



Accelerating the new hydrogen economy in the Midlands

# Hydrogen Summer School Loughborough University

9<sup>th</sup> September 2024



# WELCOME



## Dr. Kathryn North



- Associate Pro Vice-Chancellor (Climate Change and Net Zero)
- Skills lead for the HyDEX project and Head of Skills for the Energy Research Accelerator (ERA)
- *Kathryn's interests lie in developing researchers at all career stages, and latterly in supporting the developing of high-level skills that we will need for achieving a decarbonised future, through C-DICE, ERA and HyDEX.*

# Introduction to HyDEX



- HyDEX programme is led by Keele university in partnership with 6 universities associated with the Midlands-based Energy Research Accelerator
- The programme has supported the creation of a new hydrogen industrial economy in the Midlands
- Working in collaboration with researchers, industry and public sector to accelerate innovation and build markets
- Loughborough has led on the skills development work with a range of activities engaging different audiences

# Video



HyDEX project  
(Hydrogen Development  
and knowledge  
Exchange)





Loughborough  
University



# Creating a Hydrogen Superpower in the East Midlands



# We will drive hydrogen skills, innovation & productivity by



Bringing academic experts and industry partners together to deliver cutting-edge hydrogen research and innovation at Loughborough University's state-of-the-art facilities



Providing a skills exchange at the East Midlands Institute of Technology, degree level, doctoral and postdoctoral programmes



Creating a £40m expansion of Loughborough University Science and Enterprise Park to co-locate a skills ecosystem, incubation and manufacturing, and research and innovation



## Novel hydrogen production



## Fundamental science



## Infrastructure



## Applications

# Existing capability

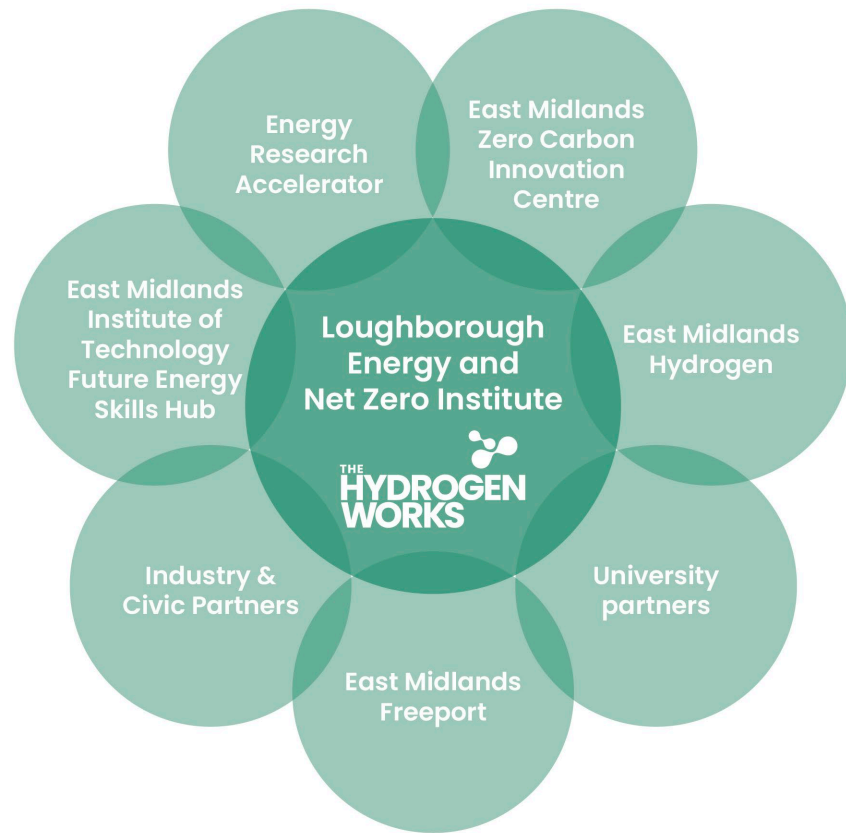
Battery-electrolyser  
Seawater electrolysis  
Solar panel technology  
Biohydrogen & alcohol synthesis

Chemistry  
Catalysis  
Membrane separation  
Analytics  
Solid state storage

Loughborough Materials  
Characterisation Centre

Power electronics and microgrids	Supply chain	Skills
	User acceptance	CDTs
	Policy / Regulation	C-DICE
	Economics	EMIoT
		HyDEX

Aerospace (National Centre for Combustion and Aerothermal Technology)  
Powertrain (Caterpillar Innovation and Research Centre)  
Tribology  
Fuel Cells







## Innovation Facility

Ambition for a £40M expansion on LUSEP to provide flexible facilities for research, innovation, incubation and scale up activities, and adoption and testing of transformative hydrogen technology.





# The Hydrogen Works will deliver



A development platform  
for industry leading to  
increased productivity  
and inward investment  
for the Midlands



Outstanding research  
and innovation with  
demonstrable commercial  
translation and impact

Shared facilities for  
research, manufacturing  
and training



A future workforce  
for the clean energy  
economy through  
training and skills

New, good jobs and  
career progression

# 60+ industry and public partners engaged in £12.7m green hydrogen skills training centre





[www.hydex.ac.uk](http://www.hydex.ac.uk)

Thank you