



BIRMINGHAM CITY
University

**A place for
innovation, a
space for all**

k - hub

Knowledge Hub

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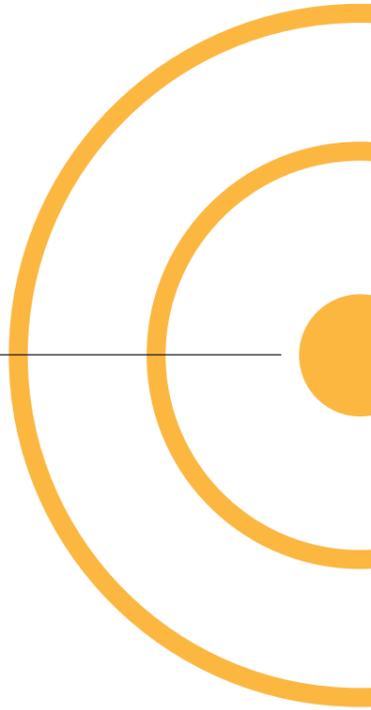
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Connecting ideas, enabling innovation

Growing our city, changing our region, creating opportunity.

The Knowledge Hub (K-Hub) is a pioneering concept that will transform both the way we think about, create and develop our public spaces; and the way in which we use these spaces to power collaborative thinking, connecting deep science with start-up energy and focus. To this end, K-Hub will be a beacon of new place-based innovation, leveraging the benefits delivered by the HS2 Growth Strategy, Industrial Strategy and Big City Plan to drive economic growth. This will be facilitated through targeted intervention packages and by linking innovations to overseas markets and investors.

Covering both Birmingham and the wider West Midlands region, K-Hub will capitalise on investment, supporting the development of a rich innovation environment. Practically, the initiative will help develop new products/services, create jobs, grow business opportunity, increase productivity, and foster vital research. K-Hub is led by Birmingham City University and underpinned by a network of partners, including Aston University, Birmingham City Council, BMet, Innovation Birmingham, HS2, Phillips Lighting, BOA and HS2 College, amongst others.

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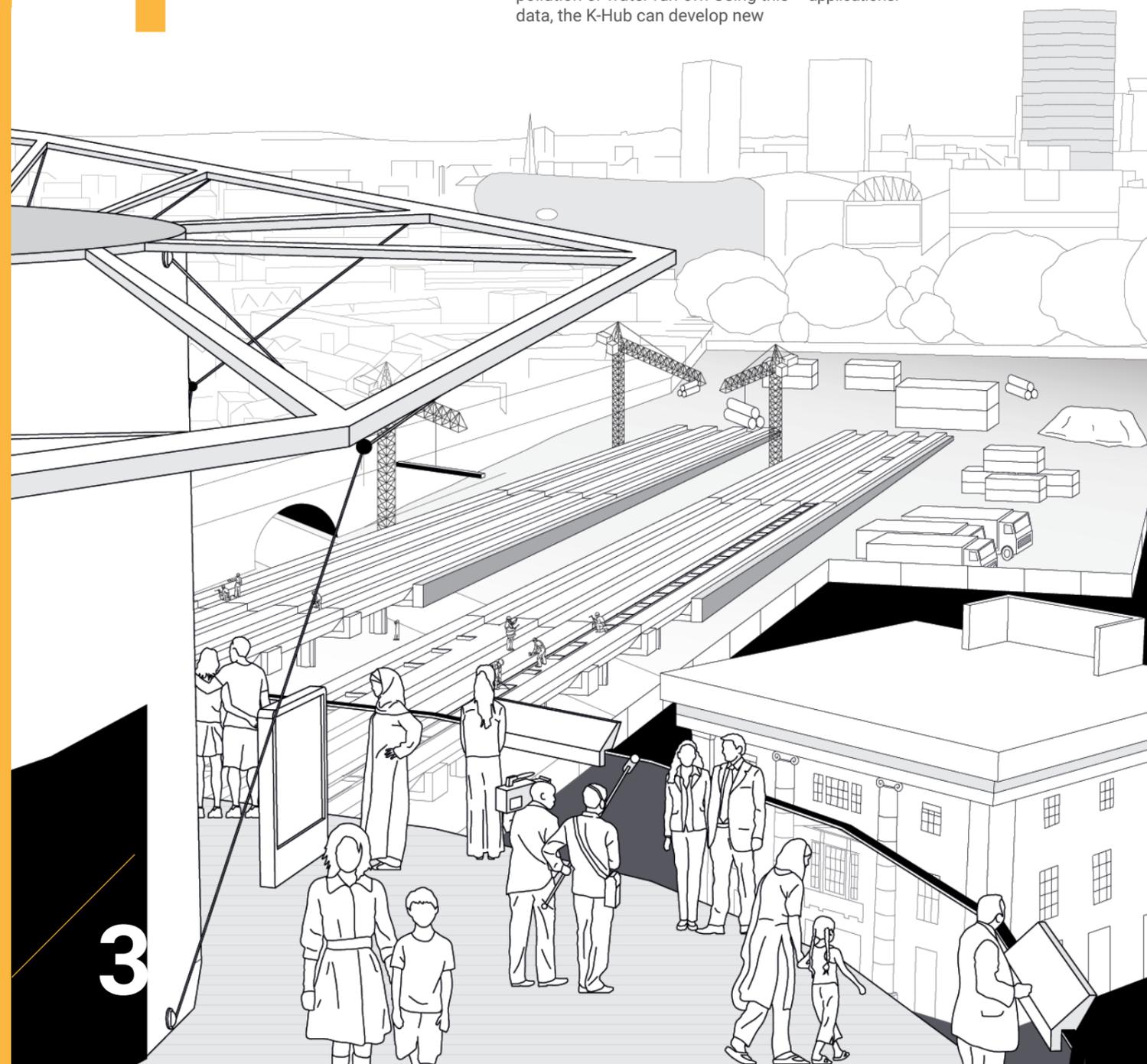
Connecting with K-Hub

