

## Response ID ANON-3JT5-V9SE-D

Submitted to **R&D Survey**

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### About you

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**Organisation:**

Innovation Alliance for the West Midlands (<https://innovationwm.co.uk/>)

#### What is your location?

**Please select an option:**

West Midlands

#### Are you happy for your response to be published?

Yes

### Raising our research ambitions

#### 1 How can we best increase knowledge and understanding through research, including by achieving bigger breakthroughs?

**Please comment here (500 words max):**

The R&D Roadmap seeks to be a once in a generation opportunity to revitalise the whole system of science, research and innovation to release its potential. It is acknowledged in the Roadmap document that this will 'require tackling fundamental and challenging questions about our R&D priorities and addressing long-term problems in the system'. The Innovation Alliance for the West Midlands (IAWM; <https://innovationwm.co.uk/>) believes the three major changes in focus that will be required are:

- 1) More focus/ investment in stimulating and supporting the demand side of innovation, from the private sector, public sector, third sector and, indeed the public/end customers. Ultimately, innovation needs a market, so stimulating that market and enabling new knowledge and technologies to be PULLED (rather than simply pushed) into these markets is critical. COVID-19 has brought significant and pressing innovation challenges, demanding immediate solutions that break through sectoral, regulatory and societal barriers; if we act fast, we can capitalise on this new and accelerated focus on demand-led innovation (beyond the immediate crisis) in order to create new market opportunities and aid economic recovery for innovative business.
- 2) Greater recognition of and support for exploitation of the knowledge and technology being generated across the full spectrum of businesses, large and small, as well as public and third sector. The strength of our R&D base is rightly recognised, and seen as a source of innovation, but business to business innovation, within and between supply/ value chains at all levels, is hugely important and merits more attention and support. This will require barriers and enabler to innovation in different sectors and types of organisations to be understood and addressed.
- 3) Greater recognition of the diversity of excellence in innovation, as well as R&D, and of the diversity of innovation ecosystems across the UK. If the full potential of the R&D&I system is to be realised high levels of business investment as a form of 'excellence' should be recognised and encouraged with public match. This will support levelling up, along with greater flexibility to tailor local measures to best support local economies and populations.

The responses to subsequent questions all elaborate on different aspects of the above points, with illustrative examples from the West Midlands.

### The application of new knowledge

#### 2 How can we maximise the economic, environmental and societal impact of research through effective application of new knowledge?

**Please comment here (500 words max):**

Overcoming barriers to business innovation, driving up business demand and improving capacity to absorb new approaches will be crucial to improving economic impact and application of new knowledge and closing the productivity gap between different sectors and parts of the UK. The IAWM believes that the five elements of the West Midlands Innovation Programme (<https://innovationwm.co.uk/our-activity/west-midlands-innovation-programme-2/>), funded by the West Midlands Combined Authority, will build a stronger business innovation ecosystem for the West Midlands:

1. Networks and linkages: supporting business networks and programmes to join up R&D assets and entrepreneurs, Business to business collaboration, and help

identify the opportunities for collaboration across sectors, technologies and supply chains

2. Investment/ funding programmes: creating new support programmes integrated with local supply chains, including crucial Tier 2 and Tier 3 firms, through demonstrator projects, supporting broad and accessible investment and access to a good supply of appropriate finance products on attractive terms as well as challenge opportunities leading to contracts
3. Talent: equipping high growth potential businesses with the skills needed to innovate, through programmes in universities, catapults and technology innovation networks, as well as technical and digital skills through FE and other providers. Programmes to reach underrepresented groups are particularly important to ensure inclusive growth and access all the pools of talent and creativity we will need.
4. Intelligence: improving foresighting to generate new ideas and promote awareness of latest market demand from large firms and the public sector for innovative SMEs as well as technology drivers of change
5. Culture: creating opportunities to showcase the impact and importance of innovation and innovators across the West Midlands' public, private and third sectors, in our full diversity of businesses, to inspire innovation in existing and new businesses.

