

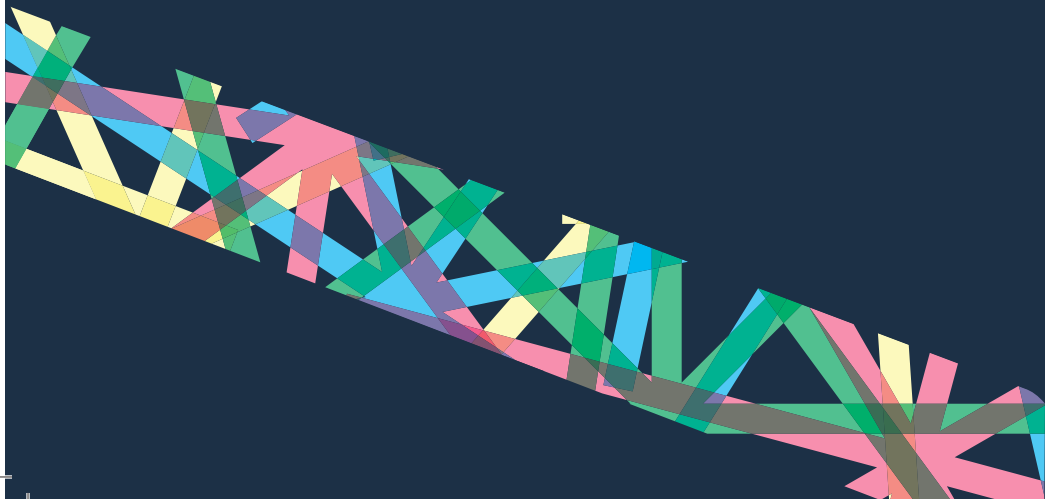


LCR4.0 **START**

SME Digital Transformation
From Strategy to Reality



European Union
European Regional
Development Fund





What was LCR4 START?

LCR4 START was a European Regional Development Fund initiative that worked with Liverpool City Region SME business leaders and their companies to deliver a competitive edge by developing practical strategies for effective digital adoption.

The project provided insight, guidance and demonstration of excellence in practice to accelerate SMEs along their digital journey to help them deliver new dimensions of competitiveness and efficiency innovation.

The 6 pillars of a Digital Strategy include:



People Skills

Readying people at all levels for digital change by providing the right opportunities to develop new skills or up-skill.



Planning

Ensuring effective planning for the delivery and management of digital infrastructures.



Leadership

Support in developing future leaders who can steer organisations into full digital transformation – now and in the future.



Supply Chains

Supporting industry in developing value and opportunities through dynamic, digital supply chains.



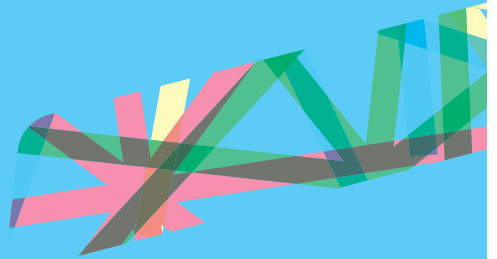
Technology

Ensuring organisations have the right technology that is tailored and tested for their bespoke operations model. Providing testing facilities and advice on aligning technology for digital transformation projects.



Investment

Unlocking the right investment for businesses that want to embark on digital transformation programmes.




Dr Andy Levers
Executive Director for LCR4 START

The University of Liverpool's examination of the accelerated rate of digital adoption in response to COVID-19 confirmed the importance of LCR4 START's mission to support businesses in implementing Industry 4.0 technologies.

The findings from the study, which conducted around 200 business interviews across the North West in September 2020, showed that digitalisation had become a crucial aspect of business operations, with companies needing to incorporate digital tools and technologies to remain competitive and productive in the face of market changes and economic challenges.

LCR4 START's approach to increasing digital awareness and helping businesses develop a well-informed digital strategy has proven successful, including supporting SMEs outside the manufacturing sector, in achieving their commercial objectives.

The project's focus on working with SME directors and innovative leaders to assess and align digital priorities with their wider business vision, signposting support networks, and developing digital roadmaps has helped businesses to overcome barriers and position themselves for competitive advantage.