K-Hub's regional focus offers a number of opportunities to use new technologies to support innovation and community wellbeing. For example, every new building, pathway or street asset (such as light posts, bins, and bicycle racks) has the capability to become connected to the internet through sensors, allowing resident entrepreneurs and universities to better understand the environment. This technology can then be used to measure variables such as air quality, noise and sound recognition, light, pollution or water run-off. Using this data, the K-Hub can develop new

applications for community benefit, such as better way finding for the visually impaired, traffic routing, and the creation of engaging games and art installations that make people want to use the space.

What will it achieve?

The K-Hub will make innovation and technology more visible and tangible to communities, and offers the potential for the public to connect to the data. For entrepreneurs and researchers, it will create an open innovation area where they can work together to co-create and test new applications.



k - hub

Innovation

K-Hub projects will generate innovation-focused approaches to enterprise and culture that will power our future economies and drive the ongoing renaissance of Birmingham as a modern city. K-Hub's knowledge transfer strategy will future-proof the region from uncertainty, supporting world-leading, forward-thinking developments in both the public and private sector. The data-driven insights arising from K-Hub, the connection of creative thinkers with technologists and businesses from a range of sectors, and its collaborative innovation -focused enterprise model, will facilitate a continual cycle of social and business solutions to the ever-changing challenges of our world. Accordingly, K-Hub will also serve to maximise the region's appeal to prospective overseas and domestic investors, and to leverage the potential from large-scale infrastructure projects.

Opportunity

As the city with the youngest population in Europe, Birmingham is always changing, innovating and moving forward, placing the City as the home of new opportunity for the Region, characterised by large-scale infrastructure projects, coalitions for growth such as the Midlands Engine and West Midlands Combined Authority, and through knowledge and enterprise assets such as its status as one of the most entrepreneurial core cities in the UK. The Midlands region has more foreign direct investment projects than any other English region, as a result, K-Hub will help connect businesses from across the region to innovative technologies and learning models, such as the Workforce Employer and Training provider hubs, Data Driven Insights Rack (DDIR), 5G Test bed and STEAM thinking, supporting innovation through interdisciplinary collaboration.

Through linking opportunities, K-Hub will support employers to grow their business, provide new knowledge through training, create more jobs and chances for employees to realise their fullest potential, and secure a platform for testing ideas and real-time data

analysis for a range of partner organisations. The outcome will be increased business resilience, and a supportive environment for start-ups and spin-off companies to grow and make an impact on the world stage.

Community

From the 'workshop of the world' to a city of a thousand trades, Birmingham has always been characterised as an ever-changing and thriving community, driven by a love for business and culture. K-Hub projects are specifically designed to continue this legacy, by fostering a stronger and more interconnected community both in a public, and business setting. K-Hub will nurture and support a collaborative culture of knowledge sharing between the private and public sector, facilitated through designs which will promote new, ambitious ways of working. K-Hub developments will lead to an improved quality of life for those living and working in the area, creating a more vibrant, multi-cultural environment.

Who will it benefit?

K-Hub will benefit all individuals and organisations (both public and private) that live, work or have an invested interest in the development and prosperity of the city and the region. Practically speaking, this will range from supporting small businesses to access new market knowledge, providing test beds for the further development of new ideas, and through engaging entrepreneurs in the development of public spaces. By aligning itself with the shared objectives derived from core strategy documents such as the Big City Plan, regional Industrial Strategy and Local Enterprise Partnership Strategic Economic Plans, K-Hub will support the development of a unified community with improvement at its core.

How will it work?

K-Hub is a network of new and existing projects at various stages of development and evolution. Each project seeks to prove our vision for new place-based innovation, and to bring opportunity to our community.

