DIGITAL TRANSFORMATION PACK

Version 3.0

April 2025

AGP
Aerospace Growth Partnership

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INDUSTRY FOREWORD

Welcome to the third edition of the Digital Support Pack developed by the Factories of the Future Working Group of the Aerospace Growth Partnership

There have been countless documents and reports written on the importance of digitalisation and the wide range of benefits to be realised by the Manufacturing sector. This is especially true for the UK Aerospace sector as we look to deliver the rate ramp up and develop our capabilities in response to global competition and need for sustainable operations. The pathway to building our future industry is founded on the successful adoption of digital technologies and all parts of the supply chain will be affected. Every business needs to chart its own journey on the road to adopting digital technologies and this Support Pack is designed as a useful reference to helping the planning and implementation. It is also not just about the technology; people play a critical and arguably more important role in the success of any programme and failure to recognise the value of good communications and investment in skills will often lead to a poor outcome.

Why should you adopt Digital Technologies? Digital Transformation is now becoming less of an option for manufacturers, more a necessity. By implementing digital technologies, organisations can achieve gains in productivity and efficiency, leading to reduced costs and increased profitability. This improves overall customer satisfaction and allowing the ability to respond to changing customer needs at short notice, giving a critical edge over the competition. As aircraft production rates increase to pre-pandemic levels, the manufacturing supply chain will need to be ready to deliver at pace, without compromising on cost and quality, to compete at a global level.

Many of the organisations featured in the Support Pack are experienced in guiding businesses through their digital journey and overcoming the most common challenges associated with digital adoption. We recommend reaching out to these organisations to find out what support is available both in terms of expertise and in many cases grants or subsided finance.

We could not have produced this Support Pack without the help of a wide range of collaborators across the AGP from the Factory of the Futures Steering group, the Regional Aerospace Alliances and ADS. We are very grateful for their input and continued support in keeping the content up-to-date and relevant for companies on their digitalisation journey.

We will continue to develop the Support Pack to ensure future editions keep pace with the changing landscape of support programmes available across the UK and Northern Ireland, so visit the AGP website regularly to ensure you have the latest version.

My call to action is for all UK Aerospace supply chain businesses to review their Digital Strategy and determine whether it is delivering the future capabilities the business needs. If you don't have a digital strategy, then now is the time to create one, so reach out to one of the organisations in the Support Pack and get started on your digital journey.

S Cowan

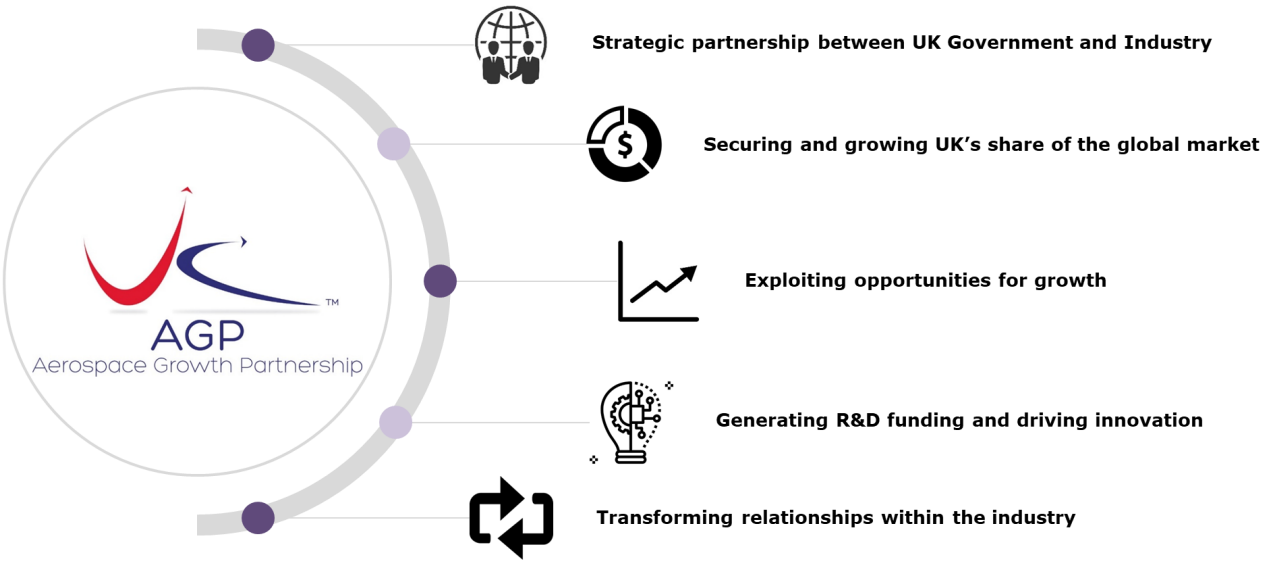
Stephen Cowan
Vice President for Supplier Development & Strategic Sourcing GKN Aerospace – Civil Airframe.
& Aerospace Growth Partnership - Manufacturing & Supply Chain Working Group Chair

AGP OVERVIEW

The Aerospace Growth Partnership (AGP) is a strategic partnership between the UK Government, industry and other key stakeholders. The AGP was established to secure the future of the UK aerospace industry in the face of an ever changing, and increasingly competitive global landscape. The partnership is intended as a vehicle to tackle barriers to growth, boost competitiveness and exports and grow the number of high value jobs in the UK.

The AGP is focused on the following themes, comprising of a council and two working groups, made up of Industry and Government representatives:

- UK Aerospace Strategy
- Manufacturing & Supply Chain Competitiveness
- Sector Skills



MANUFACTURING & SUPPLY CHAIN COMPETITIVENESS WORKING GROUP

The Manufacturing Working Group consists of 3 work packages:

1. Strategic Competency Analysis
2. Factories of the Future and Supply Chain Digitalisation
3. Supply Chain Competitiveness

Work Package 2 activities include supporting the adoption of Industry 4.0 and digital technologies which is the focus for this support pack. The Working Group aim is to help develop a digitally enabled supply chain that realises benefits in improved efficiency and productivity. Embracing the use of digital technologies will help ensure the UK aerospace supply chain remains competitive globally.

PURPOSE OF THIS PACK

Recognising the challenges that many businesses face when looking to adopt digital technologies, this pack aims to provide an overview of the support available in the UK for Aerospace manufacturers embarking or progressing on a digitalisation journey. The pack contains:

- An overview of how 'Digitalisation' can benefit your business
- A guide for SMEs on where they can find help and support
- A selection of case studies from manufacturers who have implemented digital technologies

WHY GO DIGITAL?

There are many benefits to the adoption of digital technologies and these have been well stated in a wide range of industry reports. The Made Smarter Review in 2017 identified benefits to the Aerospace sector of £17.5bn in revenue growth, with the potential to reduce in cycle times by 25-35% and realise productivity gains of 30-50%.

VALUE AT STAKE FOR THE AEROSPACE INDUSTRY IS ESTIMATED TO BE £17.5BN BETWEEN 2017-2027

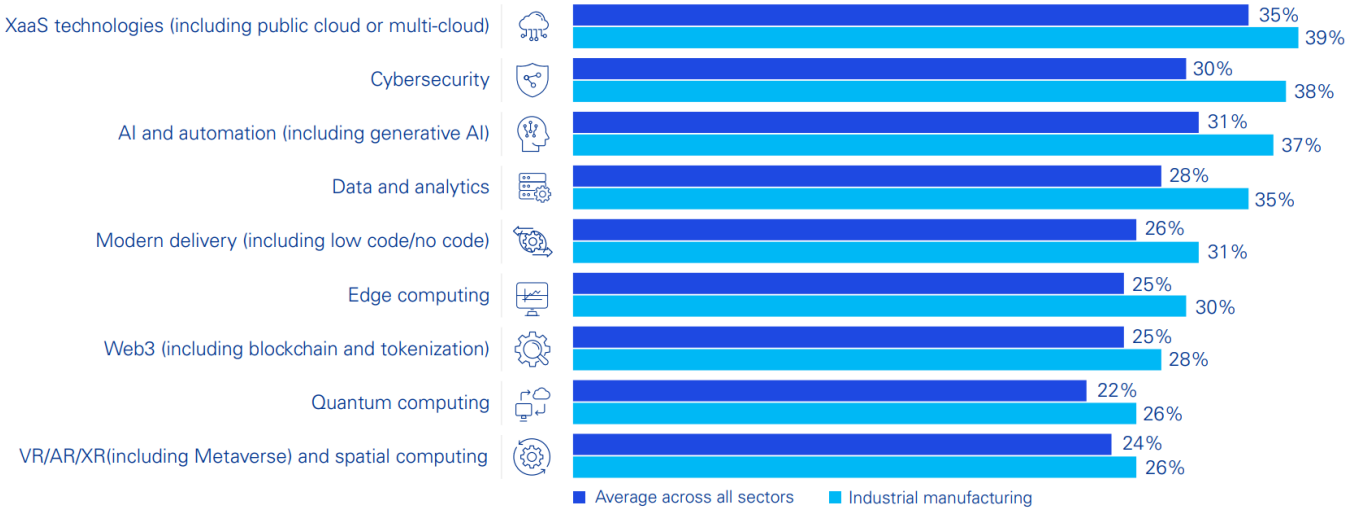
VALUE LEVER DESCRIPTION	VALUE TO INDUSTRY (£ BN)	VALUE TO INDIVIDUALS	VALUE TO SOCIETY
Revenue growth through new revenue streams	£7.5	• 30% of cost savings (worth £3bn over 10 years) are expected to be passed on to consumers as the manufacturing process becomes more efficient through the use of digital technologies • 69% increase in customer satisfaction due to personalisation of manufactured products • 13% increase in job satisfaction as jobs will shift to higher value jobs and tasks	• 63,000 tCO_2e reduction in 2027[1] from more efficient manufacturing and production processes as well as better in-use aircraft efficiency • 15,310 injuries avoided over the next decade as a result of improved safety during aerospace manufacturing, through digital tools and analytics
Cost reduction through digitally enabled products, processes and services	£4.8		
Cost reduction through digitally enabled manufacturing and asset maintenance	£4		
Cost reduction through digitally enabled supply chain management	£1.2		
Total value to industry	£7.5 £17.5		

1) Reduction of emissions is not presented as a cumulative figure, rather as the reduction saving potential in 2027

Made Smarter Review

Furthermore, a KPMG report in 2025 identified that industrial manufacturing is setting the pace for digital transformation. Out of the sectors surveyed, it is the one whose organisations are most likely to be in the highest stage of strategic maturity in six out of the nine tech categories measured.

