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# West Midlands Tech Review 2026

Scaling the West Midlands' frontier tech economy



APPLIED FRONTIER TECH AT SCALE

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# Foreword from Julian David OBE, CEO, techUK

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The West Midlands continues to demonstrate why it is and has the potential to grow further as one of the UK's most exciting and dynamic technology ecosystems.

The TechWM West Midlands Tech Review provides an important opportunity to reflect on the region's achievements, recognise the innovation taking place across businesses and communities, and look ahead to the opportunities that will shape future growth.

The region has built particular strength in advanced manufacturing, mobility and transport innovation, fintech, health-tech, cybersecurity, gaming and immersive technologies, as well as the transition to clean energy and net zero industries.

Combined with world-class universities, a diverse talent base, and a strong culture of collaboration between industry, academia, and the public sector, the West Midlands is uniquely positioned to lead the next wave of digital and industrial transformation.

At techUK, we are proud to work alongside TechWM and partners across the region to champion digital innovation, support collaboration, and ensure the West Midlands remains at the forefront of the UK's tech economy.

The insights highlighted in this review reinforce the strength of the region's talent, ambition, and leadership, while also showcasing the scale of opportunity for investment, skills development, and innovation-led growth across the region.

I would like to congratulate everyone involved in producing this year's West Midlands Tech Review and thank them for their continued commitment to driving the region forward.

**Julian David OBE,  
CEO,  
techUK**

# Foreword from Andy Hague, CEO, TechWM

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The West Midlands is entering an important moment in its technology journey. We have the talent, ambition, institutions and industrial strengths to compete. The challenge now is to turn that momentum into real outcomes: stronger businesses, better jobs, higher productivity, more resilient supply chains and growth that reaches more people.

This Review sets out a simple but important idea. The region needs both **breadth** and **depth**. Breadth means helping more businesses and public bodies adopt AI, cyber, data, automation and advanced digital technologies in practical ways. Depth means building specialist strengths where the West Midlands can lead, from applied AI and industrial cyber to health innovation, secure communications, advanced manufacturing and quantum-adjacent opportunities.

Data will be central to this. The technologies shaping the future all depend on strong data foundations. Good data, well governed and securely used, is what allows organisations to move from pilots to real impact. Without it, adoption will remain fragmented.

As AI becomes part of everyday operations, cyber resilience matters more than ever. More connected systems and automated processes create huge opportunities, but they also create new risks. Businesses will only adopt and scale AI with confidence if security, trust and resilience are built in from the start.

Quantum is another area we need to watch carefully. The region does not need to overclaim its position, but it should prepare early for the opportunities that are most relevant to our economy: post-quantum cyber readiness, secure communications, advanced sensing, optimisation, and the convergence of quantum with AI, cyber and data.

The West Midlands' advantage is that we are a real economy with real complexity as manufacturers, hospitals, public services, logistics networks, universities, startups and scaleups all working side by side. If we apply frontier technologies responsibly, securely and at scale, we can build a technology economy that is not only innovative, but useful, trusted and inclusive.

The opportunity is clear. Now we need to deliver it.

**Andy Hague,**  
**CEO,**  
**TechWM/ Birmingham Tech Week**

# West Midlands Tech Proposition: Frontier Tech at Scale

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The West Midlands has the **right mix of industry, innovation, business clusters, and strong public leadership to become a powerhouse for frontier technology** in the UK.

But the real opportunity lies beyond inventing or attracting cutting-edge tech. The region's tech economy can benefit from applying those innovations across the economy, in advanced manufacturing, mobility, health, energy, cyber, professional services, public services and small businesses.

The West Midlands has a clear pitch: **it can be the UK's testbed proving ground for applied frontier technology, turning innovation into real gains in productivity, resilience, investment and inclusive growth.**

What sets the region apart? It's the distinctive combination of industrial demand, powerful research capability, strong public-sector collaboration, thriving tech clusters and a large SME base.

Now the **challenge is to bring these together and build a coordinated growth model.** One that accelerates adoption, supports companies scaling up, strengthens skills, and delivers real economic results.

# West Midlands Tech Proposition: Frontier Tech at Scale

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## WEST MIDLANDS' STRENGTHS THAT UNDERSCORE THE REGION'S TECH PROPOSITION:



### **MAJOR INDUSTRIAL DEMAND**

The region's heavy concentration of manufacturing, automotive, aerospace, logistics, construction, health, energy, and business services mean technology gets tested and adopted in real-world environments that matter. Innovation here doesn't sit in labs. It's out where it counts.



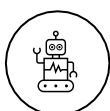
### **WORLD CLASS INNOVATION & RESEARCH**

The West Midlands benefits from universities, research centres, innovation districts, specialist facilities, and business support infrastructure. These assets not only spark new ideas but help turn those ideas into real-world solutions.



### **STRONG PUBLIC SECTOR LEADERSHIP**

Mayoral leadership, local councils, NHS bodies, universities and other anchor institutions are active partners. They create demand for innovation, support place-based adoption and use procurement to open routes to market for regional technology firms.



### **EMERGING FRONTIER TECHNOLOGY SPECIALISM**

The region has strong potential across AI, cyber, data, advanced manufacturing technologies, health tech, clean tech, immersive technologies and digital infrastructure. These capabilities hit the heart of what the economy needs to stay productive and resilient.



### **INCLUSIVE GROWTH POTENTIAL**

Technology-led growth can support higher productivity, better-paid jobs, stronger SME competitiveness and new pathways into digital and technical careers. The opportunity is to ensure that frontier technology boosts the whole regional economy, rather than remaining concentrated in a small number of fast-growing firms.

# WEST MIDLANDS TECH ECOSYSTEM SNAPSHOT 2026

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422

DIGITAL TECH  
STARTUPS

Including software and digital innovation firms



414

FUNDRAISINGS

Across 114 West Midlands Tech Companies

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148

SAAS FIRMS

Strong base in software and digital services



38,705

SCALEUP  
EMPLOYEES



£10.3bn

SCALEUP TURNOVER

Estimated turnover of West Midlands Tech Scaleups



209

AVG. SCALEUP  
EMPLOYMENT



£86.2mn

AVG. SCALEUP  
TURNOVER

Indicative scale of mature tech firms in the region

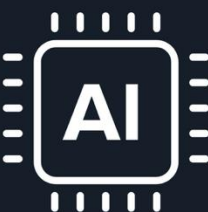


92%+

GIGABITE  
AVAILABILITY

Across West Midlands Metropolitan Authorities

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88

AI STARTUPS

Emerging AI capability across the region



NEAR  
UNIVERSAL  
COVERAGE

Across much of the region

# West Midlands Tech Proposition: Frontier Tech at Scale

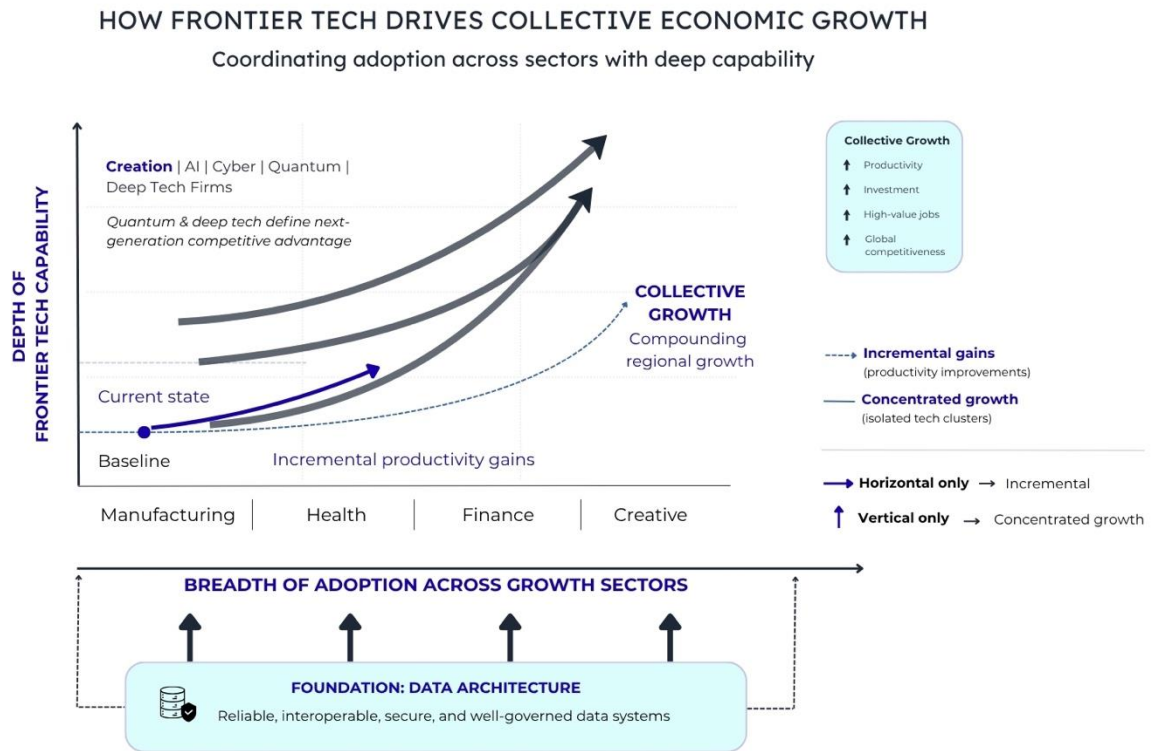


Figure 1: Frontier Tech Growth Model

## STRATEGIC PRIORITIES FOR THE WEST MIDLANDS TECH SECTOR



TURN THE REGION INTO THE UK'S GO-TO SPOT FOR TESTING FRONTIER TECHNOLOGY



ACCELERATE SME TECHNOLOGY ADOPTION



BUILD A CYBER-SECURE AND DATA-ENABLED ECONOMY



GROW THE FRONTIER TECHNOLOGY TALENT PIPELINE



INVESTMENT AND MARKET DEMAND

# West Midlands Tech Proposition: Frontier Tech at Scale

The next 12 months should focus on converting the West Midlands' technology strengths into real-world impact. Getting more businesses to adopt frontier tech, attracting investment, and witnessing measurable productivity gains.

The delivery approach should address the barriers that currently slow down tech adoption and scale-up, while creating clear interventions and outcomes for each priority area.

Table 1: Actions and Measures

PRIORITY AREA	KEY BARRIERS	INTERVENTIONS	DESIRED OUTCOMES	MEASURES
Cyber resilience	Low SME awareness, cost concerns, fragmented support and skills shortages	Regional cyber adoption programme; cyber health checks; sector-specific support; cyber skills pathways	More resilient SMEs and public services; stronger regional cyber cluster	Firms assessed; firms accredited; cyber jobs created; incidents reduced
AI and data adoption	Limited understanding of use cases, weak data readiness, trust concerns and lack of implementation support	AI and data adoption pilots; trusted adviser network; data-readiness diagnostics; public-sector AI demonstrators	Faster AI adoption and measurable productivity gains	Firms adopting AI; data maturity improvement; productivity gains; public-sector pilots
SME digital adoption	Cost, limited management capacity, low confidence and supplier confusion	Single front door for tech adoption; digital adoption grants or vouchers; peer networks; sector demonstrators	Increased SME competitiveness and digital maturity	SMEs supported; adoption rate; revenue or productivity uplift; repeat engagement
Advanced manufacturing technology	Capital costs, integration risks, legacy systems and lack of accessible demonstrators	Industrial testbeds; automation vouchers; university-business demonstrators; supply-chain adoption programs	Stronger manufacturing productivity and competitiveness	Firms adopting automation; investment leveraged; productivity improvement; demonstrators delivered

# West Midlands Tech Proposition: Frontier Tech at Scale

Table 1: Actions and Measures

PRIORITY AREA	KEY BARRIERS	INTERVENTIONS	DESIRED OUTCOMES	MEASURES
Skills and talent	Mismatch between training and employer demand; limited pathways into frontier technology roles	Regional tech skills compact; employer-led curriculum; apprenticeships; bootcamps; inclusion pathways	Larger and more diverse frontier technology workforce	Learners trained; job outcomes; employer participation; diversity metrics
Investment and scale-up	Limited investor visibility, weak investment readiness and fragmented support	Scale-up investor programme; regional tech showcase; founder support; procurement pathways	More high-growth firms and stronger investment pipeline	Investment raised; scale-ups supported; contracts won; firm growth rates
Public-sector innovation	Procurement barriers, risk aversion and lack of shared demand pipeline	Innovation procurement framework; challenge-led pilots; shared public-sector technology pipeline	Public sector acts as a demand creator for innovation	Pilots launched; contracts awarded; savings achieved; service improvements
Digital infrastructure	Uneven connectivity, affordability challenges and gaps in future-ready infrastructure	Targeted connectivity investment; advanced connectivity testbeds; infrastructure mapping	Better conditions for technology adoption and innovation	Coverage; speeds; business uptake; testbed usage

# West Midlands Tech Proposition: Frontier Tech at Scale

Table 2: 12 Months Action Agenda

AGENDA	12 MONTH ACTION PLAN
<p>ESTABLISH A WEST MIDLANDS FRONTIER TECHNOLOGY GROWTH BOARD</p> <p>Create a senior partnership between industry, WMCA, local authorities, universities, investors and anchor institutions to coordinate delivery.</p>	Define priority sectors
	Agree with shared metrics
	Publish a delivery roadmap
	Align existing programs behind the frontier technology proposition
<p>LAUNCH A REGIONAL TECHNOLOGY ADOPTION ACCELERATOR</p> <p>Create a single, visible programme to help SMEs adopt AI, cyber, data, cloud, automation and digital tools.</p>	Deliver diagnostics
	Deliver grants or vouchers
	Supplier matching
	Peer learning and sector-specific adoption pilots
<p>CREATE FRONTIER TECHNOLOGY DEMONSTRATORS IN PRIORITY SECTORS</p> <p>Use manufacturing, mobility, health, energy and public services as live testbeds for applied innovation.</p>	<p>Launch a small number of high-profile demonstrators with measurable productivity, resilience, service-improvement or decarbonisation outcomes.</p>
<p>BUILD A CYBER AND DATA RESILIENCE programme</p> <p>Position cyber and data capability as core infrastructure for regional growth.</p>	Offer cyber health checks
	Data-readiness support
	SME cyber accreditation pathways
	Public-sector cyber collaboration
<p>ROLL OUT A REGIONAL TECHNOLOGY SKILLS COMPACT</p> <p>Align training providers, universities, employers and public agencies around the skills needed for AI, cyber, data, cloud, software, advanced manufacturing and digital adoption.</p>	Map employer demand
	Align provision
	Expand employer-led pathways
	Create clearer routes into technology jobs for underrepresented groups
<p>MOBILISE INVESTMENT, PROCUREMENT AND SCALE-UP SUPPORT</p> <p>Improve the route from innovation to market by connecting firms to investors, public-sector buyers, and key customers.</p>	Run investor showcases
	Support investment readiness
	Create challenge-led procurement routes
	Promote regional scale-ups nationally

# Executive Summary

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The UK is entering a more active phase of technology-led economic policy. **Artificial intelligence, cyber resilience, quantum technologies, advanced digital infrastructure and innovation adoption** are now central to national productivity, public service reform, industrial competitiveness and economic security. For the West Midlands, this creates a clear opportunity **to translate national technology ambition into practical regional delivery** through its industrial base, university assets, applied innovation strengths, growing digital economy and collaborating power across business, government and civic institutions.

The [2025 West Midlands Tech Review](#) established the region's digital economy as a major growth platform, valued at £15.8 billion. It also identified the core conditions for the next phase: a unified digital and AI strategy, stronger translational R&D, action on the scaleup finance gap, better alignment between digital skills and market demand, deeper SME adoption of AI and cyber, and a stronger global narrative.

This year, the 2026 West Midlands Tech Review builds from that baseline. Its purpose is to restate the region's potential, while also demonstrating how momentum can become maturity through national policy alignment, regional ambition, frontier technology specialisation, sectoral adoption and practical delivery on the ground.

The central argument is that the West Midlands can accelerate collective economic growth by combining two mutually reinforcing approaches. The first is **broad-based frontier technology adoption** across priority sectors, including advanced manufacturing, health, mobility, professional services, creative industries, finance, logistics and public services.

The second is **focused frontier technology specialisation** in areas of credible regional strength or emerging advantage, including applied AI, cyber resilience, quantum-enabled applications, secure telecommunications, health innovation and advanced digital manufacturing.

**Adoption creates demand. Specialisation creates supply. Coordination converts both into productivity, investment and high-value employment.**

The region is not starting from weakness. Latest techUK data shows:

- ★ Strong digital foundations, with **gigabit availability above 92%** across listed metropolitan authorities and 5G availability close to universal in several areas.
- ★ A meaningful startup base, including **422 digital technology startups**, **148 SaaS firms** and **88 AI startups**.
- ★ Its scaleup base is a major economic asset, with West Midlands tech scaleups accounting for an estimated **£10.3 billion in turnover** and **38,704 employees**.

# Executive Summary

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**Mentoring** is also a clear area for development. If more startups are to move from formation to commercial traction, founders will need stronger access to experienced operators, sector mentors, commercial advisers and leadership support.

The next challenge is **conversion**. Many startups remain small in employment and turnover terms, female founder representation remains low, and investment activity appears thinner than in stronger comparator regions. The priority is therefore not simply more technology activity, but a stronger pipeline from startup formation to commercialisation, scaleup growth, investment readiness, sector adoption and inclusive leadership.

National policy strengthens this case. The [UK's AI Opportunities Action Plan](#) positions AI as economic infrastructure: a foundation for compute capacity, adoption across the economy and homegrown capability. For the West Midlands, AI should be treated as a productivity lever across the wider regional economy, with applied use cases in manufacturing optimisation, health diagnostics, public service improvement, logistics, professional services and SME supply chains.

**Cyber resilience** is equally central. As SMEs, public bodies and major employers adopt more advanced technologies, trust, security and assurance become conditions for growth. Cyber should therefore be understood not only as a specialist sector, but as enabling infrastructure for the whole technology economy. Initiatives such as the West Midlands Cyber Hub, Cyber SIG, Wolverhampton Cyber Research Institute, and Aston Cyber Clinic show how the region is beginning to build a delivery model that strengthens cyber capability while supporting wider digital and AI adoption.

**Quantum** is a longer-term frontier, but it has near-term regional relevance. The West Midlands does not need to position itself as a pure-play quantum cluster to benefit from national quantum ambitions. Its opportunity lies in applied and adjacent areas: quantum sensing in advanced industry, post-quantum cyber readiness, quantum-enhanced analytics, secure communications, and convergence between quantum, AI, photonics, cyber and advanced manufacturing.

Technology growth needs more than policy. It requires an **ecosystem that connects** business demand, university research, public-sector leadership, capital, talent and delivery capacity. The West Midlands already has several building blocks in place: the WMCA AI Missions, the £187 million Tech First programme, Birmingham Health Innovation Campus, the UKTL Insights Centre in Solihull, Cyber Clinic, Traction Project, Regional Tech Booster, Global Connectors, DIATOMIC and Future Tech Talent amongst others.

The West Midlands technology economy will grow fastest when businesses sit at the centre of the system, generating demand, scaling innovation and creating commercial value, while government, universities, capital and talent act as enabling forces. The role of the ecosystem is to remove barriers, strengthen connections, improve visibility, build investor confidence and help firms access the right support at the right stage of growth.

# Executive Summary

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We are currently at a transition point for the West Midlands technology economy: **the moment when national policy, regional ambition, sector strengths and on-the-ground delivery converge into a more coordinated growth model.**

**National** policy explains **why now**.

**Regional** evidence shows **where** the West Midlands is starting **from**.

**Frontier technology** sections identify **where opportunity** is concentrated.

**Projects, platforms** and **partnerships** show **how** that opportunity is being delivered.

## PRIORITIES FOR ECOSYSTEM STAKEHOLDERS:



### **EMBED FRONTIER TECH ADOPTION AS A CORE ECONOMIC MISSION**

helping more businesses and public bodies to use AI, cyber, data, automation, and emerging tech for improved productivity.



### **DEEPEN SPECIALISED CAPABILITY**

where the region has a clear edge, particularly applied AI, cyber resilience, health tech, secure communications, advanced digital manufacturing and quantum-related applications.



### **BUILD A STRONGER STARTUP-TO-SCALEUP PIPELINE**

through support for commercialisation, procurement access, investor readiness, founder coaching and early customer pathways.



### **TREAT TALENT AS ECONOMIC INFRASTRUCTURE**

linking digital and AI skills to real occupational pathways across manufacturing, health, public services, creative industries, professional services and advanced engineering. Leadership development should be a central thread to optimise frontier technologies, the region needs the right stewardship, management capability and responsible adoption leadership across firms, public bodies and ecosystem institutions.



### **BUILD A COHERENT REGIONAL INNOVATION OPERATING SYSTEM**

where programs, institutions, businesses and funders align around common barriers, shared outcomes and a stronger regional growth narrative.



**The West Midlands has the ingredients to become one of the UK's leading regions for applied frontier technology growth**

**If the region combines broad adoption with focused specialisation, and coordinates its ecosystem around delivery, it can move from momentum to maturity.**

- ANDY HAGUE, CEO, TECHWM

# Chapter 1: The Macro Lens

## From National Technology Ambition to Regional Economic Delivery

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For the West Midlands, the next phase of technology growth will be defined by delivery. National policy is creating the conditions for a more technology-led economy, but its value will be realised through places, sectors, and institutions that can turn ambition into adoption, productivity, and scale.

This review makes a deliberately layered argument: **national policy explains why now; regional evidence shows where the West Midlands is starting from; frontier technology sections identify where opportunity is concentrated; and projects, platforms and partnerships show how delivery is happening on the ground.**

The central proposition is that the West Midlands can turn national technology policy into regional economic growth by combining **broad-based frontier technology adoption with focused specialisation in areas of credible industrial advantage.**

### A national policy shift with regional consequences

The UK's technology agenda is moving into a more active phase. The [Industrial Strategy](#) and [supporting policy paper](#) mark a shift towards more deliberate economic development, where government, industry and regions are expected to shape markets, support high-growth sectors, improve business capability and strengthen national competitiveness. Frontier technologies such as AI, quantum, advanced computing, and cyber resilience are increasingly positioned not as isolated innovation themes, but as foundations of productivity, economic security and public service reform.