The projects are multifaceted combining elements of spatial

innovation. opportunity. community. benefit.

design and physical infrastructure that will drive new areas for regeneration, housing and business growth across Birmingham and the West Midlands. Major investments in the K-Hub area and plans for connectivity enhancements – including those aligned to public realm development such as the HS2 terminus, and outlined in the Curzon and Digbeth Master Plans - will provide access to the deployment of innovative interventions, and significant employment and training opportunities for local residents. K-Hub is working with a wide range of specialist collaborators on these projects.

How can you help?

K-Hub will maximise the potential of the station site at Birmingham Curzon through enhancements to the public realm, creating a world class point of arrival for the Midlands. Key outputs from the initiative will include the delivery of over 5,000 net additional jobs, the training of 1,000 apprenticeships, and an increased regional GVA of £300m over 5 years. The K-Hub

will provide the scale and capacity to respond to the opportunity afforded through Devolution, and enable faster economic growth by empowering future businesses, embedding digital transformational innovations, and through training a new generation workforce across the West Midlands that better serves the needs of its businesses.

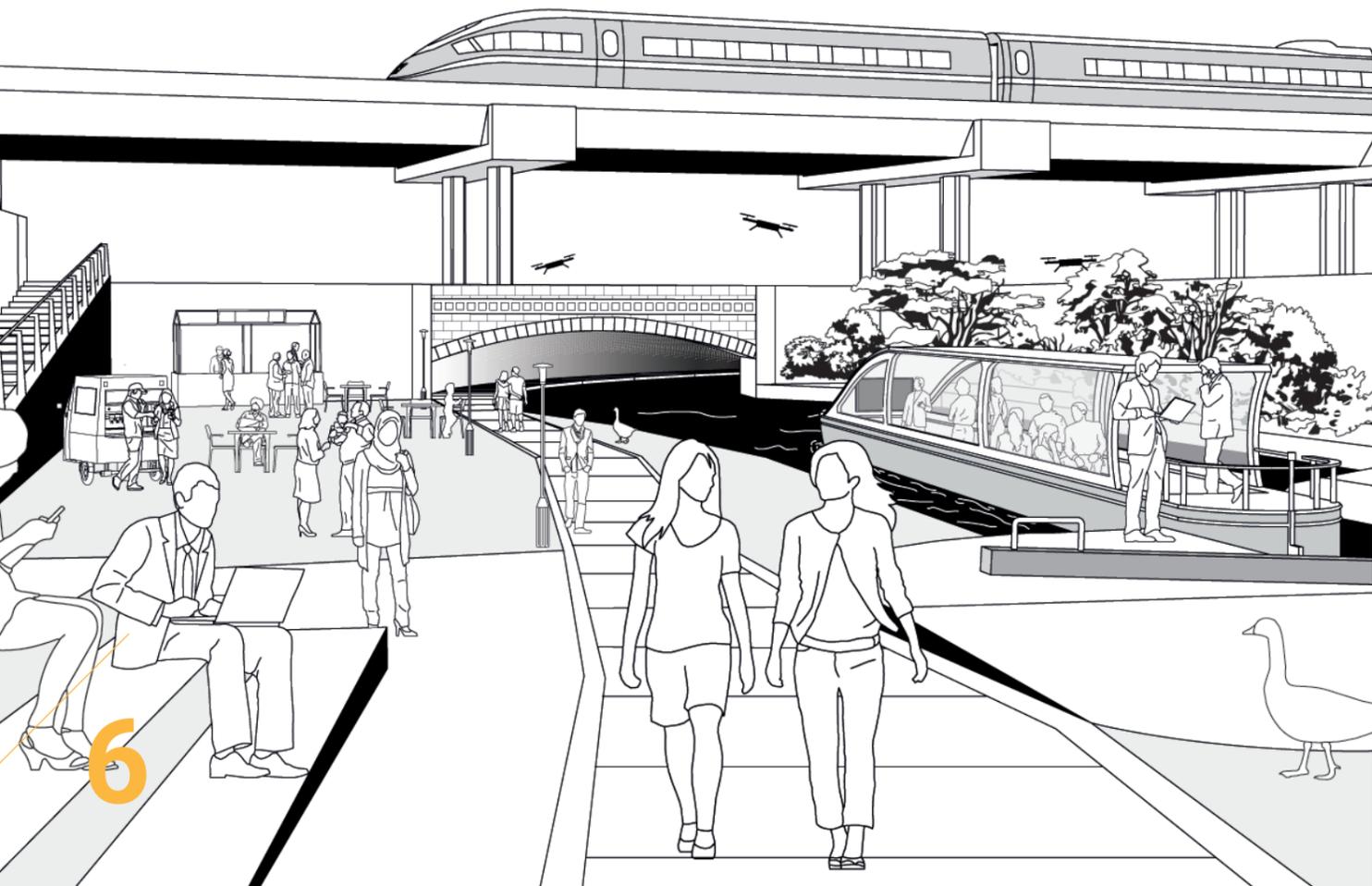
We welcome you to join us on our journey to create a brighter future for Birmingham and beyond.