In all nine technology categories, industrial manufacturing is ahead of the cross-sector average in terms of the proportion of organizations in the proactive stage.



KPMG global tech report — industrial manufacturing insights

Adopting digital technologies in manufacturing has been shown to have a significant impact on business performance and those businesses that actively embrace the transformation will be stronger, more resilient and better placed to adapt to changing market conditions.

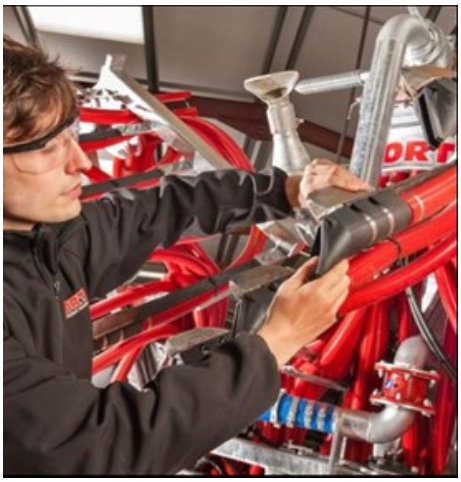
DIGITAL SKILLS

An essential element of any digital transformation programme is the engagement of the workforce to embrace the changes that result from introducing digital technologies. Digitalisation will require new skills across all people within the business. There are a broad range of programmes available to help with skill development. The following pages provide a few examples of these programmes, however many of the support organisations mentioned later in this pack will also be able to guide you in finding suitable sources of training and skill development.

MADE SMARTER - LEADERSHIP DEVELOPMENT

Feel overwhelmed by the move to digitalisation? Concerned that it may cause issues amongst your workforce?

You're not alone. Many leaders experience this when first adopting new technologies.



Want to understand how you can maximise the capabilities of digital technologies, and ensure that all stakeholders are on board too? Strong leadership is crucial for successful digital adoption.

Successful digital adoption is not just a matter of implementing the technology. In order to create transformative change within your business, leaders need to consider the impact on their whole business.

Developing your own leadership skills will boost your leadership proficiency and provide you with the tools to understand how technology will impact your operations and processes. It will help you to assess whether you have the right culture to support digital adoption, if you have the skills needed and how best to engage your employees in the journey.

Find out what Leadership development is available in your region:

Developing UK manufacturing leaders in IR4 – Made

ADOPTING DIGITAL TECHNOLOGY SUPPORT

Help to Grow: Adopting Digital Technology

The Help to Grow initiative is a UK government-backed program designed to support small and medium-sized enterprises (SMEs) in enhancing their business performance.

Help to Grow offers guidance for SMEs looking to adopt digital technology and software, to enhance efficiencies and productivity. It features resources on:

- AI Systems
- Cyber Security for small businesses

Adopting digital technologies and software - Help to Grow

Made Smarter: Digital Supply Chain Hub

The Digital Supply Chain Hub by Made Smarter is a UK initiative aimed at transforming manufacturing supply chains through digital innovation.

Led by Digital Catapult and funded by UK Research and Innovation (UKRI), the hub connects businesses, technology providers, and researchers to develop and integrate advanced digital technologies.

Supply Chain Transformation | Digital Supply Chain Hub

The hub offers various funding opportunities:

Get Involved - Made Smarter Digital Supply Chain Hub - Virtual Hub

High Value Manufacturing Catapult (HVMC) - Skills and Training Programmes

The Practical Steps to Digitalising Your Manufacturing Business: MTC Training

Many manufacturing SMEs recognise that digitalisation could transform their business for tomorrow – but can't move past the challenges of today.

Aimed at Senior Decision Makers and engineers within manufacturing and engineering SMEs, this interactive three-part certificate delivers relevant, practical, sector-specific insights to fuel your first steps towards data-driven operations.

So, whether you're just starting to explore the possibilities, have a strategy in mind, or have already begun to implement digital and data tools within your business, this forward-looking three-course certificate will put you firmly in charge of your digital future.

Digitalising Your Manufacturing Business - MTC Training (the-amtc.co.uk)

Continuing Professional Development and Enhanced Apprenticeships: The AMRC Training Centre

State-of-the-art facilities and highly trained staff offering a variety of professional training and development opportunities to up-skill, re-skill and multi-skill your workforce, whether you are looking to employ an apprentice, or continue the professional development of your workforce.

Offering a flexible approach to delivery, providing on-site and fully remote learning options.

Employers | AMRC Training

Bespoke and Group Training, Open Training Courses & Professional Development: The NCC Skills & Training

As the UK's world leading composite research and development facility, The National Composites Centre excels in the fields of composites, digital engineering, hydrogen, and sustainability.

Working with organisations large and small to take a fresh look at helping businesses to develop their workforce. Re-skilling and up-skilling teams and individuals across every sector where composites are used. From the micro-SMEs to the multi-national and from the workshop to the boardroom.

Skills & Training | NCC | National Composites Centre

University of Warwick Training Courses: WMG Skills Centre

The Centre was set up to address the skills shortage facing businesses and industry, both regionally and nationally. WMG already delivers applied learning in a variety of programmes, understanding that education needs to have an immediate impact on productivity, job roles and career progression.

The short courses offered by the Centre bring future skills to business today in key areas. These include Engineering, Technology, Supply Chain, Automotive Electrification, Automotive Battery Engineering, Automotive Power Electronics & Motor Drives, Digital Manufacturing and Digital Healthcare.

About the WMG Skills Centre : University of Warwick

More on the Manufacturing Skills and Training Programmes:

Manufacturing skills and training - HVM Catapult

NATIONAL SUPPORT MAP

The organisations shown provide support on a national basis with specific programmes aimed at SME businesses. Details of how to contact these organisations can be found in the following pages:

NATIONAL SUPPORT SCHEMES - OVERVIEW

High Value Manufacturing Catapult (HVMC)

Website: ***High Value Manufacturing Catapult - HVMC***

Enquire: ***Contact us - High Value Manufacturing Catapult - HVMC***

The HVMC are here to bridge the gap between business and academia, helping to turn great ideas into reality by providing access to world-class research and development facilities and expertise that would otherwise be out of reach for many businesses in the UK.

MADE SMARTER

Website: ***UK Digital Manufacturing advice & innovation | Made Smarter***

Enquire: ***Start your UK digital manufacturing journey – Made Smarter***

We're leading the UK's ambitious plans to grow manufacturing through digital technologies, innovation and skills. Made Smarter was created following an industry-led review of how UK manufacturing industries can prosper through digital tools and innovation. Currently 4 main adoption programmes in England - North West, North East, West Midlands and Yorkshire & The Humber.

Knowledge Transfer Network (KTN)

Website: ***Home - Innovate UK Business Connect (ktn-uk.org)***

Enquire: ***Connect - Innovate UK Business Connect (ktn-uk.org)***

Innovate UK Knowledge Transfer Network exists to connect innovators with new partners and new opportunities beyond their existing thinking – accelerating ambitious ideas into real-world solutions. UK Wide Support for SMEs.

Digital Catapult

Website: ***Digital Catapult - Accelerating the digital future | Digital Catapult***

Enquire: ***Contact - Digital Catapult | Digital Catapult (digicatapult.org.uk)***

Digital Catapult is the UK authority on advanced digital technology. Through collaboration and innovation, we accelerate industry adoption to drive growth and opportunity across the economy.

ENGLAND - REGIONAL SUPPORT MAP

The organisations shown can provide support on a regional basis with specific programmes aimed at SME businesses.

Local Growth Hubs

38 Growth Hubs Across England

The Centre for Process Innovation (CPI)

North West Aerospace Alliance (NWAA)

The Manufacturing Technology Centre (MTC)

Midlands Aerospace Alliance (MAA)

The Manufacturing Technology Centre (MTC)

Warwick Manufacturing Group (WMG)

West of England Aerospace Forum (WEAF)

Farnborough Aerospace Consortium (FAC)

The National Composites Centre (NCC)

ENGLAND - NATIONAL SUPPORT ORGANISATIONS #1

Warwick Manufacturing Group (WMG) - Coventry

Website: ***SME Support - WMG - University of Warwick***

Enquire: ***Contact us | WMG | University of Warwick***

WMG is the lead centre for two of HVM Catapult's 12 strategic objectives of Vehicle Electrification and Connected and Autonomous Vehicles (CAV), and is active in deploying Digital Manufacturing technologies to improve supply chain competitiveness.

Centre for Process Innovation (CPI) - Wilton

Website: ***CPI | From innovation to commercialisation (uk-cpi.com)***

Enquire: ***Contact | CPI (uk-cpi.com)***

The Centre for Process Innovation (CPI) uses applied knowledge in science and engineering combined with state of the art development facilities to enable our clients to develop, prove, prototype and scale up the next generation of products and processes.