Despite the challenges presented by the COVID-19 crisis, LCR4 START was able to pivot and support businesses in identifying sustainable working practices and overcoming the effects of the pandemic. The project's launch came at a time when all businesses recognised the need to develop their digital strategies, proving to be a unique opportunity for helping SMEs on their digital journey.

Overall, LCR4 START's mission to support businesses in effectively incorporating Industry 4.0 technologies into their current systems and processes remains crucial in today's rapidly changing business landscape.

76%

of businesses adopted new digital technology during the lockdown period.

41%

highlighted digital technology to be instrumental to their ability to retain jobs.

39%

of businesses surveyed, said their old business model would not work post-COVID.

79%

increased investment in digital technology specifically due to COVID.

58%

say adopting digital technologies has made their business stronger.

More than three-quarters of businesses have adopted a new digital technology during COVID-19.

LCR4 START Impact

Approaching LCR4 START

The top goal for businesses who approached LCR4 START was to develop new products (**46%**) and new processes for their business strategy (**43%**). Other objectives included improving their ability to secure funding, increase productivity, enter new markets, and foster a digital culture.

Of those businesses who partook in the survey, the top three barriers to innovation were identified as:

- Access to scientific and technical knowledge (**63%**)
- Skills and knowledge to secure external funding (**58%**)
- Lack of resource and time to develop a strategy (**54%**)

Support Delivered

The LCR4 START project supported 189 businesses over a three-year period. 207 businesses received information, diagnostics, and brokerage support and of these businesses, 36 were start-ups.

- **38%** of beneficiaries accessed 2 or more types of support
- **46%** of businesses went through a 'digital business assessment' and 35% planned a digital roadmap.
- **80%** of businesses who underwent these forms of support indicated that they played a moderate or big role in overcoming innovation barriers.

The project received positive feedback following a Summative Assessment, which also identified that **29%** of businesses who learnt about the LCR4 START project, did so through word of mouth.

Impact

The LCR4 START teams have supported in the development of 64 new products to firms. Of the proportion of businesses that cited improvement against their goals, **100%** of these came through developing new products and processes, gaining collaborations and increasing productivity.

43% of businesses or every **2 in 5**, have stated that they have since invested in new technology and **30%** indicated that they felt more resilient to market conditions and the current economic climate after receiving the support from LCR4 START.

On average, approximately **80%** of beneficiaries found that the support accessed was beneficial or very beneficial.

GVA

In 2023 an independent survey of Liverpool Businesses that have worked with the LCR4 START programme found that businesses who engaged with the programme were estimated to collectively increase the gross value added to the city's economy by **£26,700,00**. LCR4 START's cohort of businesses is projected to increase employment in the region by **201** full-time jobs.

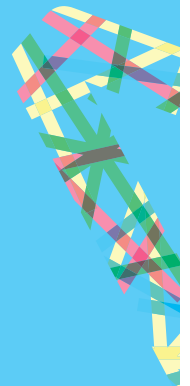
Jobs

At the closing of the LCR4 START project in March 2023, an assessment found the project had supported businesses who have generated over **68** new jobs during the programme.

“The most useful aspect of the project was the personable approach and the diligence to understanding the idiosyncrasies of business.”

– SME Beneficiary

(Figures taken from the time of assessment and from a responsive population of all SME beneficiaries of the LCR4 START project)



LCR4.0 START

Shining Stars



"Working with LCR4 START, we realised we could automate certain processes which are tedious for our staff to do but are important stages of candle production. The LCR4 START team were quick to understand our challenges and to develop a solution. We're confident we will be able to free up hours of repetitive work for our staff and redeploy them on more skilled work."

- Will Hawkins, Sales & Marketing Director for Hayes and Finch



Hayes and Finch

Sector: Traditional manufacturing

Hayes and Finch are a traditional manufacturing company based in Aintree, supplying churches across the UK with an array of products including a wide range of candles, statues, furniture and furnishings including banners, confirmation cards, candle holders and collection baskets.