Furthermore, in the West Midlands we have the only regional Sustainability Roadmap looking to 2030

(<https://www.sustainabilitywestmidlands.org.uk/roadmap-to-2030/>) and including eight priority themes to address the economic, environmental and societal challenges of the region. The Roadmap is evidence based and was developed in partnership with numerous stakeholders by Sustainability West Midlands. Applying new knowledge to the themes of the Roadmap through the elements of the WM Innovation Programme described will result in the optimum benefits for the West Midlands.

## Driving up innovation

### 3 How can we encourage innovation and ensure it is used to greatest effect, not just in our cutting-edge industries, but right across the economy and throughout our public services?

**Please comment here (500 words max):**

Firstly, it is important to recognise that innovation (as distinct from R&D) is fundamentally about application of new knowledge or ideas, with creation only being the first stage. Thus, a thriving innovation ecosystem needs a wide range of different players from those generating ideas/ technologies (including universities and businesses) through to those commercialising/ implementing them at scale (public and private sector), as well as support organisations and networks along the way. The Innovation Alliance WM, and its multiple associated working groups, is supported by local LEPs, the West Midlands Combined authorities and private sector partners to build such a thriving innovation ecosystem, and to catalyse collaborative activity across the ecosystem, in support of the local economy and public services.

There may be a significant cultural/ language/ capability/ leadership issues, particularly amongst smaller or more traditional firms, that needs to be overcome. Inspiring role models/ case studies may be most helpful (see our developing Innovation Tracker, for example <https://innovationwm.co.uk/our-activity/innovation-tracker/>), as well as campaigns to demystify and reclaim a general understanding that innovation may be new-to-the-market, radical, change in products or services, but equally may be developments which are more incremental and purely new-to-the-firm. Both can be critical for productivity upgrading, but for most firms, most of the time, innovation is incremental involving improvements to existing products, services or processes, to provide for existing or new markets, rather than radical changes.

Incremental innovation, as above, requires a very different type of support from the big infrastructure investments to support disruptive innovation that much of government R&D&I policy has focused on in recent decades. IAWM believes there is a strong argument that cost-effective investments could be made to stimulate more 'everyday innovation', such as:

- Challenge/ demand led programmes that focus on defined public or private sector demand. This might include more SBRI, living lab/ demonstration activities to test barriers to scale up into market, encouragement of innovation accelerators in partnership with business, such as the Serendip Smart City Incubator (<https://www.innovationbham.com/serendip-smart-city-incubator/>) in Birmingham.
- Support for business to business and cross-sector innovation where existing products and processes can be adapted or repurposed for a new market. The NATEP programme (<https://www.natep.org.uk/>) has done this in Aerospace, and we are developing a WM proposal to take this approach across multiple sectors.
- Business support/ networks/ platforms for SMEs that help to navigate support structures and prepare their businesses to innovate effectively (leadership, IP awareness, help to access R&D funding including tax credits etc), build confidence and peer support, and expose SMEs to opportunities (public funding, challenges, new markets etc). For example, a new online platform, the Grid (<https://the-grid.com/>), is being tested at Beta stage at the moment in the WM.
- Working with the organisations that businesses already go to for business support (Growth Hubs, Chambers of Commerce, accelerator programmes) to ensure support to develop innovative approaches is included in their advice and signposting.

## Inspiring and enabling talented people and teams

### 4 How can we attract, retain and develop talented and diverse people to R&D roles? How can we make R&D for everyone?

**Please comment here (500 words max):**

Tackling some of the above cultural and language barriers to innovation (and R&D) will help to demystify and democratise R&D and Innovation. The role model concept is also critical to attract diverse people to R&D&I, working on the 'got to see it to be it' principle. This can also be achieved by events and festivals, such as Birmingham Tech Week (<https://birminghamtechweek.com/>), that inspire and showcase diverse organisations and talent.

As well as working with traditional public sector training and education providers, it is important to be aware of and support some of the novel approaches to skills development and employment opportunities being driven by the private sector, such as the range of digital employability programmes being run by Tin Smart Social (<https://www.tinSMARTsocial.com/>) to bring together employer needs with opportunities for people from diverse social and educational backgrounds.

