

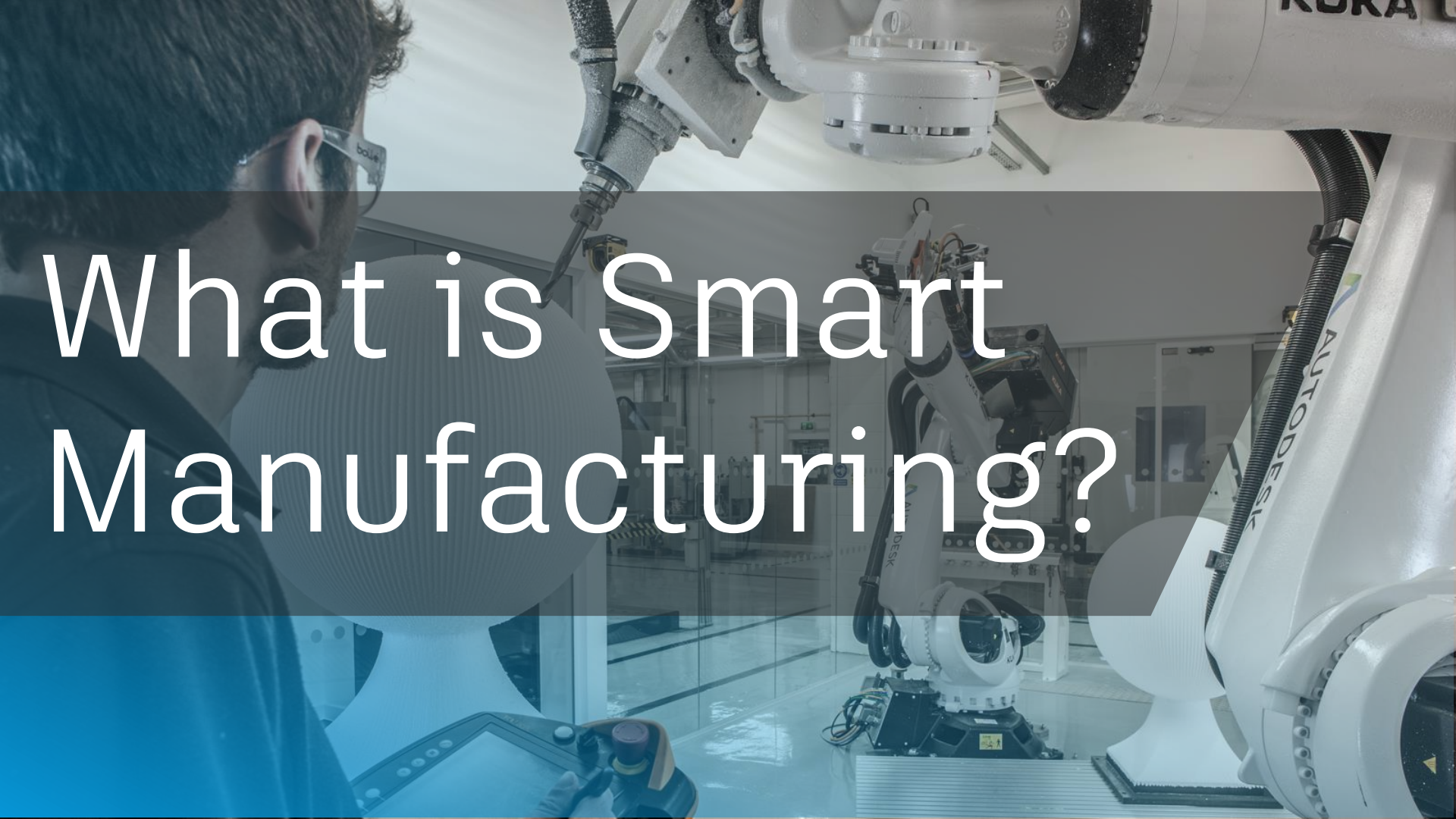
Smart Manufacturing

Doing More, Better, with Less

Callan Carpenter

VP, Global Named Accounts Sales, WWFO-Worldwide Field Operations





What is Smart Manufacturing?

