

INNOVATIVE ZERO CARBON & TRANSPORT WORKING GROUPS

Whole Site Sustainability – Horiba Mira Showcase

Locally-led Innovation Accelerators delivered in partnership with DSIT, Innovate UK and City Regions





**Welcome to HORIBA MIRA and our Technology Park....
where our purpose is to Improve Lives**



Today's Agenda

Welcome to MIRA Tech Park - Sarah Windrum

Future Green Skills at the MTI - Lisa Bingley

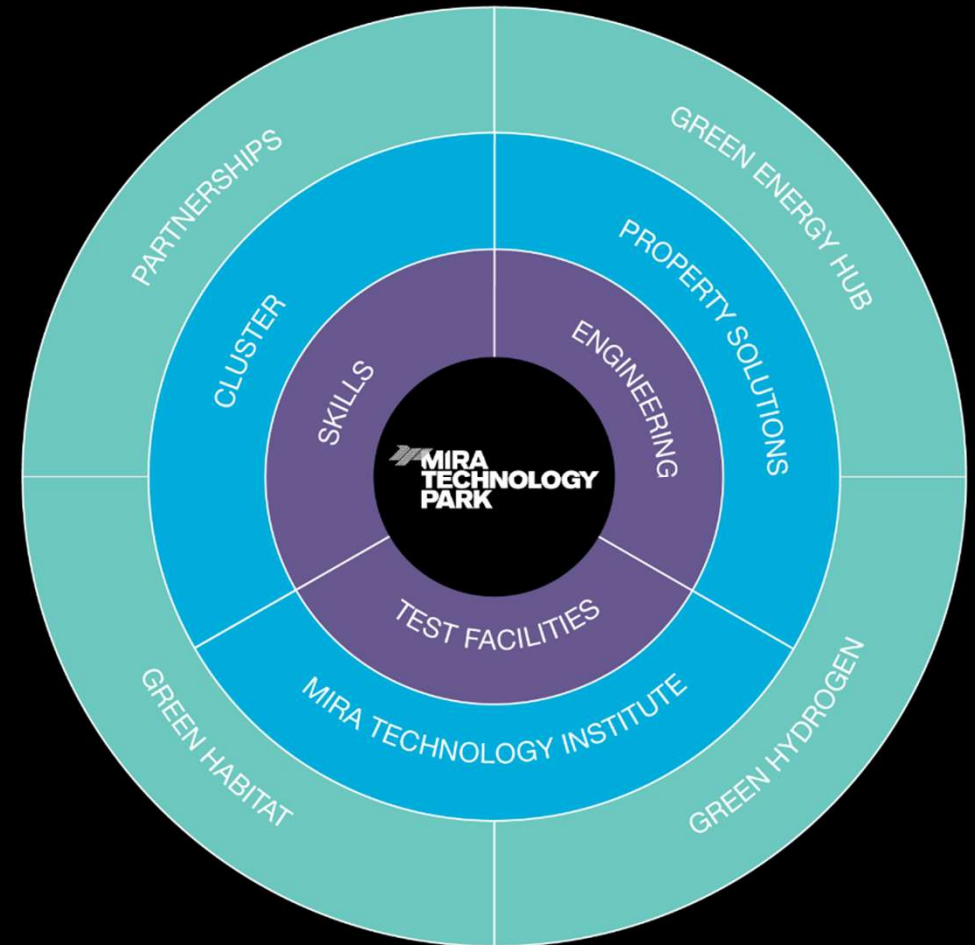
HORIBA MIRA on Transport Decarbonisation - Simon Dunnett

MIRA Tech Park Energy & Waste - Simon Hall

MIRA Tech Park Biodiversity & Engagement - Lindsey Randle

Driven Tour of MIRA Tech Park

Networking Lunch at the MTI



A global-leader in engineering, research and product testing, and a strategic location for transport R&D



Vehicle Engineering
Consultancy



Test Engineering
Services



Technology
Park

Our story

1946 - The Motor Industry Research Association formed

1948 - RAF Lindley chosen for research laboratory and proving ground

2011 - Amongst the first sites awarded Enterprise Zone status

2015 - Acquired by HORIBA & business renamed to HORIBA MIRA

2024 - Europe's leading mobility cluster



Our community

Guiding through rapid technological change

Battery electric & hydrogen vehicles

Vehicle resilience & autonomous testing

Competitive path to Net Zero:

Virtual simulation & new prototype materials

Sustainable location: energy, waste, water, wildlife

Supporting business growth:

£500m+ engineering & testing facilities

Start-up incubator & flexible grow-on space

Market opportunity & collaborative R&D



Global Leaders in Net Zero

HORIBA

Part of HORIBA Energy & Environment

- Global engineering and R&D structure for hydrogen
- Market presence in carbon capture, usage, & storage
- Global solution leaders in low carbon mobility

Our Future Project

- HORIBA precision measurement
- STARS data analytics platform
- MIRA engineering consultancy





MIRA TECHNOLOGY INSTITUTE



ABOUT US



We are a unique collaboration between North Warwickshire and South Leicestershire College, and our partners, HORIBA MIRA, the University of Leicester, Loughborough University and Coventry University.

The MTI is a cutting-edge facility focused on training future automotive engineers in the latest technologies, emphasising sustainability and net-zero goals. We offer specialized skills training in areas like electrification and autonomous vehicles to ensure a sustainable supply of technical specialists and engineers



WHY WE NEED THE MTI



- The automotive and transport sector faces an electric future
- Autonomous, connected, electric and shared vehicle technology
- Electrification, cyber security and the latest emissions technology
- Coventry is a hub for Connected Autonomous Vehicle development
- Technology roll-out threatens to outstrip the pace of skills development

OUR VALUES



- To be the national and international centre of excellence for training in the automotive and net zero sector and beyond
- Working in partnership with industry and education to develop critical skills to support the development of sustainable transport infrastructures.
- To create bespoke and relevant training for emerging technologies

All contributing to the achievement of net carbon zero targets.