The Advanced Manufacturing Research Centre (AMRC) Sheffield - Sheffield

Website: ***Supporting SMEs | AMRC***

Enquire: ***Talk to us | AMRC***

The AMRC is a network of world-leading research and innovation centres working with advanced manufacturing companies of any size.

The Manufacturing Technology Centre (MTC) - Coventry

Website: ***Tranformative UK Manufacturing Technologies | MTC (the-mtc.org)***

Enquire: ***Manufacturing Technology Locations | MTC | MTC (the-mtc.org)***

The MTC develops and proves innovative manufacturing processes and technologies in an agile, low risk environment, in partnership with industry, academia and other institutions. Drawing on the extensive resources and expertise at the MTC, our nationwide team of engineering experts support manufacturing SMEs to embed innovation and new ways of working to increase their competitiveness and accelerate their growth.

The National Composites Centre (NCC) - Bristol

Website: ***Supporting SMEs | National Composites Centre (nccuk.com)***

Enquire: ***Contact Us | National Composites Centre (nccuk.com)***

The National Composites Centre (NCC) is the world leading authority on composites, bringing together the best minds and the best technologies, to solve the world's most complex engineering challenges.

Local Growth Hubs - England

Website: ***LEP Growth Hubs | The LEP Network***

Enquire: ***Contact The LEP Network | LEP Network***

If you are looking for business support or guidance, your local Growth Hub is there to help you.

The network of 38 Growth Hubs are local public/private sector partnerships led by the Local Enterprise Partnerships (LEPs). They join up national and local business support so it is easy for businesses to find the help they need.

ENGLAND - NATIONAL SUPPORT ORGANISATIONS #2

The Midlands Aerospace Alliance (MAA) - Midlands

Website: ***Midlands Aerospace Alliance***

Enquire: ***Midlands Aerospace Alliance - Contact or visit us***

The Midlands Aerospace Alliance was formed in 2003 to support and represent the aerospace industry across the Midlands region. The MAA currently has 300+ members with 60% of members make "flying parts," 40% make equipment for design, testing, manufacturing or provide specialist services.

More than 50 people serve on the MAA board or one of our three working groups -- a number maintained since 2004. This network lies at the heart of the MAA's achievements.

The North West Aerospace Alliance (NWAA) - North West England

Website: ***Aerospace Industry North West England - North West Aerospace Alliance***

Enquire: ***North West Aerospace Alliance***

The North West Aerospace Alliance (NWAA) was formed in 1994 to represent and support the Aerospace Industry across the North West of England. NWAA represents approximately 25% of the UK aerospace industry with over 220 member companies and a combined turnover in excess of £7 Billion. NWAA has developed considerable technical expertise to support aerospace companies through the delivery of over £20 Million of supply chain improvement programmes such as Aerospace Supply Chain Excellence (ASCE), Growing Autonomous Mission Management Applications (GAMMA) and the National Aerospace Technology Programme (NATEP).

Farnborough Aerospace Consortium (FAC) - South England

Website: ***FAC Home***

Enquire: ***Join FAC***

FAC (Farnborough Aerospace Consortium) is a business-winning trade association with national and international members. It is the longest established aerospace and defence trade body in the UK, providing support to some 300 companies located in southern England – the heart of the UK's aerospace industry.

The West of England Aerospace Forum (WEAF) - West of England

Website: ***West of England Aerospace & Advanced Engineering Forum – WEAF***

Enquire: ***Contact WEAF - Aerospace & advanced engineering Industry***

The West of England Aerospace Forum (WEAF) is a membership trade organisation that is passionate about all aspects of aerospace and defence. Our member and partner base represent a very wide spectrum – from SMEs to global corporations.

As one of the largest aerospace and defence associations in Europe, we are able to provide a strong voice for our members, as well as representation and access to prominent regional, national and international decision makers in industry and government.

By providing support and new opportunities for our members, we strive to improve efficiency and effectiveness in the supply chain, and bring stakeholders together to create one cohesive community.

ENGLAND - MIDLANDS REGION

Local Growth Hubs - Example Support

D2N2 Growth Hub

Derbyshire and Nottingham

Website: D2N2 Growth Hub | Business Support for Derby, Derbyshire, Nottingham & Nottinghamshire

Enquire: Contact - D2N2 Growth Hub

Access to a number of projects specifically designed to support scaling businesses, and access to finance and tailored events

Digital Growth Programme, East Midlands Chamber of Commerce

Leicester and Leicestershire

Website: Digital Upscaler - East Midlands Chamber (emc-dnl.co.uk)

Enquire: Contact Us - East Midlands Chamber (emc-dnl.co.uk)

Grants from £2,000 to £25,000 for SMEs looking to exploit existing technology solutions or to assist with the implementation of new digital resources

Elite Centre for Manufacturing Skills —University of Wolverhampton

Black Country

Website: Elite Centre for Manufacturing Skills (ECMS) | Home (theecms.co.uk)

Email: ecmsenquiries@wlv.ac.uk

Facilities for training and upskilling alongside grants

Universities Support Programmes

Amplify Growth—Nottingham Trent University

Nottingham

Website: NTU Amplify Growth | Nottingham Trent University

Email: AmplifyGrowth@ntu.ac.uk

Support through a combination of sector tailored workshops, mentoring and peer networking

Knowledge Transfer Partnership —Birmingham City University

Birmingham

Website: Knowledge Transfer Partnership | KTP | BCU Advantage

Enquire: Knowledge Transfer Partnerships - Enquire Today | BCU Advantage

Access to BCUs resources and facilities and funding for SMEs of up to 67% of KTP project costs

Support - Digital Specific

Digital Manufacturing— University of Warwick

West Midlands

Website: SME Support - WMG - University of Warwick

Email: wmgsme@warwick.ac.uk

Support such as financial backing, networking opportunities, research capabilities, net zero cohorts or 1:1 personal assistance

The Manufacturing Technology Centre (MTC)

West Midlands

Website: SME Manufacturing Support | MTC | MTC (the-mtc.org)

Email: enquiries@the-mtc.org

Tailored support programmes for digital technology adoption and manufacturing improvement.

Tailored training programmes with access to multiple training sites and state-of-the-art technology

ENGLAND - SOUTH EAST REGION

Universities Support Programmes

Future Worlds - Connecting the world to start-ups and spinouts

Southampton

Website: Startups Archives - Future Worlds

Enquire: Future Worlds 'Office Hours' - Future Worlds

Future Worlds is the on-campus start-up accelerator at the University of Southampton. Existing to help aspiring student and staff entrepreneurs change the world with their ideas.

ARIC Home - Aerospace Research and Innovation Centre

Farnborough

Website: ARIC Home - Aerospace Research and Innovation Centre (aric-farnborough.com)

Enquire: Work with us - ARIC

From collaborative research through knowledge transfer to business start-up support, ARIC is set to become an iconic aerospace gateway, embodying Farnborough's aviation history as a neutral space to develop aerospace/space technology for the future.

CEMAST Campus for Engineering - Study at Fareham College

Hampshire

Website: CEMAST Campus for Engineering - Study at Fareham College

Enquire: Contact Us - SHCG | South Hampshire College Group

Since it opened in 2014, the CEMAST campus has become renowned as a pioneering state-of-the-art facility in terms of its industry-leading workshops, technology and equipment, providing students with a unique and industry-standard training environment.

Local Growth Hubs - Example Support

Help to Grow: Management Training for SMEs - Uni of Kent

Kent

Website: Help to Grow training for SMEs - Kent Business School - University of Kent

Enquire: Contact us - University of Kent - University of Kent

Help to Grow Management is a 12-week management course for senior leaders and decision makers in small and medium businesses. It will help you better manage, grow and successfully take your business to the next level.

Hampshire Growth Hub

Hampshire

Website: Hampshire Growth Hub | Business and economy | Hampshire County Council

Enquire: Complete Form

Tailored advice and support concerning procurement and technology adoption, talent management and financial growth with access to a range of additional support.

SPRINT - SPace Research and Innovation Network for Technology

Leicester

Website: SPRINT - Space Park Leicester

Enquire: Contact Us - Space Park Leicester

SPace Research and Innovation Network for Technology—SPRINT provides unprecedented access to the expertise and facilities at top UK space universities to help businesses accelerate the development of their products and services through the commercial exploitation of space data and technologies.

South Coast Centre of Excellence in Satellite Applications

Oxfordshire

Website: Space South Central - Satellite Applications Catapult

Enquire: Contact Us - Satellite Applications Catapult

The South Coast Centre of Excellence in Satellite Applications End of Year Publication 2021 captures the impact of the center's work in enabling businesses and academics to explore and exploit satellite technology to truly realise the 'possible' across the south coast.

ENGLAND - NORTH WEST REGION

Universities Support Programmes

Open SME Small Business Support

Greater Manchester

Website: Small Business Support - Open SME

Enquire: OPEN SME

OPEN SME is an on-demand learning programme that aims to support small business owners to increase productivity, profitability, resilience, and sustainability, across the topics of people, digital, finance and markets.

University of Liverpool SME Support

Liverpool City Region

Website: Small and medium sized business support - Collaborate with us - University of Liverpool

Enquire: Contact us - Collaborate with us - University of Liverpool

Providing resources for rapid product development, access to world-leading experts, and collaboration opportunities.

Their flagship centers, like the Virtual Engineering Centre and Materials Innovation Factory, offer cutting-edge technology and research facilities to drive innovation and business growth.

