



# STRATEGIC INSIGHTS INTO ADDITIVE MANUFACTURING: GAINING AN EDGE IN INNOVATION

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3DEXPERIENCE™



# THE GLOBAL AM MARKET



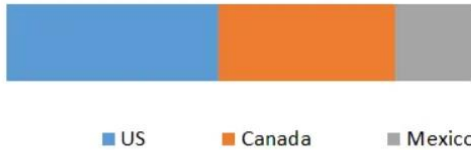
**North America** Expected to hold the largest market shares.



Global Market is expected to grow at a CAGR of 21.86 % during 2024-2030

## Additive Manufacturing Market

North American Countries Share in the Global Market in 2023 (%)



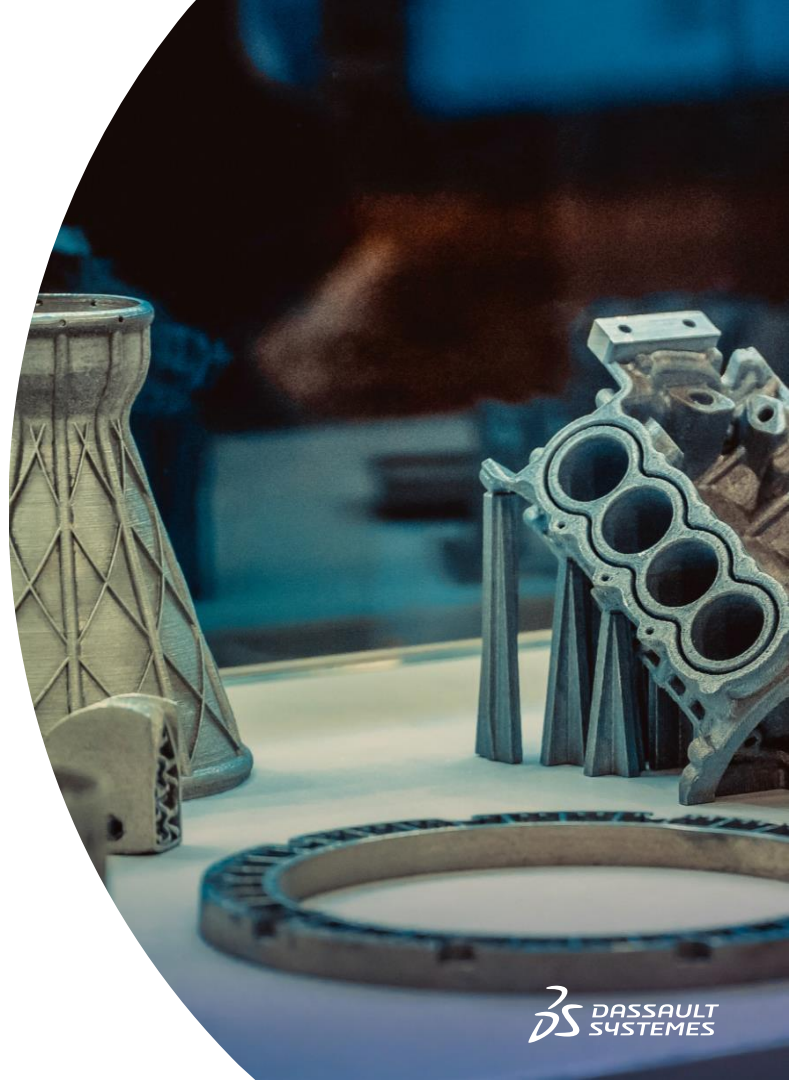
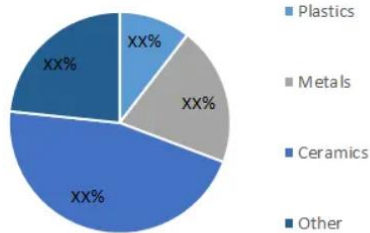
Additive Manufacturing Market, by Revenue share (%) of European Countries 2023



## Market Size

| Year | Market Size (Billion USD) |
|------|---------------------------|
| 2023 | USD 22.53                 |
| 2030 | USD 89.91                 |

