

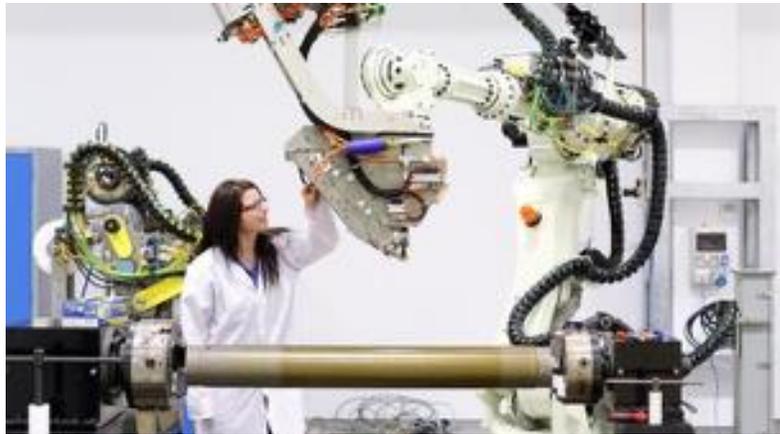


Welcome to Factory 2050 – Chris Greaves

What is the AMRC?

A world-class centre for advanced manufacturing

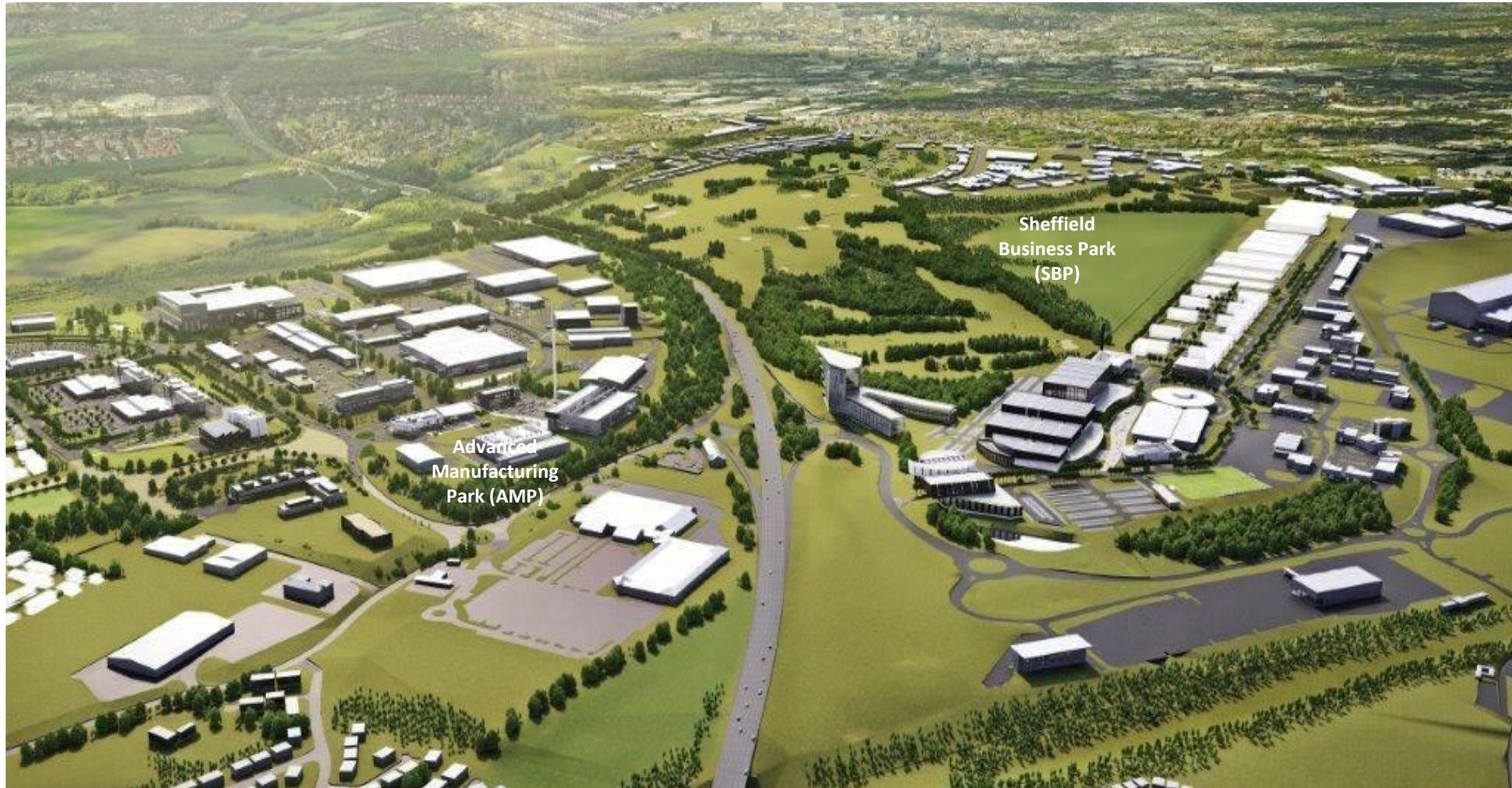
- Established in 2001 as a collaboration between Boeing & the University of Sheffield.
- Helps manufacturers of any size to become more competitive by introducing advanced techniques, technologies and processes.
- Specialises in carrying out world-leading research into advanced machining, manufacturing and materials, which is of practical use to industry.
- Expertise in machining, automation, robotics, digitally assisted assembly, casting, additive manufacturing, composites, designing for manufacturing, testing and training.



