioprinting technology capable of fabricating parts with very specific applications. "nScript is a leader and pioneer in both 3D-printed electronics and bioprinting," nScript CEO Ken Church said.

CMU scientists create self-folding materials using cheap desktop 3D printer

25/04/2018 - www.3ders.org



Their Thermorph 3D printing method exploits a common flaw in 3D printing, which is warpage in a plastic object after it is printed. In this way the flat objects can transform into any number of different 3D objects with shapes that are pre-determined in the design phase. The 3D printing system that the team used for the Thermorph structures was a basic one, but they made use of advanced software they built specifically for this task.

New Microsoft open source 3D printing tech creates multi-device workspaces

27/04/2018 - 3dprintingindustry.com



Our 3D-printed bracket design, which includes an inner core of conductive 3D-print material, overlaps with the touchscreens of connected tablets and triggers a touch contact on each screen. For the latest 3D printing materials news, subscribe to the 3D Printing Industry newsletter, follow us on Twitter , and like us on Facebook. Voting is still open for 2018 3D Printing Industry Awards.

TECHNOLOGIES

Researchers combine 3D printing and microfluidics in cost-effective method for preparing bio-chips

24/04/2018 - www.3ders.org

Researchers at City University New York (CUNY) have recently developed a new nano-printing method for organic material. The CUNY researchers have expanded the possibilities for tip-based lithography, and their work could revolutionize the way bio-chips are made. Tip-based lithography (TBL) is a technique for printing organic material on the surface of a chip. The CUNY researchers' new technique for 3D printing bio-chips is more versatile than any other nano-printing method developed so far.

New Essentium High Speed Extrusion 3D printer runs at 1 m/s

24/04/2018 - 3dprintingindustry.com

Texan 3D printing company Essentium has announced a forthcoming FFF 3D printer that can print at speeds up to 1 m/s. (Thermal image of the Essentium High Speed Extrusion 3D printer. The High Speed Extrusion platform is an additive manufacturing system that intends to address both the speed and strength issues with traditional FDM/FFF 3D printers. Build volume of the Essentium HSE 3D printer is 600 x 510 x 600mm (23.6" x 20" x 23.6") with Resolution figures provided as 0.100mm in the Z axis and 13µm for X & Y..

Vader Systems announces new developments in its liquid metal AM technology

27/04/2018 - www.metal-am.com

Vader Systems, Buffalo, New York, USA, announced three unique systems based on its patented Magnet-o-Jet™ technology at this week's RAPID + TCT exhibition in Fort Worth, Texas, USA. The solutions include the Vader Polaris™ liquid metal AM system, The Magnet-o-Jet™ Subsystem for hybrid manufacturing equipment integration and the Ares™ Microsphere Production System. By eliminating the use of metal powders, the company claims that the Magnet-o-Jet™ system allows manufacturers to produce parts and precisely finish them all in one system.

Sandia's first 3D printed wind turbine blade mold wins national Technology Focus Award

27/04/2018 - www.3ders.org

To fabricate the turbine blades, Sandia teamed up with Oak Ridge National Laboratory, a leader in the field of 3D printing, as well as TPI Composites, the nation's largest independent manufacturer of wind turbine blades. The winners of the Technology Focus Award were honored on April 25, 2018, at an award ceremony at the Federal Laboratory Consortium's national meeting in Philadelphia, Pennsylvania.

How to make cheap, scalable multi-material 3D printing with powder deposition process

02/05/2018 - www.3ders.org

Engineers at 3D printing company Aerosint has recently published an article outlining the company's ideas about the future of multi-material 3D printing. Multi-material 3D printing is important for the future of additive manufacturing technology and the companies that develop it, as the majority of products tend to be made from more than one material. Instead of the usual case of a reinforcing material being distributed throughout a base material, FGMs are composed of two or more materials with a graduated interface in between each, smoothly transitioning from one to the other.

MATERIAUX

BioNEEK knee brace exploits INTAMSYS 3D printing and ultra-light PEEK material for improved endurance and mobility

23/04/2018 - www.3ders.org

Shanghai-based INTAMSYS is known for being one of the 3D printing world's leading suppliers of PEEK materials and the technology required to effectively print with them. "With the outstanding mechanical strength and stiffness of PEEK coupled with the reliability of INTAMSYS' 3D printing solution, Sichuan Ju An Hui is now able to swiftly customize according to customers' sizes and produce BioNEEK that fits comfortably on the knees of each customer, while delivering the industry-leading level of protection made possible by 3D printed PEEK", said Charles Han, CEO of INTAMSYS. ... field ...

Taking 3D printing to the extreme fiber reinforced PA6 is up to 250% stronger than ABS

23/04/2018 - 3dprintingindustry.com



Owens Corning, a leader in commercial and industrial construction industries, has developed the XSTRAND™ of composite 3D printer filaments to meet the demands of industrial, functional prototyping. In our previous profile on Owens Corning's glass-fiber reinforced polypropylene (GF30-PP) we saw how 3D printed prototypes could stand up to the elements in a case study from ski equipment manufacturer Rossignol. In the second of Owens Corning's XSTRAND™ range, we examine the profile of GF30-PA6, and the use of XSTRAND™ filaments to "make boats fly."

Roboze adopts leading SABIC filament for FFF 3D printers

25/04/2018 - 3dprintingindustry.com



Roboze, an Italian 3D printing company specializing in FFF solutions, has teamed up with SABIC, a global manufacturer in diversified chemicals headquartered in Riyadh, Saudi Arabia. Launched at the formnext 3D printing expo in Frankfurt last November, it is a unique polycarbonate copolymer characterized by high impact resistance and ductility at low temperatures (up to -30° C). Samples of parts printed by Roboze with the EXL AMHI240F filament are on display at this week's Rapid + TCT show at Roboze's Stand 2539.