We have welcomed 60,000 students and delegates in 5 years, over 18,000 of those being professionals in professional development activities.



Our Founding Partners



Technical engineering apprenticeships

Levels 1 – 4 & Electric Vehicle courses

Delivering short technical and non-technical training courses using industry specialists and using the on-site test facilities

Bringing Masters Level Connected Vehicle courses and Automotive Degree Apprenticeships at Level 6+ and commercial industry updating

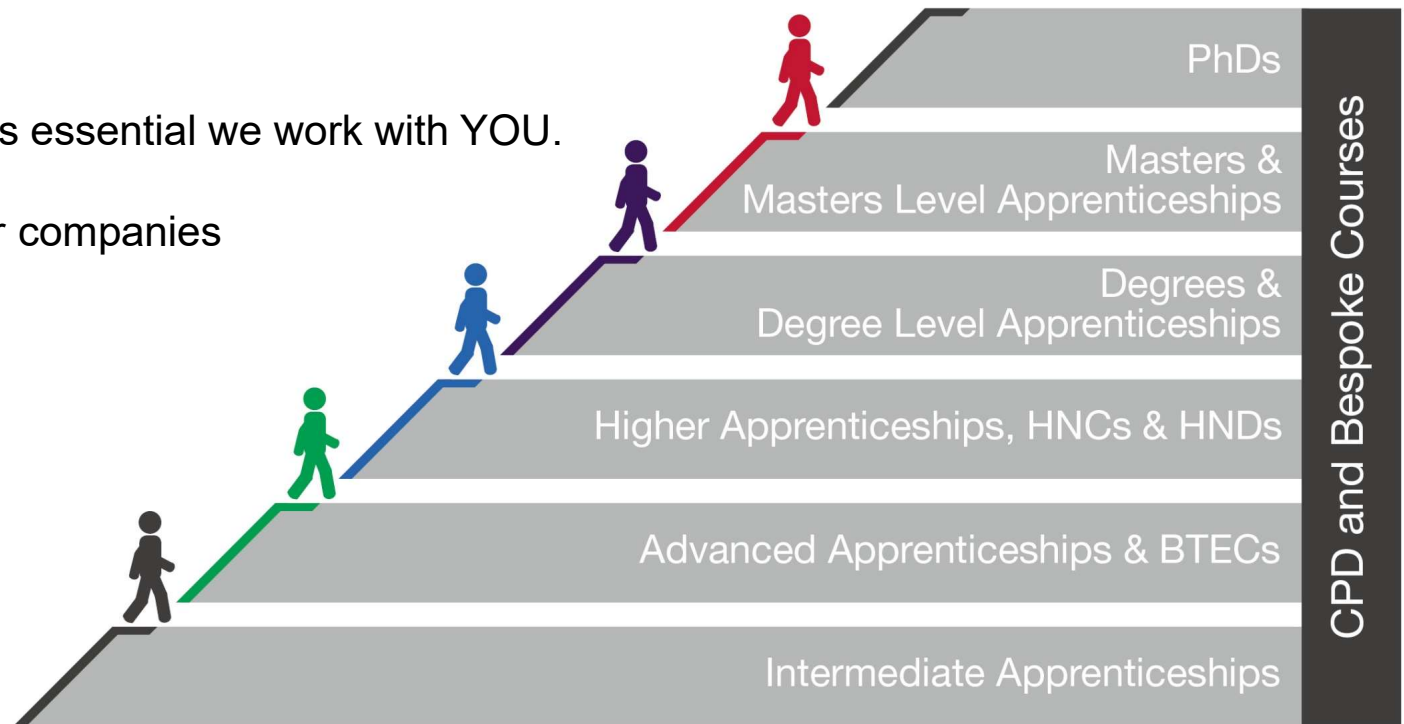
Offering short modules on automotive Postgraduate Certificates – links to the Hydrogen IOT

Focusing on Continuous Professional Development modules

SKILLS ESCALATOR

Importantly we are employer led. It's essential we work with YOU.

Developing courses to support your companies



VEHICLE SAFETY & SECURITY

- ISO 26262 Engineer Contents
- Introduction to Cybersecurity
- SOTIF - Safety of the Intended Functionality, Principles & Practice
- ISO 26262 Safety Analysis Techniques
- Functional Safety / ISO 26262 Awareness Course
- ISO 26262 Process Auditing
- Independent Safety Assessment
- Automotive Safety Case Development
- xEV Live Work Safety Training
- IEC 61508 Awareness
- Safety related software development
- Safety and artificial intelligence (AI) on the road
- Safety for automated driving systems
- Cybersecurity Engineering – Risk Management
- Cybersecurity Engineering – Design
- Hydrogen Fuel Cells & their Application

BUSINESS & LEADERSHIP

- Essentials Engineering Project Management
- Digital Promotion for Business
- Lean Six Sigma
- Lego Serious Play
- Manual Handling
- Fire Marshal

ELECTRIC & HYBRID VEHICLES

- IMI L1 Electric & Hybrid Vehicle Awareness
- IMI L2/3 Electric & Hybrid Vehicle System Repair & Replacement
- IMI L4 Award in the Diagnosis, Testing & Repair of Electric / Hybrid Vehicles & Components
- EV Essentials
- Basic Hybrid & Electric Vehicle Safety Awareness
- IMI Advanced Hybrid Electric Vehicle Awareness
- xEV Control Systems Architecture
- Battery System & Technologies
- Electromobility Awareness
- EV Thermal Awareness
- General EV Architecture Awareness
- Electrification Skills Training Programme – Fundamental/Intermediate/Advanced
- IMI Level 1 – Hydrogen Vehicle Awareness