Then...

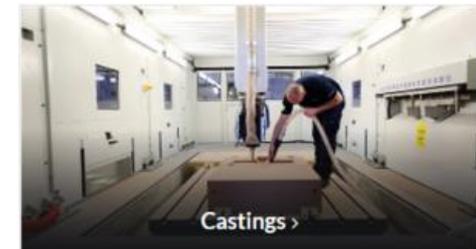
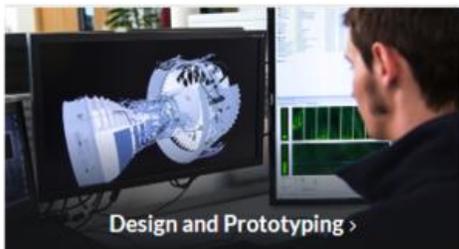


AMRC Advanced Manufacturing Campus



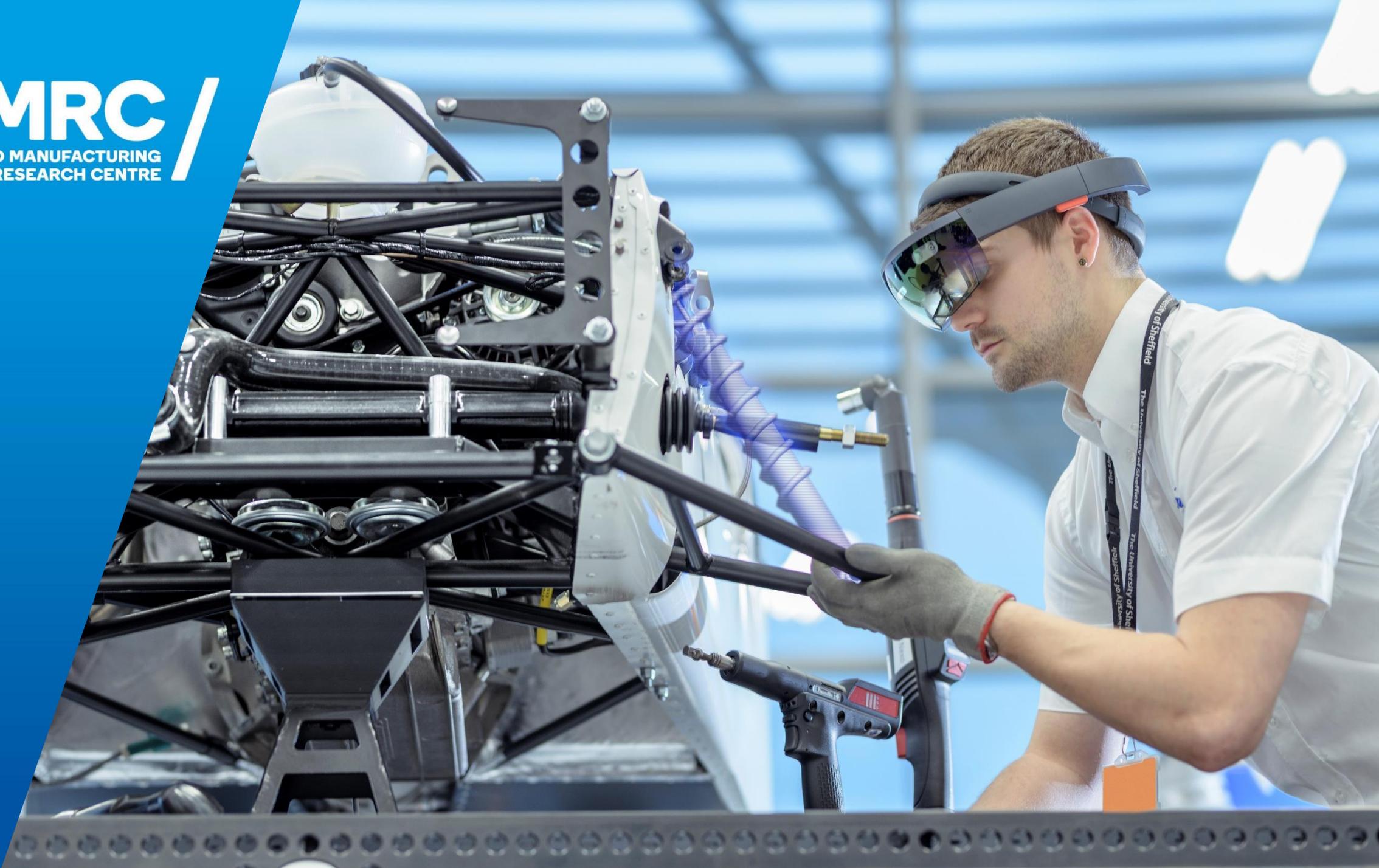
The AMRC Today

- Research hub at heart of Advanced Manufacturing Park and Sheffield Business parks.
- 700+ researchers, technicians and support staff.
- Over 120 member companies – from global giants to local SMEs.
- Over £200 million investment brought to former coalfield.
- Part of Rolls-Royce & Boeing global research networks.



AMRC

ADVANCED MANUFACTURING
RESEARCH CENTRE



The AMRC is demonstrating its leadership role in UK manufacturing by being the first UK research organisation to join the Augmented Reality for Enterprise Alliance (AREA).

AREA is the only global, member-driven organisation focusing on accelerating augmented reality (AR) adoption in enterprise. The AREA's mission is to help organisations achieve greater operational efficiencies through the introduction and adoption of interoperable AR-enabled enterprise systems.

By building on its current research into the impact and value AR within manufacturing, the Integrated Manufacturing Group (IMG) at the AMRC is well placed to advance the AREA's goals.

Chris Freeman, head of digital assisted assembly at IMG, said: "Joining the AREA will allow us to conduct core research projects with AREA members, assisting

them in creating tailored industrial applications and guiding industry in successfully adopting this advanced technology, all whilst evidencing measurable returns on investment."

AR will play a pivotal role in IMG's new home, Factory 2050, allowing them to showcase the developments and real value of AR to their network of industrial partners.