AI is the clearest example. The [AI Opportunities Action Plan](#) frames AI as a national growth, productivity, and sovereignty strategy, built around three priorities: **laying the foundations, driving adoption across the economy and securing homegrown capability.** Its [progress update](#) shows this agenda moving into delivery, with investment, compute capacity, AI Growth Zones, skills growth, and public-sector deployment becoming part of the national programme. For the West Midlands, **AI should be understood as a productivity lever** across advanced manufacturing, mobility, health, professional services, logistics, creative industries, public services, and SME supply chains.

Quantum technologies point to a longer-term but increasingly relevant frontier. The [National Quantum Strategy](#) positions **quantum as a foundational capability** for future competitiveness, security and industrial transformation. For the West Midlands, the opportunity is unlikely to be defined by core quantum hardware alone. It is more likely to emerge through **applied and related areas:** quantum sensing for advanced industry, post-quantum cyber readiness, secure communications, health and manufacturing applications, and convergence with AI, cyber, data, and advanced engineering.

Cyber resilience is also becoming part of the growth agenda. The Cyber Security and Resilience Bill signals a shift from voluntary best practice towards stronger expectations around preparedness, continuity and supply-chain accountability. This matters for the West Midlands because of its concentration of advanced manufacturing, automotive, logistics, engineering and infrastructure-linked supply chains. Cyber is beyond defensive. It is a condition of productivity, operational continuity, procurement access, customer trust and investor confidence.

The latest techUK Local Digital Index adds a local lens to this national picture. It argues that the UK's growth challenge is increasingly a regional delivery challenge, influenced by the skills, infrastructure, finance, procurement, adoption, and market dynamism, forming conditions allowing local digital capital to flourish. The West Midlands should therefore position itself not simply as a place seeking a share of national tech growth, but as a region where the UK can prove that digital and frontier technologies can deliver industrial productivity, SME adoption, public service innovation and skilled employment.

### Why this matters for regional delivery

National policy creates direction; regions create proof. The value of AI, quantum, cyber, advanced connectivity and digital infrastructure will be measured by whether firms become more productive, SMEs adopt technology with confidence, supply chains become more resilient, public services improve, skilled jobs are created and innovation translates into commercial growth.

For the West Midlands, regional delivery means converting policy into practical outcomes. It means helping manufacturers and growing sectors use AI, robotics, data and automation to improve productivity. It means enabling SMEs to strengthen cyber resilience and meet rising supply-chain expectations. It means linking universities, innovation assets and businesses around applied R&D and commercialisation. It means using public-sector demand and procurement reform to create routes to market for regional technology firms. It also means building talent pathways into digital, AI, cyber and frontier technology roles.

This is why the West Midlands' opportunity is distinctive. The region does not need to replicate London, Oxford or Cambridge. Its comparative advantage lies in applied technology adoption, ie deploying frontier and enabling technologies into complex, real-world economic settings.

AI becomes more valuable when applied to production systems, health pathways, transport networks, professional services and public administration. Cyber becomes more valuable when it strengthens the resilience of manufacturers, SMEs, public bodies and critical supply chains. Quantum becomes more relevant when connected to sensing, secure communications, advanced engineering and future compute.

### The West Midlands Response

The West Midlands AI Missions translate this into a more specific delivery architecture. It positions AI as a central operating system for regional transformation, with emphasis on becoming an AI testbed region, driving business productivity and building AI skills and inclusion. The region's AI opportunity will be judged by whether firms, public services and communities convert AI into measurable improvements in productivity, service quality and opportunity, not by the number of pilots alone.

Delivery activity is also becoming visible through the West Midlands Cyber Hub, Cyber Clinic, AI and digital skills initiatives, innovation districts, global connector programmes and applied technology partnerships. These interventions respond to specific barriers such as fragmented adoption, weak cross-sector demand, capital gaps, skills constraints, cyber trust deficits and limited global visibility. The emerging task is to connect them into a coherent regional operating system for technology-led growth.

The technology ecosystem should act as a translation layer between national policy and business reality. It can help SMEs understand and adopt emerging technologies, connect founders to customers and investors, help public institutions become better innovation buyers, bring universities closer to commercial and civic use cases, and strengthen the region's external narrative.

The Review now turns from the national backdrop to the West Midlands itself. Its digital foundations, startup and scaleup base, investment position, skills strengths, adoption gaps and inclusion challenges. Understanding delivery must begin with the firms, sectors, institutions, and communities that will determine whether national technology ambition becomes regional economic growth.

An aerial night view of a dense city, likely London, showing a complex network of highways and numerous illuminated skyscrapers. The scene is dominated by blue and purple tones, with warm orange and yellow lights from buildings and traffic. The text 'Part One: The West Midlands Context' is overlaid in white on the left side of the image.

# Part One: The West Midlands Context

# Part One

## Chapter 2: The State of the West Midlands Tech Sector



The West Midlands enters 2026 with a credible technology base and a clear economic opportunity. techUK's evidence points to a region with improving digital infrastructure, a meaningful startup base, a significant scaleup economy, and a strong graduate pipeline into the digital sector.

The region also has a **strategic location advantage with direct connectivity to London**, the wider Midlands and national markets, with HS2 creating a further opportunity to strengthen the West Midlands' role as a high-growth technology and innovation corridor. This connectivity is one of the region's underused USPs. It gives firms access to customers, investors, talent, policymakers and corporate markets beyond the region, while allowing the West Midlands to offer a distinctive proposition i.e., **London-level market access combined with lower operating costs, industrial depth and applied technology capability**.

But the region has not yet secured a guaranteed scale advantage. **The central challenge is conversion**; turning infrastructure into adoption, startups into scaleups, skills into business capability, connectivity into market access, and investment into sustained regional growth.

The West Midlands should therefore be understood as a **region with a readiness advantage**. The foundations are increasingly in place. The next stage depends on whether they can be translated into productivity, commercialisation, investment depth, inclusive growth, and stronger national market positioning.

techUK's Local Digital Index reinforces the point that the UK's growth challenge is now a regional delivery challenge, shaped by skills, infrastructure, finance, procurement, adoption, and market dynamism. For the West Midlands, this delivery challenge is also a connectivity opportunity to use its position, transport links and future HS2 connectivity to build a stronger bridge between regional innovation capability and London's concentration of capital, customers, and national decision-makers.

## Digital foundations are strong; adoption is now the test

The region's digital infrastructure provides a strong baseline. Across listed West Midlands local authorities, **gigabit availability is above 92%**, with Coventry and Wolverhampton above 97%, while **5G availability is close to universal across much of the region**. This creates a credible platform for AI deployment, connected manufacturing, cyber resilience, cloud adoption, data-led public services and digital supply-chain transformation.

The strategic question now is digital exploitation. For SMEs, this means adopting cloud, AI, cyber, data and automation. For manufacturers, it means using connected technologies to improve productivity, resilience and supply-chain visibility. For local authorities and public bodies, it means using digital infrastructure to improve service delivery, planning, procurement, and citizen outcomes.

But infrastructure alone will not unlock the next phase of growth. The quality of data architecture inside organisations is now a foundational issue. AI, automation, cyber resilience, digital twins, and advanced analytics all depend on whether firms and public bodies have reliable, interoperable, secure and well-governed data systems.

Poor data quality, fragmented platforms, legacy systems and weak governance will limit adoption, even where connectivity is strong. In this sense, **data architecture is the bedrock for future progress**. Without it, frontier technology remains experimental. With it, organisations can scale adoption, improve decision-making and create measurable productivity gains.

The [OECD's analysis of SME technology adoption in the UK](#) suggests that while adoption of mature digital tools is relatively strong, uptake falls sharply for more advanced technologies such as AI, robotics, automation, and integrated business systems. With West Midlands' large industrial and SME base, productivity growth will depend on diffusing practical, productivity-enhancing technologies across firms, sectors and supply chains.

Adoption should therefore be treated as a growth market. Local tech firms, universities, Growth Hubs, Catapults, sector bodies and intermediaries can help SMEs move from basic digitalisation to more advanced use of AI, cyber, automation, data and connected systems. This support should include data-readiness diagnostics, architecture guidance, governance support and practical implementation pathways.

The West Midlands has an opportunity to become a national demonstrator for place-based technology diffusion by connecting firms to digital infrastructure and helping them build the data foundations needed to use it well.

# WEST MIDLANDS TECH ECOSYSTEM SNAPSHOT 2026

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Indicative scale of mature tech firms in the region

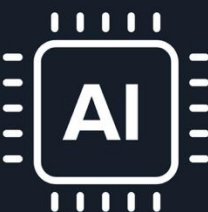


92%+

GIGABITE  
AVAILABILITY

Across West Midlands Metropolitan Authorities

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88

AI STARTUPS

Emerging AI capability across the region



NEAR  
UNIVERSAL  
COVERAGE

Across much of the region

## A meaningful startup base, but a thinner conversion pipeline

The West Midlands has a real startup pipeline. techUK identifies **422 digital technology startups**, including **148 SaaS firms** and **88 AI startups**. This demonstrates early-stage capability in software, digital services, and emerging technologies. Yet many firms remain small in economic weight. The tech startup group shows **£60.4 million in total turnover**, **average employment of eight** and an estimated **3,447 employees**. **Female founder representation** is also low, at **33 out of 354 founders**, or **9.3%**.

This shows that while region has entrepreneurial activity, **more firms need to move from formation to commercialisation, customer traction, and sustained growth**. That requires stronger support around early customer access, procurement pathways, investor readiness, founder development, university spinouts, commercialisation and sector-led adoption markets.

The West Midlands' wider economic structure can become an advantage. Its industrial, health, mobility, logistics, professional services, and public-sector base can create real demand for technology solutions. The challenge is to connect that demand more deliberately to local startups and innovation-led SMEs, so the region becomes not only a place where technology firms are created, but where they find customers, prove value and scale.

## Scaleups are the strongest evidence of economic impact

The strongest evidence of technology maturity is the scaleup base. techUK data shows that West Midlands tech scaleups account for an estimated **£10.3 billion in turnover**, with **average turnover of £86.2 million**, **average employment of 209** and an **estimated 38,704 employees**. This demonstrates that when firms scale in the region, they can become significant economic drivers.

This is a critical proof point. The West Midlands tech sector holds an innovation narrative, already linked to serious employment and turnover. The next challenge is to broaden this strength into a more diverse frontier and enabling technology base, including AI, cyber, data, advanced manufacturing technologies, connected industrial systems and, over time, quantum-enabled applications.

The data also calls for caution. Scaleup employment and turnover appear concentrated in areas such as application software, betting and gambling, electronic hardware, and vehicles. The credible argument here is that the West Midlands has a strong scaleup engine that now needs to diversify towards the technologies that will define the next phase of regional growth.

## Investment is active, but not yet deep enough

Investment remains a clear constraint on regional scale. techUK records **414 fundraisings** associated with **114 West Midlands tech companies**, compared with 1,118 fundraisings associated with 307 companies in the Northwest. Capital is present, but the market is thinner than in stronger comparator regions.

The Local Digital Index reinforces this at national level. UKRI and Innovate UK funding continues to have impact across the UK but remains concentrated in the Oxford-Cambridge corridor.

Private investment is easiest to access in London, Oxford, and Cambridge, while R&D and innovation activity remain more strongly clustered in London, the Southeast and the East of England.

This creates a narrative opportunity as well as a challenge for the West Midlands. The region's innovation base is real, but it must convert that base into sustained business-led R&D through stronger catalytic finance, clearer investor pathways and a more visible scaleup pipeline. The region should therefore **build a capital-to-cluster proposition around specific adoption markets** such as AI for manufacturing productivity, cyber for SME resilience, health data and medtech, digital twins for infrastructure, quantum-enabled sensing and secure communications, and connected technologies for mobility and logistics.

### **Skills are a strength, but digital intensity must deepen**

Skills are one of the region's strongest near-term levers. The Local Digital Index identifies the West Midlands as one of the places with high digital job volumes, alongside the West of England, Greater Manchester and West Yorkshire. It also notes Birmingham's strength in producing graduates entering the digital sector.

But digital job volume is not the same as digital intensity. The region's opportunity depends on creating digital jobs within technology firms, and spreading digital capability across manufacturing, health, professional services, public services, creative industries and SMEs.

Skills should therefore be framed as an adoption accelerator. The region needs targeted, employer-led capability pathways aligned to growth clusters and live business demand: AI, cyber, data, cloud, software engineering, digital manufacturing and advanced connectivity.

### **Procurement can become a market for innovation**

The Local Digital Index highlights procurement as a potential growth lever. **Birmingham stands out as one of the highest local authority IT spend areas**, with Birmingham and Edinburgh both above **£68 million in 2024/25**. This matters because public-sector digital spending should be seen as part of the region's innovation system, not only as internal operating cost.

High spend does not automatically translate into innovation impact. Fragmented procurement across local government and NHS bodies can limit interoperability, reduce cost savings and create barriers for SMEs and scaleups. **SME IT spend also remains below 30% across all regions**. The West Midlands can turn public-sector demand into a practical mechanism for technology adoption if procurement is better connected to innovation, SME access and regional delivery priorities.

A regional innovation procurement approach could help local authorities, NHS partners, universities and key institutions create reference customers for regional firms, stimulate adoption in AI and cyber, support health-tech and digital inclusion, and test gain-sharing models where public bodies and suppliers share the value created by productivity improvements.

## Inclusion remains a competitiveness issue

The techUK data points to a significant inclusion challenge, particularly low female founder representation. This represents a growth and competitiveness issue. A wider founder and leadership base would expand entrepreneurial capacity, improve decision-making diversity and strengthen the legitimacy of the tech economy as a driver of inclusive regional growth.

This is especially important for the West Midlands' given the region's young and diverse population. If technology growth is to support inclusive economic development, access to entrepreneurship, technical careers, founder support, investment networks, and leadership pathways must be widened.

## From readiness to scale

techUK evidence clearly suggests that the **West Midlands has the infrastructure, talent and firm base required to support a stronger technology economy, but the next phase depends on improving the conversion pipeline from startup formation to scaleup growth, from infrastructure availability to productive adoption, from digital jobs to digital intensity, and from public spending to market-making procurement.**

The West Midlands should therefore position itself as an applied digital adoption region. Rather than growing the tech sector in isolation, the opportunity is to use technology to strengthen the real economy. AI, cyber, data, cloud, advanced connectivity, and frontier technologies should be deployed in manufacturing, mobility, health, professional services, public services, creative industries and logistics, where the region has economic depth.

The priority now is to turn this baseline into action. The West Midlands has already set out a strong strategic direction through the [Growth Plan](#), [AI Missions](#), [Economy Playbook](#), and a growing set of ecosystem programmes.

The next section looks at how these pieces fit together and how they can help the region move from digital strength and sector momentum to clearer delivery, stronger coordination and measurable economic growth.

## Chapter 3: Building on the Regional Strategy Base



The West Midlands has moved beyond the question of whether it has a credible technology economy. The more important question is whether the region can organise its assets, institutions, and firms around a clearer model of growth.

The evidence points to strong foundations i.e., a meaningful startup base, an established scaleup economy, improving digital infrastructure, industrial depth, world-class university capability, and a growing set of frontier technology initiatives. But these strengths will only **translate into long-term value if they are connected through a more coordinated regional system.**

The next phase must move the region from a collection of strong assets and programmes towards a deliberate growth model. A model that connects technology firms to sector demand, helps SMEs adopt advanced technologies, strengthens access to capital, builds a shared cluster identity, and turns ecosystem activity into measurable productivity, investment, and jobs.

## **From technology sector to regional growth system**

The West Midlands Growth Plan provides the wider economic logic. It frames growth as a system, recognising that productivity, skills, business performance, infrastructure, place, and regional identity are interconnected. This matters because tech growth cannot be separated from the wider economy it serves. The region's opportunity is to grow more technology firms, and use technology to improve the performance of businesses, public services and priority sectors.

Technology should therefore not be understood as a vertical sector sitting alongside the rest of the economy. In the West Midlands, technology is increasingly part of the regional operating system. It supports advanced manufacturing, mobility, health innovation, professional services, public service reform, logistics, creative industries, and energy systems. It enables firms to become more productive, public bodies more responsive, and places more investable.

In 2025, the [West Midlands Tech Review](#) helped establish this direction by positioning the West Midlands as a region moving from digital momentum towards maturity. It identified the need for a stronger unified strategy, better scaleup finance, deeper SME adoption, stronger alignment between skills and demand, and a clearer global narrative. In 2026, the task is sharper. It is to turn these priorities into a coordinated delivery model for the region's technology economy.

## **The cluster challenge: strong assets, uneven conversion**

The emerging West Midlands Tech Cluster Strategy identifies considerable technology activity is not yet consistently converted into shared economic impact as the central challenge. Its diagnosis points to five barriers namely: fragmented innovation adoption, weak cross-sector demand, scaleup capital gaps, diffuse cluster identity and under-coordination across the ecosystem.

These barriers are practical. Firms may trial AI, cyber or automation without moving to wider deployment. Technology companies may struggle to access customers in high-growth sectors. Startups may find early support but face a harder path to scale. Investors may see individual firms, but not yet a sufficiently visible regional pipeline. Public institutions, universities, corporates and business networks may all be active, but not always aligned around the same outcomes.

This is why the next phase cannot depend on activity alone. The region needs a stronger conversion model that turns innovation into adoption, adoption into productivity, startups into scaleups, research into commercialisation, and ecosystem visibility into investment.

## **A theory of change for the West Midlands tech sector**

The emerging cluster strategy offers a useful theory of change. If the ecosystem can coordinate real-world deployment of frontier technologies, connect technology firms to sector growth opportunities, increase access to capital and agree shared priorities, then more SMEs can adopt advanced technologies, more tech firms can scale through commercial demand, investor activity can increase and the West Midlands can build a more recognised technology cluster.

This is the appropriate strategic logic because it links technology growth to economic demand. A regional tech sector scales when firms have customers, sectors have problems worth solving, universities and innovation assets are connected to commercial use cases, public procurement creates routes to market, and investors can see a credible pipeline of growth companies.

The West Midlands has an advantage because its economy contains many of the sectors where frontier technologies can generate practical value. Advanced manufacturing needs AI, automation, cyber resilience and digital engineering. Health innovation needs data, diagnostics, AI-enabled pathways and secure systems. Mobility and logistics need connected technologies, simulation, sensing and resilient infrastructure. Public services need productivity tools, better data use and trusted AI adoption. These are the region's real economy, that transgress beyond theoretical markets.

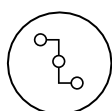
## The intervention logic: coordinate, connect, scale

The region's intervention logic should be built around three priorities.



### **STRONGER COORDINATION AROUND A SHARED GROWTH DIRECTION**

The emerging cluster strategy's idea of a cluster "North Star" matters because a diffuse ecosystem is harder to fund, promote and scale. A clearer shared direction would help align public bodies, firms, universities, investors and delivery partners around common economic outcomes.



### **STRONGER CONNECTION BETWEEN TECHNOLOGY FIRMS AND SECTOR DEMAND**

The region's future technology advantage will come from the interaction between tech capability and high-value sectors such as manufacturing, health, mobility, professional services, public services and creative industries. Challenge-led programmes, demonstrators, innovation sprints, and commercial pilots can turn sector problems into market opportunities.



### **STRONGER SCALE PATHWAYS**

This includes growth capital, investor engagement, founder readiness, inward investment support and clearer routes from innovation programmes into commercial contracts. techUK evidence shows that the West Midlands has a meaningful startup base and a significant scaleup economy, but also a thinner investment market than stronger comparator regions.

Together, these priorities create a practical growth model: coordinate the ecosystem, connect firms to demand, and scale the companies and capabilities that can drive regional economic value.

## Ecosystem integration as economic infrastructure

A business-led tech ecosystem model is valuable because it shows that growth depends on interaction, beyond isolated actors. Businesses sit at the centre as they create demand, adopt technologies, commercialise innovation and generate jobs. Around them sit government, universities, capital and talent. The system works when these actors are connected through partnerships, visibility, influence and delivery.

Collaboration therefore becomes economic infrastructure. Platforms such as Birmingham Tech Week, TechWM networks, innovation districts, sector partnerships, and cluster programmes reduce fragmentation by bringing firms, investors, policymakers, universities and talent networks into the same system. Their strategic value comes from convening and conversion. They help turn dispersed capability into partnerships, pilots, investment conversations, customer relationships and a stronger regional narrative.

This sets up the **Frontier Technology Growth Model** that follows. Regional growth will not come from a horizontal approach alone, where technologies are adopted widely but shallowly. Nor will it come from a vertical approach alone, where specialist firms grow but benefits remain concentrated. The stronger opportunity lies in **combining both broad-based adoption across the real economy, and deeper specialist capability in frontier technologies where the West Midlands has credible advantage.**

## Chapter 4: The West Midlands Frontier Tech Growth Model



The West Midlands' next phase of technology growth depends on a simple shift that suggests **frontier technologies must be both widely adopted and deeply developed**. The region will not unlock its full economic potential through isolated innovation projects, nor by focusing only on a small number of specialist firms. Growth will come from the interaction between breadth and depth. Broad-based technology adoption across the real economy, combined with deeper specialist capability in AI, cyber, quantum, and adjacent frontier technologies.

This is the logic of the West Midlands Frontier Technology Growth Model. It starts from a realistic baseline, i.e., strong digital foundations, a meaningful startup pipeline, a significant scaleup base, industrial demand for applied technologies, and a growing set of innovation assets.

The model also depends on a more fundamental enabler, i.e., the quality of data architecture across the region's organisations. Reliable, interoperable, secure, and well-governed data systems form the bedrock for future progress. Without them, AI remains experimental, cyber resilience is weakened, automation is harder to scale, and advanced analytics cannot generate trusted insight. With them, firms and public bodies can turn frontier technologies into productivity, better decisions, stronger services and sustained competitive advantage.