AUTOMOTIVE/DIGITAL ENGINEERING

- Introduction to Vehicle Dynamics
- Measurement Uncertainty
- Automated AI and Robotics

CPD &
SHORT
COURSES





**APPRENTICESHIPS,
UNDERGRADUATE
& POST GRADUATE
COURSES**

LEVEL 2/3/4

- Autocare Technician L2
- Lean Manufacturing Operative L2
- Corporate Responsibility & Sustainability Practitioner L4

LEVEL 6

- BEng (Hons) Automotive Engineering
- Product Design & Development Engineer Degree Apprenticeship
- Manufacturing Engineering Degree Apprenticeship
- Emergency & Resilience Professional
- Environmental Practitioner

LEVEL 7

- MEng (Hons) Automotive Engineering
- Postgraduate Certificate Intelligent Vehicle Systems
- MSc in Connected & Autonomous Vehicle Systems
- Postgraduate Engineer: Product Design & Development Apprenticeship
- Sustainability Business Specialist



ELECTRIC VEHICLE COURSES

- Level 1 IMI Electric and Hybrid Vehicle Awareness
- Level 2/3 IMI Electric and Hybrid Vehicle System Repair and Replacement
- Level 4 IMI Award in the Diagnosis, Testing and Repair of Electric/Hybrid Vehicles and Components
- IMI Hybrid Basic and Advanced Electric Vehicle Awareness
- EV Thermal Awareness
- Electromobility Awareness
- Battery System and Technologies
- Hydrogen training on request

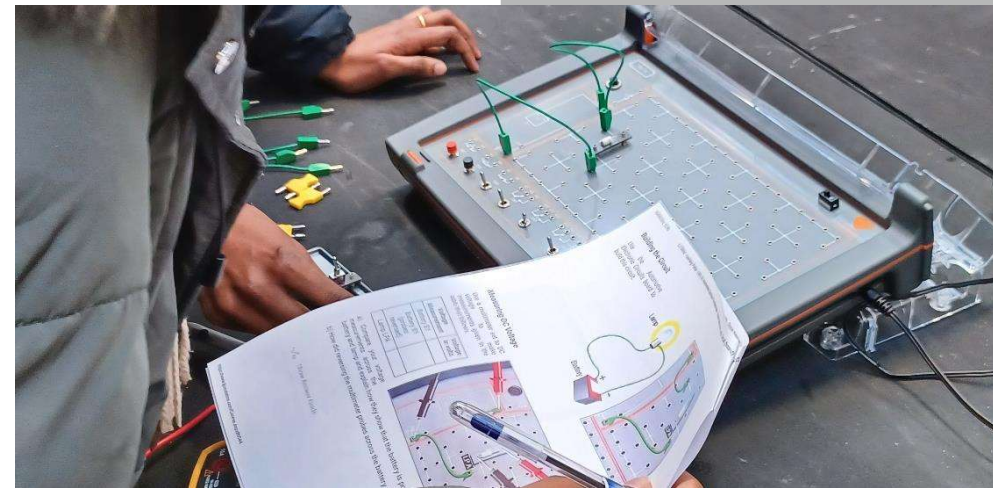
NET ZERO AMBITIONS

- Sustainability Business Specialist L7
- Corporate Responsibility & Sustainability Practitioner L4
- Environmental Practitioner L6
- Green Leadership skills eL2



CASE STUDY - JLR

- Bespoke course created by both education and industry partners
- Practical course to convert mechanical engineers to electrical engineers
- Over 600 delegates on the fundamentals course to date
- Tailored courses to meet **your** demand



WORLD CLASS FACILITY

- Classrooms
- Workshops
- Public working space
- Canteen - costa
- Conference room 100+
- Hospitality
- Charge points



Tour of the facility see reception

ACHIEVEMENTS



Working with all local authorities



Welcomed 60,000 students and delegates in 5 years



Over 22,000 delegates have taken part in professional development activities



100% success rate with our learners on our EV courses



Active STEM work with schools, councils and employers. Over 2000 Students visited the MTI



Supported Internships and T Level placements



Winners of the Innovation in Education and Training Award at Leicestershire Live 2019



East Midlands Chamber Education and Business Partnership Award 2019 Finalist and 2021 Winner





WHY CHOSE THE MTI

- Unique collaboration between industry and education to deliver essential skills for the global automotive sector and beyond
- Developing specialist skills in key areas of emerging technology
- Augmented training, utilising industry expertise and the world class HORIBA MIRA facilities
- Broad curriculum and flexible delivery to meet the needs of employers and their staff
- Located within Europe's leading automotive technology cluster at MIRA Technology Park, right at the heart of the UK Auto Industry

THE FUTURE OF SKILLS DEVELOPMENT

- No quick fix to the skills gap developing talent takes time. MTI students will have access to emerging technology, that's sector specific training at all levels
- Single collaborative organisation
- Transforming skills locally, regionally and globally – particularly at high levels locally regionally and globally
- **MTI represents the future of technical training - but it relies on the support of all employers to take advantage of our offer**



