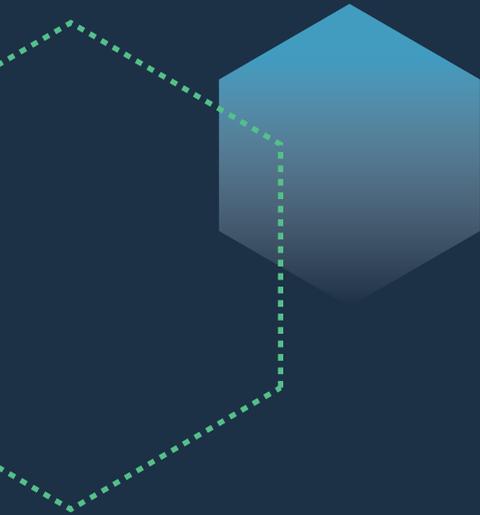
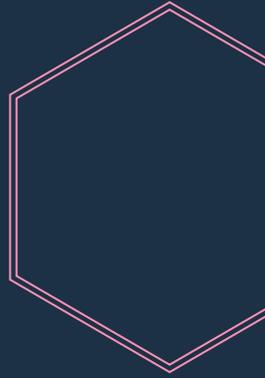


LCR4.0

HOLISTIC

SME Eco-System for Sustainable, Connected Innovation



European Union
European Regional
Development Fund



Delivering the first Liverpool City Region wide digital supply chain ecosystem for SMEs

LCR4.0 HOLISTIC is an ERDF initiative (European Regional Development Fund), supporting local SMEs and businesses in delivering the first city region-wide digital supply chain ecosystem; cross-linking traditional supply chains and clusters to create a city region supply chain network.

LCR4.0 Holistic supported businesses in developing greater business resilience, identifying key growth opportunities, and exploring diversification opportunities that facilitate greater innovation in products and services.

Our teams helped hundreds of businesses to overcome industry challenges and barriers by improving visibility with analytical insight to enhance productivity, efficiencies, and confidence to drive practical and cost-effective solutions.

The LCR4.0 Project focused on 5 key areas:



Solving Problems

Understanding the businesses we work with and identifying their industry and individual concerns, selecting the best digital solution for them and opportunities for innovation within their supply chains.



Overcoming Barriers

Better access to investment by futureproofing existing supply chains with new digital technologies and innovative thinking.



Improving Visibility

Improving efficiencies of supply chains with insights through data, AI and innovative technology.



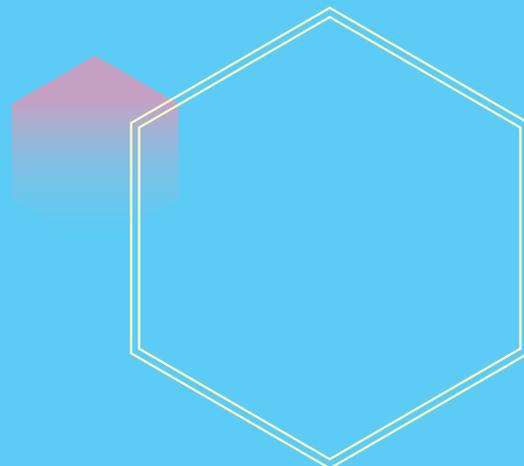
Demonstrations

LCR4.0 Holistic teams offered practical, actionable and cost-effective solutions for creating professional proof of concepts within product development phases ahead of further investment applications.



Building Resilience

For improved adaptability and responsiveness throughout the city region economy through technical and supply chain model innovation, particularly following national challenges such as BREXIT and COVID-19.





Andrew Borland
Head of Commercialisation,
Virtual Engineering Centre

The ambition of the LCR4.0 Holistic project was to help our region's SMEs take advantage of new and emerging market opportunities together. We wanted to move beyond the established mantra of innovations, ecosystems, and commercialisation. The programme set out to showcase how dynamic, ambitious, and hardworking businesses in the Liverpool City Region could form new supply chains and clusters to deliver innovative new solutions in a rapidly changing marketplace.

LCR4.0 Holistic successfully brought together strategic partners from across the region's growth sectors, including maritime, pharmaceutical, healthcare, chemical, automotive, sustainability, digital and creative and fast-moving consumer goods. The project has been instrumental in breaking down the barriers between traditional linear supply chains and connecting larger organisations with SMEs to improve the strength and resilience of supply chains across the Liverpool City Region.