Additive Manufacturing Market, by Material Type Segment Market Share (%) 2023



Source: <https://www.maximizemarketresearch.com/market-report/additive-manufacturing-market/146140/>

# TCO OF ADDITIVE MANUFACTURING

## WHAT IS TCO?

Traditional view:

$TCO = \text{Purchase Price of Product} + \text{Total Cost of Operation for Product}$

## ADDITIVE MANUFACTURING DRIVES DOWN TCO

- Reduces Inventory
- New option for Spare Parts
- Supplementary high-volume production method to manage Supply Chain emergencies
- Reduces Design Change Costs



# A new World to Imagine, Design and Make Experiences

## New Machines / New Materials



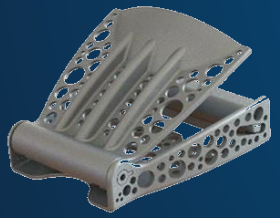
Carbon3D's Super Fast 3D Printer

## New Ways to Produce

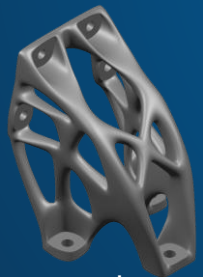


MX3D Bridge Printing

## New Ways to Design



New Assembly Structures



New Shapes



Functions Integration

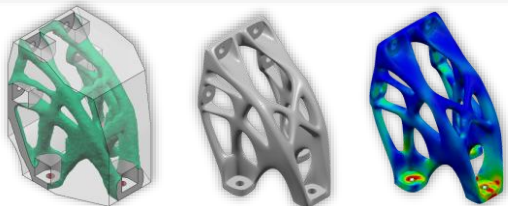
## New Eco-system



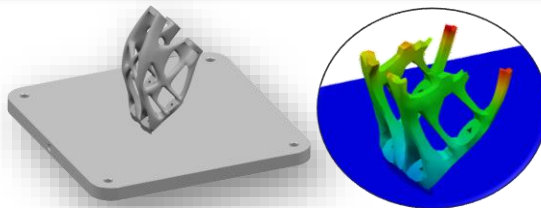


# Strategy | Digitally Connected, Science-based

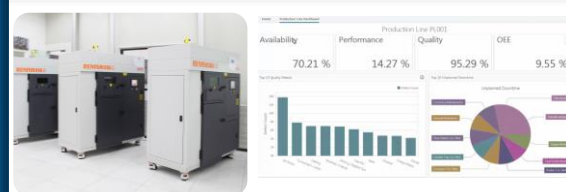
## 2 Function-Driven Generative Design



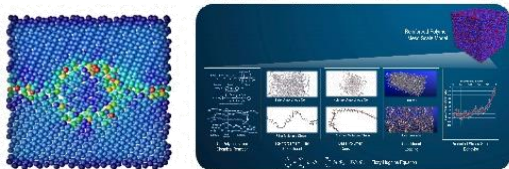
## 3 Process Definition & Simulation



## 4 Global Production System



## 1 In-Silico Material Engineering



Manufacturing Experts



Service Providers



Machine Builders



Material Suppliers



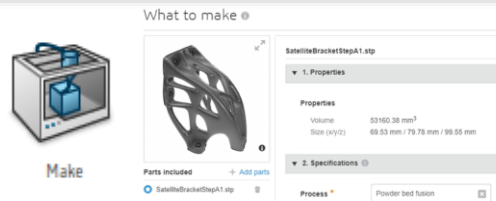
Engineering Experts



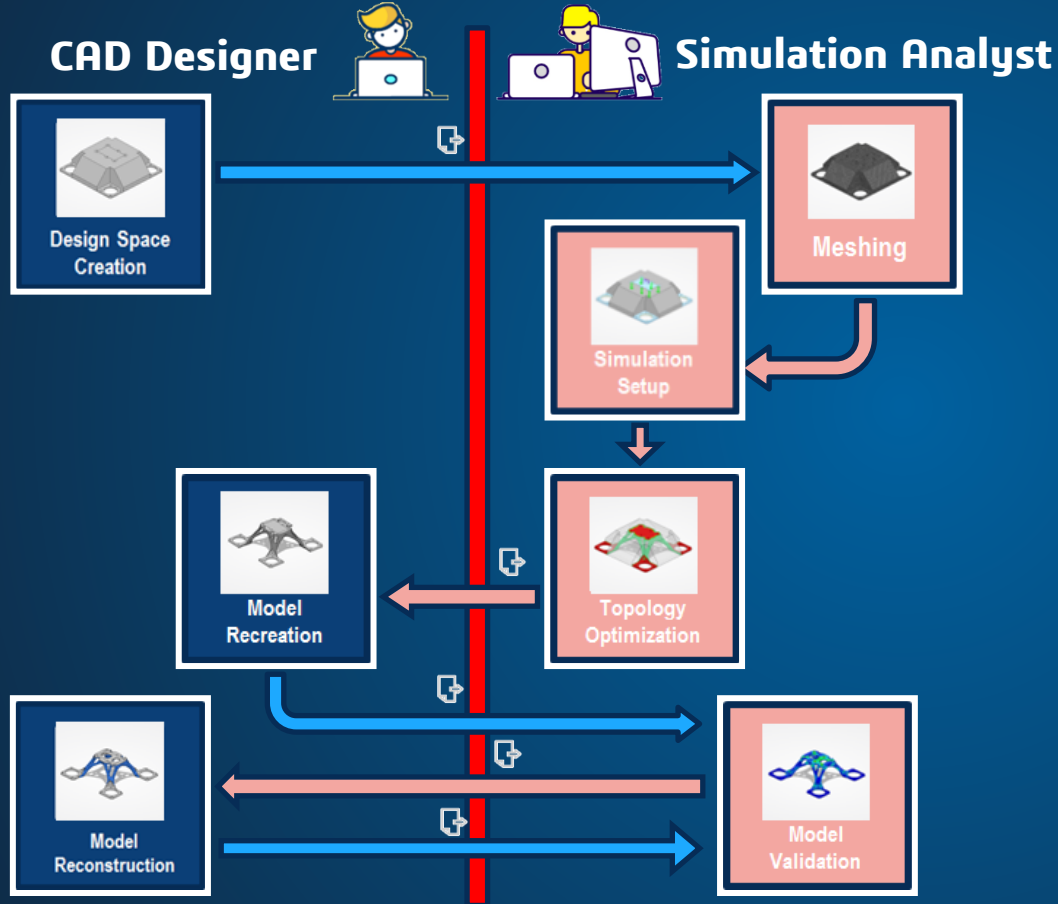