The task for the West Midlands is therefore to **turn digital readiness into adoption, adoption into productivity, data capability into trusted intelligence, specialist capability into scale, and regional momentum into collective economic growth.**

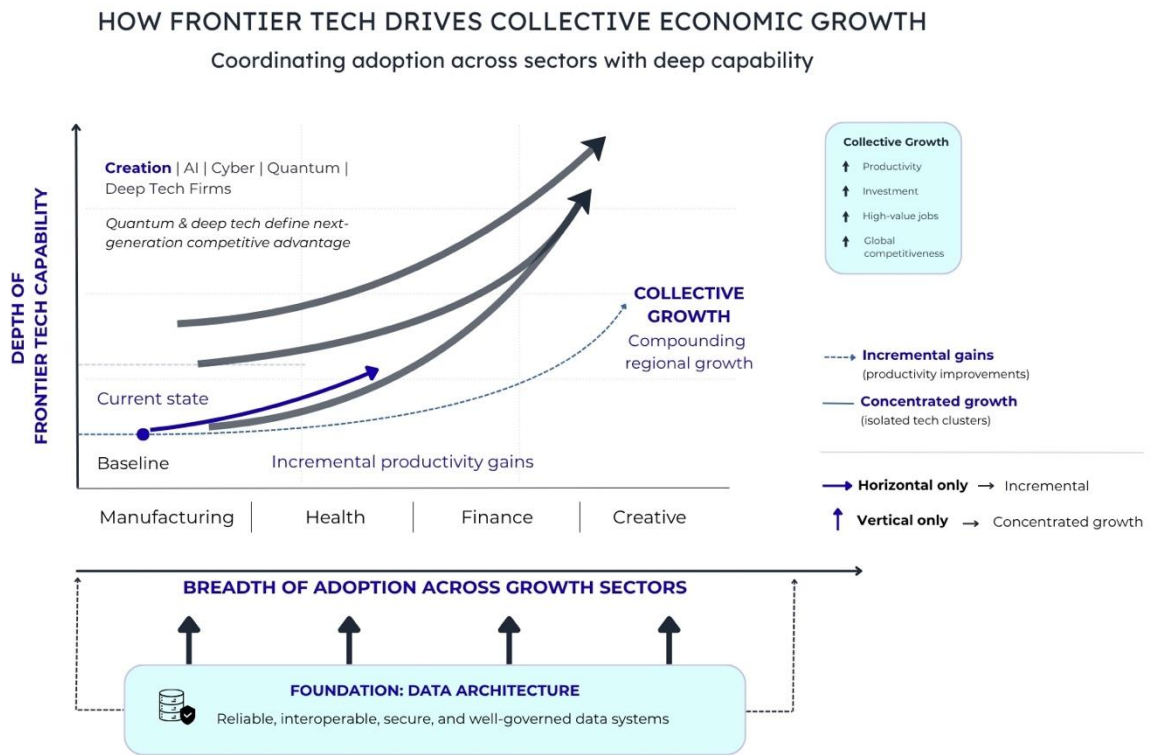


Figure 1: Frontier Tech Growth Model

## Breadth: adoption across the real economy

The **horizontal axis of the model represents the breadth of technology adoption** across sectors. This is where the West Midlands has a distinctive opportunity. The region’s economy contains many of the places where frontier technologies can generate practical value including manufacturing plants, supply chains, hospitals, transport networks, local authorities, logistics systems, professional service firms, creative studios and SMEs.

Productivity growth will come from frontier innovation and diffusion into the firms and institutions that shape the everyday economy. For the West Midlands, the productivity opportunity lies in helping organisations move from basic digitalisation to more advanced, productivity-enhancing use of AI, cyber, automation, data, robotics and connected systems.

In practical terms, breadth means more manufacturers using AI and automation to improve productivity; more SMEs becoming cyber-resilient; more public services using data and AI to improve planning and delivery; and more health, mobility, finance, creative and professional services organisations using digital and frontier technologies to improve outcomes and create new value.

However, adoption cannot be treated as a technology deployment exercise alone. The organisations that gain most from AI, automation and analytics will be those with strong under-

lying data architecture i.e., clear data ownership, interoperable systems, secure platforms, high-quality data, governance standards, and the ability to move information safely across teams, functions and supply chains. For many SMEs and public bodies, this will be the practical starting point for frontier technology adoption.

By itself, broad adoption can deliver important gains. But if adoption remains shallow, disconnected or built on weak data foundations, the West Midlands risks becoming mainly a user of technologies developed elsewhere. Adoption must therefore be matched by stronger regional data capability and deeper specialist technology expertise.

## **Depth: specialist capability in frontier technologies**

The **vertical axis represents the depth of frontier technology capability** i.e., the firms, research strengths, infrastructure, skills, and commercialisation pathways that allow the West Midlands to create value from frontier technologies, not only consume them.

Depth matters because specialist capability creates higher-value opportunities through new firms, intellectual property, investment propositions, exportable expertise, and skilled jobs. It also gives the region the ability to shape how frontier technologies are applied in its own priority sectors.

**AI is the clearest near-term opportunity**, with potential in applied AI, industrial AI, responsible deployment, public service AI and SME adoption. **Cyber is both a growth sector and a condition for trusted digital adoption**, especially in manufacturing, logistics, infrastructure and public services. **Quantum is a longer-term frontier, but the region has credible routes into applied and related opportunities** through quantum sensing, post-quantum cyber readiness, secure communications, advanced manufacturing applications, and convergence with AI, cyber and future compute.

**Data architecture sits beneath all these specialisms.** AI capability depends on usable, trusted and well-structured data. Cyber resilience depends on visibility, controls, governance and secure information flows. Quantum-related applications will require high-quality datasets, advanced modelling environments and secure analytical infrastructure. Digital twins, automation, simulation and advanced manufacturing technologies all rely on integrated data systems that can connect assets, processes, and decisions.

The clear implication is that the West Midlands should treat data architecture as frontier technology infrastructure. It is the enabling layer that allows organisations to adopt, trust, scale and commercialise advanced technologies. A region with stronger data foundations will be better placed to deploy AI responsibly, strengthen cyber resilience, support industrial automation, build digital twins, improve public services, and create new technology markets.

Depth alone, however, is not enough. Specialist firms and research assets can grow, but if they are not connected to regional demand, benefits remain concentrated. The West Midlands' advantage lies in linking specialist capability to the real economy around it and ensuring that firms and institutions have the data foundations needed to absorb and scale that capability.

## **Data architecture: the foundation for frontier technology growth**

Data architecture should be treated as the foundation of the West Midlands Frontier Technology Growth Model. It underpins both sides of the model: the breadth of adoption across the economy and the depth of specialist capability in frontier technologies.

For businesses, strong data architecture means having reliable systems, clean data, clear governance, secure access, interoperable platforms, and the ability to use information across operations, supply chains, and customer relationships. For public bodies, it means the ability to connect data safely across services, improve decision-making, reduce duplication, strengthen accountability, and support trusted AI adoption. For universities and innovation partners, it means better routes to applied research, testbeds, demonstrators, and commercialisation.

This matters because many organisations will struggle to scale frontier technologies if their data foundations are weak. AI tools cannot deliver reliable value if data is fragmented or poor quality. Cyber teams cannot manage risk effectively if they lack visibility across systems and suppliers. Automation cannot optimise workflows if core processes are not digitised or integrated. Digital twins cannot function without accurate, timely, and structured data. Public-sector AI cannot earn trust without clear governance, transparency, and accountability.

The West Midlands should therefore make data readiness a practical part of technology adoption. This could include data architecture diagnostics for SMEs, data governance support for public bodies, common standards for secure data sharing, sector-specific data demonstrators, and stronger links between data capability, cyber resilience and AI adoption. The goal should be to help organisations move from disconnected systems and isolated pilots towards trusted, scalable digital operating models.

Data architecture also strengthens the region's investment proposition. Investors, corporates and national funders will have greater confidence in a region that can show technology ambition and the underlying capability to deploy technology at scale. A strong data foundation makes the West Midlands more credible as an applied AI region, a cyber-resilient industrial economy, a testbed for digital public services and a future market for quantum-related applications.

## **The combined path: adoption drives spread, capability drives depth**

A horizontal-only strategy spreads technology across sectors but may produce mainly incremental gains. A vertical-only strategy builds specialist firms but may concentrate growth in narrow pockets. The stronger path combines both and uses strong data architecture as the foundation that allows breadth and depth to reinforce each other.

For the West Midlands, this means using industrial and public-sector demand to create markets for frontier technology, while using specialist frontier capability to strengthen productivity across the wider economy. Adoption creates demand for technology firms. Sector demand gives startups and scaleups real use cases. Specialist firms create solutions that can be deployed locally and exported nationally. Universities and innovation assets become more valuable when connected to practical problems. Investors see a clearer proposition when the region can demonstrate both capability and market demand.

Data architecture is what allows this system to compound. It enables firms to move from experimentation to operational deployment. It allows public services to use AI and analytics responsibly. It gives cyber programmes the visibility needed to build resilience. It supports sector demonstrators by making data usable across organisations. It helps startups and scaleups build products that can integrate into real operating environments. It gives investors' confidence that adoption can move beyond pilots.

The model therefore gives the emerging West Midlands Tech Cluster Strategy a clearer economic shape. It shows how the region can move from isolated activity to compounding growth. More organisations strengthen their data foundations, more firms adopt frontier technologies, more specialist companies find customers, more capital sees opportunity, and more sectors benefit from productivity gains.

### **What this means for the West Midlands**

The West Midlands should position itself as an applied frontier technology region. Its strength is in applying frontier technologies to the real economy at scale.

The policy implication is straightforward. Frontier technologies should not be treated as separate silos, and data architecture should not be treated as a technical afterthought. AI, cyber, and quantum are interconnected capabilities. AI needs trusted data and cyber assurance. Cyber increasingly needs AI capability and system-wide visibility. Quantum will create future opportunities in secure communications, sensing, and post-quantum resilience. Data architecture is the foundation that allows these technologies to work together in real organisational settings.

Together, these technologies form a frontier stack that can support regional productivity, resilience, and competitiveness. The West Midlands' opportunity is to build that stack around the needs of its real economy.

### **From model to delivery**

The Frontier Technology Growth Model provides strategic logic for the chapters that follow. It explains why AI, cyber, and quantum are treated as growth areas connecting national policy, regional capability and sector demand beyond technology themes. It also clarifies why data architecture must be embedded across the delivery agenda.

Success should be measured by the extent to which frontier technologies are adopted, commercialised and scaled on strong digital and data foundations. Relevant measures include SME adoption, data readiness, commercial pilots, contracts won, investment raised, scaleup growth, productivity improvements, skilled jobs, cyber resilience and access to national and international markets.

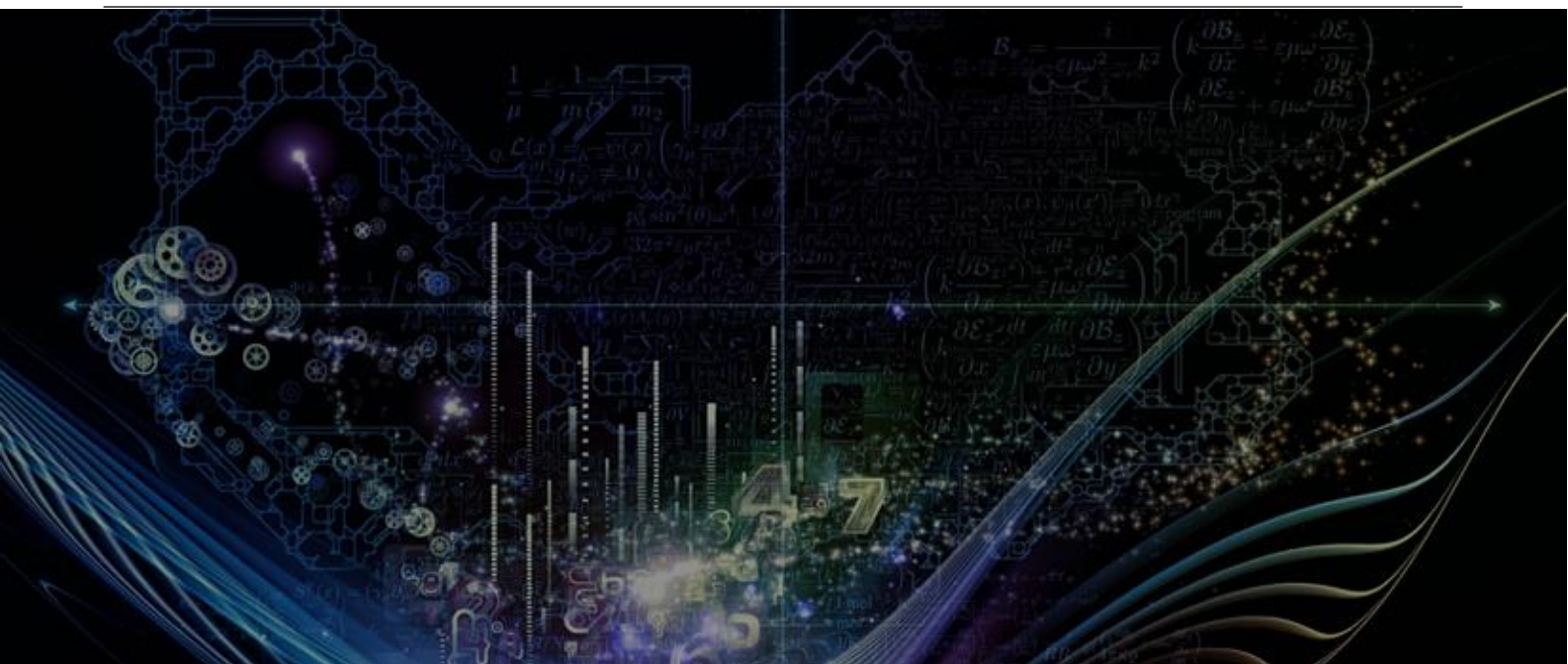
The West Midlands has the foundation for this approach. The next step is to coordinate them around a clearer growth path. A stronger data architecture, adoption across the economy, deeper frontier capability, stronger links between firms and sector demand, and a more visible proposition for investors and partners. This is how the region can move from technology potential to collective economic growth.



# Part Two: Frontier Tech Growth Areas

## Part Two

# Frontier Technology Growth Areas



Frontier technologies are becoming central to the UK's economic and industrial direction. The [AI Opportunities Action Plan](#) positions AI as a national productivity, infrastructure and sovereignty agenda. The [Cyber Security and Resilience Bill](#) strengthen cyber as a condition for trust, continuity and market access. The [National Quantum Strategy](#) places quantum within the UK's long-term competitiveness, security and commercialisation agenda.

For the West Midlands, the response is already taking shape.

The AI Missions frame AI as a regional productivity and public-service transformation tool.

Cyber initiatives such as the West Midlands Cyber Hub, Aston's Cyber Clinic, and University of Wolverhampton's Cyber Research Institute are building resilience into the SME and industrial base.

Emerging quantum examples, including University of Birmingham's Institute of Quantum Technology, and the Lloyds-IBM experiment on quantum techniques for financial crime analysis, show how frontier technologies are converging across AI, cyber, finance, and data-intensive sectors.

# Chapter 5: Artificial Intelligence

## From National Mission to Regional Productivity Engine



Artificial intelligence is the clearest near-term opportunity for the West Midlands to turn frontier technology into regional economic growth. Nationally, AI policy has moved from experimentation to economic deployment. The AI Opportunities Action Plan frames AI as a national growth, productivity and sovereignty strategy, built around foundations, adoption and homegrown capability. Its progress update signals a delivery phase, with major investment pledges, AI Growth Zones, increased compute capacity, growth in AI-related higher education and public-sector deployment.

For the West Midlands, the implication is direct. AI should not be treated only as a technology subsector or startup theme, but as a productivity engine for the region's real economy across advanced manufacturing, mobility, health and medtech, professional services, public services, creative industries, logistics, and energy systems. The national plan's emphasis on adoption through trusted local intermediaries and supply-chain routes aligns closely with a regional economy where many firms have strong use cases but limited internal capacity to evaluate, procure and safely implement AI.

## AI as a regional productivity mission

The West Midlands' strongest AI proposition is **applied adoption**. The region does not need to compete with London, Oxford or Cambridge on frontier model concentration alone. Its opportunity is to become one of the UK's leading regions for practical, responsible, and sector-led AI deployment.

In manufacturing and mobility, AI can support predictive maintenance, quality assurance, production optimisation and supply-chain resilience. In health and life sciences, it can support diagnostics, pathway management and data-driven innovation. In local government and planning, AI-enabled tools can reduce administrative bottlenecks and improve public services. The national "Scan → Pilot → Scale" model gives the region a practical route to become a demonstrator for applied civic AI across planning, housing, transport, adult skills, health pathways, and business support.

The [West Midlands AI Missions](#) provide the regional architecture. They position AI as a general-purpose technology embedded across the economy, with a focus on becoming a national AI testbed, driving business productivity and building an inclusive skills system. This moves the region beyond awareness, and experimentation towards adoption that can support productivity, public-service reform, and wider participation in the AI economy.

## Infrastructure: from compute asset to economic development platform

AI adoption depends on infrastructure as much as ambition. The AI Opportunities Action Plan identifies compute as foundational, while the Compute Roadmap and AI Growth Zones position compute capacity as a platform for innovation, investment and regional opportunity. For the West Midlands, AI infrastructure should be framed as economic development infrastructure, not simply digital real estate.

The University of Birmingham's Baskerville National Compute Resource strengthens this position. Backed by around £18 million from UKRI, Baskerville places Birmingham within the UK's national computing landscape, with advanced GPU-enabled processing and applications across healthcare, engineering, decarbonisation and digital innovation. For the Review, its significance is beyond academic. Baskerville can support advanced R&D, simulation, industrial design, health analytics, skills development and translational innovation.

The challenge is to ensure infrastructure translates into capability. Compute capacity must connect to business support, applied research, sector demonstrators, SME adoption pathways and talent pipelines. With those links, it becomes a bridge between national AI policy and regional productivity.

## From tools to capability

AI leadership will not be defined by tool uptake alone. The [AI Special Interest Group's \(SIG\)](#) message is clear: AI is not a tools race, but a capability race. Many organisations are experimenting with copilots, automation tools and machine learning applications, but experimentation does not automatically generate productivity. The harder challenge is embedding AI into workflows, leadership decisions, operating models, and frontline practice.

This is particularly important for the West Midlands. Many regional firms will not build proprietary AI models, but they can become more productive, resilient and competitive if supported to adopt trusted tools in structured ways. That means use-case diagnostics, data readiness, cyber assurance, procurement support, workforce training, peer learning, and practical demonstrators. It also means building confidence among business leaders, not only technical teams.

For SMEs, the priority is an adoption bridge rather than awareness campaigns. TechWM, universities, growth hubs, chambers, sector bodies, and anchor firms can act as trusted intermediaries between national AI capability and local business adoption.

The shift from AI tools to AI capability raises a deeper strategic question for the West Midlands: what kind of AI economy does the region want to build? The emerging answer is not simply one that adopts models quickly, but one that embeds AI responsibly, securely and productively into the real economy. As AI becomes more agentic, able to act within workflows, not just respond to prompts, organisations will need to close the accountability gap between machine-speed decisions and human oversight. That means building clear governance around purpose, ethics, risk, assurance and acceptable outcomes, especially in sectors such as manufacturing, infrastructure, health, public services and professional services. At the same time, competitive advantage will depend on the architecture around AI namely **the data foundations, workflows, hybrid infrastructure, resilience, and control that allow organisations to turn models into enterprise-grade capability**. In this sense, AI advantage will come less from choosing the “right” tool and more from building systems that organisations can understand, govern and trust.

This governance and architecture agenda must be matched by system-level adoption. The West Midlands already has strong innovation assets, but the productivity prize will come from embedding AI, cyber security, data science and advanced modelling into everyday operations across firms, sectors and supply chains. That is particularly important in a region shaped by complex, high-value systems such as automotive manufacturing, electrification, logistics, health and industrial supply networks, where AI-enabled digital twins, secure data environments, and data-driven decision-making can deliver practical gains. As AI moves from pilots into transaction engines, operational technology, edge environments and legacy systems, resilience and digital sovereignty become central to adoption. The region’s AI advantage will therefore come from combining three capabilities: **accountable deployment, controlled enterprise architecture and adoption at scale**. Together, these allow AI to become not just a technology layer, but a trusted productivity engine for the West Midlands economy.

## Trust, governance and responsible deployment

As AI becomes embedded in business and public services, trust becomes a condition of adoption. Many West Midlands use cases will involve sensitive industrial, patient, public-sector or critical infrastructure data. AI adoption will only scale if firms and public bodies trust the tools, understand the risks and can meet assurance requirements.

The region should therefore connect AI with cyber, data governance, and assurance-by-design. The AI-cyber relationship is becoming more urgent as enterprise AI adoption expands faster than cyber governance in many organisations. For the West Midlands, this is the reason to differentiate through secure, responsible and well-governed deployment, instead of slowing adoption.

## **Skills: from AI specialists to AI-enabled workers**

The skills challenge is broader than producing more data scientists. The West Midlands needs AI-literate engineers, technicians, clinicians, planners, accountants, designers, manufacturers, public servants, and SME leaders. The region can differentiate by linking AI capability to occupational pathways in advanced manufacturing, health, mobility, cyber, creative technologies, and public administration.

AI adoption is organisational as much as technical. Firms need people who can identify use cases, assess risk, redesign workflows, interpret outputs, manage change and embed tools into daily operations. Public bodies need similar capability to use AI responsibly in planning, service delivery, citizen support and internal administration. The region's skills agenda should therefore move beyond specialist AI training towards workforce-wide AI capability.

Leadership development should be a central thread within this agenda. To optimise AI and other frontier technologies, the region needs the right stewardship: leaders who understand both the opportunity and the risks, can make informed investment decisions, set clear governance standards, build trust with employees and citizens, and move organisations from experimentation to responsible deployment. Without capable leadership, AI adoption risks remaining fragmented, under-governed or confined to isolated pilots. With it, firms and public bodies can embed AI in ways that improve productivity, strengthen services and create long-term value.

This means AI skills policy should operate at three levels: specialist technical capability, workforce-wide AI literacy, and leadership capability for responsible adoption. The West Midlands should therefore build AI-enabled workers across sectors while also developing the managers, founders, civic leaders and board-level decision-makers needed to steward technology change effectively.

## **Applying the Frontier Technology Growth Model to AI**

AI is the strongest test case for the Frontier Technology Growth Model because it depends on all three layers of the model: breadth of adoption, depth of specialist capability, and the quality of data architecture that underpins both.