Industrie 4.0



SMART

A publication of **smes**

manufacturing

AdvancedManufacturing.org November 2017

THE DEMOCRATIZATION
OF MANUFACTURING

Autodesk's **DIEGO TAMBURINI**
on the evolving world of fabrication:

'Now, the ability to introduce innovation is much more available to smaller entrepreneurs and start-ups, and they are innovating sometimes faster than the big ones.'

ALSO INSIDE:

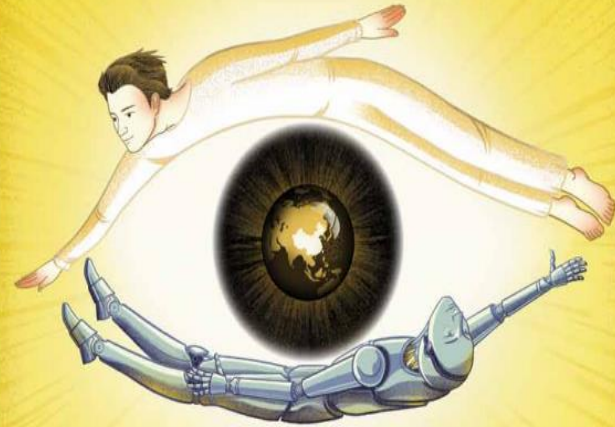
Tissue engineers hail dawn of making multi-material structures

CKGSB

KNOWLEDGE

CHEUNG KONG
GRADUATE SCHOOL
OF BUSINESS

Volume No. 25
SUMMER 2017 \$12.00



China and the Fourth Industrial Revolution

4IR is bringing promise and disruption
to industries worldwide

- How China is driving real-world use of AI
- Understanding China's everlasting property 'bubble'
- The 'world's factory' has begun to send its manufacturing offshore

“Smart Manufacturing are systems that are **fully-integrated, collaborative manufacturing systems** that respond in **real time** to meet changing demands and conditions in the **factory**, in the **supply network**, and in **customer needs**.”



"Smart Manufacturing is the ability to solve **existing** and **future** problems via an **open infrastructure** that allows **solutions** to be implemented at the **speed** of business while creating **advantaged value**."



“We **drive value** for our partners and help make the U.S. economy and workforce the most **productive** in the world. By giving our partners access to **new approaches, technologies, testbeds, and relationships**, we **guide** them toward **solutions** that will **drive innovation in their industries**.



DMDII

DIGITAL MANUFACTURING AND
DESIGN INNOVATION INSTITUTE


“At RWTH Aachen University we **explore** diverse aspects of “**Industrie 4.0**” for enabling an **individualized production in an heterogeneous production system.**”

WZL

**RWTHAACHEN
UNIVERSITY**

A photograph of two men in a factory setting. They are both wearing safety glasses and dark polo shirts. They are looking at a large, modern CNC machine control panel. The machine is white and grey with a large screen and a 'DMG MORI' logo. In the background, other workers and factory equipment are visible. A blue banner is overlaid across the middle of the image, containing the text 'Doing More, Better with Less'.