Labs & Academics



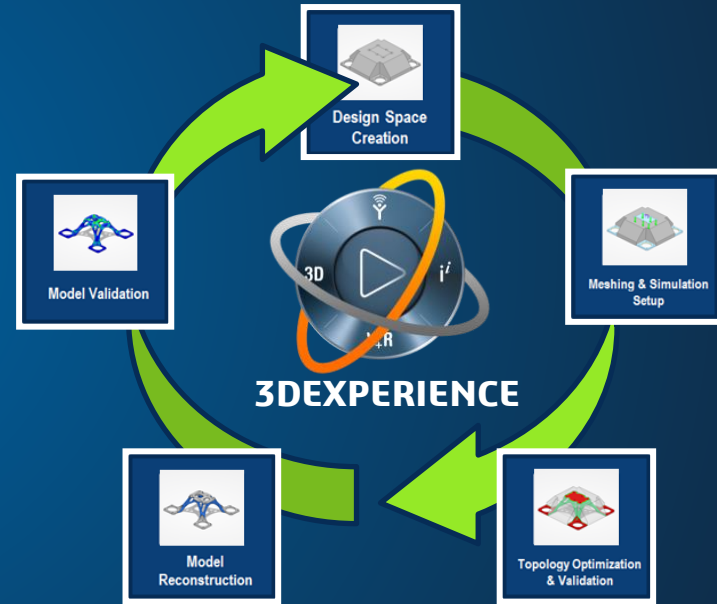
## 5 3DEXPERIENCE Marketplace



# A Siloed Process Unified in a Single Environment



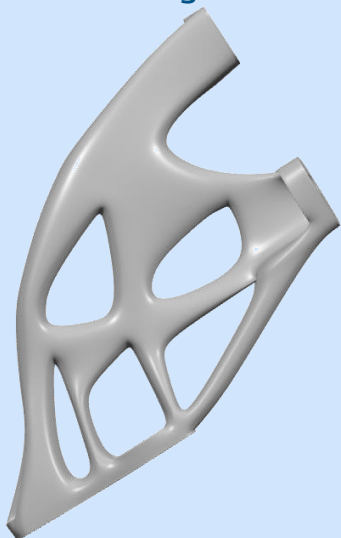
## Single Interface, Scalable Solution



# A New Process: Difficult to Master and Replicate...

## "As-Designed" Part

- ▶ Standard material properties assumptions
- ▶ Perfect Geometry



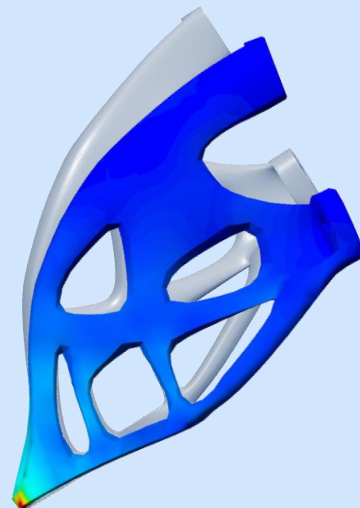
## Process Gap

Materials  
Deposition Path  
Build Definition  
Heat Input  
...

Residual Stresses  
Distortions  
Altered Properties  
Broken Parts  
....

## "As-Manufactured" Part

- ▶ Tolerance issues due to distortion
- ▶ Weakened Part
- ▶ Anisotropic and porous material



# Building Long-Term Relationships



## Dassault Systèmes and Airbus Group Extend Collaboration to Additive Manufacturing

*3DEXPERIENCE Platform at the Core of Aircraft Programs Integrating Design, Simulation and Production*

VELIZY-VILLACOUBLAY, France — June 9, 2016 — [Dassault Systèmes](#) (Euronext Paris: #13065, DSY.PA), the 3DEXPERIENCE Company, world leader in 3D design software, 3D Digital Mock Up and Product Lifecycle Management (PLM) solutions, today announced that Airbus Group, after a two-year comprehensive benchmarking process, is extending its use of Dassault Systèmes' 3DEXPERIENCE platform to its additive manufacturing programs integrating design, simulation and production.