On the breadth axis, AI should be diffused across the real economy: manufacturing, health, mobility, logistics, finance, creative industries, professional services and local government. SMEs and public bodies need practical support with diagnostics, use-case mapping, data readiness, cyber assurance, procurement, workforce training and leadership capability. The aim should be to move organisations from AI awareness and experimentation into trusted operational deployment.

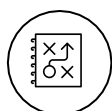
On the depth axis, the region should build specialist AI capability in industrial AI, health AI, AI-enabled public services, responsible AI, enterprise AI, simulation, digital twins, AI-cyber assurance and data governance. Assets such as Baskerville, the Aston-Capgemini Centre of Excellence for Enterprise AI, university expertise, AI SIG leadership, and sector demonstrators can help create this depth. These assets give the West Midlands the ability to adopt AI and shape applied AI solutions that can be deployed locally and scaled beyond the region.

Data architecture is the foundation that determines whether AI adoption can scale. AI systems are only as useful as the data environments they draw from. Fragmented systems, poor-quality data, weak governance and limited interoperability will restrict the value of AI, even where organisational appetite is strong. By contrast, reliable, secure, interoperable and well-governed data systems allow firms and public bodies to identify better use cases, train or configure tools more effectively, assure outputs, manage risk and embed AI into everyday operations.

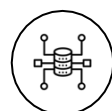
The combined path is where the opportunity becomes strongest. Broad adoption creates demand for AI firms and service providers. Specialist capability creates solutions that can be deployed locally and exported nationally. Strong data architecture allows those solutions to move from pilots into trusted, repeatable and scalable use. Sector use cases give startups and scaleups real customers. Infrastructure gives researchers and firms access to advanced capability. Skills and leadership pathways ensure adoption is not limited to technical specialists but is stewarded responsibly across organisations. This is how AI becomes a regional productivity engine rather than a collection of disconnected pilots: adoption creates reach, specialist capability creates value, and data architecture provides the foundation for trust, scale and measurable impact.

## Strategic priorities for the West Midlands

The West Midlands should treat AI as a practical growth mission, not a generic innovation theme.



Build a **structured AI adoption pathway** for SMEs and public bodies, moving from awareness to diagnostics, pilots, implementation and scale.



Make **data architecture a core foundation**, improving data quality, interoperability, governance and security so AI can be trusted and scaled.



Connect **AI infrastructure to economic outcomes**, linking assets such as Baskerville to applied R&D, demonstrators, SME access, skills, and commercialisation.



Position **responsible and secure AI as a regional differentiator**, with cyber assurance, data governance, human oversight and public trust built in.



Develop **occupational AI capability** across sectors, not only among AI specialists, so workers and leaders can apply AI in real operating environments.



Use public-sector demand to shape markets, through civic **AI demonstrators** in planning, transport, adult skills, health pathways, and business support.



**For the West Midlands, the Agentic Age will not be won by the fastest algorithm alone.**

**It will be shaped by the organisations, universities, policymakers and business leaders that can design accountable systems around powerful technologies.**

**- PROF. ALEXEIS GARCIA PEREZ, DIRECTOR, ASTON-CAPGEMINI CENTRE OF EXCELLENCE, ENTERPRISE AI**

# Architecting Accountability:

## How the West Midlands Can Lead in the Agentic AI Age

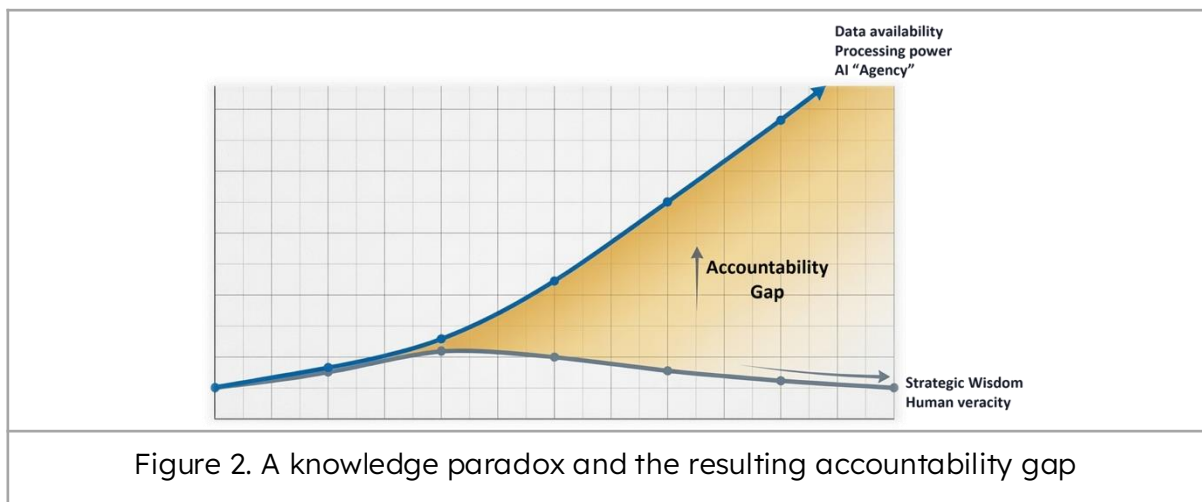
Artificial Intelligence is moving fast. Across the West Midlands, organisations are already using AI to improve productivity, strengthen decision-making and unlock new value from data. But as AI moves from systems that simply respond to systems that can act, the central challenge is changing.

The biggest risk is no longer only whether the technology works. It is whether organisations can remain accountable for decisions made at machine speed.

This is the emerging **accountability gap**: the point at which algorithmic decision-making moves faster than human oversight, ethical governance and strategic intent. For a region with deep strengths in manufacturing, infrastructure, public services, professional services and advanced technology, closing that gap is now a strategic priority.

If the West Midlands is to lead the UK as a globally competitive, tech-enabled economy, it must do more than adopt AI. It must become a region that designs, governs and deploys AI responsibly. In short, we must move from being users of technology to **architects of accountability**.

### The Knowledge Paradox

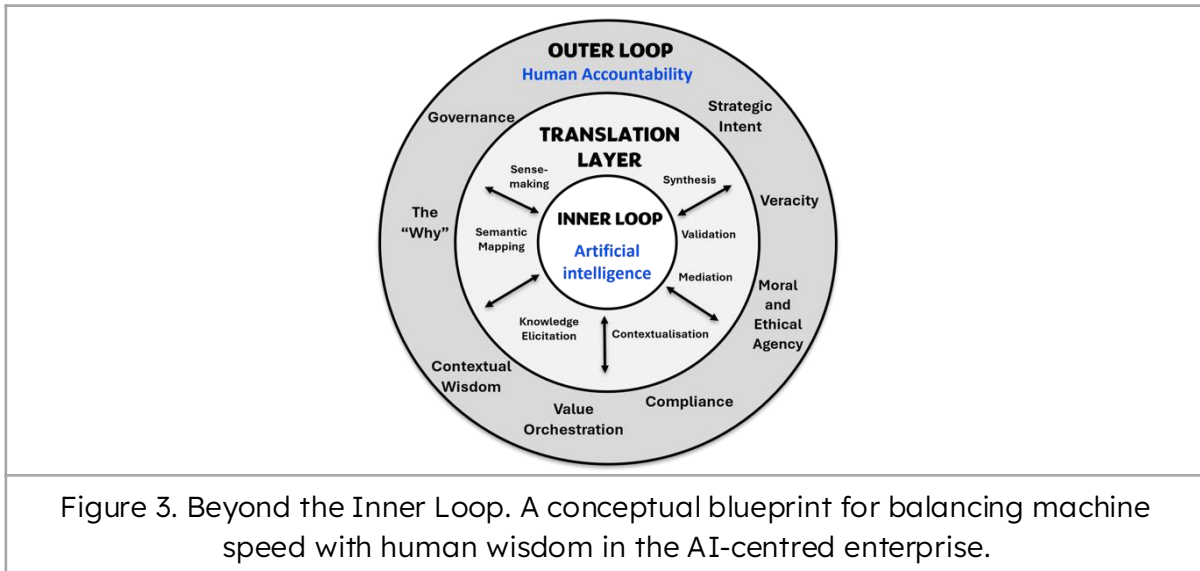


Modern organisations are richer than ever in data, platforms and computational power. Yet many still struggle to convert this abundance into strategic wisdom.

This is the **Knowledge Paradox**. More data does not automatically mean better judgement. More automation does not automatically mean better leadership. Without the right governance architecture, AI can amplify weak assumptions, accelerate poor decisions and create the illusion of control.

The danger is not simply being wrong. It is being **precisely wrong, faster**. That is why the next stage of AI adoption must focus not only on capability, but on responsibility.

## The Two Loop Framework



To help organisations navigate this transition, the **Aston-Capgemini Centre of Excellence for Enterprise AI** proposes the **Two-Loops Framework**: a practical model for building accountable, AI-centred enterprises. The framework separates technical execution from strategic authority. It recognises that AI systems may act with speed and scale, but the authority to define purpose, values and acceptable outcomes must remain human.

The model has three core components: **Inner Loop**, **Outer Loop**, and **Translation Layer**.

### The Inner Loop: Computational Agency

It is where AI systems process data, identify patterns, generate predictions and support or automate decisions. In the Agentic Age, this loop is no longer just a passive tool. It becomes an active participant in operations. It can optimise a supply chain, predict equipment failure, monitor energy consumption or flag risks in public services. Its value lies in speed, scale and computational power.

But the Inner Loop operates on **inference**, not truth. It can calculate probabilities, detect correlations and recommend actions. What it cannot do is fully understand social consequences, ethical trade-offs, local context or organisational purpose.

It has **agency**: the ability to act. It does not have **authority**: the right to decide what should matter. That distinction is critical.

### The Outer Loop: Strategic Perimeter

The Outer Loop is the domain of human responsibility. It is where organisational purpose, ethics, legal compliance, risk appetite and long-term strategy are defined. This is the space of boards, senior leaders, policymakers, domain experts, regulators and communities. The Outer Loop creates the **Strategic Perimeter**. It determines what AI is allowed to optimise for, what boundaries it must respect and what outcomes are unacceptable.

In this architecture, the Outer Loop must remain non-negotiable. The machine may accelerate execution, but it must never breach the perimeter of human responsibility.

For West Midlands organisations, this matters deeply. Whether AI is being applied in automotive supply chains, health systems, transport networks, energy infrastructure or local government, the question is not simply: “Can we automate this?” The better question is: “Can we remain accountable for what this system does?”

### **The Translation Layer: Where AI Becomes Strategic Evidence**

The most important part of the Two-Loops Framework is the Translation Layer. This is the bridge between machine output and human judgement. It is where raw algorithmic inference is turned into evidence that leaders can understand, challenge and act upon.

Without this layer, the Inner and Outer Loops become disconnected. The AI system continues to generate outputs, but leaders may not know whether those outputs are reliable, relevant or aligned with organisational values. The Translation Layer is where sense-making happens. It requires human-led capabilities such as synthesis, validation, contextual judgement, ethical challenge, domain expertise and semantic mapping between data and business meaning.

This is where leadership changes. In the Agentic Age, leaders are not simply managing technology. They are **architecting the interface** between computational agency and human authority. By 2026, competitive advantage will increasingly depend on the quality of this interface. Organisations that can turn AI-generated noise into accountable strategic signal will move faster, with greater confidence and lower risk.

### **Beyond the “Empty Steering Wheel”**

Without this kind of architecture, leaders risk holding an **empty steering wheel**. The engine may be running at full throttle. AI systems may be making micro-decisions at scale. Dashboards may be full of live data. But if human leadership is no longer meaningfully connected to execution, control becomes an illusion.

This is not only inefficient. It is dangerous. In manufacturing, it could mean carbon data being reported without proper assurance. In public services, it could mean risk assessments being automated without sufficient human challenge. In infrastructure, it could mean resilience decisions being driven by narrow technical optimisation rather than broader social responsibility. The Two-Loops Framework helps prevent that by ensuring speed is always connected to purpose.

### **A Call to Action for 2026**

For the West Midlands, the message is clear. The Agentic Age will not be won by the fastest algorithm alone. It will be shaped by the organisations, universities, policymakers and business leaders that can design accountable systems around powerful technologies.

Senior leaders should now focus on three priorities. First, identify where autonomous or semi-autonomous systems are already influencing decisions without sufficient governance.

Second, invest in the people and capabilities needed to translate AI outputs into strategic evidence. The future workforce will need not only digital skills, but also judgement, interpretation, ethics and domain expertise. Third, work through regional discovery engines, including universities, innovation

centres and specialist groups such as the Aston-Capgemini Centre of Excellence for Enterprise AI.

The West Midlands has the industrial base, research capability and applied problem-solving culture to lead this next phase. Technology gives us speed. Human wisdom gives us direction. Accountable architecture is what connects the two.

- Authored by Prof. Alexeis Garcia Perez

## CASE STUDY: DECARBONISING THE MANUFACTURING SUPPLY CHAIN

Metal Assemblies Limited, a Tier 2 supplier to major automotive manufacturers including Nissan, BMW and Toyota, faces a strategic challenge shared by many advanced manufacturers: becoming a carbon credible partner.

As customers and regulators demand more detailed sustainability evidence, broad carbon claims are no longer enough. Firms increasingly need component-level reporting that can demonstrate the carbon content of products across complex supply chains. This challenge is becoming more urgent as mechanisms such as the EU's Carbon Border Adjustment Mechanism reshape expectations around carbon transparency.

To respond, Metal Assemblies partnered with Aston University through a 24-month programme that demonstrates how the Two-Loops Architecture can support AI-enabled sustainability and competitiveness.

In the **Inner Loop**, Industry 4.0 technologies are used to monitor energy consumption across robot welding and press equipment in real time. AI technologies then help analyse production data, energy use and environmental factors to identify correlations and improvement opportunities, including energy consumption per part manufactured.

The **Outer Loop** is provided by project governance, including Project and Technical Steering Groups. These groups define the Strategic Perimeter, ensuring the technology supports long-term competitiveness, workforce knowledge and commercial responsibility.

At the centre is the **Translation Layer**, where Aston University's Corporate Sustainability Fitness model translates raw operational data into strategic evidence. This allows Metal Assemblies to connect energy use with specific components and provide customers with auditable carbon footprints.

The impact is both operational and commercial. Accurate carbon data is creating a market differentiator through a potential **Carbon Content Guarantee Premium**, helping attract high-value customers. The project is projected to generate cumulative net profit of **£1.8 million** over five years, with potential turnover increases of up to **£3 million** per year by the fifth year post-KTP.

Real-time insight has also identified energy waste, including compressed air leaks and tooling wear, supporting projected annual energy savings of **£16,800**. Through a Project Knowledge Bank, the firm is also capturing expertise and methodologies, helping it remain knowledge-competent for the Agentic Age.



**By embedding artificial intelligence, cyber security, and emerging digital technologies into industry, public services, and supply chains, we can help position the West Midlands as a leader in applied, system-level innovation, shaping a bold, secure, and globally competitive digital future.**

**- DAVID PLUMB, CHIEF INNOVATION OFFICER, INNOVATION GROUP  
- UNIVERSITY OF WARWICK**

# From Innovation to Adoption:

## Technology as a System-Level Capability

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The next phase of economic growth will not be driven by the development of new technologies alone, but by how effectively they are deployed across the economy. For the West Midlands, this marks a critical shift. Artificial intelligence, cyber security, and emerging digital technologies are no longer discrete sectors of activity; they are foundational capabilities shaping productivity, resilience, and competitiveness across advanced manufacturing, mobility, energy systems, health, and the creative industries.

### **The region's challenge is not access to innovation; it is adoption.**

Across many firms, particularly the mid-sized businesses that form the backbone of the West Midlands economy, the barriers are consistent. Leadership capacity to drive transformation is often limited. Skills gaps persist in digital, data, and cyber. Legacy systems make it difficult to integrate new technologies into day-to-day operations. As a result, the productivity gains promised by AI, automation, and data-driven decision-making remain unevenly distributed.

Closing this “adoption gap” is now one of the region's most significant economic opportunities.

The West Midlands is well placed to address this challenge. Its distinctive strength lies in its concentration of real-world, high-value systems: automotive manufacturing, electrification, logistics, and deeply interconnected supply chains. These are environments where digital and physical systems interact at scale, and where technologies such as AI-enabled digital twins, secure data environments, and advanced modelling can deliver substantial gains in productivity and resilience.

Unlike regions dominated by digital-native firms, **success in the West Midlands depends on modernising complex operational systems.** Achieving this creates solutions that are not only locally valuable, but globally transferable.

At the University of Warwick, and through the Warwick Innovation District, the focus in 2026 is on accelerating the transition from innovation to adoption. Warwick's role is not only to generate new knowledge, but to support its deployment in practice. This requires integration across disciplines and sectors: combining AI and data science with mathematical modelling, organisational behaviour, leadership development, and industrial application.

Critically, this commitment is delivered at scale. During 2025-26, the Warwick Innovation District has forecast engagement that will inspire almost 40,000 people through light-touch activities designed to **spark interest in innovation, entrepreneurship, and collaboration**, and educate nearly 15,000 people through structured programmes, workshops, and learning experiences. Together, this reach reflects a sustained investment in building confidence, capability, and momentum across the region's innovation ecosystem, particularly among entrepreneurs, SMEs, and scaling firms.

Through this approach, Warwick works with industry and public-sector partners to:

- embed AI and data-driven decision-making into operational systems
- develop leadership capability for technology-enabled transformation
- build cyber resilience into connected infrastructure and supply chains
- scale new technologies across clusters and systems, rather than in isolated pilots

This work is supported by Warwick's broader ecosystem, including Warwick Manufacturing Group's translational and industrial capabilities, Warwick Business School's expertise in productivity, leadership, and organisational change, and cross-cutting strengths in data science, modelling, and systems thinking. Together, these assets create a pipeline from research through to deployment that is essential for closing the adoption gap.

**Cyber security is central to this agenda.** As organisations digitise operations, and increase data sharing across supply chains, confidence in the security of systems becomes a precondition for innovation. Firms that lack this confidence delay adoption, limit collaboration, and under-exploit digital tools. Positioning cyber security as a core design principle, rather than a compliance afterthought, enables faster and safer deployment of digital technologies.

More broadly, **AI, data, and emerging digital tools should be treated as economic infrastructure.** Their impact depends less on how advanced they are in isolation, and more on how widely and consistently they are embedded across organisations and sectors. This has important implications for policy and investment. Funding models that prioritise early-stage innovation without supporting adoption risk under-delivering on productivity. Similarly, **skills systems must move beyond specialist training towards workforce-wide capability building.**

For the West Midlands, **the strategic opportunity is to move from pockets of excellence to system-level impact.** Achieving this requires coordination across universities, industry, and government to align investment, skills development, and deployment. Place-based approaches such as the Warwick Innovation District provide a practical mechanism for this coordination, linking research, scale-ups, established firms, and public-sector partners within a shared innovation ecosystem.

The direction of travel is clear. Growth will come from the ability to deploy technology at scale across sectors and supply chains. Regions that can do this effectively will lead.

The UK does not face a shortage of technological capability. It faces a challenge of adoption. The West Midlands, with its industrial base, institutional strengths, and focus on real-world systems, has the potential to address this challenge and establish itself as a leader in applied, system-level innovation.

The priority now is to act at scale.

## Strategic focus for the West Midlands

West Midlands Tech Review 2026 positions **technology as a cross-cutting capability across sectors, not as a standalone industry**. Warwick's contribution is focused on closing the adoption gap by embedding AI, cyber security, and emerging digital technologies into real-world systems at scale, and ensuring that innovation delivers sustained improvements in productivity, resilience, and global competitiveness.



As champions of innovation and collaboration, we are proud to be founding patrons of Tech West Midlands. Our focus is on ensuring that capabilities such as artificial intelligence, cyber security, and emerging digital technologies are effectively adopted across sectors driving productivity, resilience, and real-world transformation.

This partnership reflects our commitment to strengthening an ecosystem that connects talent, supports scale-ups, and enables organisations to deploy advanced digital technologies with confidence. By embedding these capabilities into industry, public services, and supply chains, we can help position the West Midlands as a leader in applied, system-level innovation, shaping a bold, secure, and globally competitive digital future.

- David Plumb, Chief Innovation Officer, Innovation Group – University of Warwick

**By focusing on modernisation, operational excellence, and scalable platforms, the region can position itself as a place where technology adoption is sustained, responsible, and commercially meaningful.**

# Building the foundations:

For an AI-powered economy

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AI, cyber and emerging technologies are reshaping expectations across every sector. Leaders are under pressure to improve productivity, unlock innovation, and remain competitive in fast-moving markets.

Yet as adoption accelerates, a clearer pattern is emerging.

The organisations seeing sustained impact from AI are not those chasing tools. They are the ones that **invested early in the foundations that make change scalable**: modern cloud platforms, resilient operating models, automation and reliable service delivery. AI does not create an advantage on its own. It amplifies the capability already in place.

This distinction matters for the West Midlands.

If the region is to remain competitive and attractive to investment, the focus must move beyond experimentation and towards long-term operational maturity. Productivity gains are not delivered through hype, but through platforms that allow organisations to scale, adapt, and evolve with confidence.

## Modernisation as Operational Excellence

Modernisation is often framed as a technology upgrade. In practice, it is an operating model shift.

At its best, it replaces fragmented infrastructure with consistent, cloud-led platforms that scale with demand. It introduces automation and self-service that reduce friction and free teams to focus on higher-value work. That is when change becomes continuous rather than disruptive.

Security and governance remain essential, but as enablers rather than constraints. When designed into platforms from the outset, they support scale, resilience, and consistency instead of slowing progress.

This is especially important in sectors under constant pressure to perform and adapt, such as education, healthcare, manufacturing and professional services, where operational excellence underpins reputation, growth, and competitiveness.

In complex, service-led organisations, the quality of digital infrastructure is now directly linked to the quality of experience delivered to customers, employees, students, researchers, patients, or partners. Reliable platforms, responsive support, and scalable services are no longer back-office concerns. They are core components of organisational performance.

For leaders, the question is no longer simply whether technology works. It is whether the organisation has the digital foundations to support people consistently, securely and at scale.

## **A Platform for Continuous Change**

The real value of modernisation lies not in a single outcome, but in what it enables next.

Cloud platforms, automation and standardised services allow organisations to introduce new capabilities incrementally, respond faster to change and scale what works. AI, in this context, becomes a natural extension of an established operating model rather than a disruptive leap.