The company were looking into adopting digital technologies to improve their productivity levels and production lines. The company owned existing components to create and deploy four autonomous robotic arms to their candle production line. The LCR4 START teams assessed Hayes and Finch challenges and supported the plan and development for implementing robotic arms and a proof of concept using a single unit. Successful use of these robotic arms within the production line will result in five thousand candles a day being produced and packaged to a high standard, increasing productivity and freeing operational staff.



"Focus MRS pride itself on being innovative with a strong understanding of virtual tools and technologies but it is always great to gain a non-bias professional opinion which has made us even more aware of future opportunities.

Our service is key to improving the education of many but also supports the mental health and well-being of those looking for their new beginning as they search for their place in society and explore how they would like to give back."

- Mark Paddock, Focus MRS Director

Focus MRS

Sector: Virtual Reality

Focus MRS (Mixed Reality Streaming) supports learning and education using immersive technologies such as Virtual Reality (VR) and 360-degree live streaming of environments. These technologies can support young people during periods of remote learning, helping teachers to retain attention levels and add value to distance learning through an easy to use and secure app.

Focus MRS wanted to extend their support services to ex-offenders in their learning and development of key skills to help improve their lives and circumstances whilst directly preparing for potential careers and jobs for the future.

The LCR4 START Industrial Digitalisation teams hosted a Knowledge Transfer workshop for Focus MRS, demonstrating how technology such as Augmented Reality (AR) can be implemented to enhance their offering and upskilling the teams for managing in the future.



OVER
ROAD



"The support from the LCR4 START teams has been invaluable to us in such an early stage of our business. The project felt collaborative from day one, the team's knowledge and expertise helped us rapidly develop prototypes to take to market, which wouldn't have been possible without their input. They continue to support us in any way possible, which I can't thank them enough for!

- Nick Seville, Managing Director for Seville Designs and Overroad



Overroad

Sector: Logistics

Collective of designers, developers, and educators, Overroad rapidly test innovative ways to solve the complex issues facing the logistics industry today. Delivery pressures, unpredictable journey times and long hours on the road leading to a lack of social interaction can result in mental health concerns.

Overroad is developing a new mobile app combined with a physical handheld device that will allow drivers to communicate with one another whilst on the road, providing a safe place for drivers to support each other and develop friendships. Taking the concept drawings of the initial smart product, the LCR4 teams supported Overroad in introducing additional functionality whilst converting the drawings into CAD files (Computer-Aided Design) for refining the design and virtually making quick and easy changes.

The final product data was then used for creating a 3D printed physical prototype that would comfortably and securely fit into the hands of HGV drivers. This demonstrates the ease of communicating safely whilst driving to potential clients and stakeholders, showcasing the quality, value, and convenience their new product could provide.



"Now more than ever, manufacturers need to be at the top of their game in terms of asset utilisation and product yields. LCR4 START has the know-how to assess what process improvements and digital technologies would have the greatest positive impact on business performance.

Their demonstrators allow manufacturers to view these digital technologies before commitment."

– Cliff Brereton Director
DATAHONE Ltd



DATAHONE Ltd

Sector: Software and Hardware providers

DATAHONE are a service provider of fully integrated 'Connected-Factory' software and hardware solutions. These solutions deliver productivity, service and quality gains to UK manufacturers. DATAHONE are client-led, offering Industry 4.0 solutions to meet customer requirements for supporting productivity improvements and fast returns on investment.

The LCR4 START team worked through a consultative support process, centring around a combination of digital diagnostics and readiness level assessments, resulting in the development of a digital strategy to focus on IoT, Cloud, and System Integration technologies to help improve the visibility and credibility of DATAHONE to the marketplace.

DATAHONE took advantage of the digital strategy support to help improve the market potential of their equipment using condition-based monitoring processes, whilst accessing specialist knowledge and tools to set up a Supervised Manufacturing demonstrator on a CNC Lathe located in the Engineering Workshop for collecting and analysing data and metrics from the machinery.

DATAHONE are now keen to develop a marketing strategy based around a supply chain cluster of companies located in the LCR region to improve productivity, sales growth and the creation of jobs. This strategy has already started to deliver results by attracting local companies that are benefiting from improved operation and reliability of manufacturing systems.

LCR4.0 START Ones to watch

A number of the SMEs we have supported throughout the project have proven that they have big plans for the future and we believe will go on to make real change...