Find out more by registering your interest online at www.bcu.ac.uk/knowledge-hub

k - hub project 1

+ Digital Towpath

A traditional transport system revived.



Innovative technologies.
Relaxation + collaboration.
Connecting businesses.



- Birmingham's canal system reinvented with the help of innovative technologies; reenergising 'Canal Cycle routes'
- Creating a place for study, entertainment, relaxation and collaboration.
- A public realm connecting businesses to the latest 5G technology and advanced urban services.

The UK's canal system was once a piece of state-of-the-art infrastructure that supported an era of growth and change. Using the canal to support our new, innovation-focused economy would not only maintain the canal's inspiring heritage, but also provide a space for wellness, reflection, collaboration and innovation?

Our Digital Towpath will reinvent a section of the canal system on the eastern edge of K-Hub, revitalising the stretch of the Digbeth Branch Canal and open up a new gateway promoting the flow of people across the K Hub.

To do this we propose a transformational vision of canal, recreating it as useful mode of transportation, a test bed for digital technologies, advanced urban services and a source of wellness where the community can connect with nature. Our vision includes provision for the following:

- A safe and secure public realm. This includes a partnership with Phillips Lighting in creating bespoke intelligent lighting delivering a comfortable and digitally connected environment
- Driverless canal boats which act as pavilions for study, entertainment and relaxation. These represent a 'slow-time' use of the canal to promote wellness and focus
- Hyper-Locks which generate power and become collaboration nodes along the canal
- Part of a 5G test network which will enable new levels of data-centric collaboration and communication
- A public realm that provides a meaningful connection between iCentrum and Typhoo Wharf while also being accessible to Digbeth, HS2, the educational institutions and student residences

How can you engage with K-Hub?
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k - hub project 2

+ Cinema Square + iCentrum Place Enterprise and event spaces

Enabling creative business opportunities by connecting technology, culture and innovation

- Creating shared collaborative spaces utilising the latest entertainment technologies to attract and enhance visitor experience whilst supporting community wellbeing/connectivity
- Encouraging engagement across partners, citizens and businesses
- Creating the perfect space to test and develop new products and services
- A place to showcase innovations to investors and broker links to overseas markets

K-Hub's proposed innovation and event spaces will be created and connected to encourage collaboration, exchange ideas and promote engagement across partners, citizens and businesses.

Cinema Square

Cinema Square is a proposed multi-purpose space, accessible to the public that will be a focal point for energy and activity. Used both in the day and at night, vibrant and buzzing with people. Created or re-configured to be digitally-accessible (with high speed internet, wireless networks, computers and digital displays embedded into spaces) and to encourage networking (where spaces encourage "people to crash into one another"). Adjoining streets transformed into living labs to flexibly test new innovations, such as in street lighting, waste collection, traffic management solutions and new digital technologies. A focal point for the community providing a variety of commerce and entertainment opportunities for businesses and residents alike.

This would be a major city centre attraction as part of the Commonwealth Games and viewing area for major sporting events.

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This would be a major city centre attraction as part of the Commonwealth Games and viewing area for major sporting events. It would be a multi-use space:

- A space to launch film premieres;
- A place to connect to a diverse community
- A marketplace for traders to display their produce
- An open air digital screen for art and film showings, creating an immersive, nostalgic and atmospheric experience, and a source of entertainment for residents
- A test bed for new immersive and VR entertainment shows.
- A space for sole traders, students, SME's and artists to showcase their work, products and services
- An area for start-ups to grow with the latest 5G digital access and improved architecture.

What will it achieve?

Cinema Square will bring with it a multi-purpose space that has benefits for all who use it. From developing a modern space for businesses to trade and grow, to providing a safe, innovative cultural space to entertain residents and students. Cinema square will also look to improve access in the district, improving the link from Eastside Park to the Birmingham Conservatoire, an internationally-renowned entertainment venue as well as a student hub of activity.

iCentrum Place

As a connecting space in the centre of K-Hub, iCentrum Place will connect various areas within Eastside district including iCentrum and Innovation Birmingham, providing social and knowledge sharing space for the entrepreneurs, businesses, investors and students who work there and in the nearby area.

What will it achieve?

iCentrum Place will support the user's constant connection to innovative spaces and opportunities by linking the various innovative centres and spaces in Eastside with each other. iCentrum Place will be a public space to facilitate connectivity between those interacting within the space including entrepreneurs, innovators, business and citizens. New digital sensor technology will help to adapt the space, improving connections across the physical and digital infrastructure of the K-Hub area, supporting new opportunities to develop, trial and engage audiences to collaborate.