University of Salford SME Support

Salford

Website: SME and Professional Services | University of Salford

Enquire: innovation@salford.ac.uk

A vast range of conferencing facilities to our continuous professional development, companies can work with our specialists on a wide range of projects and initiatives.

Local Growth Hubs - Example Support

Greater Manchester Business Growth Hub

Greater Manchester

Website: Business Digital Tools | GM Business Growth Hub

Enquire: businessgrowthhub.com/contact/

Greater Manchester's business support organisation. Since 2011, they have been helping companies increase sales, innovate, raise finance, develop workforces, become environmentally sustainable, embrace digital transformation, and go global.

Boost Business: Lancashire Growth Hub

Lancashire

Website: Boost Business Lancashire | Lancashire's Business Growth Hub

Enquire: info@boostbusinesslancashire.co.uk

Providing tailored support to businesses in Lancashire, helping with access to funding, advice, and resources for growth.

Offering one-on-one business guidance, workshops, and opportunities to connect with industry networks.

Cumbria Business Growth Hub

Cumbria

Website: Home | Cumbria Growth Hub

Enquire: Contact Us | Cumbria Growth Hub

Providing tailored support to businesses in Cumbria, offering free advice, funding assistance, and help with innovation and development.

Focusing on key sectors such as manufacturing, energy, and tourism, while also guiding businesses on digital transformation

ENGLAND - SOUTH WEST REGION

Universities Support Programmes

Help to Grow: Management—Bristol UWE

Bristol

Website: Help to Grow: Management Course - Businesses and employers | UWE Bristol

Enquire: Help to Grow enquiries - Help to Grow Management Course | UWE Bristol

Help to Grow: Management is a 12-week practical management training course for senior managers of small and medium-sized business (SMEs), designed to help grow your business.

SET Squared Partnership

Bristol, Bath & Exeter

Website: SETsquared Partnership | the University Enterprise Collaboration

Enquire: Contact Us - SETsquared

A partnership of enterprise and incubation: The SETsquared Partnership is a world leading business incubator and enterprise partnership comprising six research-intensive universities: Bath, Bristol, Cardiff, Exeter, Southampton and Surrey.

Digital Specific Support

Digital Transformation: West of England

South West

Website: Digital transformation - West of England Combined Authority

Enquire: Contact us - West of England Combined Authority

Digital technologies are revolutionising almost every aspect of our lives: the Mayoral Combined Authority co-created the "West of England Digital Plan" to set out the collective digital ambitions for the region.

Made Smarter Adoption Programme

South West

Website: Digital transformation support in the South West | Made Smarter

Enquire: Start your UK digital manufacturing journey – Made Smarter

A package of support measures is offered to eligible SMEs, including a fully funded action plan to digitally transform your business, a fully funded digital transformation training programmes to upskill your workforce, a fully funded student interns to support young people into work, and match-funded grants to purchase industry 4.0 hardware or software.

Local Growth Hubs - Example Support

West of England Growth Hub

South West

Website: Growth Hub - Growth Hub

Enquire: Contact Us - Growth Hub

Providing tailored support, expert guidance and access to finance and support programmes to small and medium-sized businesses (SMEs).

Business West

South West

Website: Start, grow or export your business | Business West

Enquire: **info@businesswest.co.uk**

The Business West Growth Hub provides comprehensive support for SMEs, including business advice, funding opportunities, and digital transformation services to help businesses start, grow, and succeed.

Cornwall & Isles of Scilly Growth Hub

South West

Website: The Growth Hub | Cornwall & Isles of Scilly - Growth Hub

Enquire: Contact us | Cornwall & Isles of Scilly - Growth Hub

The Cornwall and Isles of Scilly Growth Hub provides expert, independent, and impartial guidance, helping local businesses find the right support, finance, and resources to develop and grow.

Heart of the South West Growth Hub

South West

Website: Home - Heart of sw growthhub

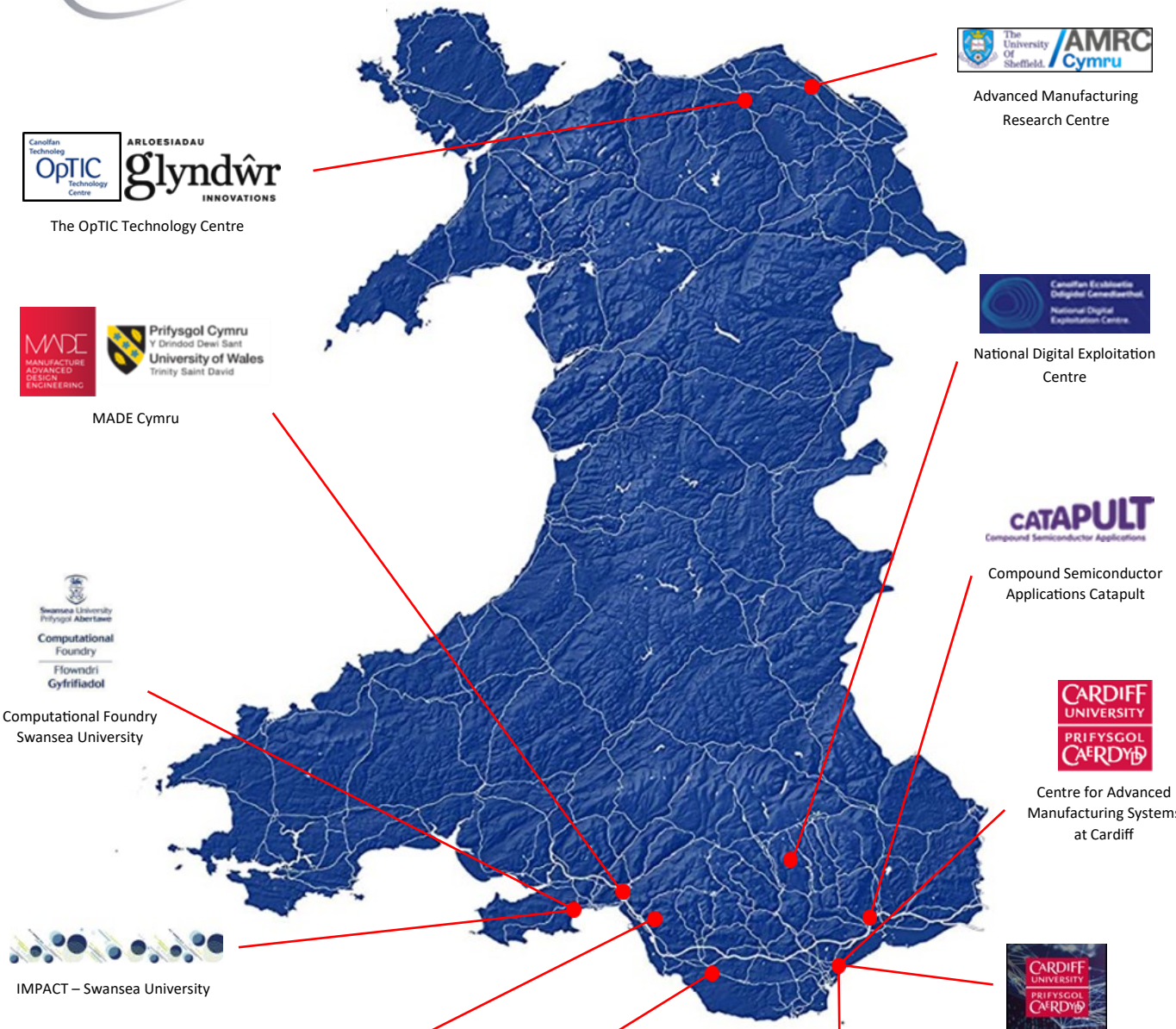
Enquire: Contact Us - Heart of sw growthhub

The Heart of the South West Growth Hub offers free business advice and support services to help businesses in Devon, Somerset, Plymouth, and Torbay start, grow, and succeed.

WALES - REGIONAL SUPPORT MAP

The organisations shown can provide support on a regional basis with specific programmes aimed at SME businesses.

AEROSPACE WALES



The University of Sheffield. AMRC Cymru
Advanced Manufacturing Research Centre

Canolfan Technoleg OpTIC Technology Centre
ARLOESIADAU glyndŵr INNOVATIONS
The OpTIC Technology Centre

National Digital Exploitation Centre

MADE Manufacture Advanced Design Engineering
Prifysgol Cymru Y Drindod Dewi Sant University of Wales Trinity Saint David
MADE Cymru

CATAPULT Compound Semiconductor Applications
Compound Semiconductor Applications Catapult

Swansea University Prifysgol Abertawe
Computational Foundry Flowndri Gyfrifiadol
Computational Foundry Swansea University

CARDIFF UNIVERSITY PRIFYSGOL CAERDYDD
Centre for Advanced Manufacturing Systems at Cardiff

IMPACT – Swansea University

CARDIFF UNIVERSITY PRIFYSGOL CAERDYDD
Centre for Artificial Intelligence, Robotics and Human-Machine Systems

TWI AEMRI Advanced Engineering and Materials Research Institute
The Advanced Engineering and Materials Research Institute facility at the TWI

DMIW Digital Manufacturing Innovation Hub Wales
Digital Manufacturing Innovation Hub Wales

Hyb Arloesedd Seiber Cyber Innovation Hub
Cyber Innovation Hub

WALES - NATIONAL SUPPORT ORGANISATIONS #1

Aerospace Wales Forum Limited

Website: Aerospace Wales Forum | Aerospace, Defence and Space

Enquiries: Get In Touch | Aerospace Wales Forum

The Aerospace Wales Forum is the industry trade body and the voice of the aerospace, defence and space sectors in Wales.

