# MIDLANDS GREEN INNOVATION NETWORK

**Together for net-zero** 

# WELCOME TO THE LAUNCH

Thursday 15 December 2022 Ingenuity Centre University of Nottingham

#mgin #greeninnovation







#### MIDLANDS GREEN INNOVATION NETWORK

Together for net-zero

#### NETWORK LAUNCH

Thursday 15 December Ingenuity Centre University of Nottingham

#### AGENDA

11.30am Roger Mendonca, Midlands Engine

The Midlands Engine and launch of the Midlands Green innovation Network and Midlands Green Innovation report

**11.45am Faye McAnulla, Energy Research Accelerator** How businesses can work with universities

**12.00pm Natalie Gasson-McKinley, Federation of Small Businesses** Introduction to work and update on the Local Skills Improvement Plan, and how businesses can get involved

12.10pm Innovate to Thrive - Paul Yeomans, Knowledge Transfer Partnerships Manager, University of Nottingham

12.40pm Q&A

1pm Lunch and networking















# **Roger Mendonca**

Chief Executive The Midlands Engine

## MIDLANDS GREEN INNOVATION NETWORK

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# **The Midlands Engine**

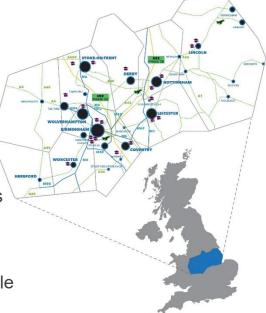
- 11m people
- 100+ Parliamentarians
- 800,000 Businesses
- 23 Upper-Tier Local Authorities

Advocacy - working for our region, with Government

Influencing - shaping policy and investment to benefit our region

**Convening** - driving change through **collective action** in partnership

- I Combined Authority
- 20 Universities
- 9 Local Enterprise Partnerships
- 100s NGOs
- Identify and capitalise on major economic opportunities across Midlands geography.
- Connect our region's businesses, parliamentarians, local authorities, academics and more and complement their activity to generate added value.
- Enable partner's to deliver initiatives that tackle what really matters in our region.



MIDLANDS GREEN







# **Ten Point Plan for Green Growth**



- First pan-regional green growth action plan in the UK
- A unified pan regional vision and action plan for achieving Midlands net zero
- Over 300 partner voices across more than 130 organisations







**Delivery partners** 





GREEN INNOVATION Green design and making for economic

Reduce greenhouse gas emissions

AIMS

arowth

The shift to low carbon is a huge opportunity for business, industry and job



## **Innovation in the Midlands**





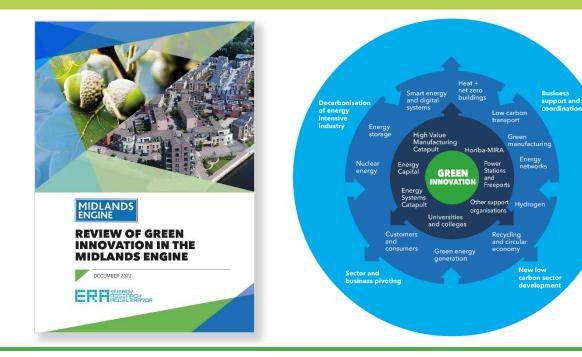






#### **Midlands Green Innovation Report**





Smart en	ergy a	ind di	igital syste	ms			Low carbon transport
Smart devices Smart		rt buildings	Smart netv	vorks	Carbon and cost optimisation	Electric vehicles and batteries	
Integrated	senso	's and	forecasting	Smart tarif	fs and	energy use	Hydrogen heavy vehicles and trains
Nuclear e	nerg	,		Energy s	torag	e	E-mobility and light rail
SMR	AMF		Fusion	Electrical storage	Electrical Thermal storage storage		Net zero aviation
GDF	Site	develo	pment	Hydroger storage	1	Systems integration	
Custome	rs anc	cons	umers				Charging infrastructure
Heat as a service Smart tariffs			Energy efficiency Community energy			Sustainable fuels	
Green mobility Green jobs			n jobs	Living labs			Recycling and circular economy
Heat & ne	et zer	o buil	dings	Green ei manufad			Plastics
Heat pump	5	District heating				Batteries and vehicles	Batteries and magnets
Hydrogen boilers		Thern efficie		Green		Wind turbines	Energy and fuels from waste
Housing retrofit Construction		Heat pumps and		Nuclear components	Pyrolysis, gasification, anaerobio digestion		
				Doners		components	Biochar and agriculture
Green en	ergy			Energy			Design for de-manufacture and re-manufacture
Solar			ore and ore wind	Hydrogen and biogas distribution			Hydrogen
Green gas combustio	<u>,</u>		hermal nine water	Electric grid reinforcement			Hydrogen for heat
				Smart elec	une an	a near grus	Hydrogen for transport
Direct air	captu	ire an	d CCUS				Hydrogen for industry
Direct air c technologi			Carbon ca utilisation	carbon offsetting		on offsetting	Green hydrogen generation
CO <sub>2</sub> storage Carbon int					Distribution and storage		