THANK YOU

Lisa Bingley

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Transport Decarbonisation

Simon Dunnett

Sustainable Approach



Sustainable
Location

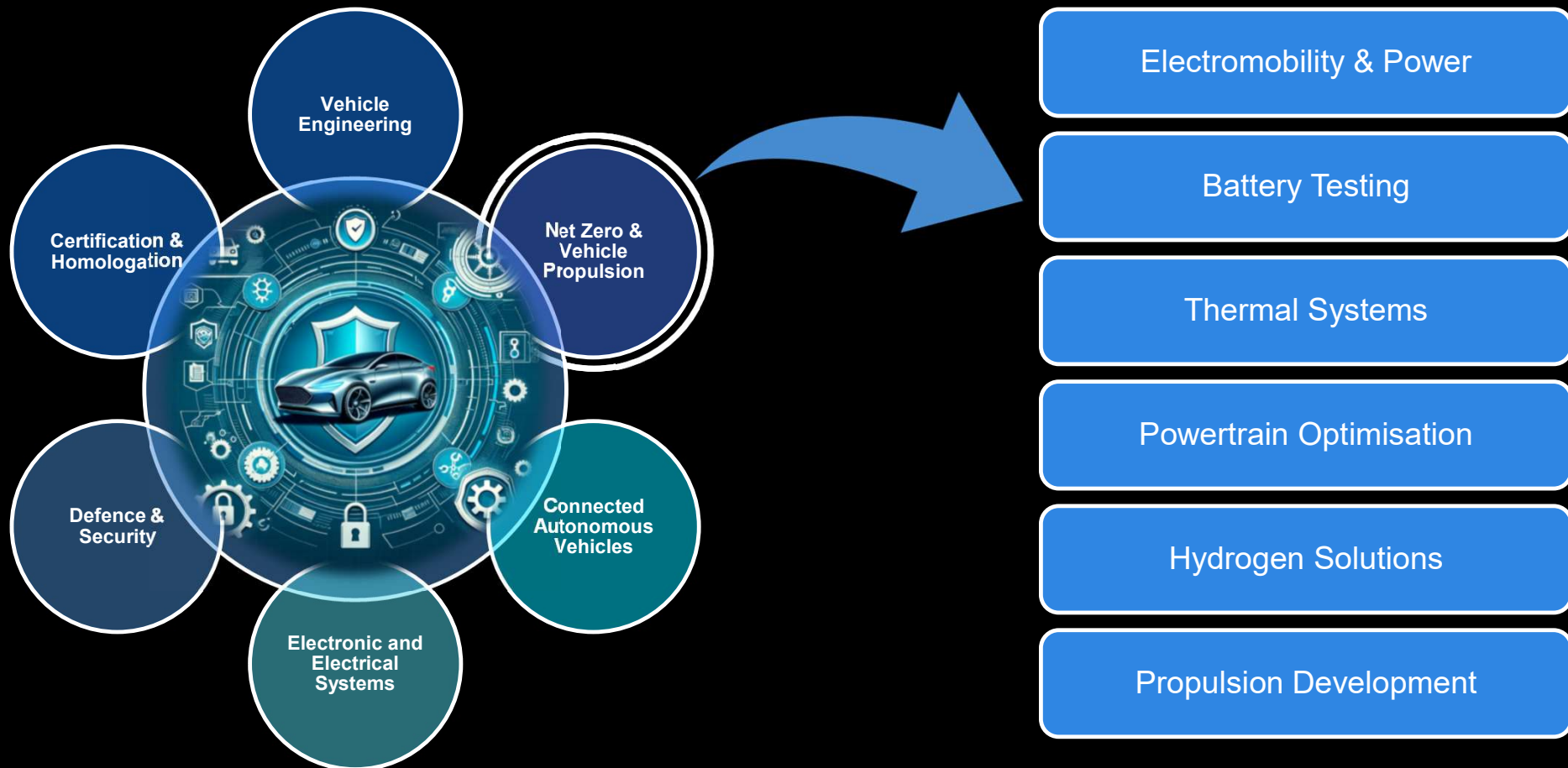


Sustainable
Products

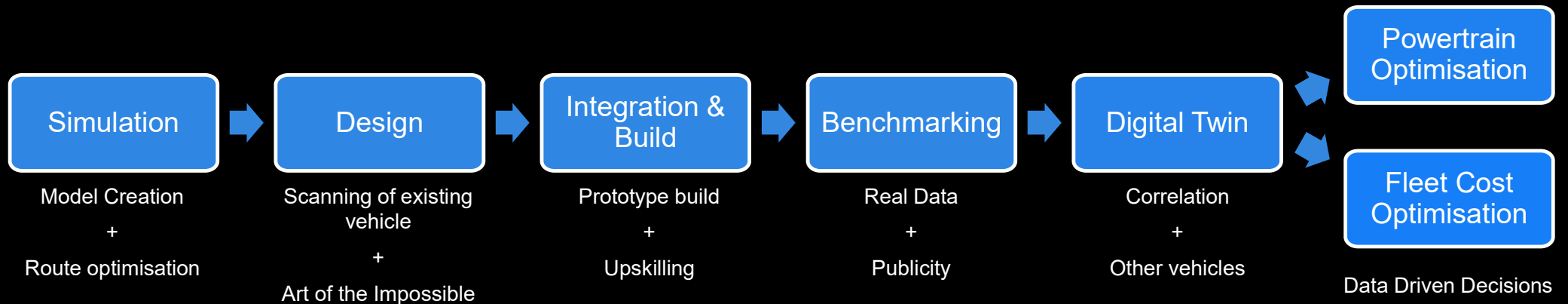


Sustainable
Development

Net Zero & Vehicle Propulsion



ICE Breaker – Project In Progress



44T Hydrogen Fuel Cell Demonstrator

APC funded programme

Collaboration between Viritech, HORIBA MIRA
and Intelligent Energy



Construction Decarbonisation Consortium



Action & results focused consortium to decarbonise construction

Key deadlines for construction decarbonisation:

Lower Thames Crossing – 2027

National Highways - 2040

Primarily targeting two areas:

Construction associated logistics

Plant / Machinery usage



Sustainability

A journey to the future

Simon Hall

22/01/2025

What are we working towards

Sustainability:

“State of the global system, including environmental, social and economic aspects, in which the needs of the present are met without compromising the ability of future generations to meet their own needs” & "Sustainability is the goal of sustainable development"

And, as a service provider, everything we do is also a customer emission.