LCR4.0 Holistic proved to be the right project at the right time, helping SMEs respond to the challenges of COVID-19 and Brexit, proving the potential of Liverpool's businesses to adapt and deliver new value, growth, productivity, and exports. As the city continues to strive toward Net Carbon Zero in 2040, it has been very rewarding to support so many businesses that are innovating and delivering new products and services that will be key to realising that objective. The Combined Authority is committing £45bn investment over 20 years to deliver Net Zero, working with businesses in the sustainability cluster as LCR4.0 Holistic has showcased how the strength of the region as a home to SMEs can deliver a reduction in energy consumption and materials waste.

Multiple knowledge exchange sessions have taken place between several small businesses and the experts within the delivery partners, ensuring that unique and emerging digital skills have been transferred and shared, bringing to light how technologies and processes can be shifted across a magnitude of industries, coming together to achieve a wider goal.

Throughout the project, several impressive achievements have been made. One of the most notable is the number of collaborations that has taken place between organisations across multiple sectors.

These new networks have not only strengthened supply chains but has also opened up opportunities for partnerships across both R&D and commercial delivery.

In addition to this, efforts to support the digital heritage strategy for the city have resulted in the creation of the UK's first Digital Heritage Centre for Research in the region. This space will be available to support multiple agendas surrounding the promotion and preservation of local heritage assets and locations, in addition to those nationwide.

This ensures a legacy from ERDF funded programmes including LCR4.0 Holistic as this collaborative and supportive work continues beyond the closing project and well into the future.

Some of the other achievements of the LCR4.0 Holistic project include:

- Development of innovative digital technologies to improve supply chain efficiencies
- Creation of upskilling and new job opportunities in the Liverpool City Region
- Improvement of the region's reputation as a hub for innovation and collaboration
- Increased competitiveness of businesses in the Liverpool City Region

Overall, the LCR4.0 Holistic project has been a resounding success and has had a positive impact on the Liverpool City Region and its various industries.

16

new start-ups

142

new businesses

60

new jobs created by
SMEs who took part
in LCR Holistic

£36m

Gross GVA

224

additional jobs by 2028

30%

increase in
diversification
into new markets

45

businesses have already
introduced a new product
to the market place

120

R&D Collaborations
between Universities
and SME's

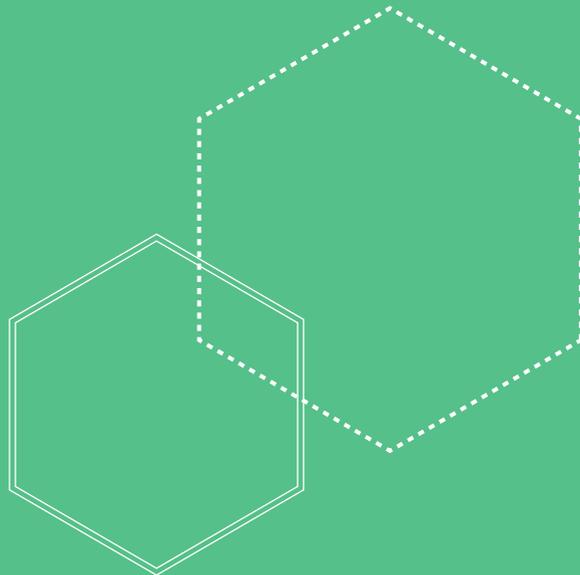
80%

of SMEs went on to
engage with the
R&D organisations

Clusters

During the LCR4.0 Holistic project, the partners ran multiple cluster-focused events, working alongside SMEs from an array of industries to promote opportunities for cross-sector companies to collaborate and strengthen their digital and innovation supply chains.

In addition to this, those businesses operating within the space were investigating and exploring how they could introduce digital innovations within their current processes for improving systems and day-to-day operations.



Maritime: Wave of Innovation

Merseyside Maritime Museum
October 2022

Realising the importance and significance of the maritime sector to the Liverpool city region, the LCR4.0 Holistic team worked alongside Port City Innovation Hub (ERDF) to deliver the 'Wave of Innovation' event, bringing maritime businesses together alongside technology leaders to understand how to bridge the gap between traditional and innovative methods for working and create a new paradigm for inclusive economic growth within the maritime community.