Established in 2002 we are a membership organisation with over 200 member companies across the Country from SME's to major OEM's such as Airbus, Raytheon, BAE Systems, Safran and Thales. We also welcome affiliate membership from companies based in other UK regions and nations. We support our members by promoting their companies on our website, in our capabilities matrix and trade brochure and by giving them access to events, networking opportunities and industry expertise. We actively instigate supply chain opportunities and encourage collaboration, as demonstrated through our MRO Hub. Perhaps our greatest value is the relationships we have with our member companies, we are always happy to facilitate introductions and to get you speaking to the right person within an organisation.

We are supported in our endeavours by our close collaboration with Welsh Government, our Board and team of Aerospace Wales Ambassadors – represented by both industry and academia.

SMART FIS - Business Wales

Website: SMART Flexible Innovation Support (FIS) | Business Wales

Enquire: Contact us | Business Wales (gov.wales)

SMART Flexible Innovation Support programme can support businesses to innovate and create new products and services, increase commercialisation and improve skills. SMART FIS will help you to improve people's lives by driving cutting edge research and innovation—with the single aim of helping Welsh organisations achieve "Innovation Excellence" by developing innovation plans alongside a team of specialists providing expertise, consultants and funding. For a new organisation this might mean accessing technology to get a new idea off the ground; for a developing one, it could be help with a project which you know has potential; and for an established organisation it might be about specialist know-how to give you an international edge by opening up new markets.

The Advanced Manufacturing Research Centre (AMRC) Cymru - Flintshire

Website: AMRC Cymru | AMRC

Enquire: Talk to us | AMRC

The AMRC Cymru offers cutting edge research providing game-changing support to businesses and to act as a catalyst for industry and academic collaborations across multiple advanced manufacturing sectors.

The OpTIC Technology Centre- St Asaph.

Website: Home - Glyndwr Innovations

Enquire: Contact Us - Glyndwr Innovations

The OpTIC Technology Centre, St Asaph, work with companies to improve, and develop, new products and processes to benefit businesses through the application of Photonics and Optics based technologies. Their award-winning Glyndwr Innovations Ltd provide state of the art design, manufacture and test of innovative optical systems and components for Space and industrial applications.

WALES - NATIONAL SUPPORT ORGANISATIONS #2

National Digital Exploitation Centre (NDEC) - Ebbw Vale

Website: Achieving digital transformation with operational technology | Thales Group

Enquiries: Contacts | Thales Group

The centre exists as a cornerstone of Thales' cyber capabilities within the UK and aims to support the Welsh Government's programme of digital investment and transformation. It does this by providing support, training and project space to large organisations, SMEs and individuals, research and development opportunities, and by helping to win work-share within Wales.

Advanced Engineering and Materials Research Institute - TWI Wales – Port Talbot

Website: AEMRI - Welcome

Enquire: AEMRI - Contact TWI

The AEMRI is a state-of-the-art engineering inspection and validation facility. The facility supports dynamic sectors including aerospace, automotive, electronics, and nuclear and renewable energy.

Compound Semiconductor Applications Catapult - Newport

Website: Home - Compound Semiconductor Applications Catapult

Enquire: Contact - Compound Semiconductor Applications Catapult

CSA Catapult was established to help the UK become a global leader in compound semiconductors through collaboration with both large companies, and start-ups to develop and commercialise new applications utilising this technology

Digital Manufacturing Innovation Hub Wales - Bridgend

Website: Home (dmiw.co.uk)

Enquire: Contact (dmiw.co.uk)

The Digital Manufacturing Innovation Hub Wales (DMIW) is a Welsh Digital Innovation Hub, supporting innovation and the exploitation of industrial digital technologies within manufacturing and processing SMEs.

Centre for Artificial Intelligence, Robotics and Human-Machine Systems - Cardiff

Website: Centre for Artificial Intelligence, Robotics and Human-Machine Systems - Cardiff University

Email: irohms@cardiff.ac.uk

The Centre for Artificial Intelligence, Robotics and Human-Machine Systems (IROHMS) research builds on the strength of globally established academics in the field of digital manufacturing and robotics, human factors and cognitive psychology, mobile and social computing and artificial intelligence.

Cyber Innovation Hub – Cardiff University

Website: The future of cyber starts here - Cyber Innovation Hub

Enquire: Contact Us - Cyber Innovation Hub

Cyber Innovation Hub was established to help the UK become a global leader in cyber security through collaboration with industry, academia and public sector to spin University IP into start-ups that commercialise new cyber solutions for multiple sectors; and upskill and reskill people in hands-on cyber security across multiple technology areas.

WALES - NATIONAL SUPPORT ORGANISATIONS #3

Centre for Advanced Manufacturing Systems at Cardiff (CAMSAC)

Website: Centre for Advanced Manufacturing Systems at Cardiff (CAMSAC) - Cardiff University

Email: daviesat4@cardiff.ac.uk

CAMSAC is an interdisciplinary research centre set up to build directly on Cardiff's existing strong reputation for internationally leading manufacturing related research. Bridging both the engineering and business disciplines, CAMSAC takes a holistic, interdisciplinary approach, working closely with a whole range of industry partners, from start-ups and small businesses to global multi-nationals. Our work focuses on the study and development of new concepts in Advanced Manufacturing Systems via an extensive, complementary portfolio of research, knowledge transfer, engagement and teaching activities.

IMPACT – Swansea University

Website: IMPACT - Swansea University

Email: I.Mabbett@Swansea.ac.uk

The Institute for Innovative Materials, Processing and Numerical Technologies (IMPACT) is a state-of-the-art research centre specialising in materials, processing, and numerical technologies. The Centre collaborates with industry partners to find innovative solutions and combines state of the art laboratory space, workshops and a transformational research environment for co-location between academia and industry.

Computational Foundry – Swansea University

Website: Computational Foundry - Swansea University

Email: I.Mabbett@Swansea.ac.uk

The Computational Foundry is where industry partners and Swansea University work together, testing new ideas; where people from all disciplines can link up on research collaborations, and where the digital innovators of tomorrow are completing their studies. The Foundry will be the crucible for innovation and business engagement in the ICT sector, creating an eco-system and driving forward cutting-edge research and innovation.

SCOTLAND - REGIONAL SUPPORT MAP

The organisations shown can provide support on a regional basis with specific programmes aimed at SME businesses.

Scottish Enterprise

Scotland's main economic development agency & SMAS delivery lead

University of the Highlands and Islands | Oilthigh na Gàidhealtachd agus nan Eilean
West Highland College | Colaiste na Gàidhealtachd an Iar

Advanced Manufacturing in the West Highlands

Scottish Enterprise

University of Strathclyde

Additive Manufacturing – Business and Technology Support (AM-BATS)

NMIS National Manufacturing Institute Scotland

National Manufacturing Institute Scotland

AFRC Advanced Forming Research Centre

Advanced Forming Research Centre

CENSIS Sensing · Imaging · IoT

Centre for Sensing Imaging and Internet of Things (IOT) Technologies

The Critical Engineer

The Critical Engineer

SCOTLAND - NATIONAL SUPPORT ORGANISATIONS #1

SMAS & Scottish Enterprise - Glasgow

Website: Support for manufacturers | Scottish Enterprise (scottish-enterprise.com)

Enquire: Support for manufacturers enquiry | Scottish Enterprise (scottish-enterprise.com)

A dedicated team of practitioners are key in helping improve business performance. In addition to our core support for Operational Excellence, SMAS can support Culture and Leadership development, Supply Chain development, Adoption of Digital Technologies and Business resilience challenges. A key strength for SMAS is the connection and links to other areas within Scottish Enterprise. The ability to draw on expertise from SE functions such as Sustainability, Digital Transformation and Innovation can add significantly to any company engagement success .

National Manufacturing Institute Scotland (NMIS) - Glasgow

Website: Home | National Manufacturing Institute Scotland (NMIS)

Enquire: Contact | National Manufacturing Institute Scotland (NMIS)

A place where industry, academia and the public sector work together on ground-breaking manufacturing research to transform productivity levels, makes companies more competitive and boost the skills of our current and future workforce.

CENSIS - Glasgow

Website: CENSIS - Sensing - Imaging - IoT

Enquire: Contact us - CENSIS

CENSIS is Scotland's Innovation Centre for sensing, imaging and Internet of Things (IoT) technologies. We work with private and public organisations of all sizes to de-risk and accelerate innovation and overcome technology barriers to achieve business transformation.

Advanced Manufacturing in the West Highlands - Fort William

Website: » Events (lochaberchamber.co.uk)

Enquire: » Contact (lochaberchamber.co.uk)

Our mission is to help you bring the ideas you have into reality by supporting you with services in design and manufacturing.

Whether you need access to equipment and technology, or professional management input into research, development or design - we're here to help.

All of our services are offered at zero cost to small and medium businesses by our highly experienced team.

Advanced Forming Research Centre (AFRC) - Glasgow

Website: Advanced Forming Research Centre | University of Strathclyde

Enquire: Contact the Advanced Forming Research Centre | University of Strathclyde

The Advanced Forming Research Centre is a globally-recognised centre of excellence in innovative manufacturing technologies, R&D, and metal forming and forging research. We work with all types of organisations: from global original equipment manufacturers (OEMs) all the way through to local manufacturing companies.

SCOTLAND - NATIONAL SUPPORT ORGANISATIONS #2

The Critical Engineer - Glasgow

Website: The Critical Engineer

Enquire: The Critical Engineer - Contact Us

The Critical Engineer is a new approach to work-based learning. If you are a small or medium enterprise seeking to modernise, our FREE events will help you to develop a culture of innovation and develop the skills and confidence of your employees, so that your company can be part of Scotland's advanced manufacturing future.