Doing More, Better
with Less

 AUTODESK
Make anything





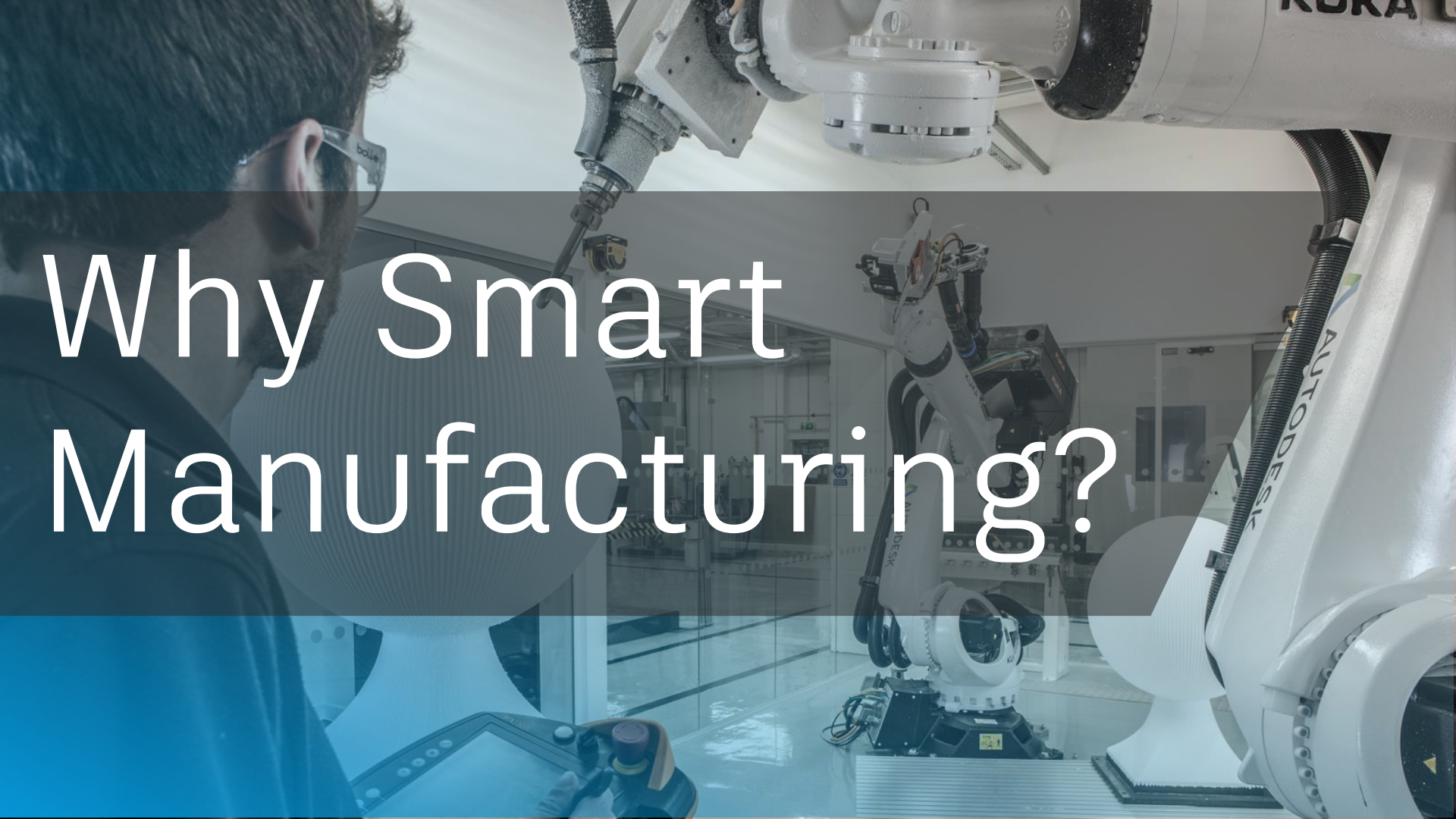
Data



Insights



Value



Why Smart Manufacturing?

Manufacturing Challenges | Increasing Customer Pressure

Near shoring &
just in time
production



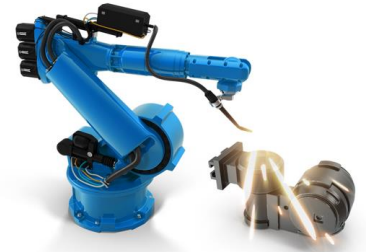
Shorter lifecycles,
faster time to
market