# **Midlands Green Innovation Opportunities**





EMERGE Energy-from-Waste Plant (Image: Uniper)



West Burton STEP Fusion Site (Image: UKAEA)



Artist's Impression of West Midlands Gigafactory



West Midlands Regional Energy System Operator (RESO) Project (Image: Electron)



Small Modular Reactor (Image: Rolls-Royce)



National Brownfield Institute (Image: University of Wolverhampton)



MIRA's proposed Hydrogen Technology Hub based on the A5 in Nuneaton







## **Midlands Green Innovation Network**



**Current status:** limited cross-region engagement on specific areas of innovation across the region (noting West Midlands Innovation Accelerator programme focused on the West Midlands).

**Proposal:** Provide a knowledge exchange forum to support green innovation focused organisations and connect them with researchers, funders and other service providers in the region.

- Series of events/activities run by the network
- · Support groups identifying and applying for innovation funding
- Showcase green innovation activities taking place in the region
- Annual Awards event to promote activity

#### 3. Develop an advisory and support programme to enable businesses to pivot and grow in the cleantech sector

**Current status:** There are a number of programmes in place across the region (with ERDF supported projects ending in 2023), but these tend to be focused on specific areas or technologies. Future Shared Prosperity Fund funding likely to be limited in scale.

#### Proposal:

- Bring together organisations that can provide support (such as reskilling, manufacturing advice, test facilities, business finance, supply chains) into a regional green innovation offering able to provide support to organisations either establishing or growing in the sector.
- Seek funding for a focused programme around green innovation which can provide tailored acceleration and growth support to high potential businesses active in the region.
- Establish green innovation co-creation spaces to enable collaboration and acceleration of green innovation in the region.

#### **Delivery partners**







MIDLANDS GREEN

INNOVATION NETWORK



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# Thank you















# **Introducing M-GIN**

15<sup>th</sup> December 2022 Faye McAnulla Programme Director, ERA

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#### Introduction to ERA Overview of M-GIN The M-GIN Programme

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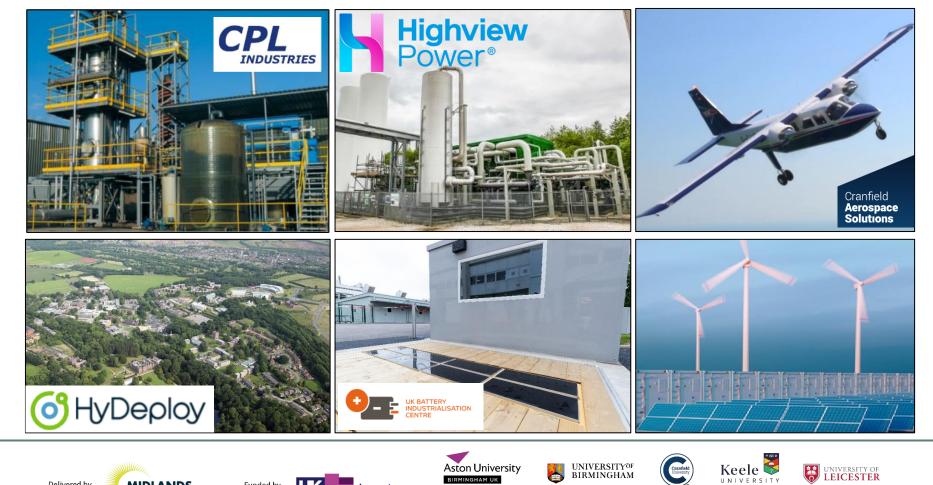