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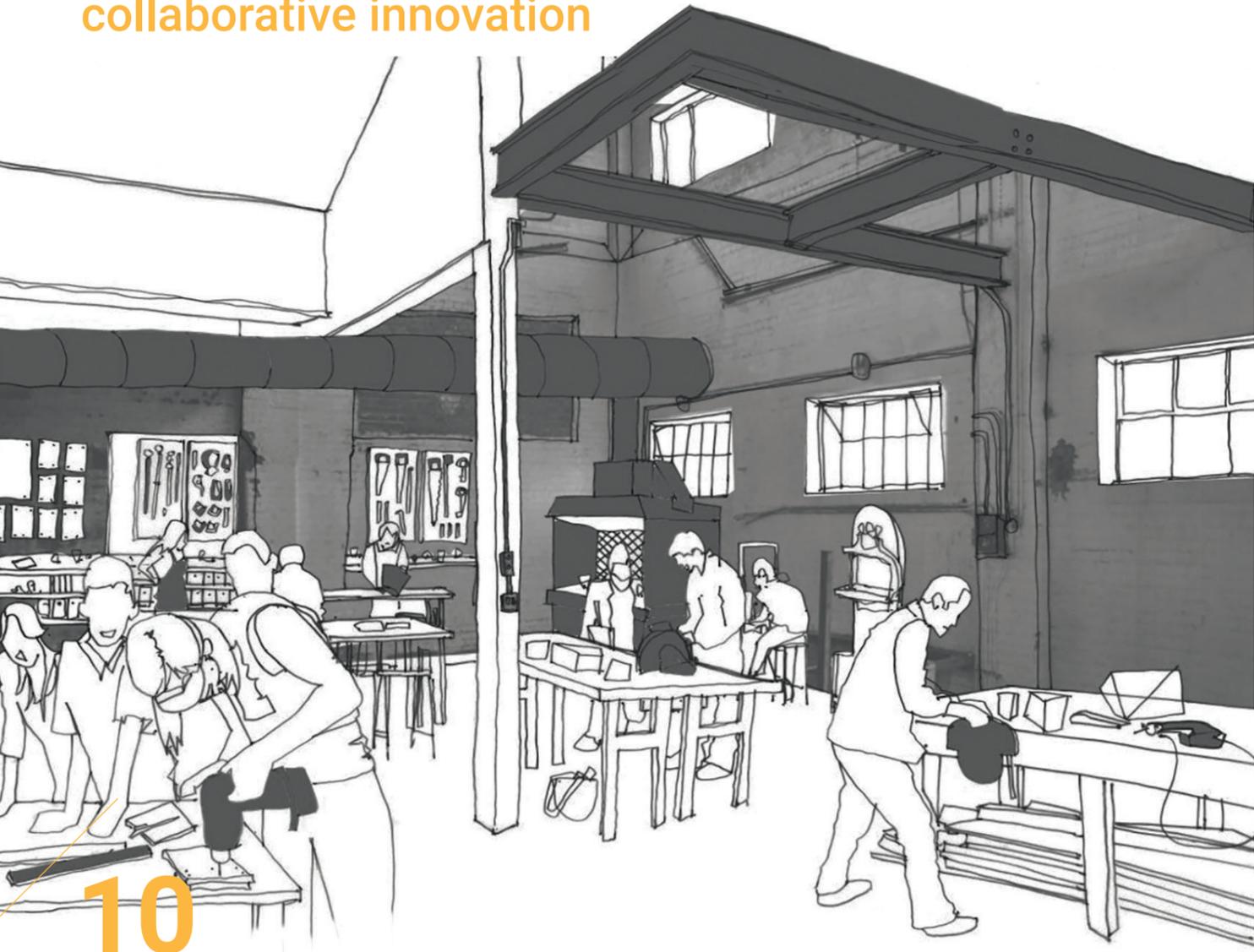


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k - hub project 3

+ STEAMhouse

Unlocking new potential with collaborative innovation



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- The UK's first STEAM (Science, Technology, Engineering, Arts and Maths) focused arts-based fabrication space.
- A unique collaborative space bringing academics and business together to create innovative industry solutions.
- Providing an opportunity for local SMEs to develop new products and services

Birmingham is built on creativity and industry. Eastside, in particular, is a central heartland, located close to HS2 and New Street rail stations, easily accessible from the city, the region, the rest of the UK and Europe. With creative industries that continue to flourish, vibrant entrepreneurial cultural clusters and a thriving nearby community of FE and HE students, we have established STEAMhouse, a centre for collaborative innovation

STEAMhouse embraces the central ethos of the K Hub in providing a dynamic innovation facility, one that is capable of attracting new talent, creative thinkers and driving new products, and uses the rich heritage of place, the multidisciplinary power of world leading research expertise, capability and the rich combination of art, design and innovation.