"At Factory 2050 we will be developing innovative ways to visualise the vast array of 'big data' available to manufacturing organisations," Freeman added. "Through the combination of wearable technology and analytics, Factory 2050 will help us demonstrate how digital information will be intelligently accessible and improve overall performance as part of a digital shop floor."

Christine Perey, AREA Executive Director said: "The AREA is very proud to welcome the AMRC as a member - our first dedicated to maturing AR for

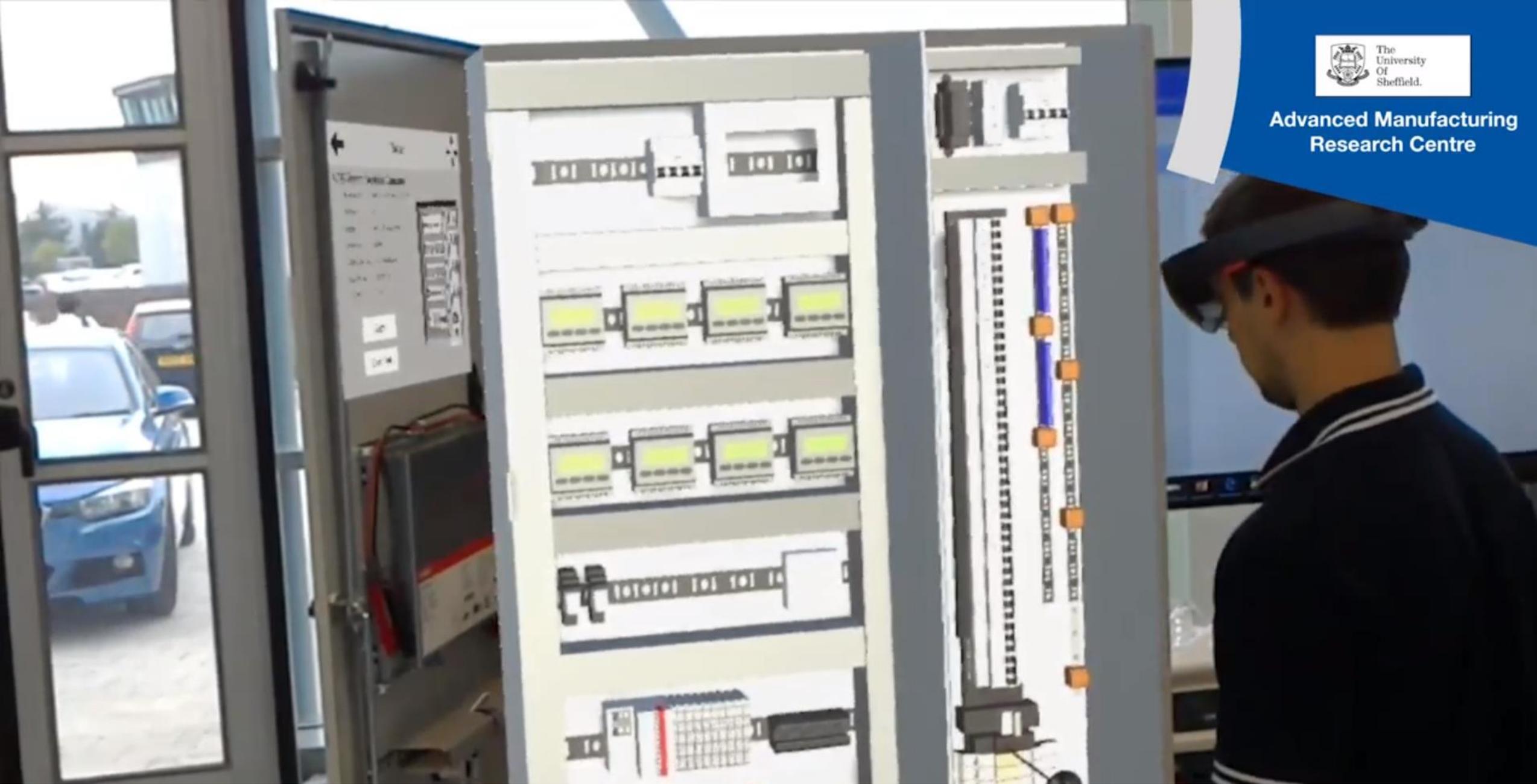
manufacturing environments."