"It was great to work with the LCR4 START teams who have a background in supporting the healthcare industry in the adoption of digital technologies for increasing the safety of current processes amongst many other benefits.

We are now developing our MedTech devices and tools further, using our digital strategy for ensuring we remain innovative, and our universal clients and patients can reap the benefits."

- Moises Barbera Ramos, CEO and Founder of Drill Surgeries



Drill Surgeries

Sector: MedTech

Drill Surgeries are a MedTech start-up based in Liverpool, driven to improve how Intramedullary Nailing surgeries are performed worldwide despite the lack of change in approach for several years. Drill Surgeries uses emerging and evolutive technologies to improve surgeries and patient safety and enhance accuracy whilst saving time and money.

The LCR4 START teams investigated how Augmented Reality (AR) and Virtual Reality (VR) technology could improve the assessment of precise and accurate positioning of pins and steel rods, whilst potentially removing the need for a secondary x-ray.

The accuracy and visibility this will provide to the surgeon will allow for a much less intrusive operation, reduced operating times and updated patient records for future review if necessary. Demonstrating the precision imagery and how this technology can be developed, can encourage this method to be utilised in other surgical procedures.



MMA Design Ltd

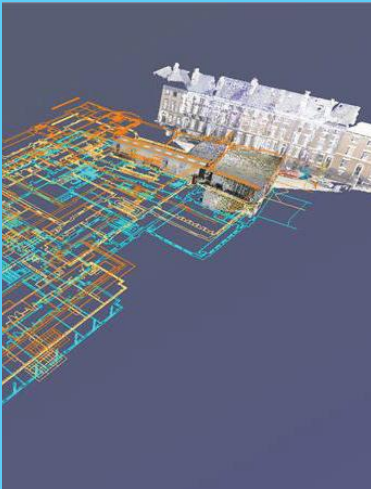
Sector: Architecture

MMA is an architectural practice with over 20 years of experience across a range of sectors. Maggie Mullan, the principal, is a chartered architect and has designed and delivered a wide variety of masterplans, new buildings, and refurbishments throughout the UK.

MMA was commissioned by the Liverpool Institute of Performing Arts (LIPA) to transform a traditional dance studio, situated in a historic, listed building, into an innovative, fluid space using the latest digital theatrical tools, green screens, virtual reality, motion capture and virtual learning.

MMA worked with LCR4 START experts to extrapolate a complete digital model of the space, minimising the need for costly, destructive, and time-consuming exploratory work. Ongoing work through LCR HOLISTIC has introduced further digital techniques such as photogrammetry and LiDAR scanning for capturing physical environments.

- Faster and more effective decision-making, resulting in a reduction in timescales.
- Less destructive and time-consuming survey work.
- Early identification of issues and required changes before any significant investments.
- Reduction in building costs and rectification work.
- Ability to compare design alternatives within minutes.
- New dimension of client engagement in the design phase.





Oh My Mood

Sector: Mental Health

“Thanks to LCR4 START we were able to transfer a very limited scientific tool into not only a market ready tool, but also into an incredible solid base for further innovation towards personalised mental health care.

The LCR4 START team has catapulted Oh My Mood towards the next level of innovative products within mental health care. The expertise and input from the team have been of invaluable worth.”

- Pauline Post, Oh My Mood

Language barriers can exclude many individuals from healthcare screening and treatment, while cultural and contextual factors can influence assessment outcomes. The COVID-19 pandemic only reinforced the demand for remote care and accelerated the use of digital tools to care for mental health. Oh My Mood develops innovative healthcare pathways, aiming to contribute to affordable and future-proof mental healthcare.

The company collaborated with LCR4 START to streamline and integrate the patient journey. The team built an application that could host services such as mental health questionnaires and provide recommendations for tools and techniques they may benefit from, in an array of languages for wider use.

The app will streamline parts of the healthcare process that can be completed remotely by the patient, reducing waiting times for patients at a lower cost to the healthcare provider or insurer. Oh My Mood aims to expand into new markets with this service, augmenting the work of medical professionals to speed up the assessment of patients and make more accurate recommendations for treatment.