Guests learnt more about visualisation tools for effective training, AI and data collection for creating safer ports whilst accurately tracking deliveries, in addition to reducing the carbon footprint for more sustainable working and developing new skills needed by the local workforce for the maritime industry to diversify and remain competitive.



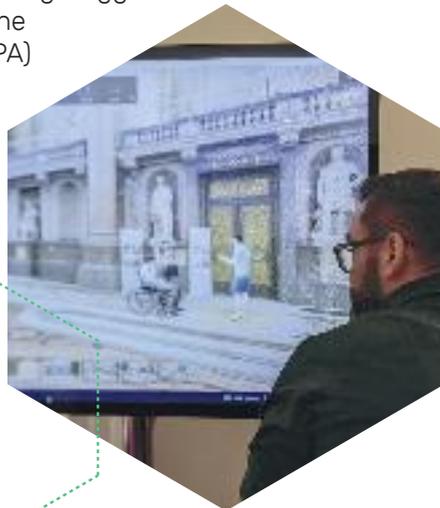
with  **PORT CITY**
INNOVATION HUB

Heritage: UK Digital Heritage Symposium

St George's Hall
June 2022

LCR4.0 Holistic worked alongside St George's Hall to highlight how businesses from across the region can utilise digital tools to support the preservation of heritage sites and assets, using technologies such as scanners for carefully capturing precise data and imagery to develop a unique and virtual twin for communicating captivating historic stories, promote significant cultural figures, improve accessibility amongst multiple communities and hold the possibility for generating a new revenue of income for museums and exhibition spaces.

The event hosted multiple presentations from industry leaders who emphasised the importance of creating a Digital Heritage Eco-System for transforming the Liverpool City Region in addition to local SMEs and businesses who are already using technologies for supporting digital heritage strategy, including Maggie Mullan Architects who has re-designed the Liverpool Institute of Performing Arts (LIPA) building for greater accessibility and multiple uses which can transform how the historic listed building is used.



The presentations were followed by an innovative technology showcase which included Metahumans and avatars for bringing historical figures and their stories to life through an immersive educational tool.

The symposium has resulted in a magnitude of collaborations and preservation work across the region. This innovative effort has now led to the establishment of the UK's first National Centre for Digital Heritage Research. A £1m investment in the region that will become home to emerging technologies for SMEs and the heritage sector that will explore the opportunities for better capturing and sharing our heritage, now and in many years to come.



with **ST
GEORGE'S
HALL**

MedTech

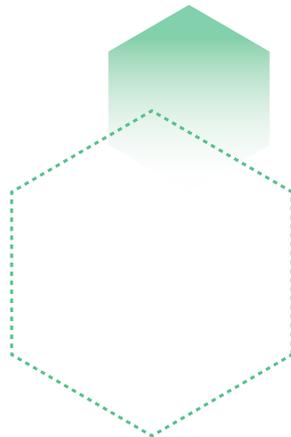
Working with an array of MedTech specialists and sector leaders within the area, the LCR4.0 Holistic project supported the likes of Circada, Drill Surgeries, Focus MRS, The Brain Charity and Viz Box to enhance their digital strategies and expand on their existing supply chain operations.

From developing virtual prototypes and environments for medical training purposes to improving current surgical tools and mental health and wellbeing within children, the initiative covered a broad number of focus areas for improving and widening the sector across Liverpool City Region that were exciting and vast.

Sustainability

To support sustainability, LCR4.0 Holistic aimed to incorporate several strategies and techniques. This included the adoption of green logistics and a circular economy through the improved design of products and services for reducing waste and increasing efficiencies by keeping resources in use for as long as possible, reducing the environmental impact of the supply chain.

Several SMEs also explored the opportunities of using blockchain technology to create a transparent and secure supply chain that enables traceability and accountability. This technology supports suppliers to follow sustainable practices in producing and transporting products in an environmentally friendly manner.



Creative Arts: Digital Sandpit

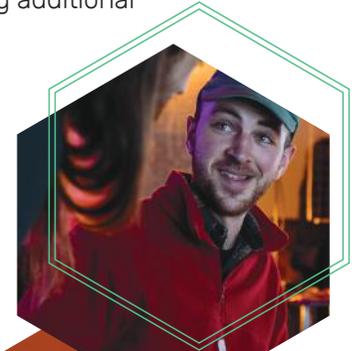
FACT Liverpool
March 2023

The Creative Arts industry employs over 24,000 people in the Liverpool City Region alone. This industry is a major contributor to the regional visitor economy, worth £4.3bn, which welcomes over 62m visitors, and is the second largest contributor to the region's economy.