## Dassault Systèmes and Safran Enter Strategic Partnership for Additive Manufacturing

*End-to-End Digital Continuity for the Additive Manufacturing of Aerospace Engine Parts*

LE BOURGET (Paris Air Show), France — June 18, 2015 — [Dassault Systèmes](#) (Euronext Paris: #13065, DSY.PA), the 3DEXPERIENCE Company, world leader in 3D design software, 3D Digital Mock Up and Product Lifecycle Management (PLM) solutions today announced a partnership with [Safran Group](#), a leading international high-technology group in aerospace, defense and security, to develop expertise in the virtual validation of the additive manufacturing process using Dassault Systèmes' 3DEXPERIENCE platform.



## Dassault Systèmes Partners with WSU/NIAR to Advance Technologies and Product Development for Aerospace & Defense

*3DEXPERIENCE Center at Wichita State University Will Create and Drive New Technologies from Material Design to Additive Manufacturing*

VELIZY-VILLACOUBLAY, France — July 23, 2015 — [Dassault Systèmes](#) (Euronext Paris: #13065, DSY.PA), the 3DEXPERIENCE Company, world leader in 3D design software, 3D Digital Mock Up and Product Lifecycle Management (PLM) solutions, today announced that it has partnered with the National Institute for Aviation Research (NIAR) to open an innovation center at Wichita State University (WSU) to advance the use of new technologies such as additive manufacturing that will shape the future of the aviation industry.





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