**Delivery partners** 



ENERGY RESEARCH ACCELERATOR





Delivered by

**MIDLANDS** INNOVATION







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Cranfield University



UNIVERSITY OF LEICESTER



MIDLANDS ENGINE

GROWTH

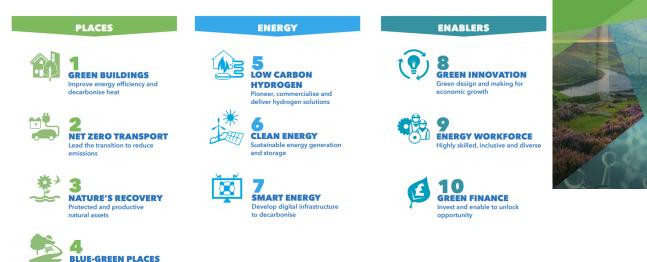
GREEN



Where people and nature

flourish

#### TEN POINT PLAN FOR GREEN GROWTH IN THE MIDLANDS ENGINE





Delivered by

Research

England

#### Regional focus, national impact, internationally networked

뚃

- Accessto large scale demonstrator and test facilities
- Support for technology development and R&D

Funded by

OEX

- Support for IP development and commercialisation
- Development of hydrogen skills and expertise in businesses
- Civic engagement and policy activities to build understanding
- Development of access to international markets and inward investment





## **HyDEX: Regional Hydrogen Initiatives**

- Objective: Develop a set of projects/plans for the region which help build the region's hydrogen capabilities & support emissions reduction, growth & economic development.
  - **Rail Demonstrator** •
  - **Ceramics/Heavy Industry Fuel** • Switching
  - **Truck and Bus Demonstrator** •
  - **Refuelling Stations Network** •
  - Low-Cost Green Hydrogen • **Production**

- **R&D** facilities: Hydrogen Supply Chain, Vehicle and Fuel **Cell Production**
- **Blending and Distribution** •
- **Boiler Manufacturing**
- **Agriculture and Construction** • Demonstrator
- **Hydrogen Skills** •

#### **Next Steps**

- HyDEX will support the development of stakeholder groups with ideally a mix of industrial, academic and local government involvement.
- Opportunity to link these into the activities of HyDEX, ERA and the Midlands Engine.

partners













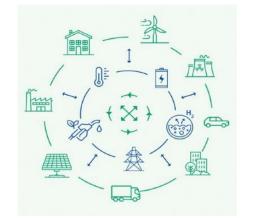
Funded by

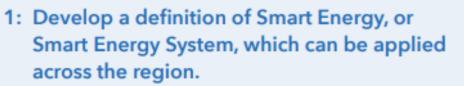
#### **Smart Energy and Twin Cities**



#### SMART ENERGY -AN ENERGY SYSTEM FOR THE 21<sup>st</sup> CENTURY







- 2: Identify what Smart Energy Systems are in place in the Midlands Engine Region.
- 3: Explore the challenges related to Smart Energy deployment, including any potential barriers.
- 4: Evaluate the economic impacts of a Smart Energy System.



#### **Midlands Nuclear Review for Midlands Engine**

#### To be released in January. Key recommendations on:

- Midlands Nuclear Forum
- New nuclear generation
- Fusion energy sector
- Nuclear manufacturing sites
- Siting of the UK's long-term Geological Disposal Facility
- Nuclear skills to meet Mids and UK demand.
- Nuclear test, validation and R&D facilities.





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#### **Green Innovation Review**







#### REVIEW OF GREEN INNOVATION IN THE MIDLANDS ENGINE

A report for the Midlands Engine by the Energy Research Accelerator (ERA)

NOVEMBER 2022



## **Green Innovation Review**



Rec	commendations
1.	Coordinate green innovation activities across the region and create a platform to showcase examples of green innovation.
2.	Establish, and seek funding for, a programme to support energy intensive business to decarbonise and drive down energy costs and increase efficiency.
3.	Develop an advisory and support programme to enable businesses to pivot and grow in the cleantech sector.
4.	Support the development of funded region-wide thematic innovation programmes.
5.	Advocate for new RD&I facilities for the region.
6.	Support the development of a Net Zero Skills directory, connecting the regional skills, training and degree programmes into a Midlands Net Zero Academy.