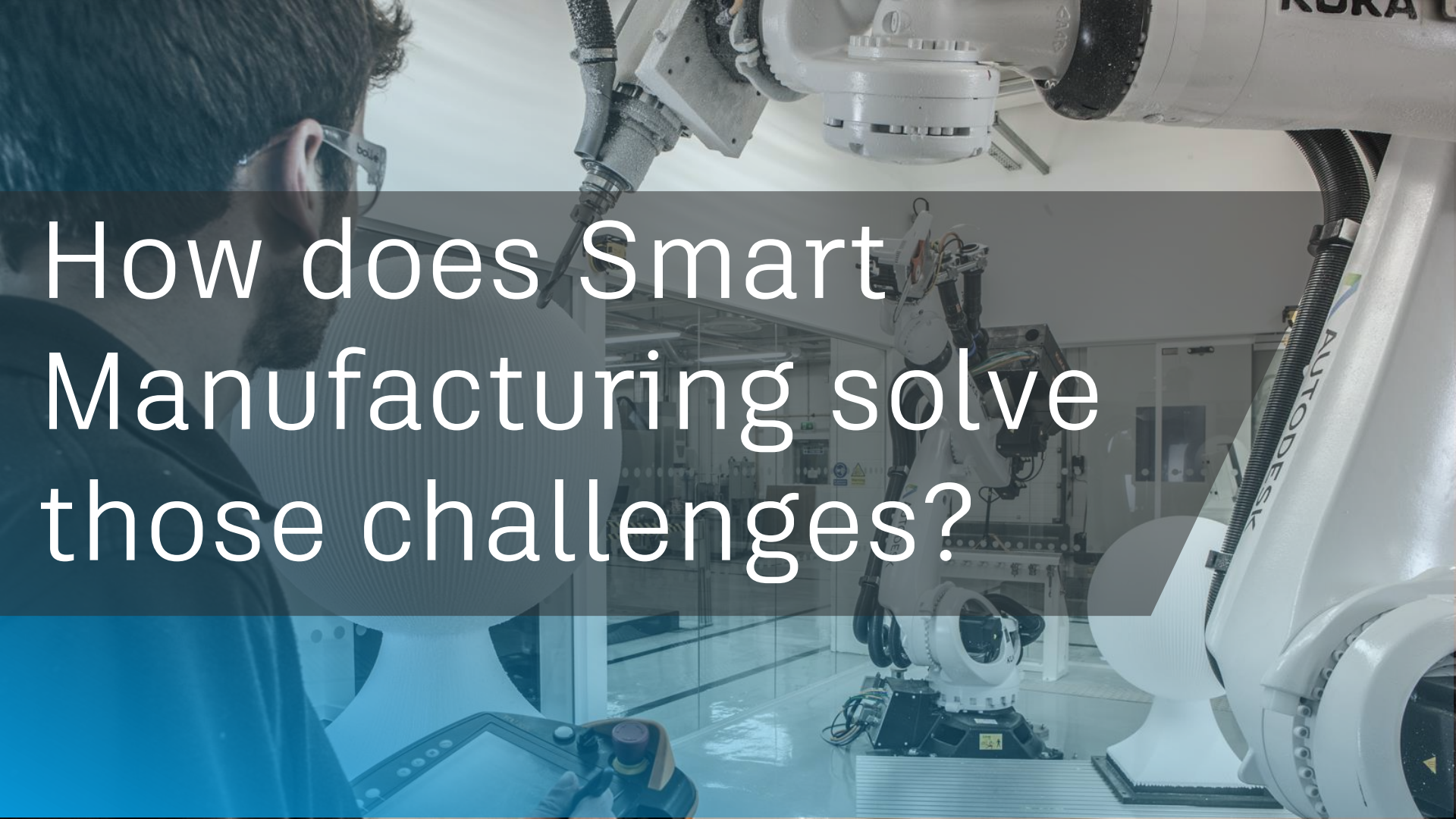


Mass
customization &
configuration



Advanced
materials and
process





How does Smart
Manufacturing solve
those challenges?