Shared Goals

SUSTAINABLE DEVELOPMENT GOALS



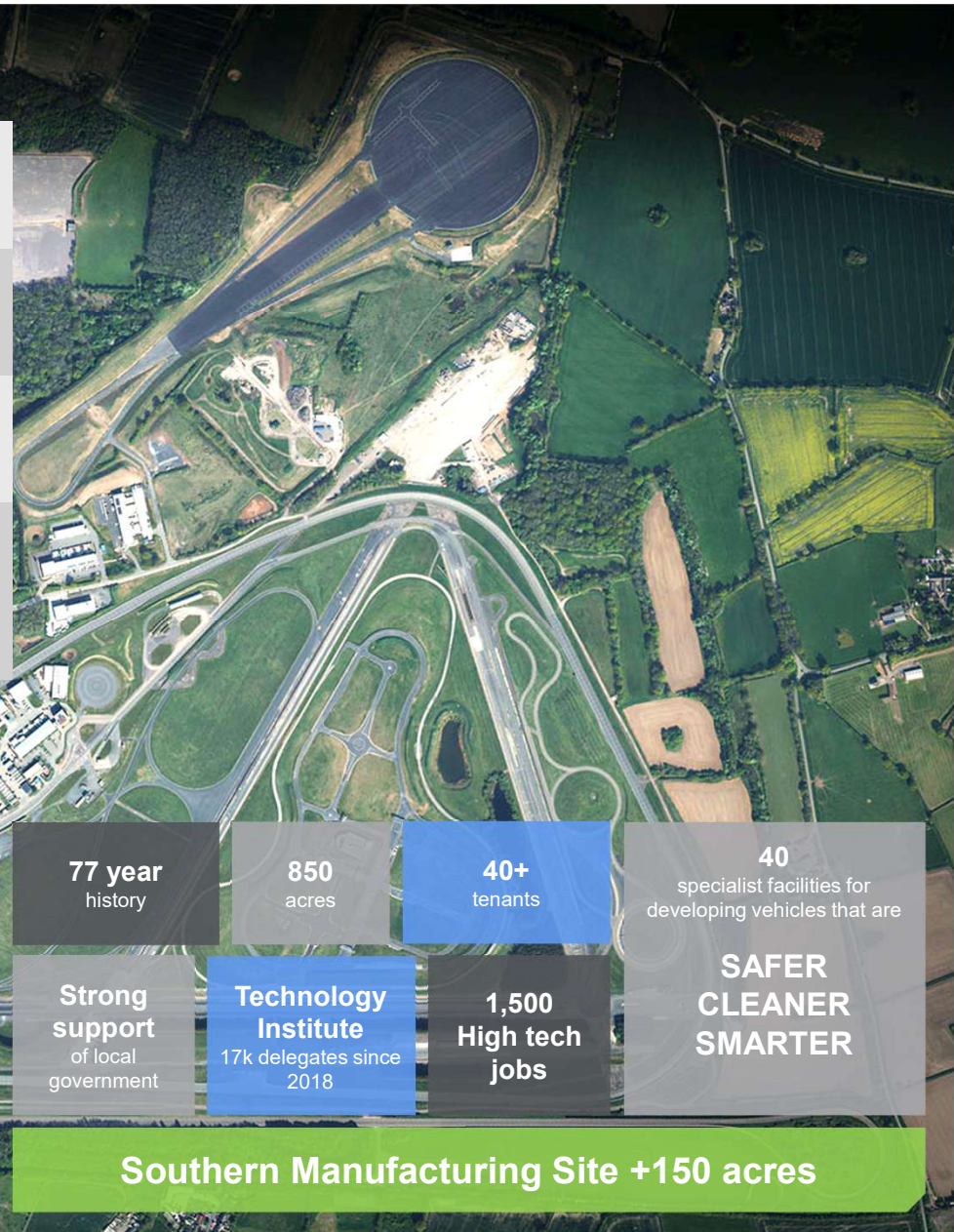
HORIBA MIRA and MIRA Technology Park

What Global hub for development of sustainable Mobility

How Develop mobility technology and implement sustainable operations

Beyond Enable sustainable manufacturing – produce locally to achieve net zero

Why Market driven. By working on the park, we solve client's sustainability challenges enabling them to focus on their core purpose



77 year history	850 acres	40+ tenants	40 specialist facilities for developing vehicles that are
Strong support of local government	Technology Institute 17k delegates since 2018	1,500 High tech jobs	SAFER CLEANER SMARTER

Southern Manufacturing Site +150 acres

Sustainable Mobility Development

The **attraction**: globally unique combination of engineering talent, test facilities and a great working environment



Hydrogen & Battery
Technology Development



Connected & Autonomous
Vehicle Development



Driving Simulation Centre



Cyber Security



Passive Safety
Centre

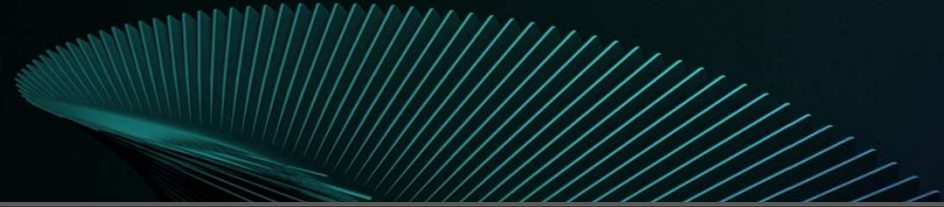


Training & Skills

The **outcome**: We enable de-carbonisation of vehicle development and mobility solutions with global benefits.