For regional economies, this creates a powerful advantage. Organisations with strong digital foundations are better equipped to adopt new technologies responsibly, attract skilled talent and compete for global investment.

## **Global Delivery, Midlands Capability**

A clear pattern can be seen in organisations that have successfully moved from legacy technology estates to cloud-led operating models.

Many began with fragmented on-premise infrastructure, inconsistent reliability, limited automation, and difficulty scaling services across complex operations. Through long-term modernisation, these environments can be transformed into cloud-first, software-led platforms that support greater availability, improved user satisfaction, stronger resilience, and more flexible access to computing resources.

The significance for the West Midlands is that the expertise required to design, deliver and support this level of transformation already exists here. Midlands-based technology capability is supporting complex organisations beyond the region, proving that the skills, partnerships and delivery models needed for modernisation are not theoretical. They are already in use.

## **From Proof to Progress**

That creates both an opportunity and a responsibility.

If Midlands organisations can deliver this standard of operational maturity for complex, high-performing institutions elsewhere, now is the moment to apply the same discipline and ambition closer to home. Businesses, public-sector organisations and education providers across the region face similar pressures to scale, modernise and adapt, often with fewer resources and less margin for error.

Ensuring that local organisations have strong digital foundations is essential if the West Midlands is to remain competitive, productive and attractive to investment.

## **A Moment for the Midlands**

At a time when AI dominates the agenda, the West Midlands has a chance to lead in a different way. By focusing on modernisation, operational excellence and scalable platforms, the region can position itself as a place where technology adoption is sustained, responsible, and commercially meaningful. AI will accelerate what comes next, but it is the groundwork being laid now that will determine long-term success.

The opportunity is clear: build locally what we already know how to deliver globally.

# Chapter 6: Cyber

## Resilience as a Growth Condition



Cyber resilience has now become a condition for productivity, investment, supply-chain confidence and long-term competitiveness, transgressing a narrow technical issue. As organisations digitise operations, adopt AI, share more data and connect more deeply into national and global supply chains, cyber risk becomes economic risk.

For the West Midlands, this matters because the region's growth model is built around sectors where continuity, trust and operational reliability are essential. Cyber follows naturally from AI. AI adoption can increase productivity, but it also changes the risk environment.

As AI becomes embedded in workflows, customer systems, industrial processes and public services, organisations need stronger data governance, visibility, assurance and cyber capability. Innovation and resilience are now mutually dependent.

## From national resilience agenda to regional economic advantage

The UK cyber policy landscape is moving towards higher expectations on preparedness, continuity and supply-chain accountability. The [Cyber Security and Resilience Bill](#) signal a shift from cyber as voluntary good practice towards a more formal resilience regime. Its impact will extend beyond directly regulated organisations because larger customers, public bodies and regulated supply chains are likely to pass assurance expectations down to suppliers.

For West Midlands firms, particularly those in manufacturing, logistics, defence-linked sectors, infrastructure and professional services, cyber maturity is increasingly tied to procurement, partner confidence and market access. Firms that can demonstrate stronger governance, continuity planning, incident readiness and supplier visibility will be better placed to win contracts, attract partners and sustain growth. Firms that cannot may face higher friction in procurement, slower adoption of digital tools and reduced customer confidence.

**Cyber should therefore be treated as economic infrastructure.** In a region built on making, moving and supplying things, cyber maturity underpins operational continuity. A ransomware attack, supplier compromise or systems outage creates lost production time, delayed orders, disrupted supply chains, diverted leadership capacity and damaged trust.

## Why cyber matters more in the age of AI and geopolitical uncertainty

Cyber risk is being reshaped by geopolitical and technological shifts. AI is compressing timelines and increasing the scale of both innovation and exploitation. Adversaries can use AI to identify vulnerabilities, automate attacks, exploit supply-chain weaknesses and increase the speed at which threats develop. Traditional reactive models are no longer enough.

Active cyber defence is therefore becoming more important. Organisations need the ability to anticipate, monitor and disrupt threats before they materialise, especially in sectors where digital operations are mission-critical, such as manufacturing, utilities, transport, healthcare, finance, public services and major events.

This is a strategic signal for the West Midlands. As the region adopts AI, digital twins, automation, secure data environments, and connected industrial systems, the attack surface expands. The question is whether they can operate confidently in a higher-risk environment.

As AI becomes embedded into business operations, cyber resilience must evolve from defensive protection to active assurance. The convergence of AI, cyber, and emerging technologies is changing both the opportunity and threat landscape. As AI can accelerate productivity, automate complex decisions and optimise systems in real time, it also enables adversaries to identify vulnerabilities, exploit supply chains and execute attacks at a speed traditional security models cannot match.

For the West Midlands, this means innovation and resilience can no longer be treated as separate agendas. Firms adopting AI, connected infrastructure, operational technology and digital supply-chain tools will need intelligence-led, continuous cyber capability that helps anticipate and disrupt threats before they affect operations. In this environment, cyber becomes a driver of confidence, not simply a cost of doing business.

This is also why cyber resilience should be understood as a productivity strategy for Midlands' businesses. Ransomware, supplier compromise and system outages do not only create technical disruption, but they also impose a productivity tax through lost trading time, delayed launches, distracted leadership and weakened customer confidence. Resilient organisations reduce that friction as continuity builds confidence, confidence supports productivity, and productivity enables growth. For the West Midlands' advanced manufacturing, professional services, health innovation and fast-growing tech businesses, cyber maturity is increasingly tied to procurement, investor confidence and supply-chain trust. The region's opportunity is to make resilience a quiet enabler of growth embedded into digital transformation, supplier assurance, incident readiness and board-level decision-making so that firms can innovate, collaborate and scale with confidence.

## Cyber as industrial resilience

The West Midlands' economic structure makes cyber especially important. Unlike more service-led regional economies, the region has a dense concentration of advanced manufacturing, automotive, logistics, engineering and specialist supplier networks. Therefore, along with data loss or IT downtime, cyber risk is about operational disruption, production delays, supplier failure and business continuity.

Cyber should be treated as industrial resilience infrastructure. As businesses adopt connected equipment, cloud platforms, AI-enabled systems, operational technology and digital supply-chain tools, resilience must be built into systems design, procurement, supplier onboarding, data governance, product development and board-level risk management.

This is especially relevant for SMEs. Many smaller firms sit inside demanding supply chains but lack dedicated cyber teams. They may not be directly regulated, but they increasingly face customer expectations around assurance, reporting and preparedness. For these firms, cyber resilience is becoming a route to competitiveness.

## The regional response: from fragmented capability to regional platform

The West Midlands is beginning to build practical cyber infrastructure. **The West Midlands Cyber Hub** at Millennium Point provides a visible centre of gravity for collaboration, SME engagement, specialist firms, events, student pathways and practical support. Its early momentum suggests cyber capability is becoming more organised and visible.

Alongside this, the **West Midlands Cyber Resilience Centre** provides an important SME-facing entry point, making cyber support approachable and practical. Together, the Cyber Hub and Cyber Resilience Centre point towards a regional support ladder: first-step resilience support for SMEs, and a broader ecosystem platform for capability-building, collaboration and innovation.

The **University of Wolverhampton's Centre for Cyber Resilience and Artificial Intelligence**, CYBRAI, adds an important institutional asset to this regional response. Established to address the increasing frequency and sophistication of cyber threats, CYBRAI strengthens the West Midlands' cyber proposition by connecting cyber security, AI research, skills development and applied innovation. Its role as a collaboration hub between academia, industry and government is particularly important as it can help translate research into practical resilience capability, support

the use of AI in threat detection and defence, and contribute to a stronger regional cyber-resilient ecosystem. For the West Midlands, CYBRAI reinforces the wider argument that cyber resilience is not only a defensive necessity, but a source of competitiveness, skills growth and frontier technology leadership.

The region's response is also broadening beyond conventional enterprise security. Work around online harms, gender equity, responsible technology and inclusive cyber innovation including **Aston University's CyberDIVA** and the **GRIIT** network suggests a distinctive cyber proposition that connects enterprise resilience with responsible technology, inclusion and social impact.

## Skills and workforce capability

Cyber resilience is ultimately a workforce and organisational capability issue. The national agenda increasingly recognises this, with the **£27 million TechLocal scheme** designed to support local partnerships around cyber, AI and digital skills, alongside wider efforts such as Cyber Explorers and the Government Cyber Profession.

The region needs cyber specialists, but it also needs cyber-aware workers across the economy. Developers, engineers, technicians, product managers, procurement leads, operations teams, board members and public-sector leaders all need to understand cyber risk in the context of their roles. Industrial cyber, operational technology security, incident response, governance, supply-chain assurance and secure AI deployment are all areas where the West Midlands can build a distinctive talent pipeline.

## Applying the Frontier Technology Growth Model to Cyber

Cyber sits across the Frontier Technology Growth Model: breadth of adoption, depth of specialist capability, and the data architecture that underpins both. On the breadth axis, cyber must be adopted widely across the real economy. Every firm adopting AI, cloud, automation, digital twins, connected equipment or data-driven systems needs stronger cyber foundations. This depends on tools alongside secure, well-governed and visible data environments.

On the depth axis, cyber is a specialist growth area. The region can build deeper capability in industrial cyber, active cyber defence, supply-chain assurance, secure AI adoption, identity, operational resilience, cyber governance and AI-enabled security. Assets such as the West Midlands Cyber Hub, Cyber Resilience Centre, CYBRAI, university expertise and specialist firms can help create this depth.

Data architecture is the enabling layer. Strong cyber resilience depends on knowing what data exists, where it sits, who can access it, how it moves and how it is protected. Poor data architecture creates blind spots, weakens incident response and increases supply-chain risk. Strong data architecture improves visibility, governance, assurance and trust.

The combined path is where the opportunity becomes strongest. Broad cyber adoption reduces risk across the economy. Specialist cyber capability creates high-value firms, skills and services. Strong data architecture allows organisations to adopt AI and digital technologies securely, turning resilience into a foundation for productivity and growth.

## Strategic priorities for the West Midlands

The West Midlands should treat cyber resilience as a core economic development priority.



Embed **cyber into SME and supply-chain support**, helping firms prepare for rising assurance expectations.



Integrate **cyber into AI adoption programmes**, covering data governance, secure deployment, model risk, visibility and incident readiness.



Make **data architecture part of the cyber resilience agenda**, ensuring organisations have secure, interoperable and well-governed data systems that improve visibility, assurance and response.



Build **industrial cyber as a regional specialism**, rooted in manufacturing, automotive, logistics and infrastructure-linked sectors.



Connect **cyber skills to real sector demand**, including governance, incident response, supply-chain assurance, secure software, industrial systems and AI-enabled security.



Use **public-sector and anchor-institution procurement** to raise cyber maturity and make resilience part of the region's quality standard for trusted digital growth.



**Use public-sector  
and anchor-  
institution  
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growth.**

**- DANIEL CARTTER, DIRECTOR OF INNOVATION, SCC**

# AI, Cyber, and Sovereignty:

## The Foundations of Productivity, Innovation & National Competitiveness

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Artificial intelligence, cyber capability, and emerging technologies are no longer separate domains of innovation. They are **converging into a strategic layer that is reshaping how organisations operate, compete, and protect themselves**. For the UK, this convergence presents both a generational opportunity to unlock productivity and a structural risk if it is not addressed with sufficient pace and clarity.

At the centre of this shift is a fundamental change in the threat and opportunity landscape. AI is not simply automating existing processes. It is compressing timelines, increasing the scale of both innovation and exploitation, and changing the economics of digital operations.

In cyber terms, this means adversaries can now orchestrate complex exploit chains, identify vulnerabilities across supply chains, and execute attacks at a speed and scale that traditional, reactive security models cannot match.

This is why the long-standing model of cyber defence, centred on reactive Security Operations Centres, is becoming increasingly insufficient. The **future lies in Active Cyber Defence: an intelligence-led, continuous model increasingly augmented by AI**.

This approach enables organisations to move from detecting incidents after impact to anticipating and disrupting threats before they materialise. In doing so, it reframes cyber security from a cost centre into a driver of assurance, resilience and economic value.

The implications extend far beyond security. At a macro level, productivity gains will not come solely from deploying AI tools, but from embedding AI into the core operating fabric of organisations. This includes automating decision-making processes, optimising complex systems in real time, and augmenting human expertise with agentic AI capabilities.

When combined with a proactive, intelligence-led cyber posture, organisations can operate with greater confidence, reduce friction in digital transformation and accelerate innovation cycles.

Sector transformation is already beginning to reflect this convergence. In healthcare, AI-driven systems are improving clinical workflows and enabling earlier intervention, but their success depends on secure, resilient digital infrastructure that can be trusted at scale.

In critical national infrastructure, from utilities to transport, the integration of AI with operational technology is unlocking efficiencies but also expanding the attack surface. This requires a shift towards continuous external monitoring and supply chain assurance.

In financial services and retail, AI is transforming customer engagement and operational efficiency, while simultaneously increasing exposure to sophisticated fraud and cyber-enabled crime.

These dynamics highlight a critical point: **innovation and resilience are no longer separate agendas. They are intrinsically linked.** Organisations that fail to secure their digital environments will struggle to realise the full value of AI, while those that adopt a defensive posture without embracing innovation risk falling behind competitively.

To address this, three priorities must be considered at both organisational and national levels.

First, **investment must shift towards integrated capability rather than isolated solutions.** This means combining AI, cyber intelligence and operational technology into cohesive platforms that deliver continuous insight and control. It also requires investment in sovereign capabilities, ensuring that critical data, infrastructure and defensive operations are governed within trusted jurisdictions.

Second, **skills development must evolve to reflect this convergence.** The future workforce will require a blend of domain expertise, data literacy and cyber awareness, supported by AI-driven tools that enhance human decision-making. This is not simply a technical challenge, but an organisational one, requiring new operating models and cultural change.

Third, the **UK must position itself globally as a leader in trusted, sovereign digital capability.** This includes fostering collaboration between industry, academia and government, accelerating the adoption of secure-by-design principles, and creating environments where innovation can be tested and scaled safely. Advanced technology centres, digital innovation hubs and industry-academic partnerships will play a critical role in bridging the gap between research and real-world application.

Ultimately, the convergence of AI, cyber and emerging technology represents a defining moment. Organisations and nations that act decisively will unlock productivity gains, drive innovation and strengthen their global competitiveness. Those that do not risk being constrained by insecurity, inefficiency and a widening capability gap.

The choice is no longer whether to act, but how quickly and how strategically that action is taken.



Organisations are not losing to more sophisticated attackers; they are losing to AI-enabled, faster ones. Active Cyber Defence is about shifting from reacting to incidents to outpacing adversaries altogether.

- Daniel Cartter, Director of Innovation, SCC

## CASE STUDY: ACTIVE CYBER DEFENCE IN PRACTICE - SECURING COMPLEX, HIGH-PROFILE OPERATIONS

A recent large-scale international sports event provides a clear example of how an Active Cyber Defence approach can deliver real-world impact at scale.

During the event period, the digital environment was subjected to approximately four billion cyber attempts. These ranged from opportunistic scanning and phishing campaigns to more coordinated, politically aligned threat activity targeting critical systems and supply chains.

Through an intelligence-led Active Cyber Defence model, more than **600 security incidents** were identified and analysed. The majority were handled without operational impact, while a smaller subset representing genuine risk was proactively mitigated before disruption could occur.

Key to this success was the integration of several capabilities:

- **Continuous threat intelligence:** monitoring adversary activity, including coordination across online forums and dark web channels, to provide early warning of emerging campaigns.
- **External attack surface management:** identifying and remediating exposed assets to reduce available attack vectors.
- **Supply chain visibility:** proactively monitoring third-party risks to detect vulnerabilities beyond the core organisation.
- **Proactive disruption:** identifying and taking down malicious domains and infrastructure before they could be used in active campaigns.

Notably, intelligence identified coordinated activity involving international threat actors, including the use of translation tools to support collaboration across language barriers and the deployment of cybercrime-as-a-service toolkits targeting critical infrastructure.

The outcome was not simply the absence of disruption, but the establishment of enhanced digital trust. The organisation was able to operate with confidence in a high-threat environment, demonstrating resilience at a scale that would not have been achievable through traditional reactive models.

This case highlights a broader lesson: in environments where digital operations are mission-critical, proactive, intelligence-led defence is not optional. It is a prerequisite for reliability, trust, and success.



**Cyber should be a silent enabler of the West Midlands' economic ambition, not a background technical headache. With the right legal, technical and governance foundations, resilience becomes a source of confidence rather than constraint.**

**- AMBER STRICKLAND, PRINCIPAL ASSOCIATE & LOUISE MACDONALD, KNOWLEDGE LAWYER, GOWLING WLG**

# Reducing the ‘Productivity Tax’:

## Why Cyber Resilience Is a Growth Strategy for Midlands Businesses

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For many Midlands businesses, cyber security is still seen primarily as a cost: a brake on agility, an obstacle in procurement or a matter best left to the IT department. In reality, cyber resilience is a critical driver of productivity and sustainable growth.

Disruption caused by ransomware, system outages or supplier compromise does not just create risk. It creates a “**productivity tax**”: **lost trading time, distracted leadership, delayed launches and damaged customer confidence**. For scaling organisations, these interruptions compound over time. Reframing cyber resilience as a growth enabler, rather than a defensive exercise, is therefore essential if Midlands’ businesses are to compete, collaborate and scale with confidence.

### Cyber resilience as an economic enabler

At its simplest, cyber resilience is an organisation’s ability to prevent, withstand and recover quickly from cyber incidents. It is about keeping operations running when something goes wrong.

Resilient organisations benefit from a clear chain reaction: **continuity builds confidence, confidence supports productivity, and productivity enables growth**. Businesses that recover quickly protect customer trust, avoid prolonged disruption and can scale without fearing that cyber incidents will stall innovation.

### What “good” looks like in practice

In practice, four features consistently differentiate resilient, high-performing organisations.

#### **SECURE-BY-DESIGN DELIVERY**

Cyber works best when embedded early in digital transformation, cloud adoption and AI-enabled products. Designing security in from the outset avoids costly retrofitting later.

#### **SUPPLIER AND ECOSYSTEM ASSURANCE**

Third-party risk is now one of the most common sources of disruption. Managing supplier risk proportionately helps organisations scale safely without stalling procurement or innovation.

#### **INCIDENT READINESS AND RESPONSE**

Preparedness is a productivity safeguard, not a crisis-only exercise. Clear roles, rehearsed responses and confident decision-making significantly reduce downtime when incidents occur.

#### **BOARD-LEVEL ACCOUNTABILITY**

Cyber resilience is a business risk and performance issue, not just a technical one. Where boards engage with and take cyber resilience seriously, organisations make faster and more confident decisions.

## **Voluntary cyber guidance as a shared foundation**

One of the most effective ways to strengthen resilience without slowing down is by aligning with voluntary, principles-based cyber guidance.

Frameworks such as the National Cyber Security Centre's cyber resilience principles and the Cyber Governance Code of Practice provide a shared language across boards, leadership teams and delivery functions. They support alignment without bureaucracy and reduce friction between technical and commercial teams.

Other tools, including the Cyber Assessment Framework and Cyber Essentials, offer proportionate ways to assess cyber maturity and demonstrate good practice at different stages of growth. The value lies in practical clarity, rather than box-ticking compliance.

## **Cyber security law: current frameworks and future direction**

For many Midlands businesses, cyber resilience is already a live legal issue. UK product security requirements and the EU Cyber Resilience Act are raising baseline expectations for connected and digital products, particularly for manufacturers and technology businesses operating across international supply chains.

Manufacturers bidding into regulated or safety-critical supply chains are increasingly expected to demonstrate cyber resilience as part of procurement and assurance processes, not just product quality.

The proposed revisions to the Network and Information Systems Regulations, set out in the Cyber Security and Resilience Bill currently before Parliament, indicate a clear direction of travel. While not all organisations will be in scope, expectations around resilience, incident preparedness and supply-chain risk are increasing. Even where detail is still evolving, the message is clear: cyber standards are rising.

Organisations that align with good practice now are better positioned to respond efficiently as legal obligations develop, avoiding disruption and last-minute remediation.

## **Why this matters for the West Midlands**

The West Midlands is home to world-class advanced manufacturing, fast-growing tech businesses, professional services and health innovation. Cyber resilience is increasingly a competitive differentiator for the region.

Resilient organisations are more attractive to investors, better equipped to innovate at scale and more confident collaborators in complex supply chains. Collectively, they strengthen the region's reputation as a secure place to do business.

As members of the Midlands Cyber cluster, Gowling WLG sees first-hand how collaboration between industry, government and advisers is raising cyber maturity and awareness across the region.

## Chapter 7: Quantum

### Building Regional Relevance in a National Frontier Technology



Quantum is moving from long-term scientific promise into active industrial strategy. The UK's new quantum programme, announced in March 2026, signals a stronger national push around procurement, deployment, commercialisation, skills and national capability, with quantum linked to healthcare, energy, security, productivity and high-skilled employment.

This does not indicate that the West Midlands must immediately become a core quantum hardware centre. The opportunity is more practical: understand where quantum can intersect with existing strengths in advanced manufacturing, mobility, health innovation, cyber, data-driven services, and applied R&D.

Instead of being presented as a distant science story or as a standalone cluster to build from scratch, Quantum should be treated as **a frontier capability that can become regionally valuable through application, convergence, and preparedness.**

## From national investment to regional opportunity

The UK's quantum agenda is strengthening as global competition around frontier technologies intensifies. National investment and private-sector signals suggest quantum is becoming more investable and commercially relevant. [Rigetti's planned investment of up to \\$100 million in the UK](#), for example, indicates that national quantum strategy is influencing private-sector decisions and reinforcing the UK as a location for quantum development and deployment.

The strategic lesson for the West Midlands is to position the region as an application and adoption geography: a place where quantum-enabled technologies can be connected to industrial demand, cyber resilience, engineering integration, supply chains and commercial demonstrators.

The University of Birmingham provides an important regional anchor for applied quantum capability through the **Birmingham Institute for Quantum Technologies** and the UK Quantum Technology Hub in Sensing, Imaging and Timing, **QuSIT**. Its work on quantum sensing, timing, imaging, quantum clocks and quantum-enhanced radar strengthens the West Midlands' relevance in areas where quantum can address real-world challenges, including healthcare, infrastructure, environmental monitoring, gas detection and brain health assessment. With QuSIT launched through a **£160 million investment**, these assets reinforce the region's opportunity to connect national quantum momentum to applied use cases, industrial demand and public benefit, rather than positioning quantum as a distant or purely theoretical frontier.