INCREASED
AUTOMATION



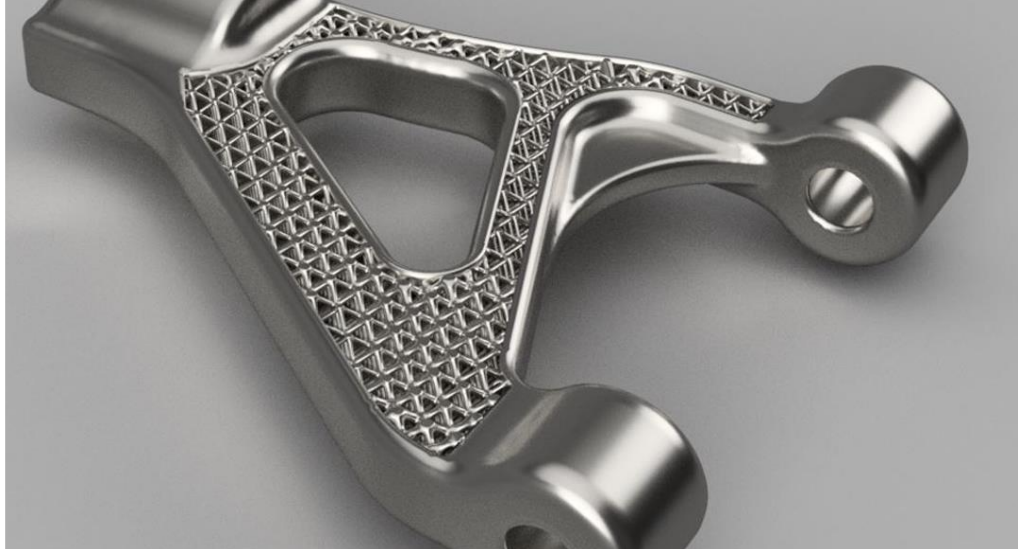
CONNECTED
MANUFACTURING

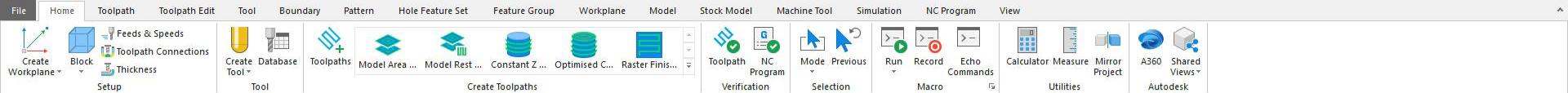


NEW TALENT



How can
Autodesk help?