### Four areas requiring Innovation Support

Decarbonisation of energy intensive industry									
Low cost energy	Energy storage and energy efficiency	Clustering and symbiosis	Investment capital and finance	Switching from high to low carbon fuels					
Business support	Business support and coordination								

Access to Networking and facilities and networks expertise	Signposting to support and programmes	Investment capital and finance	Business development programmes	
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Access to incubators and demonstrators

Sector and busin	ness pivoting			•	
Product development support	levelopment validation		Manufacturing support and advice		Investment capital and finance
Market awareness and minimum viable product development		Integration into supply chain		Busines: program	s development nme

#### New low carbon sector development

-	Regional strategy and priorities	pric	estment pritisation support	Large Ol	EM lead	I lead Clustering and coordination		Competitor and regional advantage analysis	
	Coordinated skills development across all levels		Alignment with markets - market building			ation of supply velopment	Defined standards and verification processes		



#### The Midlands' Energy Innovation landscape

High Value M	anu	factur	ing C	atapult							National
Technology Manu		Warw Manu Group	factur		Manufacturing expertise, SME support programmes		Nuclear AMRC (Derby)			organisations based outside the region	
Energy System	ms (	Catapu	ılt								Connected
Expertise in energy systems and policy			auth	port for local norities and iness		SME support programmes; Energy Launchpad			Places Catapult		
Universities a	nd	colleg	es								Nuclear AMRC
Energy Research Accelerator (ERA)	En	idland nterpris niversit	se		upport ammes		) ertise lities	and	Skills and training	(HQ in Sheffield	
											Offshore Wind
Horiba-MIRA											Catapult (HQ in Glasgow
Support for automotive sector			t track and Focus on Innovation t facilities hydrogen and centre electric			but with O&M Centre of Excellence at Grimbsy)					
Energy Capita	al										Ghinbayy
Embedded in WMCA			5 <b>0</b> ,	Energy Innovation Zones		Tyseley Energy Park		rk	Innovation Accelerator pilot		UKRI, Innovate UK and EPSRC
Power station	is ar	nd free	eport	s							No. 1
Freeports: East Midlands and Humber			National Nuclear Laboratory								
Othersector											National
Other regiona	ai in	novat	ion-si	upport	organis	ation	15				Physical Laboratory
Sustainability West Midlands		dlands ro Hub	Net	Local Enterp Partner		Deve	Midlar elopme ooratio	ent	Midlands Connect		Laboratory



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# Why "Midlands: Green Innovation Network?"

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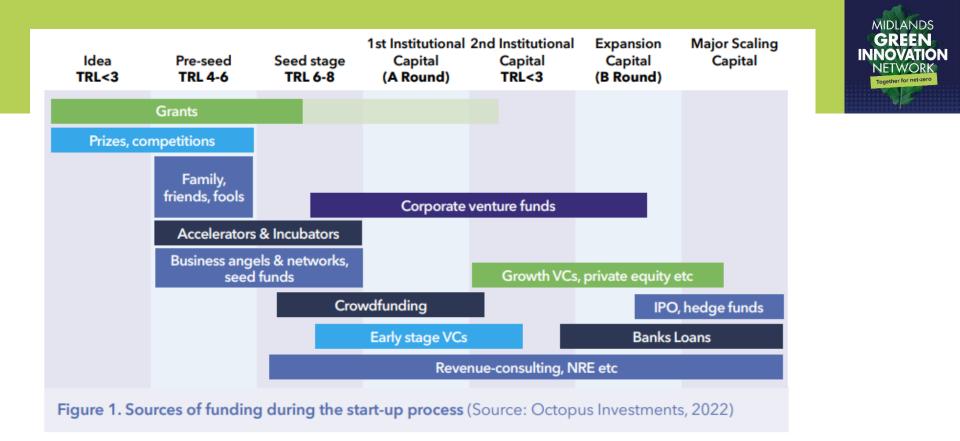
- Support innovation in the region helping with the valley of death
- Act as a central sign-posting and network
- Bring together universities and innovaters
- Support net zero and sustainability
- Support regional economy
- We don't have all the answers (or all the money to deliver!) but bringing people together will get us nearer

