There are the elements of 'making innovation (and R&D) for everyone that IAWM would like to emphasise:

- 1) The importance of more support for demand-led innovation (including public demand for products and services)
- 2) Creating a stronger culture of innovation through showcasing, celebration and role-models
- 3) Understanding and addressing barriers and enabler to innovation in different sectors and types of organisations
- 4) Encouraging skills development and promoting employment opportunities in technology and innovation.

All four of these approaches have been covered in more detail under other questions in this survey.

## Levelling up R&D across the UK

### 5 How should we ensure that R&D plays its fullest role in levelling up all over the UK?

**Please comment here (500 words max):**

One critical element of the levelling up agenda is greater recognition of the diversity of innovation ecosystems across the UK with greater flexibility for tailored local measures to best support local economies and populations. Regions should be encouraged to pursue approaches to stimulate innovation such as the West Midlands Innovation Programme (<https://innovationwm.co.uk/our-activity/west-midlands-innovation-programme-2/>), developed based on local evidence and consultation. This is presently in its early stages with limited funding, but there is already a clear case to scale this up to enable further pilot and demonstrator activity to capitalise on local potential, particularly to support Covid-19 recovery.

A further important aspect of levelling up is recognition and support for regions, like the West Midlands, that are 'business-led innovation regions' with above-average levels of business investment (NESTA, 2020; [https://media.nesta.org.uk/documents/The\\_Missing\\_4\\_Billion\\_Making\\_RD\\_work\\_for\\_the\\_whole\\_UK\\_v4.pdf](https://media.nesta.org.uk/documents/The_Missing_4_Billion_Making_RD_work_for_the_whole_UK_v4.pdf)). Such regions should be encouraged and supported to match private sector investment with public sector investment, to prevent the private sector relocating their own investment. In recent years, private-sector R&D per head in the West Midlands has grown by more than in Paris and London put together, and yet public sector R&D has remained static. Research published by UKRI in 2020 shows that the so-called 'Golden Triangle' benefits disproportionately from public investment, compared with other regions of the UK; 52% of gross domestic expenditure on R&D (GERD) went to London, the South East, and East of England regions in 2018/19, whilst the West Midlands received only 9% (ONS, 2020). Unless the definition of 'excellence' used to determine much of UK innovation funding is broadened to recognise strengths across the full R&D&I system, including factors like high levels of business investment, the potential of the full R&D&I will not be realised.

## Developing world-leading infrastructure and institutions

### 6 How should we strengthen our research infrastructure and institutions in support of our vision?

**Please comment here (500 words max):**

Whilst there has been more investment in 'translational' centres as well as research centres and infrastructure in recent years, the focus remains on pushing technology and knowledge out from the supply side rather than demand pull. Models of institutions that focus on demand pull do exist, such as the Serendip Smart City Incubator (<https://www.innovationbham.com/serendip-smart-city-incubator>) in Birmingham, which is run by Bruntwood SciTech, ie the private sector. Such approaches could greatly enhance the effective commercialisation and exploitation of Science and technology, by both the private and public sector. In the post-Covid recovery, institutions that support innovation to tackle major health, low carbon and other major public challenges could be highly effective in creating new market opportunities for business.

## Being at the forefront of global collaboration

### 7 How should we most effectively and safely collaborate with partners and networks around the globe?

**Please comment here (500 words max):**

## Harnessing excitement about our vision

### 8 How can we harness excitement about this vision, listen to a wider range of voices to ensure R&D is delivering for society, and inspire a whole new generation of scientists, researchers, technicians, engineers, and innovators?

**Please comment here (500 words max):**

One means of inspiring and engaging a wider range of partners in the vision and its delivery is to engage with local networks at the heart of regional innovation ecosystems. The Innovation Alliance for the West Midlands (<https://innovationwm.co.uk/>), for example, as an independent, cross-sector body, can convene and galvanise its wide-ranging stakeholders quite easily. It works with other sector specific networks, so can act as a network of regional networks. Other networks exist elsewhere in the UK, eg the Innovation Super Network in the North East (<https://supernet.org.uk/>). A forum could be created for bringing these networks together to share good practice and engage in two-way messaging with their communities around the R&D Roadmap vision.