FDM Nylon 12CF Offers New Possibilities for 3D Printed Production Parts

03/05/2018 - www.stratasysdirect.com

Stratasys Direct Manufacturing announced it is now offering parts built with FDM Nylon 12CF, in conjunction with Stratasys' offering of the material for their F900 and 450mc systems. LS Nylon 12CF vs FDM Nylon 12CF The comparison of Nylon 12CF in Laser Sintering (LS) vs FDM is mostly related to how each technology builds. They printed the gear in Nylon 12CF in 3.5 hours. The FDM Nylon 12CF lathe gear in action. Bringing Downtown Detroit to Life The District Detroit Project Uses FDM to Showcase a New Motor City The District Detroit Project Uses FDM to Showcase a New Motor City.

MARKET / BUSINESS

U.S. Navy will rely on 1,000 3D printed parts by end of 2018

11/04/2018 - 3dprintingindustry.com

In 2016 NAVAIR proved that 3D printing could be used to produce safety-critical parts with the successful flight of an MV-22B Osprey, fitted with a 3D printed titanium engine nacelle link and attachment.

What Happened to 3D Printing Marketplaces After the Consumer Bubble?

25/04/2018 - www.engineering.com

The Future of Consumer 3D Printing Marketplaces Now that most of the firms have redirected their focus toward business and industrial applications and technologies, will there ever be a consumer 3D printing marketplace the way many of them believed and some still believe is possible? His predictions for the future of consumer 3D printing reflected his initial views regarding desktop 3D printing, as well.

Is 3D printing ready for mass production?

01/05/2018 - 3dprintingindustry.com



When the first batch of 3D printed Futurecraft 4D shoes was released on January 18th, 2018 demand outpaced supply and resale prices for the adidas Futurecraft reached \$20,000. With a patent originally filed in 2007 and in partnership with Parisian 3D printing bureau Erpro Group , 3D printed production of 1 million brushes a month is the target. Align Technology Inc , a company boasting 3D printing farm with over 60 additive manufacturing systems, has set out to revolutionise dental care, combining 3D technology with dentistry to produce 8 million orthodontics a year.

Prodways on track for Euro 100M annual sales in 2019

02/05/2018 - 3dprintingindustry.com

The statements provide a clear and detailed indication of the progress made by the Group since its IPO in May 2017 to become a major player in the 3D printing industry. Prodways Technologies, a manufacturer of the 3D printers. Subscribe to our daily 3D Printing Industry newsletter , follow us on Twitter , and like us on Facebook. Vote now for the leading industrial additive manufacturing systems in the 2018 3D Printing Industry Awards.

EVENEMENTS / ETUDES

23/04/2018 - www.3dnatives.com



L'entreprise a depuis investi des millions d'euros dans l'impression 3D et développé son imprimante 3D grand format de métal. Notons toutefois que Stratasys ne se positionne pas sur le même marché que GE Additive puisqu'il se concentre sur le marché de l'impression 3D polymère, même s'il a récemment annoncé sa volonté de développer une imprimante 3D métal. Il pourrait bien être rattrapé par Monoprice, mais surtout par Prusa Research, à l'origine de la célèbre imprimante 3D open source qui enregistre une croissance de 523%.

3D Printed Trophies for Rapid + TCT 2018

26/04/2018 - www.stratasysdirect.com

Direct Metal Laser Melting (DMLM) (aka Direct Metal Laser Sintering) can be effective through practices uncommon to conventional manufacturing techniques, causing concern around the reliability and consistency of mechanical properties for AM metal parts. (ensuring superior quality of additive metal parts) Ensuring Quality of Additive Metal Parts We can perform a wide-range of additive metal post-processes to achieve high quality standards.

25/04/2018 - www.3dnatives.com



A l'occasion du salon Rapid + TCT qui se déroule actuellement aux Etats-Unis, le fabricant GE Additive a révélé sa toute nouvelle solution de fabrication additive métal, l'Arcam EBM Spectra H. Elle aurait été conçue pour traiter des matériaux à haute température et sujets aux fissures, capable de créer de larges pièces à des températures excédant les 1000°C..

Behind the Scenes at RAPID + TCT 2018

27/04/2018 - www.engineering.com

RAPID + TCT , the largest additive manufacturing trade show in North America, just wrapped up in Fort Worth, Texas. As usual, engineering.com was on the show floor, conducting interviews and shooting videos about the latest tech on display at the show. According to Keynote speaker Terry Wohlers, President of Wohlers Associates, "metal is smoking hot," in the additive industry, and the show floor reflected that as well. I spoke to one attendee who told me he came to this year's show for research into metal additive manufacturing for aircraft engine parts.

The insiders view of AMUG 2018 with ANSYS, Carbon, Renishaw and more

30/04/2018 - 3dprintingindustry.com

3D Printing Industry was of course at last weeks RAPID + TCT and also AMUG 2018 earlier in the month. What began in 1988 as user group for the owners of 3D Systems equipment has grown to become the brains trust of additive manufacturing. Photo by Michael Petch. I caught up with some of this years AMUG attendees to gather their thoughts on the event and how they would like to see the additive manufacturing industry develop in 2018. Vote now for the leading industrial additive manufacturing systems in the 2018 3D Printing Industry Awards.

Service Information Numérique - Pôle IES

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