Trio of Achievements in 2024





The route to Net Zero

Scope 1, 2 and 3

-  Measured as part of Net Zero baseline
-  Not applicable/de minimus

Scope 1 DIRECT EMISSIONS

-  Company facilities
-  Company vehicles

Scope 2 INDIRECT EMISSIONS

-  Electricity, district heating, steam

Reporting company

Scope 3 INDIRECT EMISSIONS

-  1. Purchased goods & services
-  2. Capital goods
-  3. Fuel & energy related activities
-  4. Transportation & distribution
-  5. Waste generated in operations
-  6. Business travel
-  7. Employee commuting
-  8. Leased assets

Upstream activities

Scope 3 INDIRECT EMISSIONS

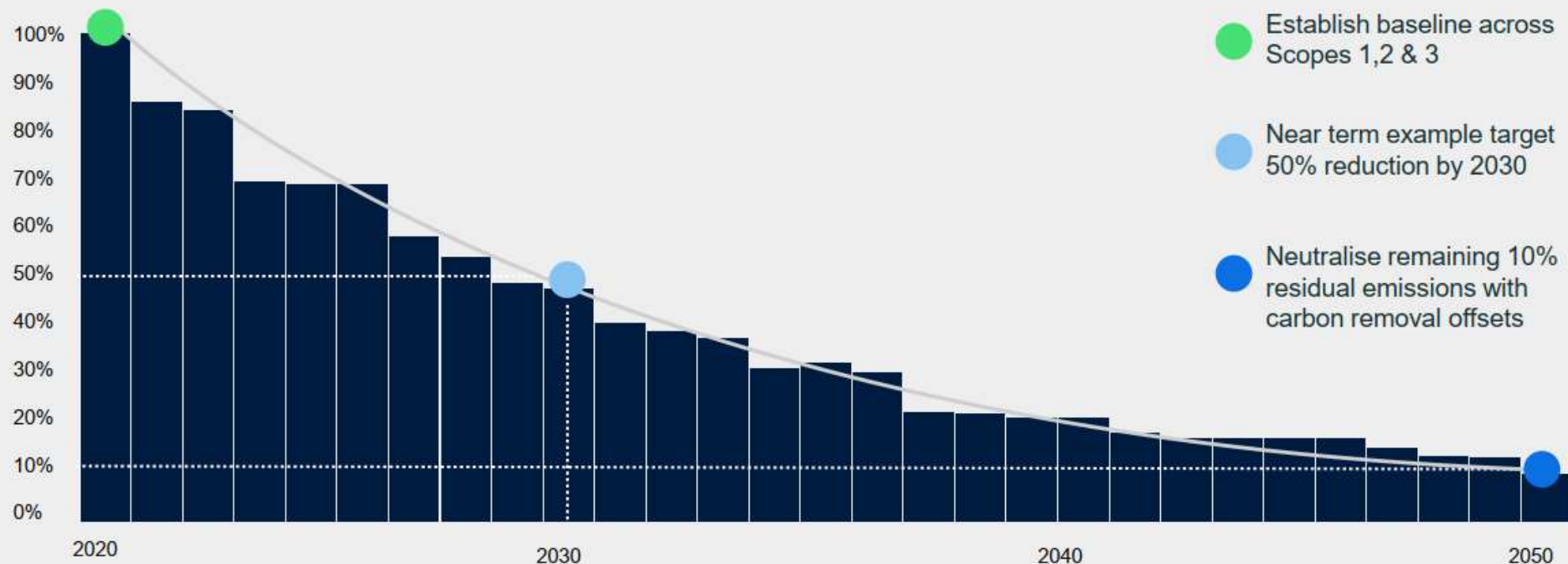
-  9. Transportation & distribution
-  10. Processing of sold products
-  11. Use of sold products
-  12. End of life treatment of sold products
-  13. Leased assets
-  14. Franchises
-  15. Investments

Downstream activities

Developing our plan and strategy

The path to net zero

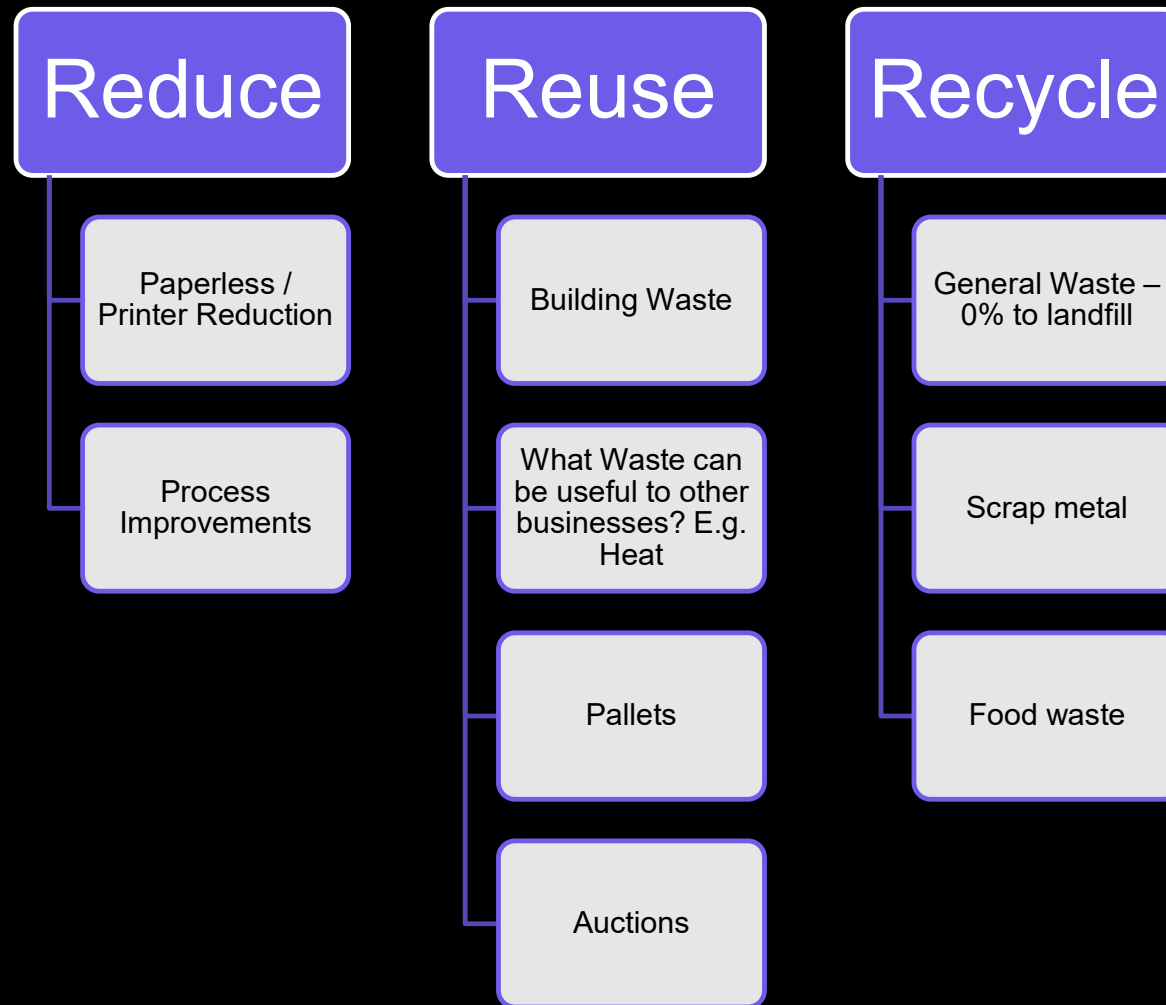
Net zero means cutting greenhouse gas emissions to as close to zero as possible, with any remaining emissions re-absorbed from the atmosphere