## **M-GIN Programme**



Date	Topic and details	Venue University of Nottingham Online		
15 December 2022	MGIN Launch: Innovate to Thrive! - hear about real-world examples of how businesses can get funding for innovation.			
12 January 2023	Thinking Outside the Box - how to look at your problems in new ways to find innovative solutions.			
9 February 2023	Derby University			
2 March 2023 Protecting Your Ideas - learn from the UK's Intellectual Property Office how you can prote your ideas and technologies.		University of Birmingham		
20 April 2023	Sustainable Product Development and Design - how to design sustainable products.	De Montfort University		







#### **Contact Us**



Nick King, M-GIN Lead for ERA: <u>nick.king@era.ac.uk</u> Myself: <u>faye.mcanulla@era.ac.uk</u> Website: <u>https://www.mgin.co.uk</u> ERA Twitter: @EnergyRA Linked In: Energy Research Accelerator

www.era.ac.uk

HyDEX Twitter: @HyDEXMidlands Linked in: HyDEX www.HyDEX.ac.uk

Dedicated social channels for MGIN will also launch soon – watch this space!









**Together for net-zero** 

# Thank you















#### **Natalie Gasson-McKinley**

#### Development Manager FSB

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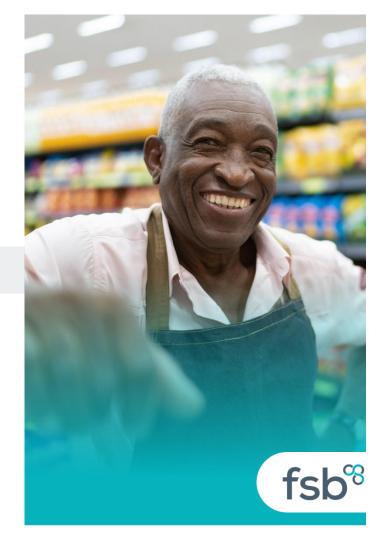


#### Midlands Green Innovation Network: LSIP update Natalie Gasson-McKinley, FSB Development Manager

fsb<sup>c8</sup>

## Content

- Who are FSB
- FSB's role as Employer Representative Body (ERB)
- LSIP key points
- The LSIP process and final report
- Timescales
- Actions to date
- Keen to contribute?



# Who are FSB?

Established over 45 years ago, we are a non-profit making and nonparty political organisation that's led by our members, for our members.

Members get an exclusive package of great value business services including advice, financial expertise, support and a powerful voice heard in governments across the UK.

FSB is also the UK's leading business campaigner, focused on delivering change which supports smaller business to grow and succeed. Our lobbying arm starts with the work of our team in Westminster which focuses on UK and English policy issues.

Further to this, our expert teams in Glasgow, Cardiff and Belfast work with governments, elected members and decision-makers in Scotland, Wales and Northern Ireland.



# FSB's role as ERB

Role of designated Employer Representative Body (ERB) is to lead development and review of a LSIP for a specific area working with employers, providers and local stakeholders.

FSB will need to:

- Plan the work to develop the LSIP;
- Engage with employers, providers and other stakeholders;
- Convene employers, providers and stakeholders so meaningful discussions can take place;
- Work with a wide range of stakeholders to develop learner demand and employer engagement;
- Work with other ERBs and sector bodies in the local area;
- Produce the LSIP report.



LSIPs will provide an agreed set of actionable priorities that employers, providers and stakeholders in a local area can get behind to drive change. LSIPs will: place employers at the heart of local skills systems, and facilitate direct and dynamic working arrangements between employers and providers.



Employers are at the heart of LSIPs, but other key groups include:

**Providers** — including Further Education (FE) Colleges, Sixth Form Colleges, Designated Institutions, Independent Training Providers (ITPs) and Higher Education Institutions (HEIs) that deliver Englishfunded post-16 technical education and training in carrying out the duties placed upon them in relation to Skills and Post-16 Education Act 2022.

**Stakeholders** – including mayoral combined authorities (MCAs), the Greater London Authority (GLA), local enterprise partnerships (LEPs) and local authorities (LAs).



- LSIPs set out the key priorities and changes needed in a local area to make technical education or training more responsive and closely aligned to local labour market needs.
- LSIPs will provide an agreed set of actionable priorities that employers, provides and stakeholders in a local area can get behind.
- Agreed priorities will be informed by evidence of unmet and future skills needs.
- LSIPs should focus on key challenges and priorities.



