

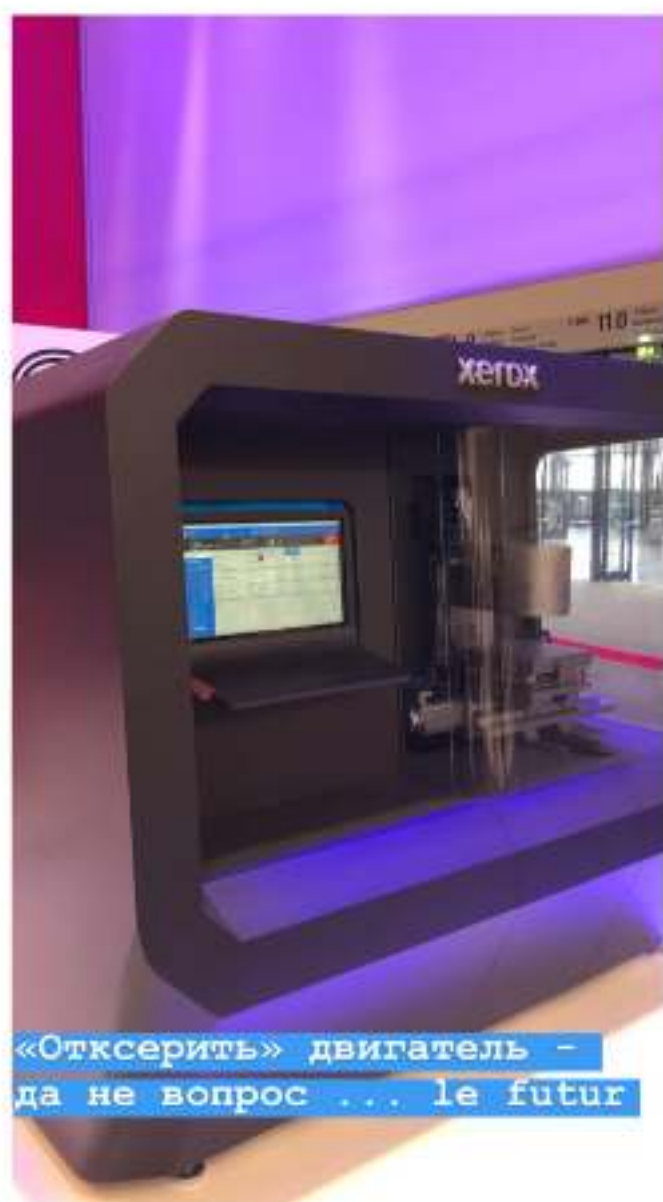
АДДИТИВНЫЕ ТЕХНОЛОГИИ (FORMNEXT)

ФРАНКФУРТ 2019

3D ПЕЧАТЬ

- МАСШТАБИРУЕМОСТЬ
- СОЧЕТАНИЕ РАЗНЫХ МЕТАЛЛОВ
- УВЕЛИЧЕНИЕ ПРОЧНОСТИ БОЛЬШИХ ИЗДЕЛИЙ





«Отксерить» двигатель -
да не вопрос ... le futur

ИНДУСТРИЯ 4.0

- ПОЛНАЯ АВТОМАТИЗАЦИЯ НА ПРОИЗВОДСТВЕ
- РЕВЕРСИВНЫЙ ИНЖИНИРИНГ
- РАБОТА В СПЕЦ. ПО ПО ДИЗАЙНУ (ПЛАНШЕТЫ, ИНТЕРФЕЙС, КОНТРОЛЬ)



THE FLEXIBLE SOLUTION YOUR AM FACTORY

LOAD GRABBED MODULES & METAL MATERIALS



which is scalable and ensures 24/7 operation.

SYSTEM SWAP-OUT
FAST AND EASY TO
REPLACE TOOLS FOR
DIFFERENT TOOLS

**SHARED MODULES
@ NEXTGENERAM**
BRAND-NEW PARTS TO
RUN, MAY

EOS M 300 SERIES
DIGITAL ADDITIVE
MANUFACTURING

**METAL
MAN**
EXTENSIVE PG
WARRANTY TO PU

AMERICAL
fully automatic
high precision
additive manufacturing



ПРИРОДОПОДОБНЫЕ ТЕХНОЛОГИИ (ГЕНЕРАТИВНЫЙ ИНЖИНИРИНГ)

- СОКРАЩЕНИЕ ВЕСА
- СОКРАЩЕНИЕ КОЛИЧЕСТВА ДЕТАЛЕЙ
- СОВЕРШЕННО НОВЫЙ ДИЗАЙН
ПРИВЫЧНЫХ ВЕЩЕЙ НЕСУЩИЙ В СЕБЕ
ПОВЫШЕННУЮ ЭФФЕКТИВНОСТЬ



АВТОМОБИЛЕСТРОЕНИЕ



D printed high performance A-pillar inlay

Extraordinary forces experienced during rollover accidents call for high performance stiffening structures, precisely within the A-pillar of convertibles. We developed a next generation A-pillar inlay in cooperation with Volkswagen Osnabrück using Generative Engineering.

Unlike conventional serial development processes with mesh based construction and manual FE-iterations, Generative Engineering allows an automated generation of lightweight designs with real time adaption to changing boundary conditions in one software environment.

We created the technical DNA of the A-pillar inlay rather than the component itself. Within the DNA, topology optimization suits serve as a basis for the unique algorithmic structure generation, leading to a design subsequently adapted to the add and manufacturing constraints using parametric simplification techniques. The 3D printing of the product allows section and part integration, minimum weight, high mechanical strength and therefore a maximum of safety and liability.

in cooperation with:

Volkswagen Osnabrück GmbH



74% Weight reduction

67% Part reduction



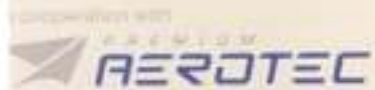
АВИАСТРОЕНИЕ

3D printed Airbus A 320 Auxiliary Stabilizing Point

The auxiliary stabilizing point is installed between two frames of the 320s lower shell at the rear side of the airplane. It is used in final assembly and during maintenance in order to keep the aircraft level. Therefore, it carries part of the airplane's weight.

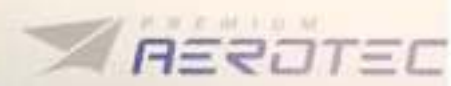
Unlike conventional serial development processes with sketch based construction and manual FE-iterations, Generative Engineering allows an automated generation of lightweight designs with real time adaptation to changing boundary conditions in one software environment. We created the technical DNA of the stabilizing point rather than the component itself.

Within the DNA, the topology optimization visualizes load paths, which are adapted by parametric cross section optimization considering loads and manufacturing constraints. The automated meshing of the structure and integration of attachment points is the last step of the automated process, leading to the final part for 3D printing.



40% Weight reduction

80% Saved time



АДДИТИВНЫЕ УСТАНОВКИ



📍 FRANKFURT, GERMANY



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