Additive Manufacturing – Business and Technology Support (AM-BATS) - Glasgow

Website: About us | National Manufacturing Institute Scotland (NMIS)

Enquire: Contact | National Manufacturing Institute Scotland (NMIS)

Our team of experts is on hand to offer free knowledge and support to Scottish-based SMEs, micro-companies, sole-traders, and start-ups that may be exploring the potential opportunities and, are learning how to navigate through the challenges of implementing additive manufacturing in their business.

Additive Manufacturing - Business and Technical Support (AM-BATS) is a research and knowledge transfer project which forms part of the Scottish Government's Advancing Manufacturing Challenge Fund (AMCF).

Online Digital Manufacturing & Leadership CPD Programme - Glasgow

Website: Online Digital Manufacturing and Leadership CPD training support | National Manufacturing Institute Scotland (NMIS)

Enquire: Contact | National Manufacturing Institute Scotland (NMIS)

DML-CPD provides digital manufacturing training support to help manufacturing SMEs navigate the digital transformation journey.

As we navigate into an uncertain future, the need for Scottish SMEs to improve their manufacturing capabilities has never been greater.

The support available from this AMCF project will help your organisation to Manage and exploit digital disruption, Advance and upskill the workforce, Become more efficient and productive & Make better informed technology investments.

NORTHERN IRELAND - REGIONAL SUPPORT MAP

The organisations shown can provide support on a regional basis with specific programmes aimed at SME businesses.

Invest Northern Ireland is the regional business development agency for Northern Ireland.

Invest NI's role is to grow the local economy by helping new and existing businesses to compete internationally, and by attracting new investment to Northern Ireland.

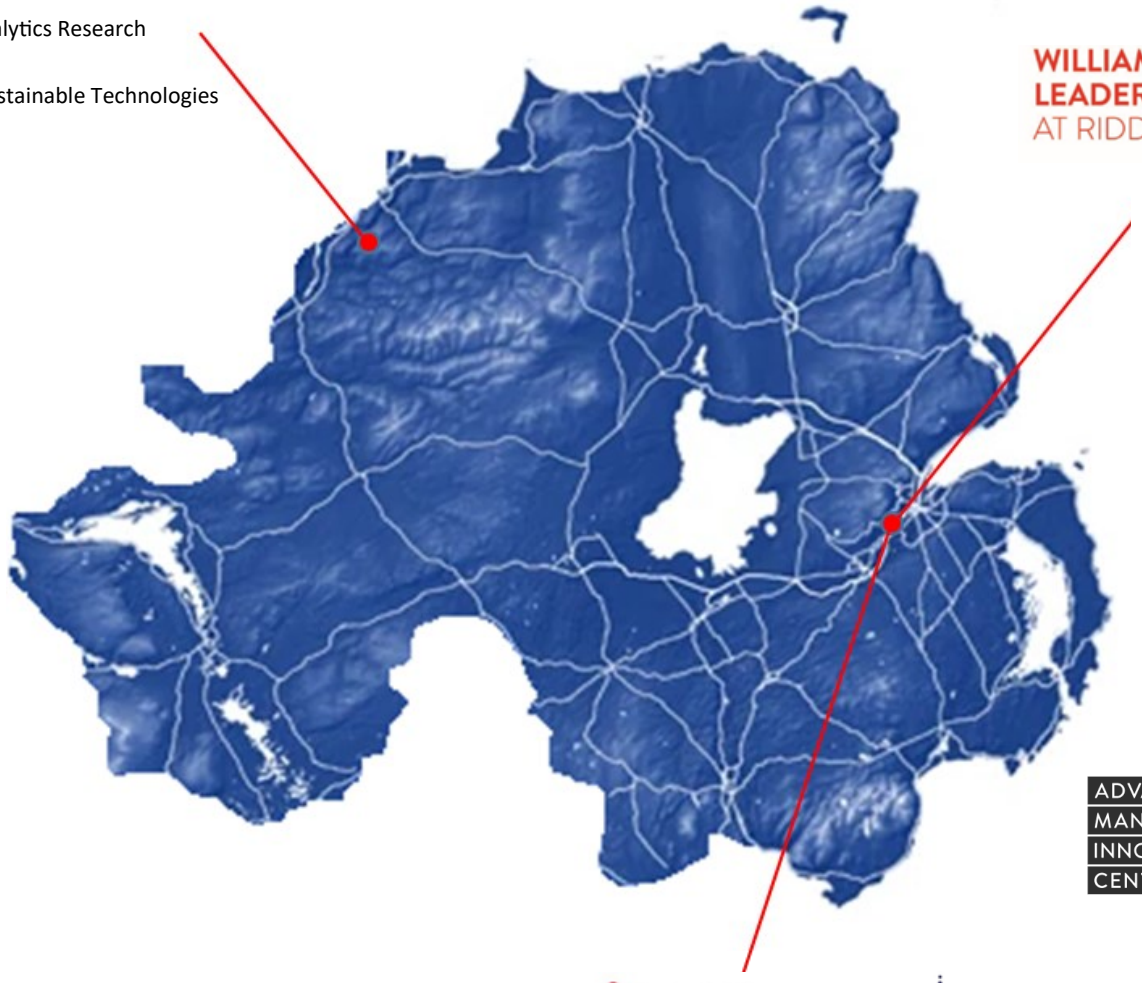
Further details on support available and our sectors can be found here:

[Invest Northern Ireland | The Regional Economic Development Agency for Northern Ireland (investni.com)]

Intelligent Systems Research Centre

Cognitive Analytics Research Laboratory

Centre for Sustainable Technologies



WILLIAM J. CLINTON LEADERSHIP INSTITUTE AT RIDDEL HALL

DIGITAL CATAPULT CENTRE NORTHERN IRELAND

ADVANCED MANUFACTURING INNOVATION CENTRE

NORTHERN IRELAND - NATIONAL SUPPORT ORGANISATIONS #1

Advanced Manufacturing Innovation Centre (AMIC)

Website: AMIC - Advanced Manufacturing Innovation Centre | Belfast Region City Deal

The Advanced Manufacturing Innovation Centre (AMIC), led by Queen's University Belfast, is a cutting-edge facility aimed at transforming Northern Ireland's manufacturing sector. With a £100 million investment under the Belfast Region City Deal, AMIC focuses on advanced manufacturing, materials, and engineering. It provides open-access, industry-led innovation support, combining state-of-the-art facilities with expert engineering teams

Centre for Intelligent Autonomous Manufacturing Systems (iAMS)

Website: Centre for Intelligent Autonomous Manufacturing Systems | Queen's University Belfast (qub.ac.uk)

Enquire: Contact | Centre for Intelligent Autonomous Manufacturing Systems | Queen's University Belfast (qub.ac.uk)

iAMS purpose is to research, develop and demonstrate innovative technologies that enable and underpin the rapidly evolving digital manufacturing world, iAMS work in partnership with the Northern Ireland Technology Centre to develop innovative technologies and solutions to address the challenges of Industry 4.0.

Northern Ireland Technology Centre (NITC)

Website: Northern Ireland Technology Centre | Northern Ireland Technology Centre (qub.ac.uk)

Enquire: amic@qub.ac.uk

NITC is a technology and innovation centre, bridging the gap between academic research and commercial production, to meet industry's needs. The NITC activities include working with leading OEM's as well as with local SME's, on projects focusing on Design, Engineering and Manufacturing.

Institute of Electronics, Communication and Information Technologies (ECIT)

website: ECIT | Queen's University Belfast (qub.ac.uk)

enquire: momentumonezero@qub.ac.uk

The Institute of Electronics, Communications and Information Technology is host to the award winning UK Innovation & Knowledge Centre for cyber security, The Centre for Secure Information Technologies, ECIT also houses The Centre for Wireless Innovation and The Centre for Data Science and Scalable Computing. ECIT are on a mission to make the changing global digital space both safer and faster.

Centre for Secure Information Technologies (CSIT)

Website: CSIT | Queen's University Belfast

Enquire: info@csit.qub.ac.uk

CSIT is the UK's Innovation and Knowledge Centre for cyber security. CSIT mission is to couple major research breakthroughs in the field of secure information technologies with a unique model of innovation and commercialisation to drive economic and societal impact for the nation.

Polymer Processing Research Centre

Website: Polymer Processing Research Centre | Polymer Processing Research Centre

Enquire: Contact Us | Polymer Processing Research Centre (qub.ac.uk)

The Polymer Processing Research Centre (PPRC) was established in 1996 to conduct and support leading edge, industrially exploitable, fundamental and applied R&D to demonstrably improve industrial competitiveness. Research staff in the Centre work side by side with industrial and academic partners from across the world in developing new processes and innovative products and provide input to the implementation of new technologies.

William J Clinton Leadership Institute

Website: William J Clinton Leadership Institute | Queen's University Belfast

Enquire: Contact Us | William J Clinton Leadership Institute | Queen's University Belfast

Delivers impactful executive education programmes designed to develop leadership identity, transform performance and give participants the competitive edge. A range of short courses, open and custom programmes synergise the rich academic foundation of Queen's Management School, Queen's University research and industry insights and address many of the digital deployment and transformation challenges.

NORTHERN IRELAND - NATIONAL SUPPORT ORGANISATIONS #2

Intelligent Systems Research Centre (ISRC)

Website: Intelligent Systems Research Centre - Ulster University

Enquire: Contact Intelligent Systems Research Centre - Ulster University

A state-of-the-art research environment established in 2007 with an extensive array of leading-edge robotic devices. ISRC translate research into technologies that catalyse innovation in small and large enterprises. ISRC co-locates researchers, engineers and commercial development experts and directly building innovation capability in SMEs and large industry locally including core partners such as Seagate and Allstate.