## Learning from UK quantum initiatives

The UK's emerging quantum ecosystem offers useful lessons. The DTC Quantum cohort, backed by STFC and the National Quantum Computing Centre, shows that national quantum policy is not only about major machines and large capital commitments. It is also about commercialisation, startup support and helping ventures move from R&D into market applications.

The West Midlands does not need to recreate Harwell or become a pure-play quantum research hub to benefit from quantum growth. It can build regional pathways that connect universities, SMEs, corporates, public innovation bodies and sector challenges. This could include founder support, challenge-led programmes, applied demonstrators and partnerships where quantum intersects with manufacturing optimisation, mobility systems, health technologies, clean energy and cyber resilience.

## The Lloyds-IBM experiment: a grounded signal of enterprise relevance

The Lloyds Banking Group and IBM quantum experiment is one of the clearest examples of quantum moving from abstract promise into enterprise use cases. The nine-month experiment explored whether quantum techniques could support economic crime prevention through graph-based analysis of money mule activity. The findings were careful rather than overhyped. Quantum was not presented as replacing AI or machine learning, but as a future complement that could enable more sophisticated analysis of complex network problems.

This matters for the West Midlands because early quantum relevance is likely to come through cloud access, partnerships, specialist analytics, quantum-enhanced workflows and hybrid approaches where quantum supports AI, cyber, and complex data analysis. That is relevant to the

fintech, professional services, cybersecurity and digital innovation base.

The example also reinforces a wider point that frontier technologies are converging. Quantum, AI and cyber will increasingly form part of the same innovation stack. The West Midlands should avoid treating them as separate silos and instead build the interfaces between them.

## **Quantum convergence and the West Midlands advantage**

Quantum convergence is a useful lens for the West Midlands. techUK's framing presents quantum as part of a wider future compute stack that includes semiconductors, photonics, neuromorphic systems and AI infrastructure, with shared challenges around skills, scale-up, infrastructure and commercialisation.

The region's quantum opportunity is likely to come less from a pure-play cluster and more from **embedding quantum into the convergence** of advanced manufacturing, photonics, cyber, AI, mobility, digital engineering, and applied R&D. Quantum then becomes part of a wider story about next-generation compute, industrial transformation and regional capability-building.

As quantum moves closer to practical advantage, the West Midlands should view it as part of a wider shift in enterprise architecture. The lesson from AI is clear: durable value comes not from a single model or tool, but from the data foundations, governance, infrastructure and operating systems that allow advanced technologies to be embedded securely and at scale. The same will apply to quantum. Its value will emerge through validated use cases where quantum and classical methods work together to solve real-world problems in manufacturing, materials, logistics, finance, healthcare and secure communications. For the West Midlands, the priority is to build readiness now: the partnerships, infrastructure, data control and translational capability needed to adopt quantum where it can create practical economic value.

## **Post-quantum security: the near-term route into relevance**

The most immediate quantum issue for many organisations is not quantum computing advantage itself, but post-quantum security. The "harvest now, decrypt later" threat means encrypted data stolen today could potentially be decrypted by future quantum systems. This makes quantum a present-day strategic issue for sectors with long-lived sensitive data, including finance, healthcare, government and critical infrastructure.

This gives the West Midlands a practical entry point. The region already has assets in cybersecurity, digital services, public-sector transformation, health innovation and regulated industries. Post-quantum readiness creates a credible market opportunity for cyber firms, consultancies, public bodies, enterprise IT leaders and professional services. It can include capability audits, crypto-agility, secure digital infrastructure, advisory services and quantum-safe migration planning.

## **Applying the Frontier Technology Growth Model to Quantum**

Quantum sits differently within the Frontier Technology Growth Model from AI and cyber. AI is already moving quickly across the breadth axis; cyber sits across both breadth and depth; quantum is currently stronger on the depth axis, but its horizontal relevance will grow over time.

On the depth axis, the West Midlands should build capability in applied quantum areas where it has credible routes to value such as sensing, secure communications, post-quantum security, optimisation, simulation, health innovation, infrastructure monitoring, advanced manufacturing applications and quantum-adjacent analytics. Assets such as the University of Birmingham's quantum institutes and QuSIT strengthen this position.

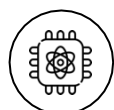
On the breadth axis, the region should prepare sectors for future adoption by helping firms and public bodies understand where quantum may matter, what timelines are realistic, and which risks need attention now. Manufacturing, mobility, healthcare, finance, cyber, public services and infrastructure are all plausible areas of future relevance.

Data architecture is the enabling foundation. Quantum-enabled analytics, sensing, imaging, simulation and secure communications will only create value if organisations have reliable, interoperable, secure and well-governed data systems. Strong data architecture will allow the region to connect quantum outputs to real operational decisions, trusted analytics and future commercial use cases.

The goal sits beyond immediate mass deployment. It is to build readiness, identify practical use cases, strengthen data foundations, and connect the West Midlands into the national quantum ecosystem in ways that support future productivity, security and investment.

### Strategic priorities for the West Midlands

The West Midlands should take a pragmatic approach to quantum. It must be ambitious about relevance and disciplined about where value is likely to emerge.



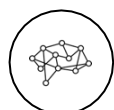
Position around **applied quantum and convergence**, not pure hardware competition.



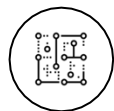
Make **post-quantum security a near-term priority**, building capability around quantum-safe migration, crypto-agility, cyber assurance and advisory support.



Strengthen **data architecture for future quantum use cases**, ensuring organisations can manage, govern and use the complex data required for sensing, imaging, simulation, analytics and secure communications.



Create **pathways into national quantum programmes** through partnerships with national labs, universities, commercial quantum firms and programmes such as DTC Quantum.



Link **quantum to sector challenges** in manufacturing optimisation, health data, financial crime, secure communications, mobility systems, and industrial sensing.



Build **talent awareness early**, extending quantum literacy beyond physicists to engineers, data scientists, cybersecurity professionals, product managers, commercialisation specialists and business leaders.



**2026 is an exciting year as it considered the point when we will achieve Quantum Advantage.**

**This advantage will not come from a single announcement but rather emerge through a community and collaborative approach - a back-and-forth exchange between quantum and classic.**

**- BILL UNSWORTH, DIRECTOR, IBM TECHNOLOGY - UK & IRELAND**

# Building the compute foundations

for the AI and Quantum Economy

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## The Architecture of AI Advantage

As AI adoption accelerates, the enterprises pulling ahead have realised a critical truth: competitive advantage will not come from choosing the “right” AI model. It will come from how deeply AI is woven into the fabric of their operations, and how much control they retain over that integration. Much of today’s market conversation focuses on which models or startups will win. That misses the point. AI is not a product to buy; it is a capability to embed. That distinction will define where the next wave of economic value is created.

The **organisations gaining real momentum are the ones making architectural decisions now that will compound over time.** They are building on their own proprietary intelligence; their data, their workflows, their industry knowledge. This is insight that no competitor can replicate. When AI is deployed only as a point solution, the outcome is incremental efficiency. When it is built into the structure of the business, year-on-year value multiplies.

A shift is unfolding that deserves greater attention from UK and West Midlands leaders alike: wherever software runs today, AI will run tomorrow. Not just in cloud applications or analytics teams, but in transaction engines, edge environments, operational technology and legacy systems. AI is no longer a discrete workload; it is becoming a pervasive capability. The question for every organisation is whether their infrastructure can support AI everywhere it needs to operate-securely, efficiently and in their own interests.

For years, enterprises moved their computing workloads onto infrastructure they did not own. At the time, the economics made sense. But AI has fundamentally changed the equation. When intelligence needs to sit at the point of transaction-processing billions of operations a day with zero downtime, running on infrastructure you control becomes a strategic advantage.

**Digital sovereignty is now a central consideration.** Regulatory requirements vary widely across regions and new rules continue to emerge. Customer contracts increasingly specify where data must reside and who is permitted to access it. The competitive intelligence embedded in AI models; patterns of behaviour, operational insights and institutional knowledge requires levels of protection that external environments cannot always guarantee.

And in a world shaped by geopolitical tension, shifting trade relationships and evolving national data policies, having direct control over critical infrastructure is no longer a nice-to-have. It is a strategic necessity. Owning and managing your own environment ensures that AI can operate securely, consistently and in alignment with your business, regulatory and national interests.

**Resilience** is another driver. As AI shifts from experimentation to the foundation of business operations, the cost of failure increases. What once counted as an IT outage can quickly become a halt to transactions, services and customer engagement. Recent global outages have shown how a single point of failure can shut down entire businesses. Hybrid architecture spanning public cloud, private environments and the edge is emerging as the only model that offers the resilience required for this new era.

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The companies best positioned for the future already recognise this. They combine deep industry trust with the ability to work across multiple AI providers, rather than tie themselves to a single ecosystem. Their value does not come from competing with model creators, but from making those models useful in real-world environments. Model performance will continue to shift, but architectural advantage compounds. As foundation models become increasingly commoditised, the durable value sits in the data foundations, governance, and operational systems that turn any model into enterprise-grade intelligence.

Looking ahead to the next decade, the organisations that will thrive are those that build a flexible, hybrid foundation for AI;- one that allows them to deploy AI wherever it creates maximum value, adapt as conditions change and operate independently of any single external provider. Everywhere software runs today, AI will run tomorrow. The real question for West Midlands businesses is simple: are you building on ground that you control?

## Quantum Advantage

Quantum computing is at an inflection point. In recent years, quantum computers have demonstrated the ability to run quantum programmes at scale beyond exact classical simulation. They are fast becoming an essential tool for solving real-world problems. **Quantum computing has the potential to transform various industries, including electronics, finance, healthcare, logistics and materials science.**

For example, in the electronics industry quantum computing can be used to develop advanced materials, optimise product design and improve manufacturing processes. In finance, quantum computing can be used to optimise portfolios, manage risk and improve transaction processing. In healthcare, quantum computing has demonstrated the ability to simulate complex biological systems, optimise treatment plans and improve patient outcomes. IBM has been working in joint development partnerships with key clients across these industries to build significant use cases.

IBM Quantum is an industry initiative focused on building quantum systems for business and science applications. Its aim is to make quantum computing more widely accessible. IBM offers access to a fleet of 18 quantum computers via the IBM Cloud, in addition to software, learning resources and expertise. This model of access matters because organisations no longer need to own quantum hardware to begin exploring where quantum methods may create value.

2026 is an important year in the journey towards Quantum Advantage. Quantum Advantage is defined as the point at which quantum computing is shown to be faster, more accurate or more cost-effective than a classical-only method for solving some problems that can be rigorously validated. This point will not come from a single announcement but rather emerge through a community and collaborative approach; a back-and-forth exchange between quantum and classical methods. As advantage candidates are put forward, the quantum community works to rigorously pressure-test those claims, exploring every cutting-edge quantum or classical method that may be able to match the other's performance, and even developing new methods to do so.

As the field moves forward, IBM expects to deliver its first large-scale, fault-tolerant quantum computer by 2029, IBM Quantum Starling, a system capable of running circuits with 100 million gates on 200 logical qubits.

By 2033, IBM expects to debut IBM Quantum Blue Jay, a system capable of running circuits with a billion gates on 2,000 logical qubits. These large-scale, fault-tolerant quantum computers will unlock a new era of algorithmic complexity and application discovery.

- Authored by [Bill Unsworth](#)



As we conclude our exploration of Quantum, remember that the future of computing is being rewritten before our eyes. The Quantum age brings challenge and opportunity with it, the question is will you be at the forefront of this revolution, or will you be left behind? The choice is yours. Engage to discover how you can harness the power of Quantum to drive innovation and stay ahead of the curve.

- Bill Unsworth, Director, IBM Technology - UK & Ireland



# Part Three: Delivery, Ecosystem, & Enablers

## Part Three

# Chapter 8: From Strategy to Delivery:

## Projects, Platforms and Partnerships



The West Midlands technology economy is entering a delivery phase. The strategic direction is that the region must use frontier technologies to raise productivity, strengthen firms, improve public services, build resilience and attract investment. The question is how that ambition becomes visible in the real economy.

The region does not lack activity. Over the past year, it has seen initiatives across AI, cyber, digital skills, health innovation, secure telecommunications, commercialisation, global connectivity, and SME adoption. Their significance goes beyond momentum. Their deeper value lies in how they address barriers such as skills gaps, weak commercialisation, cyber trust deficits, fragmented support, limited investment visibility, and constrained global market access that impede scaling.

The West Midlands is beginning to build an **innovation operating system** that is a coordinated set of interventions that help businesses adopt technology, access support, connect to customers, build talent, strengthen resilience and scale into wider markets.

## The ecosystem logic: why delivery needs connection

The West Midlands technology ecosystem works best when businesses sit at the centre, generating demand, creating jobs, adopting technologies and commercialising innovation. Around them, government provides direction, funding and procurement signals; universities provide research, skills and translational capability; capital providers bring investment and risk appetite; and talent systems create the workforce pipeline. The strategic challenge is to ensure these actors do not operate as separate parts of the system, but as a connected growth platform.

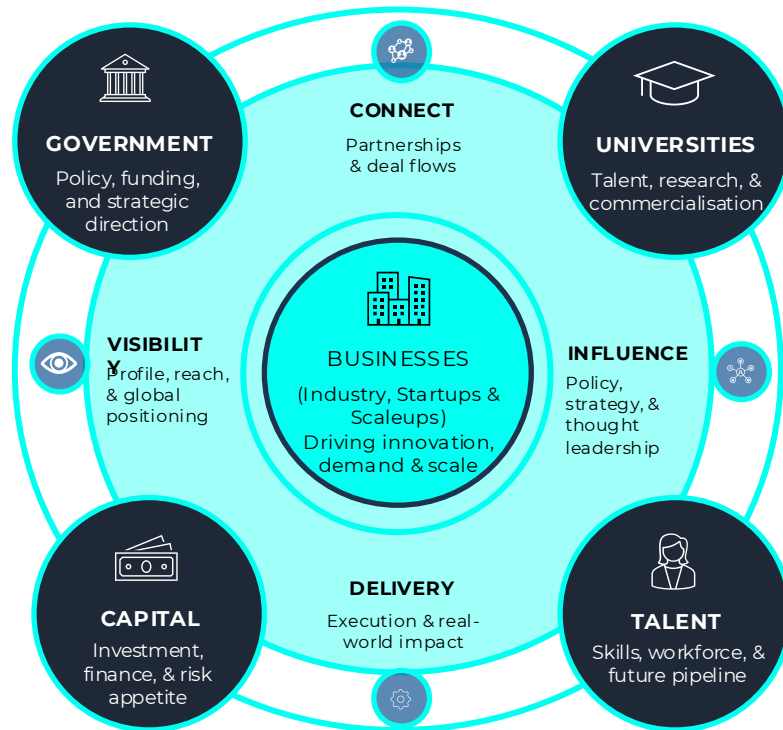


Figure 4: Tech Ecosystem Model

This is where TechWM’s role becomes strategically important. As the West Midlands’ digital cluster lead, TechWM gives the ecosystem a connective layer by strengthening the region’s technology narrative, bringing stakeholders into closer alignment, and helping activity translate into visibility, partnerships, adoption, investment and scale. Its role is especially important because the region’s challenge is increasingly one of conversion, turning strong assets, programmemes and relationships into coordinated economic outcomes.

Many of the **region’s barriers are caused by weak connection between assets**. Firms may not know where to access support. Universities may have innovation capability that is not yet connected to business demand. Investors may not see a clear enough pipeline. Public bodies may have digital needs but limited routes to engage local innovators. SMEs may want to adopt AI, cyber or automation but lack confidence, capacity or trusted advice.

Projects, platforms and partnerships close these gaps. They convert ecosystem potential into pilots, contracts, skills pathways, commercialisation support, investor engagement, international exposure and adoption programmemes. Delivery infrastructure is therefore as important as strategy as it is what enables the West Midlands to move from fragmented activity to collective impact.

## A barrier → intervention → outcome model for delivery

The region’s delivery activity is best understood through a simple model: identify the barriers that limit technology-led growth, align interventions against those barriers, and measure success through economic outcomes. The value of this model is that it shifts the conversation from “more activity” to “better conversion”.

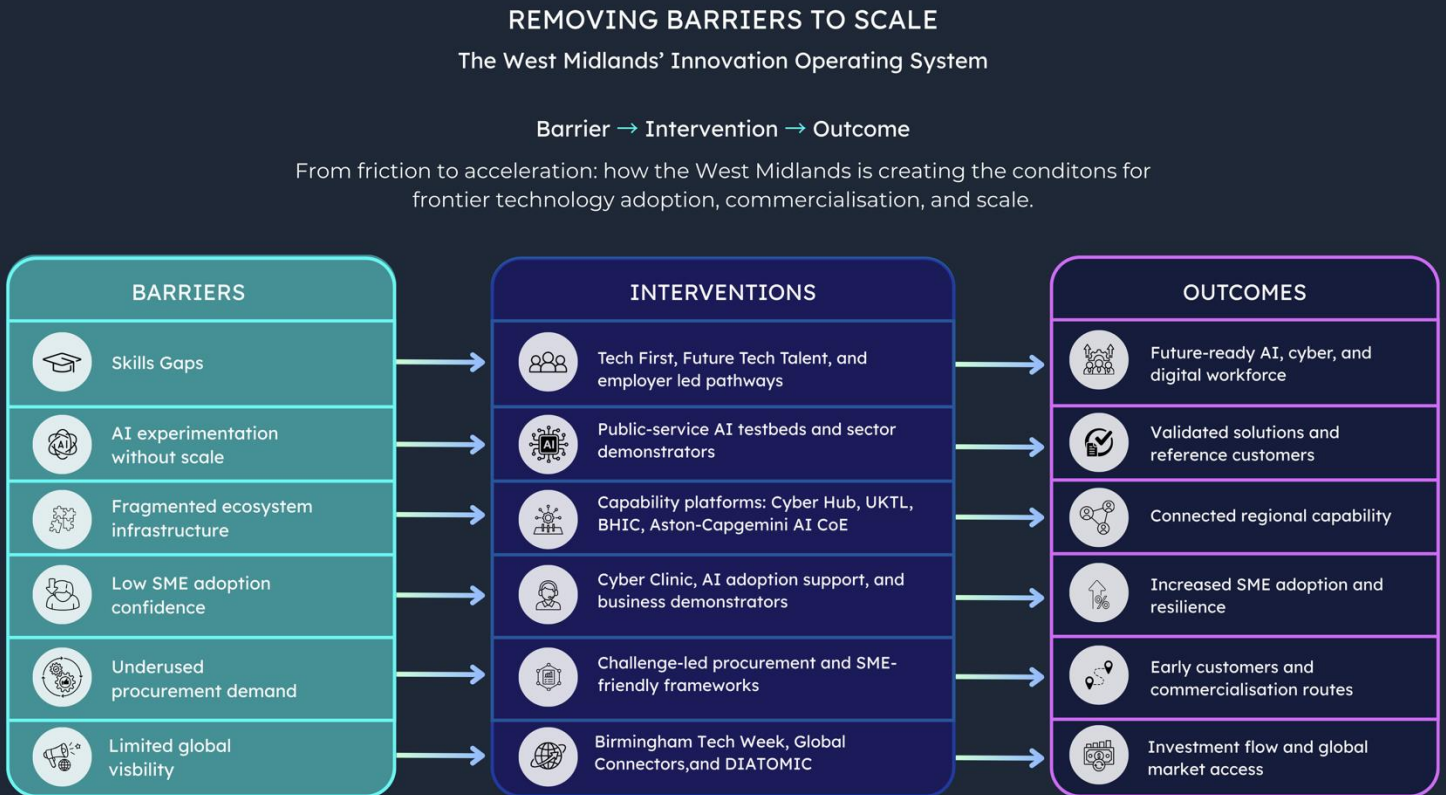


Figure 5: Barrier → Intervention → Outcome Model

### Six delivery moves are becoming visible.

#### FROM SKILLS GAPS TO FUTURE CAPABILITY

The £187 million Tech First programme, Future Tech Talent activity, employer-led digital skills pathways and university-industry programmes point towards a more deliberate talent pipeline. The outcome should be a workforce equipped for AI, cyber, software, digital manufacturing and emerging frontier technologies across the sectors where adoption will drive productivity.

#### FROM AI EXPERIMENTATION TO PUBLIC SERVICE TESTBEDS & COMMERCIALISATION

The region should use public services as practical testbeds for responsible AI adoption, creating environments where firms can validate solutions, generate evidence, refine products and build reference customers. This would support better public services while strengthening commercialisation routes for regional AI firms and scaleups.

## **FROM ISOLATED CAPABILITY TO CONNECTED ECOSYSTEM INFRASTRUCTURE**

Platforms such as the West Midlands Cyber Hub, UKTL Insights Centre, Birmingham Health Innovation Campus and the Aston-Capgemini Centre of Excellence for Enterprise AI create visible centres of capability around priority technologies and sectors. Their role is to reduce fragmentation, connect research and business demand, and strengthen the region's proposition in cyber resilience, enterprise AI, health innovation and secure telecommunications.

## **FRAGMENTED ADOPTION TO PRACTICAL BUSINESS UPTAKE**

Many SMEs and traditional sectors recognise the importance of AI, cyber, data and automation, but lack the time, confidence or internal capability to adopt them well. Programmes such as the Cyber Clinic, AI adoption activity and sector demonstrators respond by giving firms practical support around use cases, resilience, implementation and productivity.

## **FROM PROCUREMENT SPEND TO MARKET-MAKING DEMAND**

Public-sector and anchor-institution procurement should be treated as a route to market for innovation, not simply an operating cost. Challenge-led procurement, SME-friendly frameworks and demonstrator contracts can help local firms secure early customers, prove value and scale.

## **FROM REGIONAL STRENGTH TO MARKET VISIBILITY & SCALE**

Birmingham Tech Week, Global Connectors, DIATOMIC, and international platforms help turn regional capability into national and global market presence, connecting founders, corporates, investors, universities, public bodies and international partners.