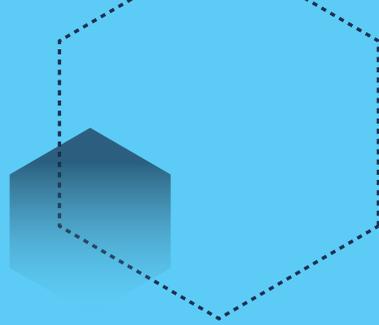
The arts industry faces several challenges, not least the recovery from COVID-19 and current economic challenges, but also ingrained industry hurdles such as time and headspace to innovate and digitally upskill, in addition to accessing additional funding and developing the right partnerships.

The cluster-focused sandpit took place at FACT Liverpool and explored how the sector can support up-and-coming creators to improve creativity, enabling shows and exhibitions to become more accessible than ever before and improve viewer experiences, immersing them into performances and artwork.

Organisations such as the Everyman Theatre, Wired Aerial Theatre, Cinema Nation, Focal Studios, Liverpool's Royal Court, Chataway and Melodic Distraction were just some of the speakers and demonstrators at the event, showcasing their work whilst highlighting the opportunity for wider support across the city region.



LCR4.0
HOLISTIC
Case Studies



"Our partnership with LCR4.0 Holistic has been a real eye-opener and has given us the means to increase our dental laboratory efficiency and save costs."

Andrew Lenden
Manager of Rose Lane Dental Technology

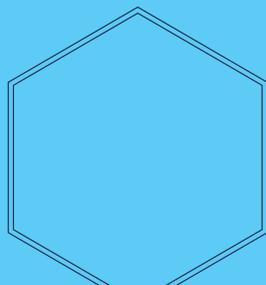


Rose Lane Dental technology

Sector: Healthcare

Digital technology is a rapidly evolving tool which enables Rose Lane dental practice to increase the volume, complexity, and types of dental restorations to patients and clinicians. The team at the practice are always keen to learn more about how they can continue to innovate to improve their customer service and remain dental leaders.

The LCR4.0 Holistic teams highlighted a range of digital tools that would digitise current processes, offering a holistic view of their operations whilst improving sustainability by reducing energy consumption with growing concerns surrounding the cost-of-living crisis. The digital demonstrator enables the practice to identify lag times and support decision-making from the team that has already reduced energy usage by 10%, lowering costs and improving efficiencies.



"The support has been invaluable to us. We have been able to not only develop our product with confidence, but we now have a modern and clear digital tool for communicating and marketing our product. I have already used this video for a recent funding application, so the impact is pretty instant."

Laura Meehan
Let's Rethink This

Let's Rethink This

Sector: Sustainability

Let's Rethink This is an innovative design start-up, re-designing products to become more environmentally friendly and sustainable.

Via a collaborative LCR4.0 project, business owner Laura Meehan developed 3D printed copies of their design for an eco-friendly deodorant pod. The innovative pod uses recyclable materials as customers only need to replace the central pod, reducing waste and environmental impact. The 3D printed model would enable the company to investigate the design, making quick and easy changes for optimised decision-making.

Once the design was complete, a visual demonstration was created to communicate how the product worked, emphasising the unique selling point and offering for the environmentally conscious consumer.





Open Wall Sector: Construction

"The support has been fantastic... We have been able to explore the best next steps for our company whilst the LCR4.0 Holistic teams of digital experts made recommendations on the technology we could adopt for achieving our goals."

Paul Fugaccia
Openwall Limited



Openwall is a growing timber engineering business, primarily providing timber frame structures to the construction industry, with a key focus on innovation and developing Modern Methods of Construction.

Consistently focused on high trading standards and quality delivered to their customers, Open Wall wanted to explore how best to streamline their internal auditing process whilst developing an open-source application for the wider industry, supporting the accurate storing of records and data.

The demonstrator uses accessible QR codes and directs regulators to all records and certifications, ensuring this process is completed with ease and efficiency. This system also enables businesses to keep a traceable digital copy of their records, reducing the need for paper systems.

Openwall is now exploring the possibility of extending this digital platform, realising the wider potential to incorporate performance sensors and information for the fire services for example.



LCR4.0 HOLISTIC

Delivery Partners



Funded by