Cognitive Analytics Research Lab (CARL)

Website: Cognitive Analytics Research Lab (CARL) - Ulster University

Enquire: Contact the Cognitive Analytics Team - Ulster University

Ulster University's Cognitive Analytics Research Lab (CARL) is a cutting edge cognitive analytics research centre bringing together businesses, government and advanced research expertise.

Centre for Sustainable Technologies (CST)

Website: Centre for Sustainable Technologies (CST) - Ulster University

Enquire: Contact the Centre for Sustainable Technologies - Ulster University

The Centre for Sustainable Technologies undertakes multidisciplinary research to design, create, develop, improve, demonstrate and evaluate emerging, existing and alternative sustainable renewable energy, building design, construction materials, transport and environmental modification technologies.

Artificial Intelligence Research Centre (AIRC)

Website: Artificial Intelligence Research Centre - Ulster University

Enquire: Contact AIRC - Ulster University

Focusing on Knowledge and Data Engineering including machine learning, knowledge representation and reasoning, informatics and systems, and foundations of artificial intelligence. AIRC's vision is to develop AI technologies that underpin an intelligent society, empower people and support a sustainable future.

Digital Catapult NI

Website: Northern Ireland - Digital Catapult | Digital Catapult (digicatapult.org.uk)

Email: sue.mcguire@digicatapultni.org.uk

Part of Digital Catapult UK network, Digital Catapult Northern Ireland connects industry and academia to build innovative partnerships, helping organisations of all sizes to work smarter by originating and adopting advanced digital technologies. Working closely with InvestNI, the Department for the Economy and FSNI, Digital Catapult Northern Ireland introduces businesses to new possibilities by sharing use cases that demonstrate how emerging technologies are being deployed in industry.

Digital Surge Programme

Website: Business - Antrim & Newtownabbey Borough Council

Email: digitalhub@antrimandnewtownabbey.gov.uk

The Digital Surge Programme is supported by all 11 local councils for businesses across all of Northern Ireland that are deemed to have digital transformation potential and related ambitions across any sector. This fully funded programme is for eligible organisations from any sector including manufacturing, tradeable services, retail, tourism, hospitality, agriculture, construction and social enterprises. You can find further information on your local council business support site, or Antrim and Newtownabbey council have agreed to take the lead role in coordinating the programme.

Artificial Intelligence Collaboration Centre NI

Website: Artificial Intelligence Collaboration Centre

The Artificial Intelligence Collaboration Centre (AICC), a £16.3 million initiative by Ulster University and Queen's University Belfast, promotes AI awareness and adoption among businesses in Northern Ireland, with a strong emphasis on ethical and responsible innovation.

NORTHERN IRELAND - NATIONAL SUPPORT ORGANISATIONS #3

Northern Ireland Advanced Composites and Engineering Centre (NIACE)

Website: Northern Ireland Advanced Composites and Engineering Centre (NIACE) | Composites UK
Email: info@niace.org
The Northern Ireland Advanced Composites and Engineering Centre (NIACE) is a technology hub for the research and development of advanced engineering and advanced materials technologies across a range of industrial sectors. Its vision is to establish a world leading knowledge hub that delivers innovative solutions for industry through collaborative research and technological advancement.

Further Education (FE) Colleges

Northern Ireland's Further Education Colleges provide support to businesses, for further information follow these links:

- Belfast Metropolitan College Business - Belfast Met
- Northern Regional College Northern Regional College (nrc.ac.uk)
- North West Regional College Business | North West Regional College (nwrc.ac.uk)
- South Eastern Regional College Business Services - SERC
- South West College Business Services | South West College (swc.ac.uk)
- Southern Regional College Southern Regional College (src.ac.uk)

Northern Ireland City and Growth Deals

Northern Ireland is benefitting from a £1.3bn package of investment from four City and Growth deals. The deal package will include funding from the UK Government, NI Executive along with local councils, and private sector funding. The deals will provide opportunities for businesses, located both in and outside Northern Ireland to collaborate and tap into the world-leading expertise of our universities to create breakthrough technologies, products and services.
The four City & Growth Deals are; Belfast Region City Deal, Derry~Londonderry & Strabane - Region City Deal, Mid-South West Growth Deal, Causeway Coast & Glens Growth Deal.

Further information found here: City and Growth Deals | Invest Northern Ireland (investni.com)

The following facilities are being developed as part of these deals:

Global Innovation Institute (GII)

Website: /GII - Global Innovation Institute | Belfast Region City Deal
Global Innovation Institute (GII) will be a nexus for co-innovation between researchers and industry in data security, connectivity and analytics. GII is a cross-disciplinary project led by Queen's University, building on the world-class Institute of Electronics, Communications & Information Technology (ECIT) that has already put Belfast on the map in terms of digital innovation.

i4C Innovation Centre (i4C)

Website: The i4C Innovation Centre at St Patrick's Barracks | Belfast Region City Deal
The i4C proposal involves the construction of a new, significant scale innovation and clean technology centre for SMEs. i4C has a Memorandum of Understanding in place with AMIC and will offer innovation programmes for SMEs in the region as well as wraparound support to tenants. The Innovation Lab (iLAB) at i4C also forms a key part of the i4C proposal allowing for an engineering staff led and well-equipped workshop that focuses on developing products, services, training and solutions for the Cleantech sector.

Centre for Industrial Digitalisation, Robotics and Automation (CIDRA)

Website: CADRIC
The facility will provide a template model factory demonstrating agile manufacturing, integrating artificial intelligence, IIoT, robotics, automation, and digital communications into industrial manufacturing process. This will allow industry to see, evaluate and gain hands-on experience in terms of what digital technologies can do for their company (a Digital Transformation Demonstrator) as well as evaluation of designs, rapid implementation and testing.

CASE STUDIES

The following organisations are available to provide support for businesses adopting digitalisation as shown previous in this pack. Most have dedicated SME support teams and are able to identify opportunities for support funding.

Below you will find links to see for yourself what these Businesses and Organisations can do in the way of support for Digitalisation. We have selected a few examples for this pack on the following pages which are directly linked to manufacturing in Aerospace.

Made Smarter

Made Smarter is leading the UK's ambitious plans to grow manufacturing through digital technologies, innovation and skills. Made Smarter can support your business in endless ways through digital technology. Whatever goal you are working towards, Made Smarter can find a smarter solution: Improve Capacity, Maximise Efficiency, Reduce Lead Times, Increase Profits.

Find Case Studies here: Case Studies | Made Smarter

High Value Manufacturing Catapults – (AFRC/AMRC/CPI/MTC/NCC/NAMRC/WMG)

The HVMC's work through seven world-class centres of industrial innovation, they help accelerate new concepts to commercial reality. They help you design, develop and deliver innovation. Delivering the solutions of their customers need, where they need them. They work with their partners and clients to deliver impactful projects, products and services that help to reduce costs, improve reliability, create jobs and contribute to the UK manufacturing sector.

Find Case Studies here: Case Studies Archive - HVMC (catapult.org.uk)

Knowledge Transfer Network

The world we live in faces ever-changing societal, environmental and economic challenges, which are felt regionally, nationally and also globally. At KTN their mission is to connect ideas, people and communities to respond to these challenges and drive positive change through innovation.

Their diverse connections span business, government, funders, research and the third sector.

Find Case Studies here: Case Studies - Innovate UK Business Connect (ktn-uk.org)

Digital Catapult

We bring out the best in business by accelerating new possibilities with advanced digital technologies.

We work with a range of organisations – including startups and scaleups, established businesses, investors, government and public sector, research and academia – to discover new ways of solving industry challenges, increase productivity and open up new markets.

Find Case Studies here: Case studies - Digital Catapult | Digital Catapult (digicatapult.org.uk)

CASE STUDY #1

ELE Advanced Technologies – Machine Condition monitoring

The Challenge:

Currently at ELE, most machines are operated manually and not managed by a digital system. When the process varies due to machine issues, the operator can easily miss the change when the tolerance levels are exceeded.

Additionally, little information is available on machine performance and product quality until the cycle is finished. Although machines are serviced regularly, performance issues and mini breakages regularly occur. The lack of data means root-cause analysis relies on individual knowledge and their account of events which is not always reliable and not sustainable with growing production demand.

The Solution:

By working with Made Smarter, ELE has adopted a machine condition monitoring solution. Sensors have been fitted to six business critical machines to record a variety of signals such as spindle load, coolant pressure, temperature, and motor load. These signals are fed into a control box where they produce a baseline for optimum machine performance for each part number produced. A dashboard on the machine displays real time measurements, giving the operator a quick visual of performance. If the performance starts to deviate the dashboard will display a warning light enabling the operator to assess the situation and potentially escalate to the maintenance engineers. The engineer is then able to perform diagnostics and analyse any trends, putting the wheels in motion to repair or replace a required part before the machine breaks down.