- Priorities should look up to three years ahead.
- Duties in respect to LSIPs have been placed upon specific providers that deliver English-funded post-16 technical education or training. Applies to Sixth Form Colleges where they deliver post-16 technical education for example T-Levels and BTECs;
- The LSIP should describe how skills, capabilities and expertise required in relation to jobs that directly contribute to or indirectly support Net Zero





Stage A – Articulating employers skills needs; what skills employers need locally but struggle to find? Stage B – Translating employer needs into changes in provision; how can those needs best be met by providers?

Stage C – Addressing learner demand and employer engagement.

## **Structure of report**

LSIP priorities	$\sum$	Taking the LSIP priorities forward	7	Delivering the LSIP priorities	$\mathbf{\Sigma}$	Annex: Background and	
	/L	ioiwaru				methodology	



# **Accountability Agreements**

Stage C – Addressing learner demand and employer engagement: Developing the demand on the learner side through CEIAG, MCA/GLA, LEP Jobcentre Plus and employers' offers.

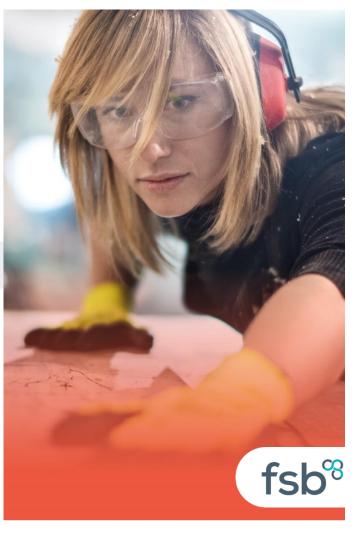
LSIP report: Part 1: L LSIP priorities Part 2: Taking forward the LSIP priorities Part 3: Delivering the LSIP priorities Annexes: Local Strategic context and background, method and links with wider economic strategies 2023 LSIP only – need to use draft priorities to feed into LSIF and Accountability Agreements

> Feed into Accountability Agreement, other provider plans and MCA/GLA plans



## **Timescales**

Phase	Time period	Key points			
Induction / Background	August to September 2022	Meetings with DfE Area and Territorial Leads			
Preparation for project	August to October 2022	Draft stakeholder engagement agreements, terms and conditions			
		Submit project plan and application for funding, deadline Monday 3 October			
Research and delivery	September 2022 to February 2023	Evidence gathering and engagement with employers, providers and wider stakeholders			
		Co-create with providers set of actionable priorities			
		Six weekly progress reports to DfE			
Write-up	March 2023 to April 2023	Draft report with engagement from stakeholders and providers			
Evaluation / May 2023 Finalise report		Submit reports to Secretary of State (SoS) at end of May			



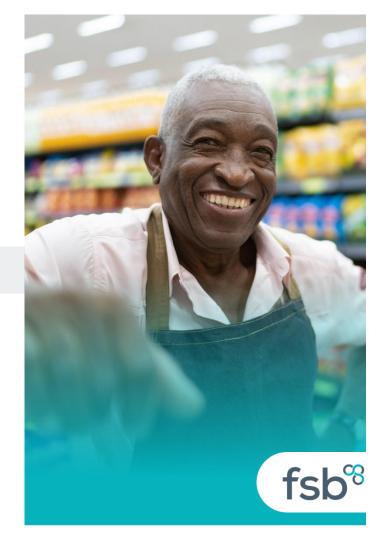
# **Actions to date**

- Meetings with Department for Education (DfE), ERBS, employers and providers.
- Early thinking and risk assessments around some of the key challenges e.g. size of the area; opportunities e.g. legacy – long term benefits beyond year three; and considerations e.g. MCCA devolved adult education budgets.
- Discussions with D2N2 LEP on available data, joining up with D2N2's People and Skills Board and B6 Group.
- Meeting with MCCA representatives.
- Stakeholder mapping to identify key contributors to overarching LSIP Steering Group. Three meetings have now taken place.
- Data collection: what analysis and evidence is already out there? For example, D2N2 Skills Report (January 2022).
- Critical path and key dates noted.



# Scope

In defining the scope of the LSIP, ERBs need to be clear about where they can add most value. For example, drawing on existing data and analysis, **building on and joining up with specific sectoral skills initiatives** and filling gaps by amplifying the voice of those employers or sectors that **most struggle to be heard.** They may also provide a coherent articulation of cross-cutting issues such as low carbon, digitalisation and essential and transferable **skills** affecting businesses in all sectors. This will help ensure LSIPs support a broader range of businesses, while avoiding asking ERBs to do the impossible task of trying to cover everything.