The region's strengths in creative thinking are well-established, with over 38,000 employees working within the creative industries, and with the digital and creative sector targeted as a high growth sector by the GBS LEP (with a national worth of around £12.4 billion), STEAMhouse will see creative and innovative thinking continue to thrive.

Phase One

- The first phase of STEAMhouse will:
- Deliver a programme of cross-sector innovation workshops, featuring creative business profiling, arts-led solutions to city challenges, prototyping workshops and knowledge transfer.
 - Provide a building that houses an arts-based fabrication space, facilities for wood, metal, print and digital, and collaborative innovation and STEAM thinking in partnership with Eastside Projects.

- Give vital support for the creative and digital sector in establishing new business models, reinvigorate Birmingham's manufacturing sector and result in economic growth.
- Provide support to SMEs through collaborative product development, cross-sector solutions to city challenges and open access prototyping for creative/digital practitioners.
- Show how creativity can be harnessed to drive innovation, generating the leverage to draw down £15 million of public funding to establish an innovation campus in Birmingham by 2021.

Phase Two

The second phase of STEAMhouse is already underway for the BCU campus which will add commercial partners, incubation units and a STEAM Academy to the Innovation services in Phase One.

- Generate a new stream of collaborative products and cooperative networks, industry and manufacturing.
- House an innovative campus, ready for collaboration and replete with maker space. Located in the centre of Birmingham, and running in conjunction with Birmingham Production Space, it will provide a maker facility offering open memberships and access for creative SMEs, meeting growing demand.
- Establish a new piece of infrastructure for the region, drive supply chains within the creative ecosystem and link them to wider innovation needs in a range of sectors.
- Provide a pioneering programme of innovation support, featuring creative business profiling, arts-led solutions to city challenges, prototyping workshops and cross-sector knowledge transfer.

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k - hub project 4

+ Pavilions

Providing contemporary spaces for social and business exchange

- A series of spaces that meet the needs of our future population
- Suitable space for small business to thrive and the public to enjoy
- Pavilions will be a gathering place for people to meet, learn about the arts, enjoy a performance, music or lecture and experience the interaction of art and celebrate cultural richness

A series of pavilions will provide a common identity to the expansive areas K-Hub covers. Each pavilion will provide short-term and long-term opportunities for businesses and entrepreneurs, including start-ups, as well as entrepreneurs looking to sell and promote products, services and activities. The pavilions will also create a series of landmarks throughout the area, while also assisting navigation across the K-Hub space.

Possible locations include:

- Corporation Plaza
- Aston Central Square
- Jennens Gateway
- Eastside Park

Pavilions will be located within a number of other packages, such as Jennens Park, Digital Towpath, Public Realm, and Enterprise and Event Spaces.

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k - hub project 5

+ Retail activation

Creating trade links that benefit all

K-hub will ensure retail is a key component, providing a 24/7 experience that will treat the increased flow of commuters to a mix of local businesses and global brands.

- Retail strategy providing environmental, social and cultural benefits
- Bringing together global brands, local businesses and the wider community
- Potential to become a well-recognised destination

Retail is at the core of any well-functioning community, and with the proven success of the Bullring, K-hub's retail activation strategy will continue to improve the local economy, enhance social wellbeing and provide numerous job opportunities. Capitalising on the HS2 development, K-hub will ensure retail is a key component, providing a 24/7 experience that will treat the increased flow of commuters to a mix of local businesses and global brands.

Evening hospitality and entertainment will also be provided to the wide demographic of students, professionals, local community members and visitors that the new, improved Eastside will invite. K-hub will bring all of this together in an activated retail environment that creates streets that are lively, safe and sustainable, creating a major opportunity for a variety of retail offers to exist together.