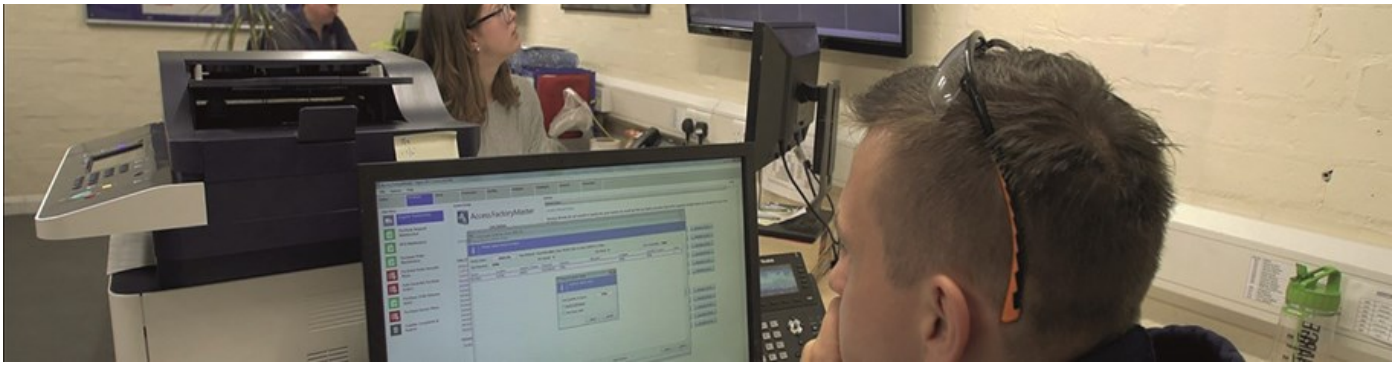
The Benefits:

ELE forecasts improvement in machine uptime by 10%, a reduction in maintenance spend of 10% and improvements in accuracy and reliability. Additionally, opportunities have been identified to expand and upskill the maintenance team. Further benefits are expected in the overall reduction of energy consumption.

Component maker invests in bespoke machine monitoring (madesmarter.uk)

CASE STUDY #2

HARRIS RCS - DATA VISUALISATION AND OPTIMISATION



The Challenge:

Harris RCS is a successful family-run aerospace business. With growth in their sector and customers demanding excellence, considerable pressure was placed on their delivery performance. With MTC support, Harris RCS identified scheduling as the root-cause of wasted time and failed deliveries. Understanding that resources were limited, the project focussed on better utilising existing resources and IT infrastructure to improve scheduling and planning.

The Solution:

The MTC constructed a shared vision of a visual workplace, where the schedule was planned and communicated to the shop-floor via large plasma screens. User-specific dashboards were installed on the shop-floor displaying daily plans, performance and business intelligence in real time. The order status is communicated in a visual colour-coded system. The data is generated automatically, communicating accurate and reliable delivery dates to their customers.

The Outcome:

•Data has been transformed into an understandable format, assisting staff in good decision making

•The innovation has gone beyond supporting the scheduling process. The team are using the digital information to validate costs, pricing and identify opportunities for improvements. They are now able to verify the true impact of new investments

•The project has brought a new energy to the factory and employees are bringing ideas to the management team for further optimisation

The Benefits:

•Achieved a 20% increase in productivity

•Improvement of On Time In Full (OTIF) to 98.3%

•Received a performance award in November 2017 from their customer, Incora

•Up-skilling of staff

Digital solution drives productivity, efficiency and waste reduction | Harris RCS

HARRIS RCS PRECISION ENGINEERING

mtc Manufacturing Technology Centre

CASE STUDY #3

Beverston Engineering – Machine and system connectivity

The Challenge:

Beverston began its digitisation journey three years ago after embarking on a knowledge transfer partnership with Liverpool John Moores University to deep dive into how technologies could help it achieve its business goals.

Beverston's challenge was its lack of connectivity between its ERP system and 18 machines on the factory floor.

Rod Wah, MD says " *…we didn't have real-time visibility for monitoring production. We monitor production based on manual inputs of jobs, production and labour in a manufacturing execution system on the factory floor. So manual intervention opens us up to human error. We want a system that automatically captures the data being produced by our machines and processes, and then tells you what you need to know then and there, not weeks after the event."*

The Solution:

The company introduced IIoT connectivity by installing the iSmart Smooth Monitor AX System that collects data from its range of machinery and transmits it to the central database.

The real-time status of each machine is presented on a platform to give Beverston overall visualisation of factory status. This can also be monitored remotely via a smartphone or tablet.

The next phase is to create a digital manufacturing management system, bringing together all production processes for monitoring and enabling the automation of repetitive activities.

The Benefits:

By introducing the 'productivity control room' and making operators aware of how their time management affects machine use, Beverston aims to increase productivity efficiency. It estimates that it can increase the current machine use rate in the factory floor, currently 38,640h/year and 70 percent of machine available hours, by 5%, the equivalent of 2,760h/year.
Beverston forecasts that using the sensors for real-time monitoring it will be able to measure efficiency more accurately and further improve it by 15%.
Beverston also plans to monitor and display environmental conditions, energy consumption and CO2 footprint in the factory in real-time.

Made Smarter-backed engineering firm hails 'phenomenal' impact after smart factory success | Made Smarter

BEVERSTON ENGINEERING

MADE SMARTER

CASE STUDY #4

Denroy Ltd—Digital Transformation

The Challenge:

Denroy Limited is a leading injection moulding manufacturer with over 50 years' experience in sectors such as Medical, Aerospace, Defence, Automotive, Commercial and Brushes.

They have recently embarked on their digital transformation journey through the automation and data capture of their brush manufacturing. One of the next stages on this journey would be to apply the same Industry 4.0 principles to their aerospace sector production.

Denroy recognised the need to enhance production through automation and real time data analysis to cement their position as a leading innovator of engineered polymer components. Their D3 and D4 brush production was heavily dependent on manual operations which led to the possibility of inconsistent and inefficient assembly operations. Factory shop floor data was reliant on manual input as well as manual quality checks which opened up the possibility for human error and subjective inspection.

The Solution:

The company began investing in the automation of its Denman D3 and D4 brush production processes. An automatic assembly machine for brush components was introduced initially. This greatly improved productivity and the consistency of the assembled product.

Denroy's In-house Automation Department then developed a system to link all the machines involved in the assembly of D3 and D4. This system was designed, built, installed and commissioned in-house. It involved linking 4 standalone machines into 1 fully automated production line. This was completed using 3 industrial robots for pick and place applications, cameras for part location and automatic inspection, conveyors for part transfer and electric actuators for deluxe part transfer and reject parts.

This also included configuring the plc for the in-house project and the controllers on the injection mould machines as OPCUA servers. This enabled access to real time tag data across the complete production line.

The Benefits:

Automation of the various stages of D3 and D4 assembly production has enabled these products to be produced more consistently. Quality inspections are performed automatically which removes the subjective nature of some manual inspections. The amount of manpower needed to produce these assembled products has been reduced from 12 to 2 freeing up these operators to perform higher skilled tasks and grow the company in other areas.

The ability to capture real time data from this production line has enabled business decisions to be made in a more time prevalent and accurate manner. It has also enabled this data to be available across the entire multi-site business. Gaining access to automation and injection moulding machine data in this way has seen a major hurdle overcame in the digital transformation strategy of the business.

This process can now be rolled out across all production equipment and help to enable data to be the primary commodity within the business. This will transform how the business operates by taking that data, generating value from it and enabling the automation of decision making within the business.

Home Page - Denroy

AGP
Aerospace Growth Partnership

CASE STUDY #5

MEP Ltd. Digital Transformation

Challenge

With over 50 years of experience, MEP Ltd. is a high performing Supply Chain and Research & Development risk sharing partner supporting our global Aerospace and Defence client's growth and success, through competitive and innovative products and solutions delivered right and on time operating from two sites in the UK and a third site in Virginia, USA.

MEP's extensive scope of manufacturing capabilities in complex multi-axis plastic and metal machined components; multi-level assemblies; thermoset, thermoplastic and hand-laid up molded components, enables us to offer the best engineering solutions that are used in many different areas and applications on multiple Aerospace and Defence platforms.

With the increased demand in Aerospace, doing things the same way over and over again was not going to yield the result our customers need, therefore we must innovate, we must use technology better. Even before we could look at new technologies we needed to ensure we were making the most of our existing digital tools, to access real time data. Reliable real-time Data Capture is key to the in-process monitoring of technical products and, used correctly, gives us and our customers the "big data" required to refine our processes, improve our products, problem solve and increase productivity and capacity. MEP will research and implement Data Capture across all technologies including the equipment used, to develop our Factory of the Future plans.

The introduction of existing and new innovative technologies to facilitate real-time information to the Shop Floor, Management, the Customer and so on is also a critical success factor in becoming a world class 'Factory of the Future'. This will build the right foundations to integrate new innovations and approaches in the years to come, ensuring we are at the forefront of the technology revolution.

The Solution

By working with our IT provider we updated and upgraded our infrastructure, to ensure we have the right equipment and bandwidth to handle not just the information we need to handle now, but we are ready for grow and for the future. The increased use of wireless devices meant we needed to ensure we had the right Wi-Fi infrastructure to handle more data across the whole business. Therefore, we improved our internal network, ensuring it was future proofed for increased data sharing.

The infrastructure improvements facilitated migrating our on-premise ERP system to the cloud. This allowed the introduction of tablets across the shop floor, to capture real time data at the machine. This also facilitate researching existing available Quality Assurance software, whereby real time information and data can be collected at the machine rather than collated after the fact.

The Benefits

Our infrastructure improvements have ensured we have resilient and reliable broadband and Wi-Fi across the entire business, to handle the data. We can now access our ERP system from any where with in the factory, from any machine—observing a decrease in the time and administrative input required to collect and collate required data and information, leading to the time being reallocated to other improvement activities, whilst improving our response time. Thus we are now more efficient. As information is now pushed rather than pulled, we are able to predict challenges and be proactive rather than reactive in areas that need more focus.

Overall, the activities we have completed so far have improved our understanding and confidence in what can be achieved through the use of technology and data, allowing us to plan for the future and be ready for the continued challenges in the supply chain that come with growth and the drive for getting the right costs and meet our customers' expectations.

MEP | Beyond Making Everything Possible