Sandstone Dental Practise Sector: Dental care

"LCR4 START had the know-how to assess what process improvements and digital workflow technologies would have the greatest positive impact on a dental practice's business capability and performance.

Their demonstrator contact base allows Dental Clinicians to view these digital technologies before committing to them."

- Prof Fadi Jarad, Director



Established in 2017, Sandstone Dental Practice offers bespoke private dental services enabling patients to access high-quality oral healthcare. During the COVID-19 pandemic, Sandstone Dental Practice took the proactive decision to set up a "Digital Centre of Excellence" to create a safe and productive working environment to benefit both patients and staff by promoting "Contactless Visits" to minimise the risk of infection.

The LCR4 START team supported the development of a digital strategy to focus on introducing intra-oral scanning, design software technology, additive manufacturing, IoT (Internet of Things), cloud computing and systems integration.

The roll-out of the digital strategy has enabled Sandstone Dental Practice to successfully apply for and win a digital manufacturing grant through Made Smarter UK to part-fund new Digital Workflow packages. This has helped to improve business capacity by 25%, reducing impression time and recurring cost by 15 minutes and £ 20 / impression respectively.

The support provided by the LCR4 START programme has helped to improve the patient experience and minimise chair time. Sandstone is now keen to further develop the Digital Centre of Excellence via the inclusion of additive manufacturing and subtractive milling technology to enable in-house manufacturing of high-quality dental restorations, further improving the quality of service and patient experience in the Heswall community.

Closing words



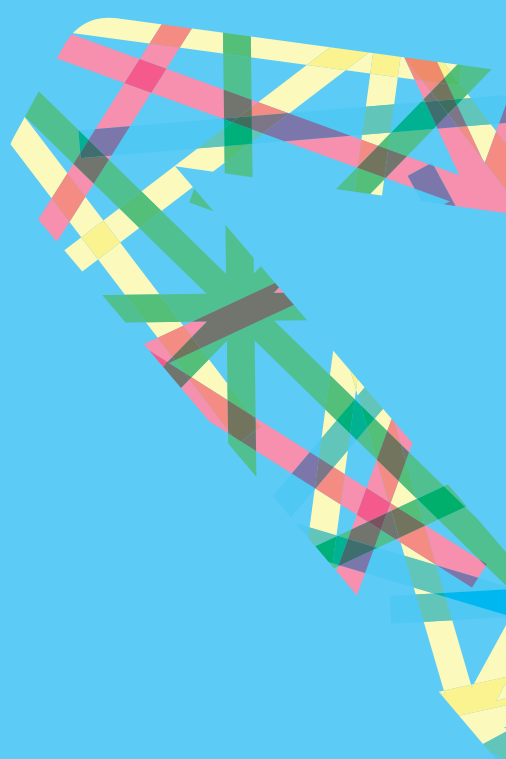
Simon Reid
Head of Sectors, Growth Platform –
Liverpool City Region Growth Company

With the current climate and new business challenges faced everywhere, the former 'nice to haves' have become absolute necessities across our personal and professional lives. Businesses have needed to adapt more than ever before and consider how their digital strategy supports the business needs of connectivity, skills, and services.

As LCR4 START and LCR4.0 Holistic comes to an end, we reflect on the hundreds of businesses across the ecosystem that have accessed the fully funded support through the continuous hard work of the LCR4.0 teams, building on the legacy of those successful projects that came before it.

Whilst many of the same challenges will remain beyond the LCR4 START project including pressures to support the Net Carbon Zero initiative, data and cybersecurity threats following the digitalisation of systems and a growing competitive market, the LCR4 START delivery partners are going from strength to strength and continue to support local businesses.

2022 saw the launch of the Digital Innovation Facility at the University of Liverpool, encouraging and fostering collaboration between industry, academia, and world-class research. The STFC Hartree Centre has also launched the National Centre for digital innovation alongside tech giant,



IBM, supporting the development of technical skills and capabilities, leading to digital adoption.

Liverpool City Region continues to grow towards the ambitions for a smart city, using technology such as 5g connectivity and 'digital' for good, with several LCR4 START beneficiaries citing such activity, using emerging technologies for supporting mental health, accessibility to healthcare and improving services overall, which is fantastic to see.