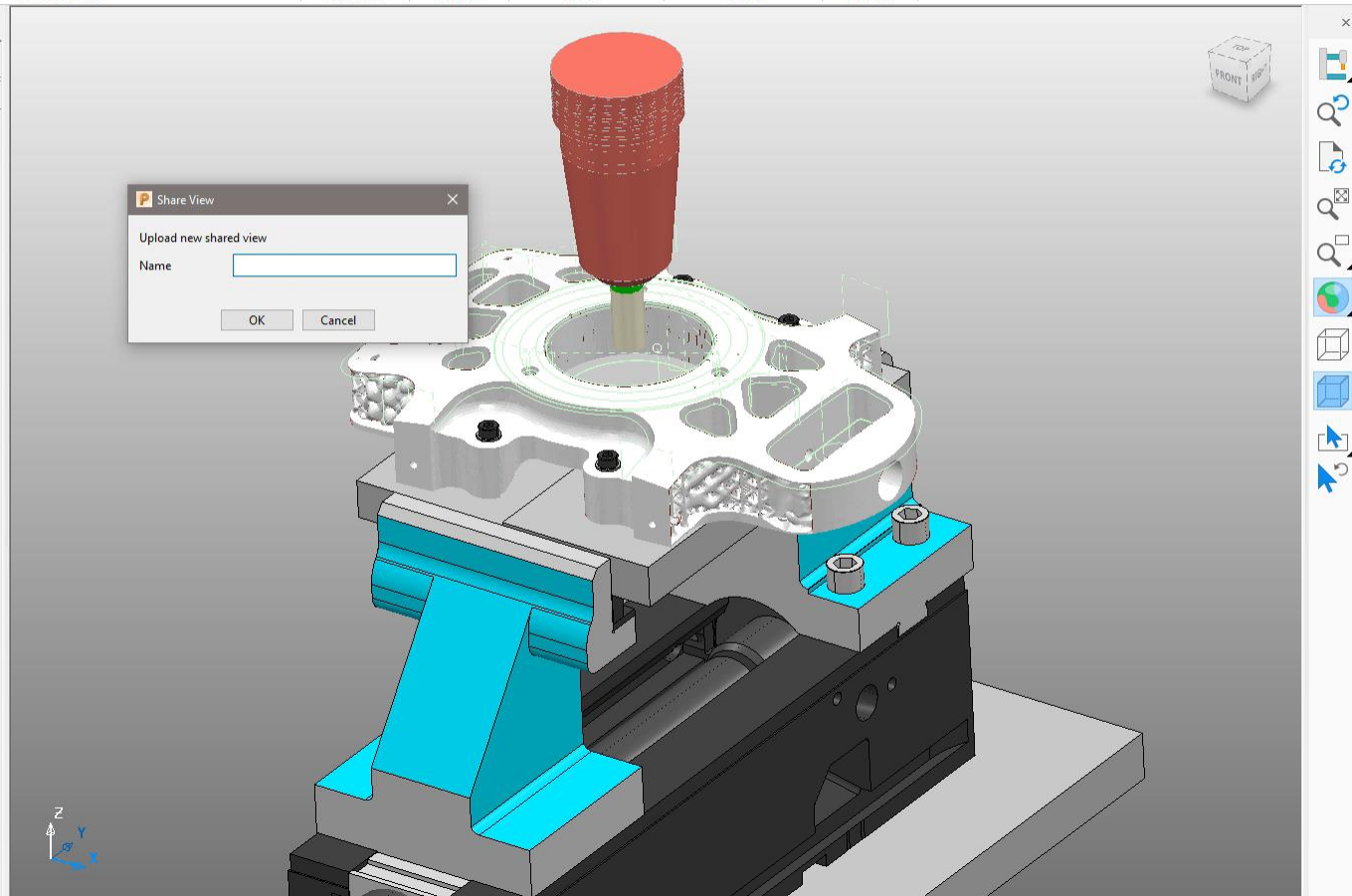


Browser

The browser window displays the URL: <https://designsharepanel.autodesk.com/panel.html?lang=en-GB>

Buttons and controls include:

- New Shared View
- By: Date created
- No Shared Views.
- To share the open file, select New Shared View.
- [Learn about Shared Views](#)