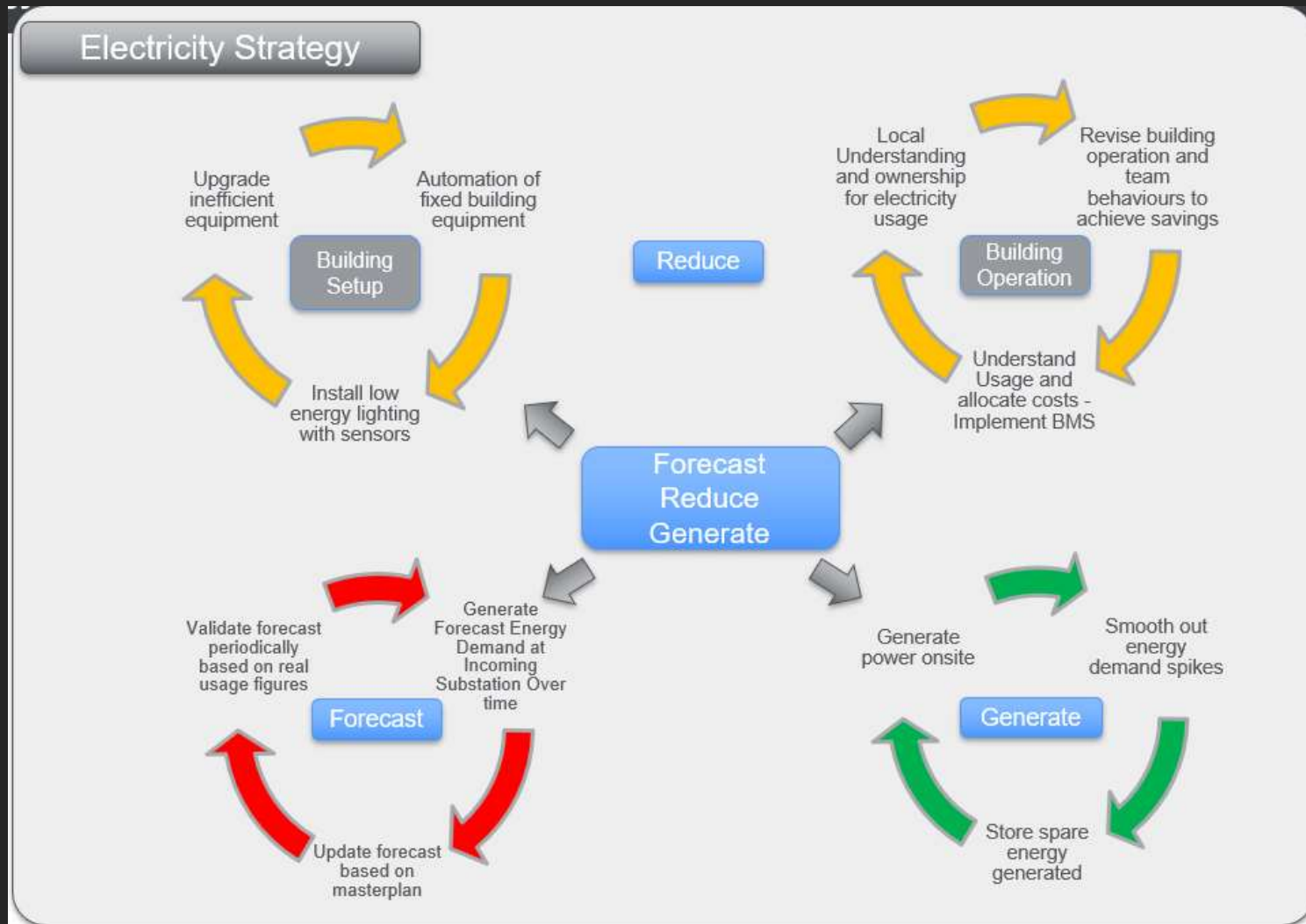
Key

- Establish baseline across Scopes 1,2 & 3
- Near term example target 50% reduction by 2030
- Neutralise remaining 10% residual emissions with carbon removal offsets

Tackling Waste in all its Forms



Electricity Strategy



The Electricity Conundrum



Economics
versus local
benefit?