LCR4 START has also supported the growth and development of digital understanding and skills across the city region from data analytics through to AI and high-performance computing (HPC), chemistry, advanced manufacturing, and health innovation – all key growth areas across Liverpool City Region and the UK as a whole.

LCR4.0 START

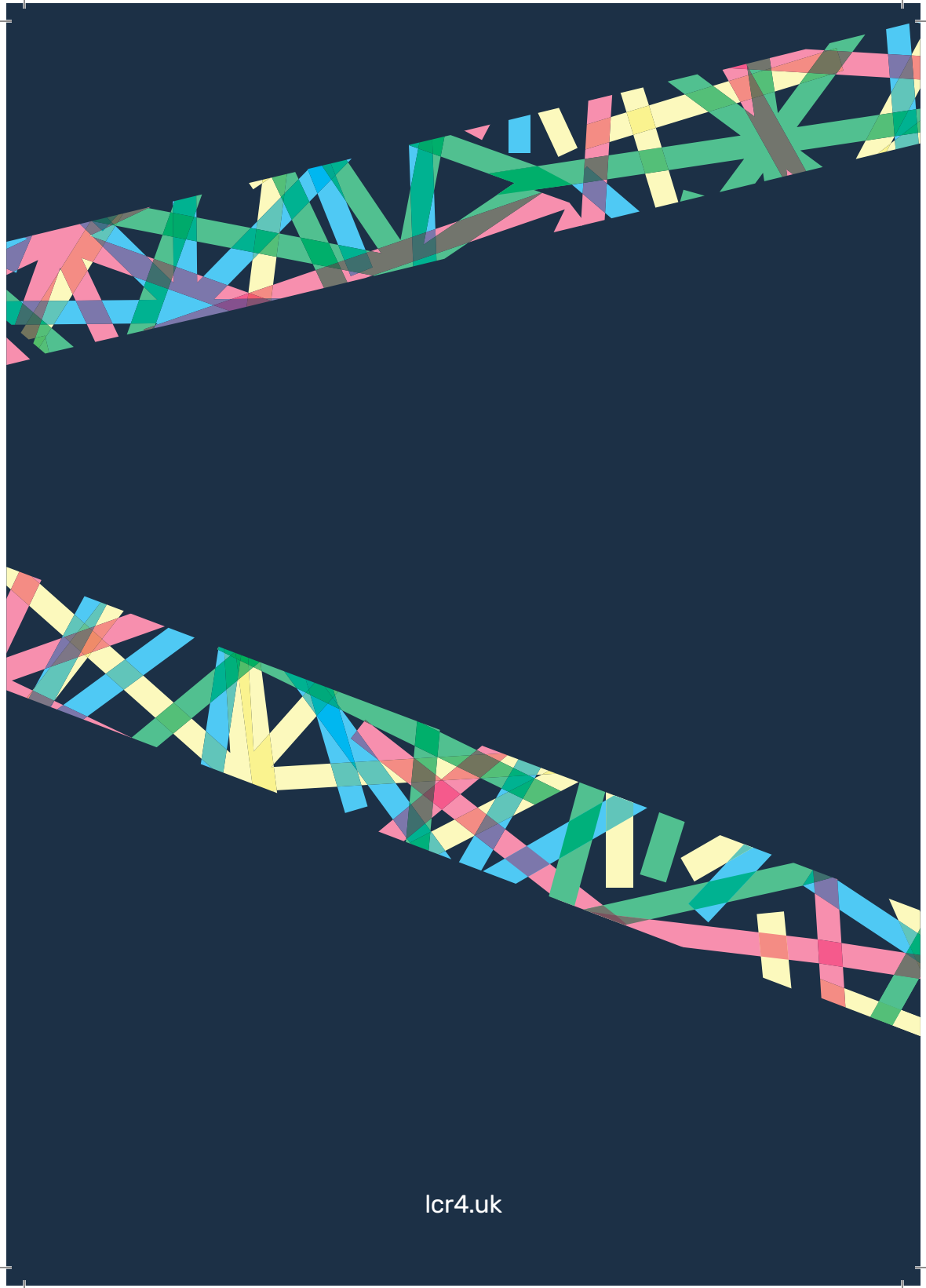
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