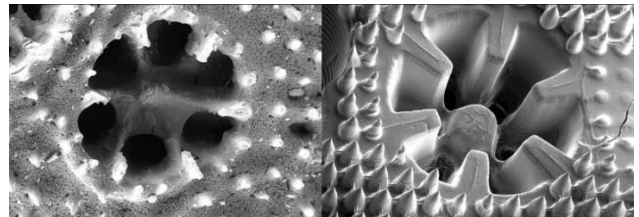# Fabricación Aditiva

BOLETÍN DE VIGILANCIA TECNOLÓGICA.
ABRIL-JUNIO 2020. **CEIIA**

NOTICIAS

16/04/2020

Coral-inspired biomaterials could lead to efficient biofuel production

Researchers at the Scripps Institution of Oceanography and Jacobs School of Engineering at the University of California, San Diego and their colleagues have designed 3D-printed, coral-inspired structures capable of growing dense populations of microscopic algae.
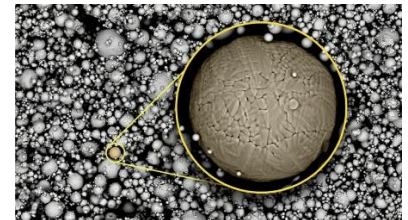
https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=300404&WT.mc_id=USNSF_1

16/04/2020

Texas A&M Researchers Develop Method For 3D Printing Hard Steels Flawlessly

Researchers from Texas A&M University, in collaboration with scientists in the Air Force Research Laboratory, have developed guidelines that allow 3D printing of martensitic steels into very sturdy, defect-free objects of nearly any shape. A paper on their work is published in the journal Acta Materialia.
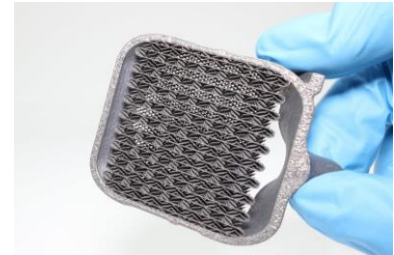
https://today.tamu.edu/2020/04/16/texas-am-researchers-develop-method-for-3d-printing-hard-steels-flawlessly/

07/05/2020

VELO3D develops process for 3D-printing Aluminum F357 for thin-walled heat-transfer applications

Digital manufacturing innovator VELO3D announced the commercial release of a manufacturing process for additively manufactured parts in Aluminum F357 on the company's Sapphire metal 3D-printing system. Aluminum F357 is a beryllium-free aluminum-silicon alloy, similar to A357. It has excellent weldability and corrosion resistance.

https://www.greencarcongress.com/2020/05/20200507-velo3d.html

13/05/2020

ORNL team developing 3D-printed nuclear reactor core; Transformational Challenge Reactor (TCR)

Researchers at the Department of Energy's Oak Ridge National Laboratory are refining their design of a 3D-printed nuclear reactor core, scaling up the additive manufacturing process necessary to build it, and developing methods to confirm the consistency and reliability of its printed components.
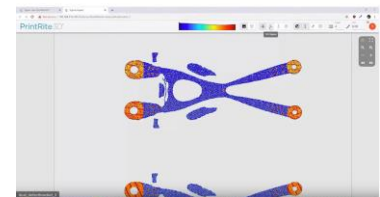

https://www.ornl.gov/news/3d-printed-nuclear-reactor-promises-faster-more-economical-path-nuclear-energy

20/06/2020

Moving metal AM forward

Additive-manufacturing system providers still see technical and throughput challenges, but significant market inroads will be made in 2020.

https://www.infoplc.net/noticias/item/107343-mitsubishi-robot-rv-8crl-8kg-alternativa-mas-rentable

25/06/2020

New technology campus for 3D printing goes on stream: BMW Group builds on additive manufacturing, with skills consolidated at single site

The BMW Group has today officially opened its new Additive Manufacturing Campus. The new centre brings together production of prototype and series parts under one roof, along with research into new 3D printing technologies, and associate training for the global rollout of toolless production. The campus, which came at an investment of €15 million, will allow the BMW Group to develop its position as technology leader in the utilisation of additive manufacturing in the automotive industry.

https://www.press.bmwgroup.com/global/article/detail/T0309872EN/new-technology-campus-for-3d-printing-goes-on-stream-bmw-group-builds-on-additive-manufacturing-with

PUBLICACIONES CIENTÍFICAS

Maio/2020

A Design for Additive Manufacturing Framework: Product Function Integration and Structure Simplification

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Auwal Haruna, Pingyu Jiang

Manufacturing industries have been practicing additive manufacturing (AM) processes which can generate complex shapes with high degree of accuracy, close dimensional tolerance, and better surface finish. These processes involve the use of technology to improve product design by reducing the number of parts and assemblies with the relevant technology to which design for additive manufacturing (DFAM) emerges. However, the liberation of design which DFAM provided such as function integration and structure simplification have not been deeply investigated. Therefore, to envisage the revamping of these design potentials provided by DFAM to improve precision of part design, arises with the questions of: how to develop a new part design model for fuse deposition modelling (FDM) process, and how to develop a design process model to integrate traditional design (TD) with DFAM. Subsequently, we proposed a four-layered design framework to solve the aforementioned-problems with a case study that shows the effectiveness of our approach.

https://doi.org/10.1016/j.ifacol.2021.04.127

Junio/2020

Current advances in additive manufacturing

Mercedes Pérez, Diego Carou, Eva María Rubio, Roberto Teti

Additive manufacturing is a topic of high growth in recent years in both academic and industrial terms. Based on important advantages such as the possibility to manufacture complex geometries, the technology is being continuously developed and improved. So, additive manufacturing is rapidly overcoming some of its initial limitations and, thus, increasing its applications in a wide range of industrial sectors. In addition, additive manufacturing is of public interest due to the opportunities and applications that it offers, or it may provide. The article presents the basics of the technology, highlighting its main advantages and limitations. Moreover, it aims to collect the latest trends (e.g., 4D printing, bioprinting, hybrid processes and micromanufacturing), applications and developments that this technology currently has.

https://www.sciencedirect.com/science/article/pii/S2212827120303978