Limit of
Substation
Supply



Limitations of
grid
connection

Enable park
growth and
development



Renewables
and grid
independence
/ site
resilience





Community and Employee Engagement

Wednesday, 22 January 2025

Lindsey Randle, Relationships Coordinator



HORIBA - Joy & Fun



Awards and accreditations - 2024



King's Award for Enterprise for Sustainable Development



Wildlife Trusts Biodiversity Benchmark



Gold International Green Apple Environment Award

Biodiversity

- Planted 28 acres wildflower meadows
- Designated biodiversity areas
- Managed grasslands for wildlife habitats
- Birdbox hanging, hedgehog houses
- Ecological walkover surveys
- Community engagement



Community Engagement



Community Engagement

- Sustainability – Bug hotel carpentry workshop with the Scouts
- Schools – Partnering with Ecologists to facilitate Wildlife talks and activities. Hanging bird houses in MTP woodlands, placing hedgehog houses out
- Bird nerd quizzes & prizes, and Bird/Hedgehog houses for schools
- Conservation – Meetings with Twycross Zoo, Wildlife Trust, Ecologists



Community Engagement

- School visits to MIRA Tech Park and talks out at local schools
- TikTok video competition – ‘Road to Net Zero’ story
- Student Work experience



Community Engagement

Hasting School TikTok video on 'green careers'
at MIRA Tech Park



Community Engagement

- Liaison with Councils – Parish, local and city council events
- Community liaison meetings with local parish councillors
- Nuneaton Pathfinder Board meetings - New Hampton by Hilton hotel, cinema, car parks, museum extension, new public spaces



Employee Engagement

- Tech Park app – Events Calendar
- Lunchtime Street food events – Pop-up kitchens with local suppliers
- Themed talks – Biodiversity - Beekeeper talk – MTP Springwatch
- Community litter picks, charity days e.g. BEN bus, fundraisers e.g. coffee mornings, Cobblers' hobby car events, healthcare talks
- Business talks – Lunchtime Showcases



Fundraising

- MOVEMBER
- 1381 Car Club Talk – 7/11/24
- Model Vehicle Building Talk – 14/11/24
- Vintage Car Restoration Talk – 21/11/24
- Pub Quiz Fundraiser – 27/11/24



Christmas Fun

- SAVE THE CHILDREN – Christmas Jumper Day
- Higham Primary School Choir joined for a festive Lunch & Carol Singing. Followed by a tour of Driving Simulator Centre.
- Toys donated to Hinckley Salvation Army Christmas ‘Buy a toy appeal’



What's Next – Partnerships

- Nature area – tree planting, butterfly bank, bee hotel
- MDJS – Eco Garden – do up the pond and possible garden makeover
- Higham Primary – visit to assess outdoor jobs
- Working with TZ – conservation projects, further education?
- 'Conservation in your back garden!'
- Aspire in Arts, Nuneaton Youth project – art, cooking, music
- Big feed day – working with Thomas Franks, catering partner
- Outdoor classroom, allotment, orchard?
- More Joy & Fun!!!



Other IAWM events

1. Clean Futures – Sustainable Procurement: 23 January 13:00 – 15:30

This event, delivered by SWM, will focus on sustainable procurement and give you an appreciation of the ways that procurement can be a powerful instrument for businesses wanting to behave more sustainably. This session will include the basics of sustainable procurement, the lifecycle approach, case studies from local businesses, and so much more.

2. Technology Strategy in Rail, Aerospace & EV Automotive Manufacture: 29 January 10:30 – 15:15

The event will explore advanced manufacturing technology roadmaps, focusing on the key strategies for the EV automotive, aerospace, and rail sectors, with sector-specific sessions detailing the impact on SMEs and supply chains. You can attend the full session or select the specific segments of interest, and a Teams link will be provided prior to the event.

3. Venturefest Mobile Hub – Innovation and Growth: taking your business to the next level – 6 February 9:00 – 12:00

The event is focused on helping you take your business to the next level. Identifying opportunities and defining challenges is the first step businesses can take on their journey to innovation and growth.

4. Tech Connect LIVE with TechWM – 6 February and 6 March

Tech startups can [work](#) from TechWM offices for the day to meet with like-minded entrepreneurs and learn about the tech ecosystem and how to navigate it successfully. You can also book a 121 with the TechWM team to discuss your business plans for 2025. The next sessions are on 6 February and 6 March.

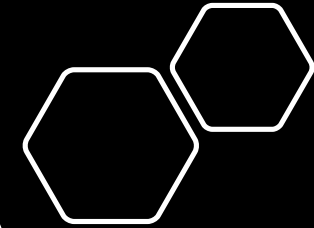
5. From Steel to Silicon: Past Lessons, Present Opportunities, Future Visions 10 March 17:00 – 20:00

Hosted at the historic Black Country Living Museum, this unique business networking event will celebrate the evolution of the region, from the steel tools and manufacturing innovation that shaped our region to the West Midlands' ambition to become the Silicon Valley of the UK.

6. Venturefest WM 19 March 8:00 – 17:00

Celebrating its 10th anniversary with a higher profile and additional celebratory features. Key themes for this year include entrepreneurship, future business support, unlocking startup potential, and the value of creativity in business. Last year, the event attracted over 500 attendees, with 47% from the private sector, fostering connections between entrepreneurs, businesses, and investors.

Innovative Zero Carbon and
Transport Working Group
Evaluation Form 22 January 2025



Tell us what
you think!