"Having a member dedicated to maturing these advanced technologies is important to the achievement of our organisation's strategic goals to drive continuous improvements and increase the impact of AR in industry."



Head of digitally assisted assembly at the AMRC's IMG group, Chris Freeman, demonstrating Google Glass.







50% reduction in task time for
first time users.





Floor Mark-up time reduced
From 80 hours to 34.5 hours
57% time saving

SENSORS / EQUIPMENT / CELLS / BUILDING



STATE
LOCATION
ACCELERATION
ORIENTATION
TEMPERATURE
HUMIDITY
PRESSURE
VIBRATION
IMPACT
ACOUSTICS
+ ... ??



EMPLOYEES

DELIVERY OF INFORMATION

RIGHT INFORMATION
RIGHT TIME
RIGHT PLACE
RIGHT PERSON
RIGHT DEVICE
RIGHT FORMAT



WEARABLE



TABLET



PHONE



LAPTOP / PC

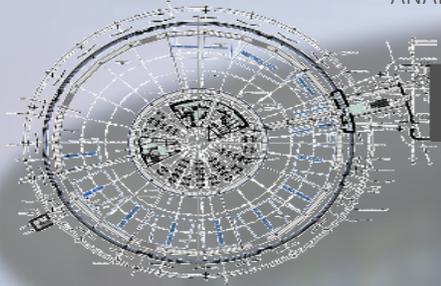
INTELLIGENT DECISIONS /
ANALYTICS FEEDBACK

LOW POWER BLUETOOTH /