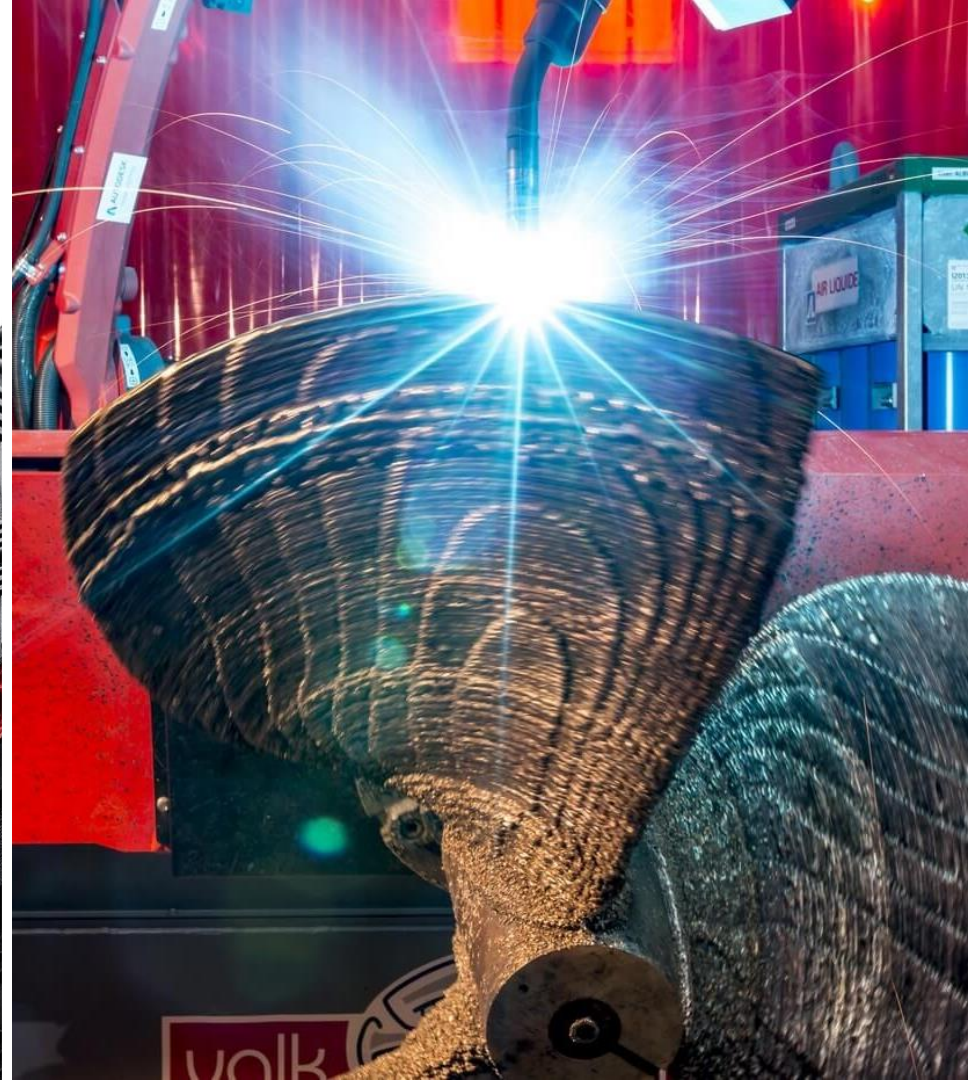




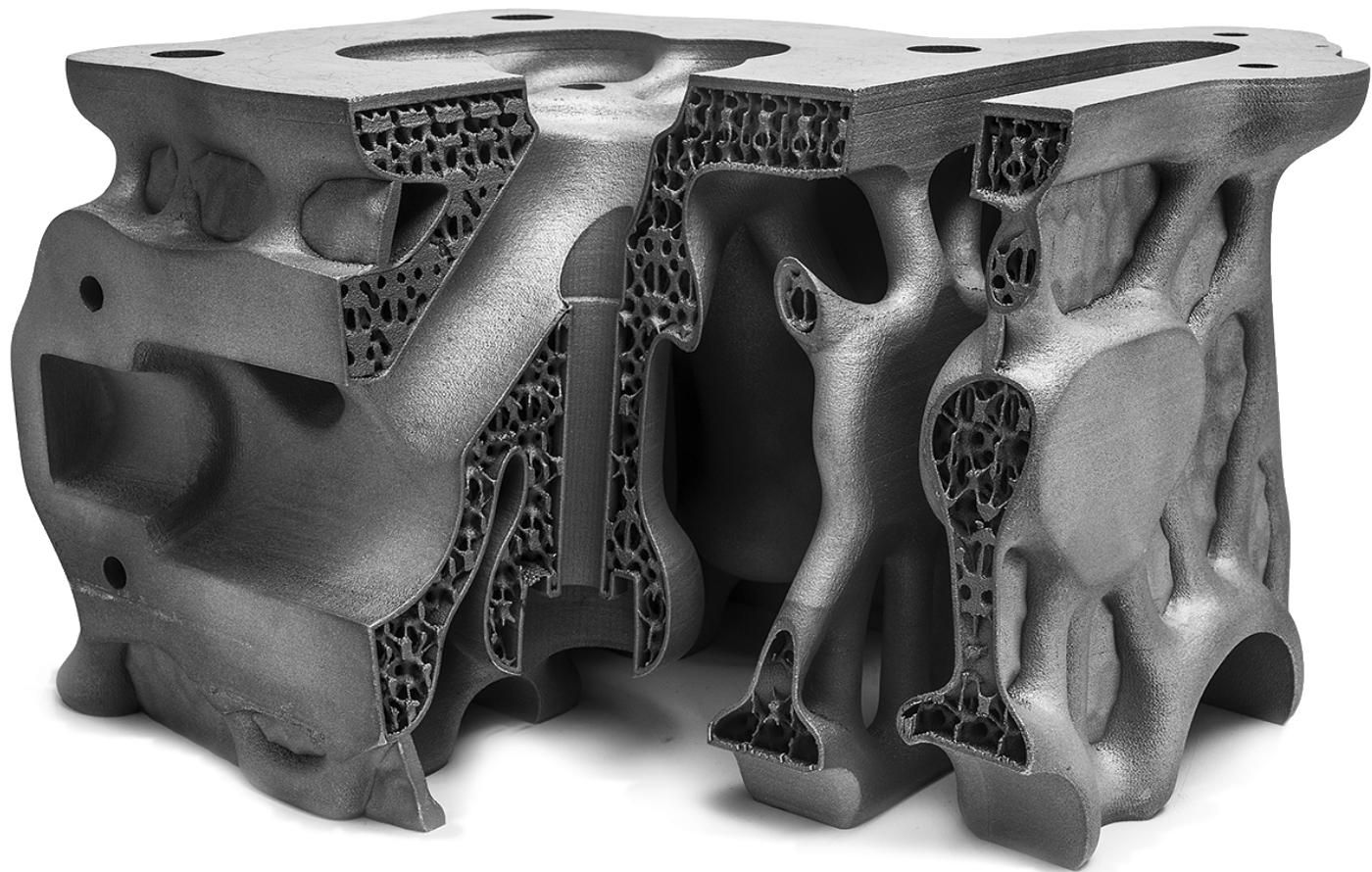


Excellent Final Infinite
Elapsed time: 2786 sec Iteration number: 332









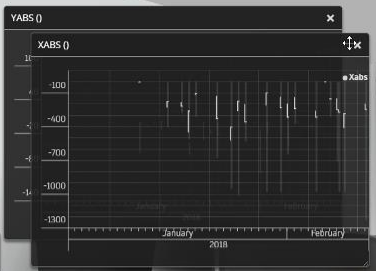




Advanced Manufacturing Facility

Birmingham, UK



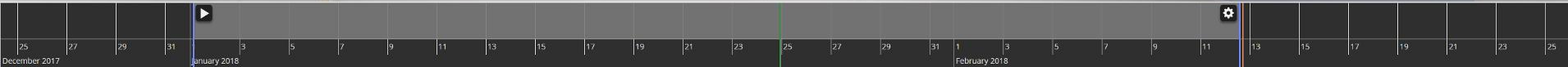


AUTODESKAMF_MAZAK_INTEGREX_I3005

Temp 24-c Monday, February 12th 2018, 11:16:17 am	Ypos -0.0016mm Monday, February 12th 2018, 11:05:42 am	Yabs -0.0016mm Monday, February 12th 2018, 11:05:42 am
Alrad ?% Monday, February 12th 2018, 11:16:18 am	Yload 1% Monday, February 12th 2018, 4:35:17 pm	S2temp 37-c Monday, February 12th 2018, 4:35:17 pm
Xload 42% Monday, February 12th 2018, 11:16:34 am	Zload 1% Monday, February 12th 2018, 4:35:18 pm	Xabs -99.6781mm Monday, February 12th 2018, 11:16:20 am
Clrad ?% Monday, February 12th 2018, 11:16:29 am	Zpos -0.41085mm Monday, February 12th 2018, 11:16:22 am	S3temp 27-c Monday, February 12th 2018, 11:10:57 am
cut_time 82298sec Monday, February 12th 2018, 11:16:29 am	Bload 20% Monday, February 12th 2018, 11:05:35 am	Default: S3rad2: Xpos
Default: S3rad2: Yabs	S4temp ?-c Monday, February 12th 2018, 11:16:29 am	auto_time 374500 Monday, February 12th 2018, 11:16:29 am

Dashboard

Sensors Navigation





Fusion Production

The image shows two men in a factory environment. The man on the left is bald, wearing glasses and a blue button-down shirt with a lanyard. The man on the right has short grey hair, wears safety glasses and a light blue polo shirt. They are both looking at a tablet held by the man on the left. A semi-transparent digital overlay is positioned between them, showing a bar chart with several horizontal bars of varying lengths. In the background, there is a large industrial control panel with a screen and a keypad. To the right, a glass-enclosed machine is visible. The scene is decorated with digital grid and data line graphics, suggesting a high-tech or smart manufacturing environment.

MACHINE UTILIZATION 82%

**SMART
MANUFACTURING
CELEBRATION**



START



AUTODESK[®]

Make anything[™]