# Scope

#### **Phase one**

Focus on cross cutting issues.

#### Phase two

Understanding cross cutting issues across place, to better understand place based synergies and differences.



# **Keen to contribute?**

- Flag or share key reports that will help shape our thinking.
- Indicate if you would be interested in participating online surveys and telephone consultations.
- Indicate if you can help expand our employer reach.
- Attend one of our focus groups in the New Year.



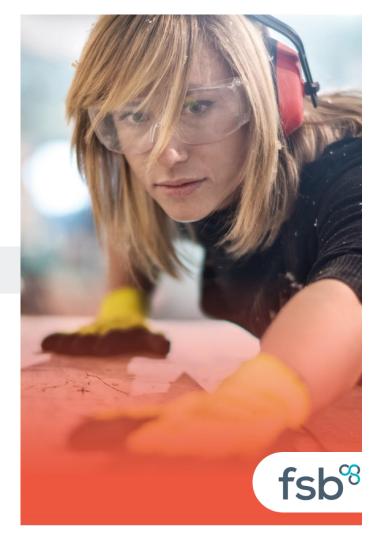
# **Online Focus Groups**

#### **Employer Online Focus Groups**

- Tuesday 10 January, 1.00pm 2.30pm
- Wednesday 11 January, 5.00pm 6.30pm
- Thursday 12 January, 1.00pm 2.30pm

#### **Providers and Stakeholder Focus Groups**

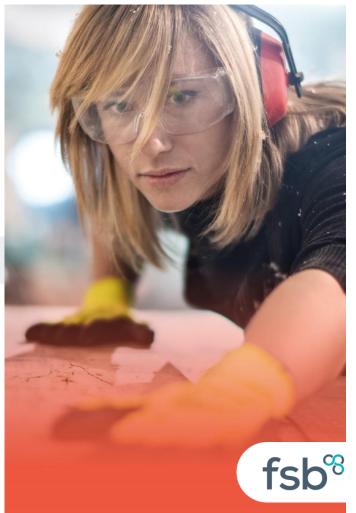
• Friday 13 January, 9.00am – 10.30am



# **In-Person Focus Groups**

#### **In-person for Employers, Providers and Stakeholders**

- Wednesday 25 January, 9.30am 11.30am, Derby County Football Club
- Thursday 26 January, 9.30am 11.30am, Casa Hotel, Chesterfield
- Thursday 26 January, 1.00pm 3.00pm, Mansfield Innovation Centre



# Thank you.

Natalie Gasson-McKinley FSB Development Manager, Nottinghamshire and Derbyshire E: Natalie.Gasson-McKinley@fsb.org.uk M: 07917 628 937 T: 01253 746058





**Delivery partners** 







#### **Paul Yeomans**

Knowledge Transfer Partnerships Manager, University of Nottingham

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Delivery partners











#### Innovate to survive

Paul Yeomans



Gerhardt International A/S was founded in 1954 in Copenhagen

Manufacturers of cutting dies to the printing industry.

Rolls Royce Annual R&D Spend **£1.2b** (2021)

AZ R&D Spend £5b (2021)

#### Pfizer R&D Spend \$13.8B

Apple R&D Spend \$26.25b





- £25billion settlement in latest spending review.
- (£8b per year)
- £25m per year for KTP (Rising in 23/24/25)

- AUTON





### Green Buildings





#### Nature's Recovery



#### Energy Workforce



#### Your Gas Network



#### **Blue-Green Places**



#### HR Wallingford



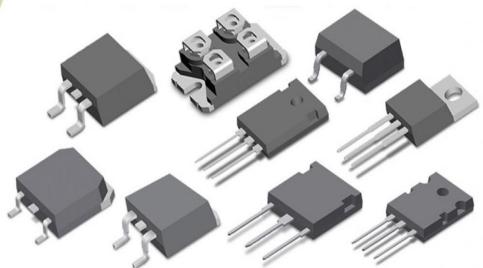


#### Clean Energy





# A Littelfuse Technology



#### Net Zero Transport







#### Thank you

ktp@nottingham.ac.uk



**Delivery partners** 









**Delivery partners** 