WI-FI / RFID / FACTORY LAN

USER FEEDBACK /
VALIDATION

ALERTS /
JUST IN TIME INFORMATION /
WORK INSTRUCTIONS /
PROCESS / PROGRESS INFO

Factory Information BUS



FACTORY
PLANNING
MES / ERP



SUPPLY
CHAIN



CUSTOMERS / ORDER
INTAKE



CLOUD /
LOCAL
CLOUD



STRUCTURED
DATA STORE /
WAREHOUSE



ANALYSIS



REPORTING



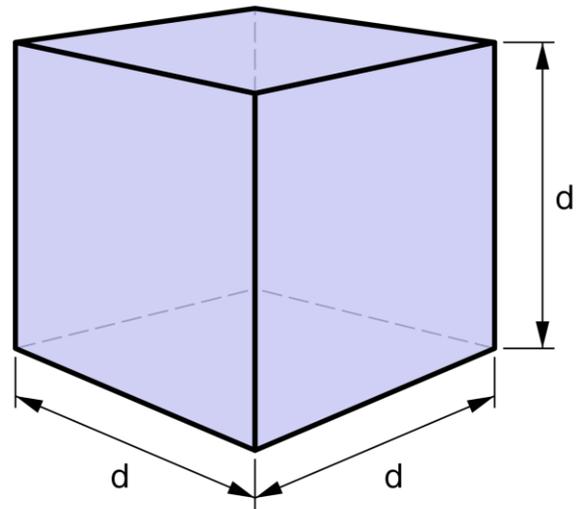
DASHBOARD

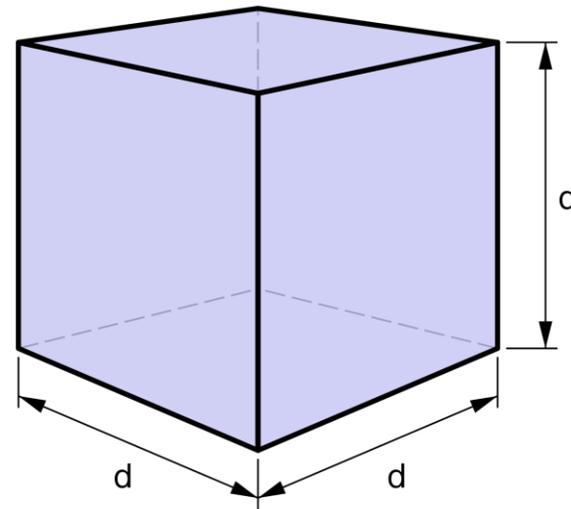


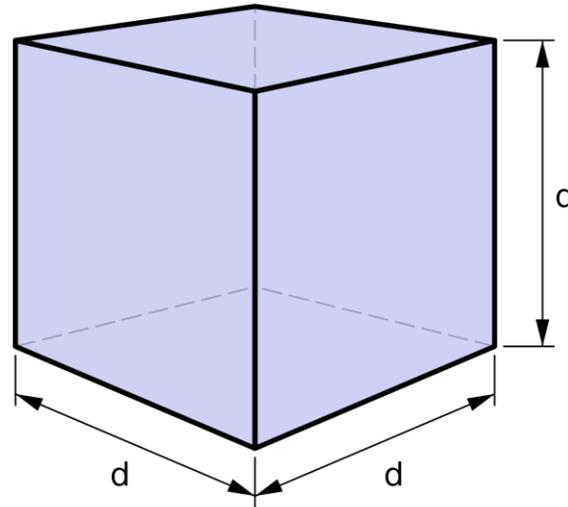
INTERNET /
WEB PORTAL

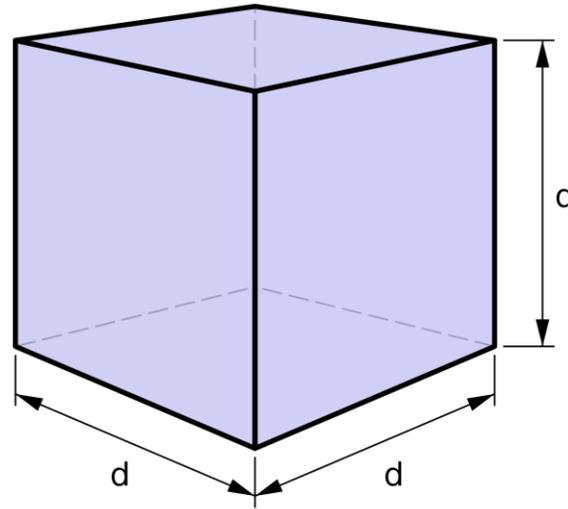
HISTORIC
DATA

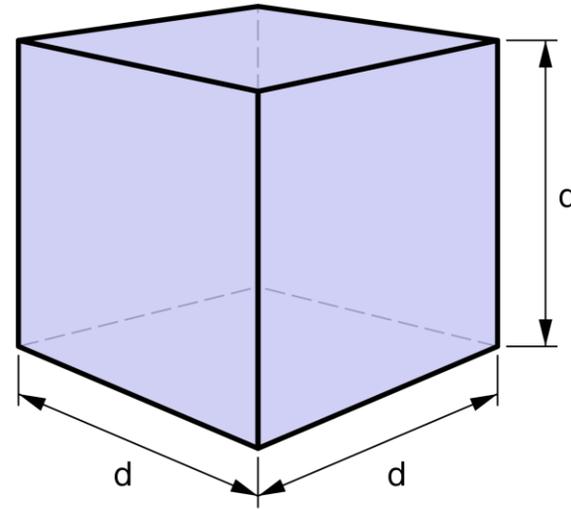
LIVE
DATA













The
University
Of
Sheffield.

Thank you.

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web: amrc.co.uk **Twitter:** [@theAMRC](https://twitter.com/theAMRC)

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CATAPULT
High Value Manufacturing