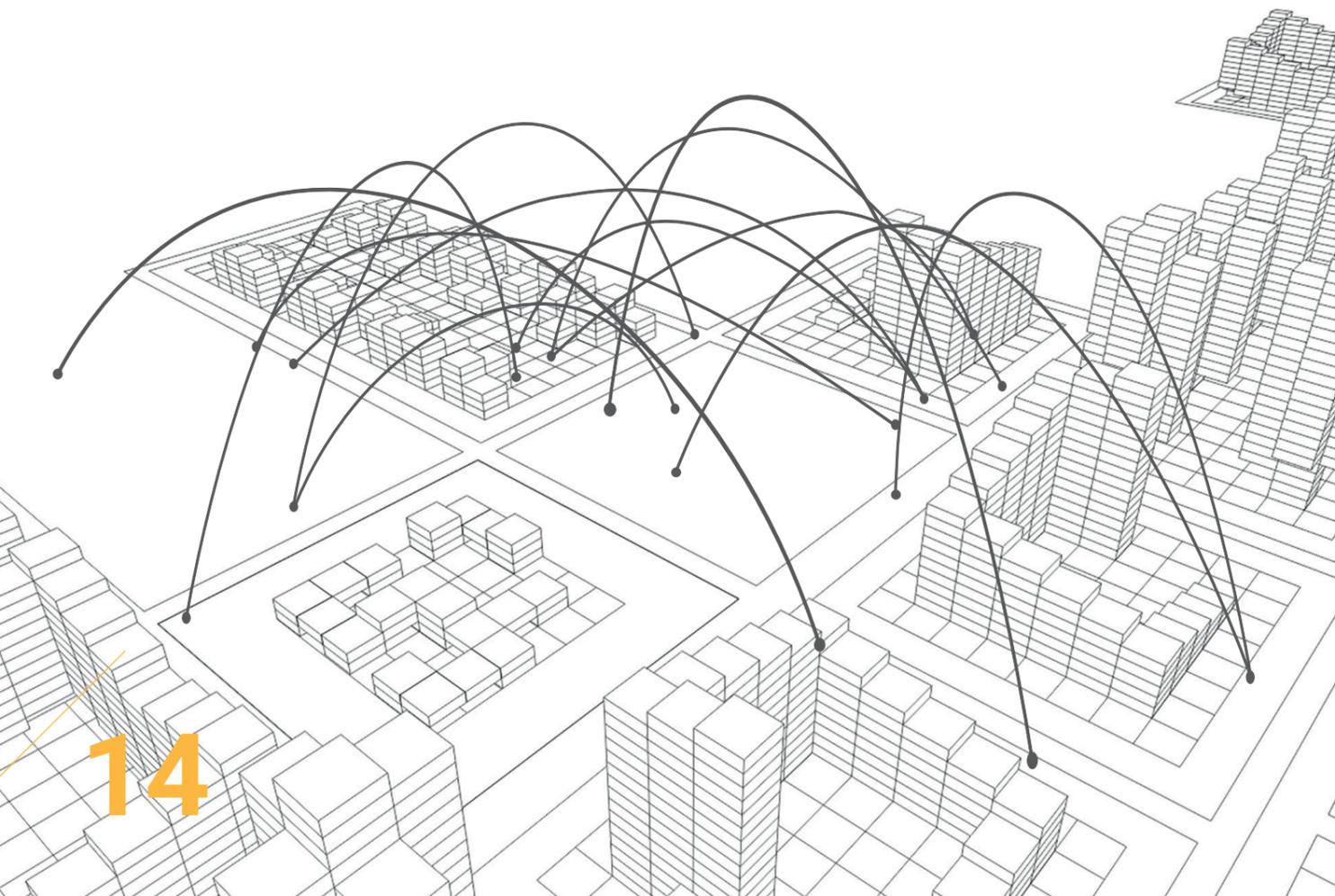
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k - hub project 6

+ 5G infrastructure

Using technology to unlock sustained growth and boost productivity



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5G Test environment. Business development. Digital skills.

- The world's largest public-private-academic 5G test environment
- A developed platform to link wired and wireless technologies
- Providing local businesses with access to new technologies, digital skills and business opportunities

5G technology will provide a platform that is able to link different forms of wired and wireless digital connectivity. Its ultra-low latency, high speeds and reliability will enable as yet unimagined new products and services that will disrupt current business models and transform services.

5G technology is the next step in improving growth within the public and private space. Research from O2 states in addition to £7 billion of direct economic value through businesses using 5G, the ripple effect through the supply chain will also see it indirectly boost the nation's productivity by an extra £3 billion a year.

An innovative learning space - By accessing the national 5G backbone the West Midlands test bed enables operators and manufacturers to test 5G use cases at scale in the worlds largest integrated public-private-academic 5G environment. Business and public sector bodies can take an active role in applying and shaping the technology to impact communities and growth.

K-hub's investment in 5G infrastructure will provide the West Midlands with access to these opportunities, sustain growth, improve wellbeing and boost productivity and competitiveness on the global stage.