Together, these moves show a region beginning to build a more mature innovation operating system. The task now is to align interventions around shared outcomes: adoption, resilience, procurement access, commercialisation, investment, skilled jobs and inclusive growth.

## **Evidence of a region moving into delivery**

Announcements as of 2025-early 2026 show the West Midlands beginning to operationalise its ambitions. The WMCA AI Missions provide a mission-led framework for AI adoption and public-service transformation. The **£187 million Tech First programme** strengthens AI and digital skills. Birmingham Health Innovation Campus adds depth to the health and life sciences proposition. The **UKTL Insights Centre** in Solihull reinforces the region's role in secure telecommunications and future networks. The **West Midlands Cyber Hub, Cyber SIG and Cyber Clinic** strengthen the cyber resilience agenda. The **Aston-Capgemini Centre of Excellence for Enterprise AI** adds enterprise AI capability and practical expertise.

These initiatives reflect the Frontier Technology Growth Model. AI, cyber, secure telecommunications, health innovation, and digital skills are part of a wider shift towards broad adoption across the real economy and deeper capability in frontier technologies.

The challenge is connection. Individual initiatives create value; coordinated initiatives create scale.

The next phase depends on aligning programmes around SME adoption, scaleup growth, investor confidence, talent development, cyber resilience, commercialisation and global market access.

## **Birmingham Tech Week as convening infrastructure**

Birmingham Tech Week plays an important role in this delivery system. Its significance is not simply that it showcases the region. Its deeper value lies in reducing fragmentation across the ecosystem. By bringing together founders, corporates, investors, universities, policymakers, public bodies and talent networks, it helps convert dispersed capability into visible, investable and scalable regional momentum.

This makes Birmingham Tech Week a form of convening infrastructure. It strengthens connectivity by bringing the ecosystem together, improves visibility by giving the region a platform to present its strengths, and supports conversion by helping momentum translate into business relationships, investor engagement and practical collaboration.

In a region where coordination remains a growth challenge, platforms like Birmingham Tech Week help the ecosystem act more like a system.

## **From delivery activity to an innovation operating system**

The projects, platforms and partnerships emerging across the West Midlands matter because they address the central growth challenge: conversion. The region has strong foundations but must convert them more consistently into outcomes.

That means aligning delivery activity with the Frontier Technology Growth Model. **AI adoption initiatives** should connect to **productivity outcomes**. **Cyber programmes** should connect to **supply-chain resilience and trusted digital adoption**. **Skills** initiatives should connect to **employer demand**. **Global platforms** should connect **firms to markets and investors**. **Innovation districts and universities** should connect research to **sector problems and commercial opportunities**.

If the West Midlands strengthens these links, it can move from individual success stories to collective economic impact. Delivery infrastructure should not simply support activity; it should organise the ecosystem around scale.



## Chapter 9: Skills, Talent and Inclusion



Skills, talent and inclusion are core conditions for West Midlands frontier technology growth. The region's ability to scale AI, cyber, quantum-related capability, digital manufacturing, software, data and advanced connectivity will depend on whether people can adopt, build, govern, lead, and commercialise these technologies.

In the Frontier Technology Growth Model, skills sit across three layers: breadth of adoption across the real economy, depth of specialist frontier capability, and the data architecture that underpins both. Broad adoption needs digitally confident workers across manufacturing, health, logistics, professional services, creative industries, public services and SMEs. Deep capability needs specialists in AI, cyber, data, software, secure systems and quantum-adjacent fields. Strong data architecture needs people who understand data quality, governance, interoperability, security and practical implementation in complex organisations.

The **West Midlands therefore needs more than technical skills**. It needs **applied capability**: people who can work with legacy systems, frame problems clearly, use imperfect data, understand citizen and customer needs, and turn frontier technologies into operational value.

## Talent as economic infrastructure

**Talent should be treated as economic infrastructure.** The region will not scale frontier technologies through platforms, funding or policy alone. It needs people who can translate technology into productivity, commercial growth and better services.

That includes leadership talent. AI and frontier technology adoption require leaders who can navigate uncertainty, make informed investment decisions, set governance standards, build trust and move organisations from pilots to scaled deployment. To optimise these technologies, the West Midlands needs the right stewardship across firms, public bodies, universities, colleges and ecosystem institutions.

The region's young and diverse population is a major asset, but it becomes an economic advantage only if pathways into digital, frontier technology and leadership roles are visible, accessible and aligned to employer demand.

## West Midlands institutions as talent anchors

West Midlands has a strong institutional base to build from. The region's universities form a critical talent and innovation infrastructure for the West Midlands.

The **University of Wolverhampton** plays a key role in widening access to digital skills, with **strengths in cyber security and applied digital innovation** through assets such as the Wolverhampton Cyber Research Institute, the Midlands Centre for Cyber Security and the Green Innovation Corridor.

The **University of Warwick** is a major driver of **advanced manufacturing, AI, and industrial digitalisation** through Warwick Manufacturing Group, supporting nationally significant R&D, commercialisation and supply-chain transformation.

The **University of Birmingham** contributes to globally recognised capability in **AI, health tech, quantum technologies and data science**, with initiatives such as the Birmingham Health Innovation Campus strengthening the region's health and life sciences proposition.

**Aston University** adds strong **business engagement and applied innovation capacity**, particularly through the Aston University-Capgemini Centre of Excellence for Enterprise AI, which supports industry adoption of AI and emerging technologies.

**BMet's Digital and Technologies Technical Excellence College** status provides a practical anchor for employer-led technical education and inclusive routes into digital careers. Together, these institutions provide the West Midlands with a powerful base for inclusive skills development, frontier technology adoption, and applied economic growth.

Together, these institutions form a critical skills infrastructure for the region. The next task is to connect their programmes more visibly to the Frontier Technology Growth Model through adoption across sectors, deeper specialist capability, stronger data architecture, and leadership development for responsible technology adoption.

## From technical knowledge to applied capability

Conversations with local Chambers reinforce a key point that **employers need talent that can operate in real organisational settings**, not only in ideal technical environments. Businesses need people who can identify use cases, understand risk, work with legacy systems, communicate with non-technical teams, and translate technology into productivity and commercial value.

This was echoed at the Mathematics in Education and Industry (MEI) conference with leading HEI maths departments. Participants noted that maths graduates often learn in “greenfield” environments, where problems are clean, structured and technically defined. But work happens in “brownfield” environments, where organisations face fragmented data, legacy systems, established ways of working, regulatory constraints, citizen needs and unclear problem definitions.

For the West Midlands, this means **AI, data, and automation skills must be connected to problem framing, critical thinking, and creative problem solving**. Workers need to understand not only how to apply tools, but how to define the right problem, assess whether data is usable, understand organisational context, and design responsible interventions.

This is particularly important for data architecture. Strong data foundations are not built by technical teams. They require collaboration between leaders, analysts, engineers, frontline staff, service designers, cybersecurity professionals, and operational managers.

## AI readiness and leadership

AI readiness cannot begin only at the point of employment. If the West Midlands wants to lead in applied AI, it needs a broader base of AI literacy, confidence and critical awareness. Residents should be equipped to question AI, use it, govern it, and build with it.

AI is not a tools race; it is a capability race. Productivity gains come when organisations embed AI into workflows, leadership decisions, operating models, and frontline practice. That requires technical confidence, but also judgement, governance, communication, and change leadership.

Leadership development should therefore be a central thread in the region’s skills agenda. The new AI horizon is a leadership challenge. Leaders will need to balance innovation with risk, build trust with employees and citizens, and understand when AI is appropriate, safe, and valuable.

Without capable leadership, AI adoption risks remain fragmented, under-governed or trapped in isolated pilots. With it, the region can move from experimentation to responsible deployment.

## Cyber and data skills as growth conditions

Cyber skills are now part of the region’s economic resilience agenda. The West Midlands’ industrial base is exposed through connected manufacturing, logistics, operational technology, supplier networks, and critical infrastructure. The region needs cyber specialists alongside cyber-aware engineers, product managers, procurement leads, operations teams, board members, and public-sector leaders.

Data skills are equally important. AI, automation, cyber resilience, and digital twins all depend on strong data architecture. Organisations need people who can improve data quality, strengthen governance, connect systems, manage risk, and ensure data is used responsibly.

Cyber and data capability should therefore be embedded into SME support, AI adoption, manufacturing modernisation, public-sector transformation, and leadership development.

This also means the **skills agenda must be linked to operational modernisation**. AI will not create advantage on its own. It amplifies the digital foundations already in place. Organisations with modern cloud platforms, resilient operating models, automation, secure governance and reliable service delivery are better placed to adopt AI responsibly and scale it into day-to-day work. This makes operational capability part of the talent agenda for the West Midlands. Workers need the confidence to operate, improve and govern cloud-led, automated and AI-enabled environments, while leaders need the judgement to turn modern platforms into productivity, resilience and better services.

The labour market is also shifting. **Employers increasingly need hybrid skillsets** such as technologists who understand business impact, engineers who can apply AI commercially, and professionals who combine data, automation, communication and domain expertise. Recruitment itself is becoming more AI-enabled, but the strongest use cases are those that enhance human judgement rather than replace it. The risk is that AI reduces entry-level technical opportunities before the next generation of experienced talent has had time to develop. For the West Midlands, protecting early-career pathways, supporting career changers and widening non-traditional routes into tech will be essential if AI adoption is to strengthen the regional talent pipeline rather than narrow it.

## Employer-led skills and inclusion

The skills system must anticipate business needs more quickly. Technology cycles are moving faster than traditional training cycles, particularly in AI, cyber, cloud, data, and automation. Employers must shape provision more actively, not simply recruit once shortages appear.

This means stronger feedback loops between businesses, locals chambers, universities, colleges, training providers and community partners. Employers should help define future skills priorities, provide live briefs, support work placements, shape modular training and open routes into entry-level roles.

Inclusion is central to this agenda. The region must widen access for young people, women, ethnic minority communities, disabled residents, career changers and those outside traditional tech pathways. It must also create progression routes into leadership, not only entry-level roles.

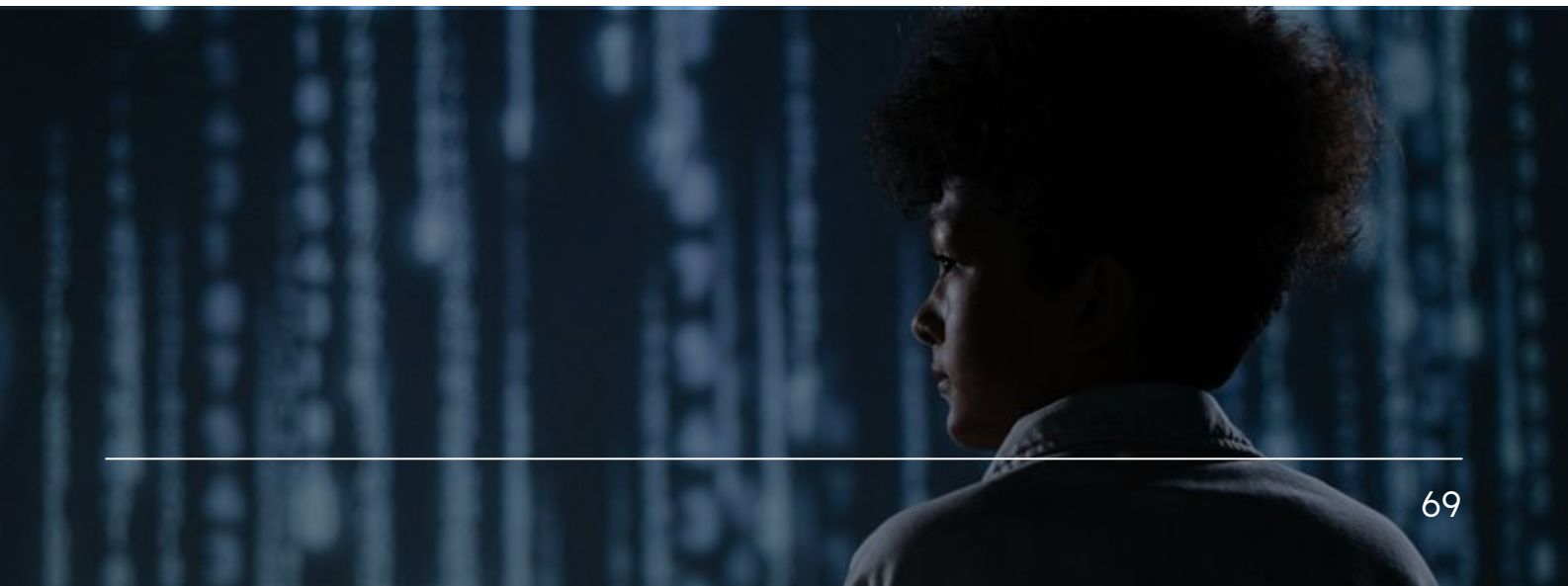
Inclusion is a competitiveness strategy such that a broader and more representative talent base gives firms more capacity, improves product design, strengthens trust and ensures the benefits of technology-led growth are more widely shared.

## What this means for the West Midlands tech sector

The West Midlands should treat skills, talent and inclusion as core infrastructure for applied frontier technology growth.

That means building occupational pathways for AI-enabled workers across sectors, beyond AI specialists. It means scaling cyber and data skills across technical and non-technical roles. It means using initiatives such as BMet's DTEC status as an anchor for employer-aligned technical education. It means drawing on the strengths of the University of Warwick, University of Wolverhampton, Aston University, University of Birmingham, and the wider university base. It means treating leadership development as central to AI adoption. It means preparing graduates and workers for brownfield environments where they must navigate legacy systems, imperfect data, organisational complexity, and citizen needs.

The region has the ingredients such as universities, colleges, training providers, employers, the local chambers, civic institutions, national policy momentum and a young, diverse population. The task now is to connect them into a system that supports breadth, depth and foundation through broad digital confidence across the economy, deeper specialist frontier capability, and the data and leadership capability needed to turn adoption into productivity, resilience and inclusive growth.





**What is failing  
businesses is not  
simply a lack of  
training.**

**It is the connection  
between employer  
needs and the training  
system designed to  
serve them.**

**- KEVIN VASHI, MANAGING DIRECTOR, NETCOM TRAINING**

# Ahead of the Curve:

## Why West Midlands Needs Employers to Lead on Digital Skills, Not Follow

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There is a familiar pattern in how the UK approaches digital skills. New technology emerges. Employers feel the pressure. Providers respond by building a course. By the time learners graduate, the landscape has moved on.

The system is too often reactive, and the gap between industry needs and training delivery never fully closes. The West Midlands has an opportunity to break that cycle. Not by building more courses alone, but by changing who shapes them. That is the premise behind Netcom Training's Innovation Employer Board and why employer-led skills development could become one of the region's most important levers for inclusive growth.

### **The problem is not the technology. It is the system.**

Research conducted by Netcom Training in partnership with the Greater Birmingham, Coventry and Warwickshire, and Black Country Chambers of Commerce surveyed 558 employers in 2025. Only 22% described themselves as "very confident" that they have the digital skills needed to realise productivity and competitiveness gains from technology. Nearly four in five businesses are operating with some degree of uncertainty.

The barriers employers cited were telling: **cost of training (30%), lack of time to commission and manage provision (20%) and uncertainty about what training is needed (18%)**. More strikingly, 53% of employers were entirely unaware that government-funded digital short courses existed.

What is failing businesses is not simply a lack of training. It is the connection between employer needs and the training system designed to serve them.

Focus groups reinforced this further. Businesses consistently reported that the biggest obstacles to technology adoption were not purely technical, but cultural and structural: staff resistance to change, lack of leadership confidence in driving digital transformation, and provision that is difficult to navigate or rarely tailored to sector-specific needs.

### **An Employer Board Built to Predict**

Netcom's Innovation Employer Board, launched at its iCentrum HQ in Birmingham in February 2026, was established to address this challenge directly.

Bringing together senior leaders from Intel, Cisco, PwC, QinetiQ, WM5G, ARUP, Six Degrees, OneAdvanced, Version 1, EvoPhase, Curium Solutions and QSafe, the Board's purpose is not to review what Netcom already delivers, but to help determine what should come next.

Its remit is forward-facing: forecast emerging technology trends, translate them into skills priorities and feed that intelligence directly into curriculum design. The meeting produced substantive, honest insight: SMEs are consistently underserved, AI investment risks bypassing the workers who need it most, and siloed delivery remains one of the region's most persistent weaknesses.



Right now, great work is happening across the system, but too often it's disjointed and siloed. This Board gives us the opportunity to bring employers, training providers and government together in a more joined-up way. By aligning our efforts, we can unlock practical solutions, better support SMEs and develop the talent our region and the wider UK economy urgently needs..

- Tony Shergill, Chair, Innovation Employer Board / CEO, BritAsia TV Network

## What the Region Needs to Do Next

The West Midlands has the ambition, the partners and the evidence. What it needs now is coordination and commitment.

That means employers actively engage in skills design, rather than waiting for a talent pipeline to appear. It means funding structures that support fast, flexible, and community-accessible provisions. It also means a regional narrative that treats digital skills as infrastructure on which every sector's growth depends.

Netcom is inviting West Midlands businesses to get involved as curriculum partners, employer board contributors or organisations willing to hire from non-traditional talent pipelines. The ask is practical. The return is a workforce built around what the region needs next.

## CASE STUDY: FROM BOARDROOM TO COMMUNITY

Alongside the Board, Netcom's Curriculum Partnership programme invites employers to co-design training directly by reviewing modules, providing live project briefs and sitting on biannual review panels. The result is a feedback loop that keeps provision continually calibrated to employer needs.

That strategic infrastructure is matched by community-level delivery. Netcom's partnership with Coventry Job Shop, run by Coventry City Council, is one example. Employment coaches identified strong demand among local residents for digital entry routes but found most provisions were online-only and inaccessible. Netcom responded with face-to-face, evening CompTIA courses. The first cohort achieved an 83% achievement and retention rate, with 26% moving into new employment. The second cohort, currently underway, has recorded 100% retention to date.

This is what a joined-up approach looks like: employer-led at the strategic level and community-rooted in delivery. The Innovation Employer Board helps ensure training is headed in the right direction. Community partnerships help ensure it reaches the people who need it most. Neither works without the other.

### The Results:

- **83%** achievement and retention rate for Cohort 1, September–December 2025
- **26%** of Cohort 1 moved into new employment
- **100%** retention rate for Cohort 2, February–May 2026, ongoing

**The West Midlands  
has historically  
offered salaries  
around 20–30%  
lower than London,  
but AI-related roles  
are beginning to  
command  
premiums that  
narrow this gap.**

# How AI is shaping the recruitment landscape

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## AI adoption across the region

AI is now influencing almost every part of the regional economy, and its impact on recruitment across the West Midlands is becoming increasingly clear. The region benefits from a broad industrial base, spanning engineering and manufacturing, financial and professional services, logistics, technology, and the public sector. As AI adoption accelerates, its effects are being felt across all of these areas.

While it may be natural to assume that digitally native organisations are benefiting most from AI innovation, some of the strongest gains are being seen in more traditional manufacturing and engineering businesses. In these environments, AI and automation tools are helping to improve efficiency, reduce cost, and optimise operations without always requiring major capital investment. This matters because AI is not only changing the technology sector. It is reshaping the skills, roles, and hiring expectations of businesses across the regional economy.

## AI in the hiring process

At the most visible level, AI is changing recruitment itself. Employers are increasingly using AI-powered tools to automate CV screening, shortlist candidates and, in some cases, support early-stage interviews.

There are clear use cases, particularly in high-volume recruitment where roles are based around well-defined skills, such as support, customer service, or administrative functions. Used well, these tools can reduce time-to-hire and help recruiters manage large candidate pools more efficiently.

However, there are risks. Over-reliance on AI-enabled applicant tracking systems can encourage candidates to optimise CVs around keywords rather than capability, creating a form of “buzzword bingo” that does not always reflect true fit.

In the West Midlands’ professional and financial services sectors, where communication, judgement and relationship-building remain central to business success, human involvement continues to be essential. Some organisations that have tried to remove too much human interaction from the process have quickly reintroduced it after recognising its importance to candidate experience and hiring quality.

The most effective use cases are those where AI enhances recruiter capability rather than replacing it. By automating repetitive tasks, AI can give recruiters more time to focus on candidate engagement, assessment quality and strategic hiring decisions.

## The skills shift

More fundamentally, AI is changing the skills employers need. As businesses across the region invest in data, machine learning and automation, **demand has increased for AI-focused software engineers, data scientists, platform engineers and specialists who can support automation, and AI-enabled transformation.**

Importantly, this demand is not limited to traditional technology companies. Professional services firms, manufacturers and logistics businesses are all embedding AI into their operations, creating new hiring needs that did not exist a few years ago.

This shift is particularly visible in the types of roles being created. Employers are no longer only looking for pure software developers or niche technical specialists. They increasingly value engineers and technologists who can apply AI in a commercial context and demonstrate return on investment.

Whether the goal is improving customer experience, optimising supply chains, or enabling smarter decision-making, the market is moving towards hybrid skillsets that combine technical expertise with business understanding. This creates opportunities but also risks. People and organisations that do not adapt may find themselves left behind.

One concerning trend is the impact on the junior end of the market. SF Technology Partners has recorded a 68% reduction in junior technical demand, defined as roles under £40,000, over the past two years. This suggests that **some companies are relying on AI to complete work previously assigned to junior engineers.**

For the region, this raises an important question about long-term talent development. If fewer entry-level roles are created, the pipeline of experienced future technologists could weaken.

For early-stage technologists, the message is clear: deep capability in AI and machine learning will be valuable, but it should be combined with strong communication skills and an ability to understand business impact.

### The regional AI talent pool

Despite growing demand, the West Midlands continues to face talent pool challenges. The region benefits from a strong university network and a growing base of technology professionals, with SF Technology Partners recording a 43% increase in tech vacancies over the past two years. However, the supply of experienced AI and senior engineering talent remains limited. This has intensified competition between employers and, in some cases, widened the gap between hiring expectations and candidate availability.

Salary dynamics are also changing. **The West Midlands has historically offered salaries around 20–30% lower than London, but AI-related roles are beginning to command premiums that narrow this gap.** Employers are increasingly willing to pay above-market rates for candidates with proven experience in AI, machine learning, automation and data engineering.

At the same time, remote-first working policies among London-based companies mean local businesses are no longer competing only with neighbouring cities. They are competing with London-based and international employers for the same talent.