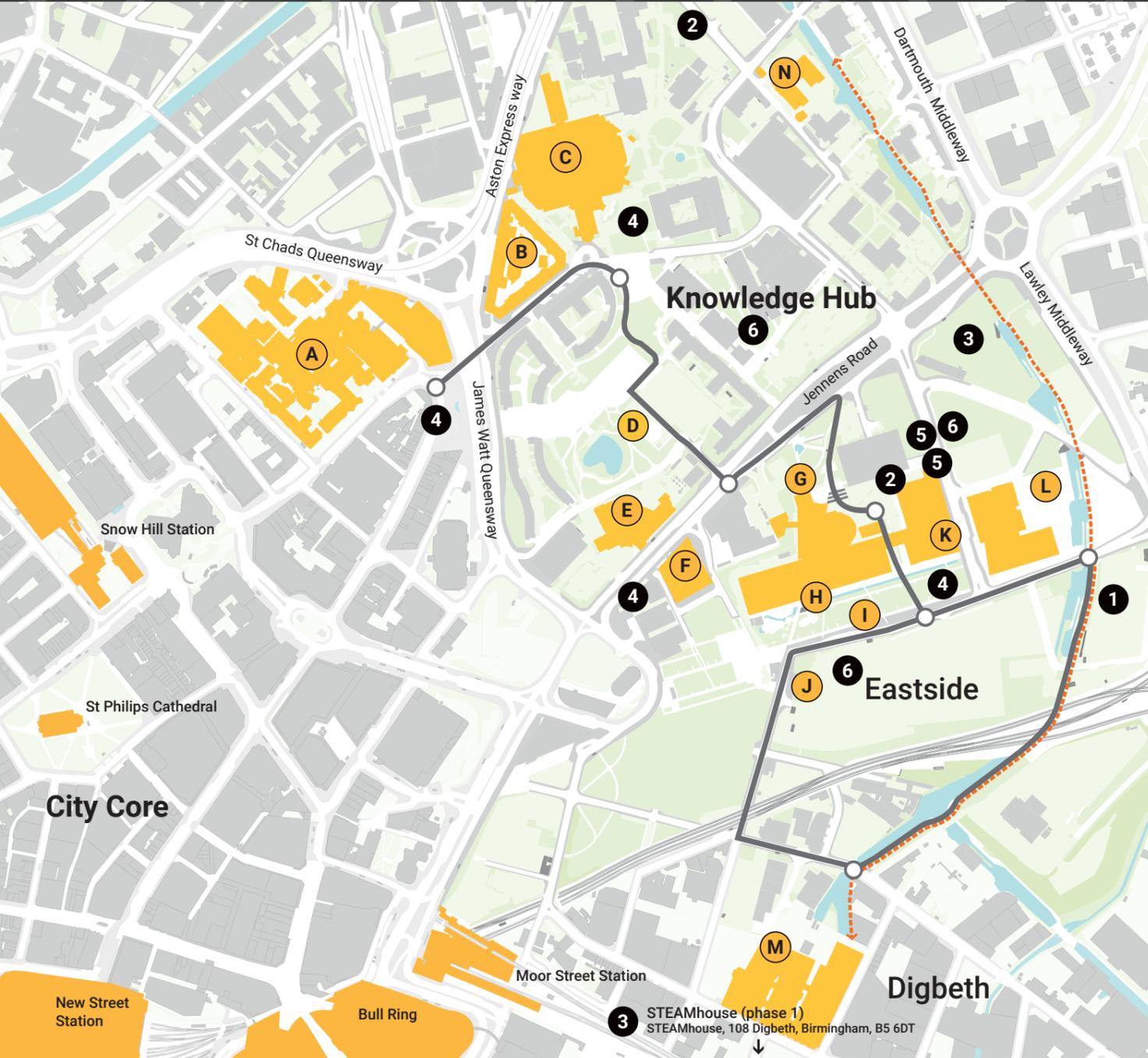
Improved well-being - A recent U.S survey (KJ Redican) suggests that improved gigabit broadband penetration leads to higher well-being among the local population and greater employment through access to more opportunities.

Business development - The network will provide the perfect platform for businesses to test out 5G technologies, improve their digital skill set and develop new products. The new technology will give birth to entirely new industries, platforms and services, from 3D video calls to smart home and health applications.

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- 1 — Digital Towpath
- 2 — Enterprise and event spaces
- 3 — STEAMhouse - Phase 1+2
- 4 — Pavillions
- 5 — Retail activation
- 6 — 5G infrastructure

- | | |
|-------------------------------------|--------------------------------|
| A Birmingham Children's Hospital | H Millennium Point |
| B Former fire station | I Eastside Park |
| C Aston University | J Curzon Street Station |
| D New Student Union | K Birmingham City University |
| E Birmingham Metropolitan College | L Eastside Locks |
| F Ormiston Academy | M Typhoo Wharf |
| G Birmingham Conservatoire | N Birmingham Science Park |

Through meaningful partnership and exchange the Knowledge Hub aims to become a community of educational institutions, businesses and individuals working to create a world-class innovation hub in Birmingham's East Side. We are transforming our community to leverage the opportunities created through strategic planning, inward investment and advances in technology and enterprise.

Find out more online and register your support at www.bcu.ac.uk/k-hub

Supported by:
 institute for Sustainable Futures & institute for Creative Innovation, Birmingham City University and Birmingham School of Architecture & Design

In Partnership with:
 Birmingham City Council; Aston University; Co-LAB; Birmingham Metropolitan College; Innovation Birmingham; HS2; Birmingham Ormiston Academy; HS2 College; Millennium Point; Gensler; Phillips Lighting

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