Looking ahead, AI's influence on recruitment will continue to deepen. It will shape how organisations hire, what skills they prioritise, and how regional talent markets evolve. Organisations that successfully integrate AI into their hiring and businesses processes in a well thought-out, meaningful manner whilst keeping the human touch will thrive and as a region filled with thriving businesses the West Midlands is an exciting place to be right now!

# Chapter 10: Capital, Commercialisation, and Scale



Capital is one of the clearest tests of whether the West Midlands can move from technology momentum to economic scale. The region has strong foundations i.e., a meaningful startup pipeline, an established scaleup base, growing innovation assets, major universities, sector strengths, public-sector demand and improving visibility. But the evidence points to a persistent conversion challenge. Too many firms still face barriers moving from early-stage activity to commercial traction, from grant-funded innovation to market demand, and from seed-stage growth to larger rounds of scaleup finance.

The 2025 West Midlands Tech Review identified this clearly, noting that **scaleup finance remained a bottleneck, particularly beyond £5 million rounds**. It also highlighted the risk that firms needing larger Series B and C funding could take talent, intellectual property and value outside the region if stronger investment vehicles and investor confidence were not developed locally.

This year, the question is sharper. It is no longer whether the West Midlands has investable activity; it does. **The question is whether the region can organise that activity into a visible, credible, and connected scaleup pipeline** and use procurement, public-sector demand and anchor-institution buying power as part of that pipeline.

## From funding gap to investable proposition

The techUK evidence reinforces the diagnosis. Investment activity in the West Midlands remains active, but comparatively thinner than in stronger peer regions. The data records **414 fundraisings associated with 114 West Midlands tech companies**, compared with 1,118 fundraisings associated with 307 companies in the Northwest. The issue is the depth, frequency and scale of capital available to help firms progress through successive stages of growth.

The West Midlands must therefore move from describing a funding gap to building an investable proposition. Investors need to see a pipeline, a market, a story and a route to scale. The region can provide this by organising its proposition around applied technology markets such as AI for manufacturing productivity, cyber for SME and supply-chain resilience, health data and medtech, digital twins for infrastructure, quantum-enabled sensing and secure communications, and connected technologies for mobility and logistics.

But an investable proposition is built by capital alongside customers, contracts, proof points and routes to market. This is where procurement becomes strategically important. If the region can use public-sector and anchor-institution demand more deliberately, it can help firms prove value, generate revenue, attract investors and scale locally.

## Commercialisation as the missing middle

Capital alone will not solve the scaleup challenge. The region also needs stronger commercialisation pathways. The West Midlands has a strong university base and applied industrial economy. **The challenge is to generate more research or startups**, thereby creating better routes from research to use case, from prototype to customer, and from early innovation to recurring revenue.

**Commercialisation should therefore be treated as a system connecting universities, firms, investors, public-sector buyers and sector partners around real market problems.**

Advanced manufacturing, health, mobility, professional services, logistics, creative industries and public services all contain practical challenges that can create markets for technology firms. If these sectors are more deliberately connected to startups and scaleups, they can become early customers, testbeds and reference markets.

This is why **procurement should be elevated as a priority area for regional consideration**. It can close part of the “missing middle” between innovation and scale. For firms developing AI, cyber, health-tech, civic technology, data infrastructure or digital public-service tools, a first customer is often as important as a first investor. Public-sector and anchor-institution demand can provide that proof.

## Scaleups as economic anchors

Scaleups are central to the West Midlands growth story. techUK findings show that West Midlands **tech scaleups** account for an estimated **£10.3 billion in turnover and 38,704 employees**, with average turnover of **£86.2 million** and **average employment of 209**. These figures demonstrate that once firms scale in the region, they can become significant economic anchors.

Scaleups not only create direct jobs but also stimulate demand for skilled workers, support supply chains, attract investors, create management capacity, provide role models for founders and strengthen regional credibility. Startup creation remains important, but the bigger economic returns come when more firms survive, commercialise, raise capital, win customers and remain anchored in the region.

Procurement can support this anchoring effect. If regional firms can secure reference customers from public bodies, NHS partners, universities, colleges, local authorities and major institutions, they are more likely to build credibility, attract investment and grow from within the West Midlands rather than seeking customers, capital and validation elsewhere

## The post-£5 million cliff

The funding cliff remains a major constraint. The 2025 Review identified the difficulty firms face after early-stage funding, particularly beyond £5 million rounds. While early-stage capital had improved through the Midlands Engine Investment Fund and angel syndicates, larger rounds remained harder to access, with a risk that firms needing £20–30 million rounds leave the region.

This is a serious issue for regional value capture. If high-potential firms move elsewhere to access later-stage capital, the West Midlands loses senior jobs, IP value, founder networks, future angel investors, procurement relationships and reinvested wealth. The result is a weaker flywheel indicating fewer exits, fewer local investors, fewer experienced operators and fewer visible success stories.

Closing this gap requires a stronger pipeline of investor-ready firms, more active links to national and international funds, better use of public finance institutions, stronger angel syndication, clearer sector propositions and stronger routes to early customers. Procurement should be part of that solution. Revenue, contracts and customer validation make firms more investable.

## A capital-to-cluster approach

The West Midlands should build a stronger capital-to-cluster approach. This means **aligning investment activity with the region's strongest technology and sector propositions**, rather than presenting “tech” as a single broad category.

Investment opportunities should be framed around applied markets namely AI adoption and industrial productivity; cyber resilience and supply-chain assurance; health-tech, medtech and secure health data; advanced manufacturing, digital engineering and automation; mobility, logistics and connected infrastructure; quantum-adjacent sensing, secure communications and future compute; and creative technologies and immersive production.

This approach makes the West Midlands easier for investors to understand and gives national funders a clearer case for place-based R&D and innovation missions. It also fits the Frontier Technology Growth Model: broad adoption creates demand for technology firms, deep capability creates investable specialisms, and capital connects the two by helping firms turn demand into scale.

Procurement strengthens this model because it converts regional demand into market evidence. It gives investors confidence that firms are not only technically promising, but commercially

relevant. A capital-to-cluster strategy should therefore be matched by a procurement-to-market strategy.

## **Procurement as a strategic route to market**

Procurement should now be treated as one of the West Midlands' most important market-making levers. Commercialisation depends on customers, and for startups and scaleups working in AI, cyber, health-tech, civic technology, data infrastructure and digital public services, public-sector and anchor-institution demand can provide early customers, proof points and reference contracts.

The Local Digital Index gives the region a strong basis for this agenda as **Birmingham is identified as one of the highest local authority IT spend areas**, alongside Edinburgh, both above **£68 million in 2024/25**. The strategic opportunity is not simply to spend more, but to spend more deliberately. Public procurement can improve services while creating routes to market for regional firms.

If procurement remains fragmented, risk-averse or difficult for SMEs to access, local innovators will continue to struggle to win contracts, even where they have solutions to real public-sector problems. But if public bodies, NHS partners, universities, colleges and anchor institutions use challenge-led, SME-friendly and outcome-focused procurement, demand can become a practical engine for adoption, commercialisation and scale.

This should be a priority area for regional consideration. The West Midlands has the ingredients to make procurement a distinctive part of its innovation system: significant public-sector demand, major civic institutions, strong university assets, growing AI and cyber capability, and a pipeline of firms seeking early customers. The task is to connect these more deliberately.

A regional innovation procurement compact could include challenge-led pilots, SME consortia, pre-commercial procurement, shared frameworks, innovation sandboxes, demonstrator contracts, reference customer opportunities and gain-sharing models where suppliers and public bodies share the value created by productivity improvements.

Done well, procurement solves two problems at once. It helps public bodies modernise services, improve productivity and adopt trusted technologies. It also helps regional firms secure customers, generate evidence, attract investment and scale. For the West Midlands, procurement should therefore be treated as a strategic tool for market creation, commercialisation, and regional growth.

## **Universities, spinouts and applied R&D**

The West Midlands' university base is one of its strongest commercialisation assets. Universities should be treated not only as research institutions, but as adoption and commercialisation institutions. They can help firms prototype, test, validate, govern and deploy frontier technologies.

This is particularly relevant in AI implementation, cyber resilience, data governance, prototyping, digital twins, health innovation and management capability. Universities should be measured by publications, patents or spinouts, along with their role in helping firms adopt technology, commercialise ideas, access expertise and develop new products.

The region should strengthen proof-of-concept funding, translational R&D partnerships, spinout support, founder-in-residence models, shared facilities, applied demonstrators and industry-led challenge programmes. These should connect more directly to public-sector testbeds and procurement pathways, so that promising ideas are not left without customers.

## From capital gap to growth flywheel

The West Midlands has the ingredients to build a stronger growth flywheel of startups, scaleups, universities, sector demand, public-sector buyers, frontier technology assets and ecosystem infrastructure. But the flywheel will only turn if capital, commercialisation, procurement and market access are connected.

Capital helps firms grow. Commercialisation gives them customers. Procurement can create early proof and reference contracts. Customers create revenue. Revenue attracts investors. Investment enables scale. Scale creates jobs, visibility, exits and reinvestment. Reinvestment strengthens the ecosystem for the next generation of firms.

The West Midlands should be defined beyond the funding gap. It must be established by the quality of its investable and market-making proposition: a region where frontier technologies are applied to real economic and public-service problems, where firms can find customers and capital, where procurement helps innovation scale, and where scaleup growth is anchored in the regional economy.

### CAPITAL TO GROWTH FLYWHEEL

#### Connecting capital, commercialisation, procurement, and market access in the West Midlands

The region has the ingredients for a stronger growth flywheel, but it only turns when customers, capital and scale are connected.



Figure 6: Growth Flywheel



# Part Four: Implications & Actions

## Part Four

# Chapter 11: Strategic Implications and Action Agenda



The West Midlands has reached a critical point in its technology growth journey. The region has moved beyond the need to prove that it has potential. The evidence now points to a different challenge of converting potential into measurable economic outcomes at scale.

The foundations are visible with strong digital infrastructure, a meaningful startup pipeline, a significant scaleup base, growing AI and cyber capability, emerging quantum relevance, major university assets, civic leadership and a more active delivery ecosystem. But the next phase will depend on whether these assets are coordinated around a sharper growth agenda.

The central message of this Review is that the West Midlands should position itself as one of the UK's leading regions for applied frontier technology growth. Its strongest opportunity lies beyond replicating London, Oxford or Cambridge. It can benefit from applying frontier technologies to the real economy at scale, using AI, cyber, data, automation, advanced connectivity and quantum-adjacent capability to strengthen firms, sectors, public services and supply chains.

National policy is moving towards a more active industrial and innovation settlement, with AI, cyber, quantum, digital infrastructure, procurement and skills positioned as foundations of productivity, competitiveness and resilience. But national policy only becomes growth when delivered through regions. The West Midlands has the industrial base, ecosystem capacity and applied innovation assets to turn this national direction into practical outcomes if it organises around adoption, specialisation, capital, skills, and delivery.

## STRATEGIC IMPLICATIONS

**Technology adoption must become a mainstream economic development mission.** The region has strong digital infrastructure, but the next challenge is its productive use by helping firms, public bodies and anchor sectors adopt AI, cyber, cloud, data, automation and connected technologies in ways that improve performance.

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**Scaleup growth should become a central measure of success.** West Midlands tech scaleups already account for an estimated £10.3 billion in turnover and 38,704 employees. The challenge is to increase the number of firms moving from startup formation to commercial traction, investment readiness and sustained growth.

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**The region must close the conversion gap between innovation and economic value.** Research assets, startup activity and innovation programmes do not automatically become productivity. The region needs stronger pathways from prototype to customer, pilot to deployment, university research to commercialisation, and ecosystem visibility to investment.

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**AI should be treated as a productivity engine,** not just a frontier technology theme. The West Midlands' strongest AI proposition is applied adoption across manufacturing, health, mobility, professional services, public administration, logistics and SME productivity. The AI Missions give the region a credible route to become a national testbed for responsible, practical and scalable AI adoption.

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**Cyber resilience is now a growth condition.** Cyber is central to operational continuity, procurement access, supply-chain trust and investor confidence. This is especially important for the region's advanced manufacturing, logistics, automotive, engineering and infrastructure-linked supply chains.

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**Quantum should be approached through relevance,** not hype. The West Midlands does not need to present itself as a pure-play quantum hardware cluster. Its route to value is likely to come through post-quantum cyber readiness, quantum sensing, secure communications, advanced manufacturing, health innovation, financial services, AI-enabled analytics and future compute.

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**Skills, talent, and inclusion are economic infrastructure.** The region will not scale frontier technologies without people who can build, adopt, govern and commercialise them. Its young and diverse population is a competitive advantage only if pathways into digital and frontier technology careers are visible, accessible and aligned to employer demand.

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**Capital must be organised around a clearer regional proposition.** Investment activity is present but thinner than in stronger peer regions. The region needs a capital-to-cluster proposition around applied AI, cyber resilience, health-tech, manufacturing technology, mobility, secure communications and digital infrastructure.

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**Public-sector and anchor-institution demand should be treated as market-making infrastructure.** Birmingham's high local authority IT spend creates an opportunity to use procurement more strategically, creating reference customers for regional firms and accelerating adoption.

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**The ecosystem must act more like a system.** The challenge is asset connection. Projects, platforms and partnerships must align around shared outcomes of adoption, commercialisation, investment, skilled jobs, resilience and global visibility.

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## RECOMMENDATIONS: A REGIONAL ACTION AGENDA

### **Establish the West Midlands as the UK's applied frontier technology region**

Define the region's national proposition clearly as a place where frontier technologies are applied to the real economy at scale. This message should be used consistently across inward investment, national policy engagement, Birmingham Tech Week, trade missions, innovation programmemes and investor conversations. It should connect AI, cyber, quantum-adjacent capability, secure telecommunications, data, automation and digital manufacturing into one coherent growth story.

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### **Build a regional frontier technology adoption programme**

Create a structured adoption pathway for SMEs and priority sectors, helping firms move from awareness to diagnosis, pilot, implementation and scale. The programme should focus on practical use cases in AI, cyber, data, automation, cloud and connected systems, with sector-specific routes for manufacturing, health, mobility, logistics, professional services, creative industries and public services. Mentoring should be built into the programme, connecting SMEs with experienced founders, operators, technologists and sector leaders who can support use-case selection, adoption decisions, commercial readiness and scaling. Success should be measured by adoption outcomes, productivity improvements, contracts, resilience gains, firm growth and the number of firms progressing from pilots to sustained deployment.

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### **Make Data Architecture the Bedrock of Frontier Technology Growth**

The West Midlands should treat data architecture as a foundation for frontier technology growth. AI, cyber resilience, automation, digital twins, advanced analytics and quantum-adjacent applications all depend on reliable, interoperable, secure and well-governed data systems. The region should develop a practical data-readiness agenda for SMEs, public bodies and anchor institutions, including diagnostics, governance support, interoperability guidance and secure data-sharing standards, so that frontier technologies can move from isolated pilots to trusted, scalable deployment and measurable productivity gains.

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### **Make cyber resilience a regional competitiveness standard**

Embed cyber resilience into business support, AI adoption, manufacturing modernisation and procurement. Many firms will experience rising cyber expectations through supply chains and customers before direct regulation. A West Midlands cyber resilience standard or support pathway could help firms understand what good looks like, access trusted support, improve incident readiness and demonstrate assurance.

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### **Turn AI Missions into measurable productivity outcomes**

Connect the AI Missions to visible productivity gains in manufacturing optimisation, health pathway improvement, planning and local government productivity, SME back-office automation, logistics optimisation and professional services transformation. AI success should be measured not by the number of pilots alone, but by how many organisations move from experimentation to operational deployment.

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## RECOMMENDATIONS: A REGIONAL ACTION AGENDA

### **Create a capital-to-cluster investment proposition**

Move from describing a funding gap to presenting a stronger investable proposition. Build investment narratives around specific adoption markets including industrial AI, cyber resilience, health-tech and medtech, digital manufacturing, mobility and logistics, secure communications, creative technologies and quantum-adjacent applications. Support this with a visible pipeline of high-potential firms, founder readiness support, links to national and international funds, angel syndicate development, Innovate UK and British Business Bank alignment, and corporate customer introductions.

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### **Use procurement as a route to market for innovation**

Develop an innovation procurement compact across local authorities, NHS partners, universities, colleges and anchor institutions. This could include challenge-led procurement, SME consortia, innovation sandboxes, pre-commercial pilots, shared frameworks and reference customer opportunities. The aim should be better public services and stronger routes to market for regional tech firms.

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### **Build a stronger commercialisation pathway from universities to markets**

Position universities as adoption and commercialisation institutions, not just research institutions. Strengthen proof-of-concept funding, translational R&D partnerships, spinout support, shared facilities, founder-in-residence models and industry-led challenge programmes. Focus on applied R&D where university capability meets sector demand in manufacturing, health, mobility, cyber, secure communications, AI deployment, digital engineering and clean technologies.

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### **Protect and expand entry routes into tech and applied digital careers**

Build both specialist technical talent and broad applied capability. Protect entry-level routes into the tech sector as AI changes junior work and expand reskilling pathways for workers in sectors undergoing digital transformation. The region should recognise that future technology adoption also depends on problem framing, critical thinking, creative problem solving, communication, leadership and the ability to work in complex “brownfield” organisational environments, beyond coding, data and cyber skills. Link schools, colleges, universities, employers, training providers and community organisations into clearer progression routes.

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### **Develop a post-quantum and secure communications readiness agenda**

Treat quantum pragmatically. Build awareness, partnerships and capability in areas where quantum is likely to become relevant to the West Midlands economy. The most immediate route is post-quantum cyber readiness, especially for sectors with long-lived sensitive data such as finance, health, public services and critical infrastructure. Explore applied quantum opportunities in sensing, secure communications, manufacturing, health innovation, advanced analytics and financial crime.

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## RECOMMENDATIONS: A REGIONAL ACTION AGENDA

### **Strengthen Birmingham Tech Week as a strategic platform for conversion**

Treat Birmingham Tech Week as more than a showcase. Use it as convening infrastructure for launching investment propositions, showcasing scaleups, connecting SMEs to adoption support, presenting frontier technology demonstrators, attracting national funders, hosting international delegations and aligning ecosystem partners around shared priorities. Measure success through partnerships, investment conversations, customer leads, talent engagement and follow-on activity.

### **Create a shared evidence base for the regional tech economy**

Build a live evidence base that maps firms by capability in AI, cyber, data, cloud, digital manufacturing, immersive, health-tech, secure communications, quantum-adjacent, climate tech and advanced connectivity. This would support investment promotion, policy design, skills planning, procurement, cluster development and ecosystem coordination, while tracking whether activity is converting into adoption, revenue, productivity, investment, employment, diversity and export growth.

### **Align delivery programmes around shared outcomes**

Avoid programme fragmentation by aligning initiatives around a small set of shared outcomes: SME adoption, scaleup growth, cyber resilience, skilled jobs, investment, commercialisation, public-service innovation and inclusive participation. This means ensuring programmes can see each other, refer into each other, measure compatible outcomes and contribute to a shared regional growth model, without centralising everything.

## KEY TAKEAWAYS FOR STAKEHOLDERS

### **POLICY MAKERS**

The priority is to create the conditions for adoption and scale by aligning skills, infrastructure, procurement, investment and innovation support around the region's strongest technology opportunities.

### **BUSINESSES**

The message is to move from experimentation to capability. AI, cyber, data and automation should be embedded into operations, not treated as side projects. Firms that invest in digital foundations, workforce capability and cyber resilience will be better placed to compete.

### **HEIS**

The opportunity is to act as engines of adoption and commercialisation, connecting research, talent, prototyping and applied R&D more directly to business and public-sector demand.

### **INVESTORS**

The West Midlands proposition is strongest when understood through applied markets such as AI, cyber, health-tech, digital manufacturing, mobility, logistics, secure communications and frontier technology convergence.

## ECOSYSTEM ORGANISATIONS

The task is connection and conversion by reducing fragmentation, making strengths visible, connecting firms to customers and investors, and turning momentum into measurable outcomes.

## NATIONAL GOVERNMENT

The West Midlands offers a practical testbed for place-based technology policy that is a region where national ambitions around AI, cyber, quantum, digital infrastructure, skills and industrial strategy can be translated into real-economy productivity gains.

## Conclusion: From ambition to execution

The West Midlands has entered a decisive phase. The region has the ingredients for technology-led growth: strong industrial sectors, a growing tech base, university assets, digital infrastructure, emerging frontier technology capability, civic leadership and a young, diverse population. The challenge now is execution.

The next chapter of the West Midlands technology economy will be defined beyond activity alone. It will be defined by conversion. Can the region convert infrastructure into adoption? Innovation into commercial growth? Startups into scaleups? Cyber risk into resilience? Talent potential into skilled jobs? National policy momentum into regional productivity?

The Review's answer is clear. It can, but only through coordination. The West Midlands must align broad-based technology adoption with deep specialist capability. It must connect firms to sector demand, universities to commercial opportunities, public procurement to innovation, skills provision to employer need, and regional platforms to national and international markets.

This is the route from ambition to execution and from a promising technology ecosystem to a mature regional growth engine.

The West Midlands' opportunity is not simply to participate in the UK's technology future. **It is to help define what applied frontier technology growth looks like in a modern regional economy that is productive, resilient, investable, inclusive, and globally connected.**

A bundle of fiber optic cables is shown, with numerous thin strands of light trailing downwards from the top center. The light trails are primarily blue, with some green and yellow highlights, creating a sense of motion and energy. The background is solid black, making the light trails stand out prominently.

# Partners, Producers, and Collaborators

## Producer

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[TechWM](#) is an independent, not-for-profit Community Interest Company (CIC) at the heart of the West Midlands' tech ecosystem. TechWM brings together founders, industry, investors, academia, and government, turning collaboration into growth, adoption, and global impact.

As the digital cluster lead for the West Midlands, TechWM plays a central role in aligning activity, connecting stakeholders and accelerating the region's tech economy.

## Partner

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[techUK](#) is the trade association representing the UK technology industry, a not-for-profit organisation comprised of over 1,000 member companies ranging from the world's largest tech brands to a long tail of mid-sized and small UK firms.

## Collaborators

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# West Midlands Tech Review 2026

Scaling the West Midlands' frontier tech economy



**APPLIED FRONTIER TECH AT SCALE**