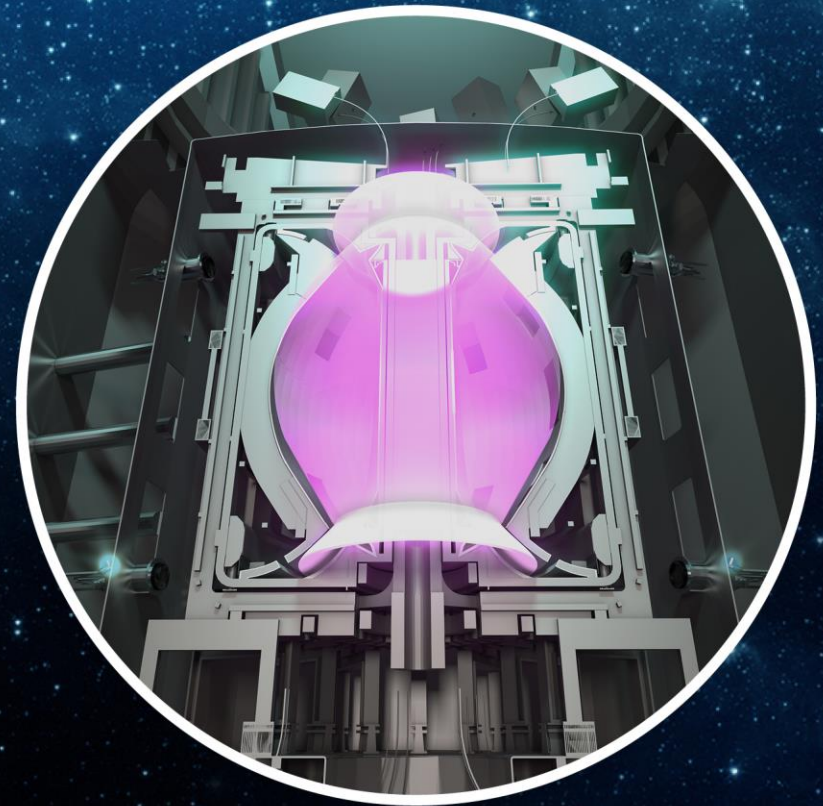
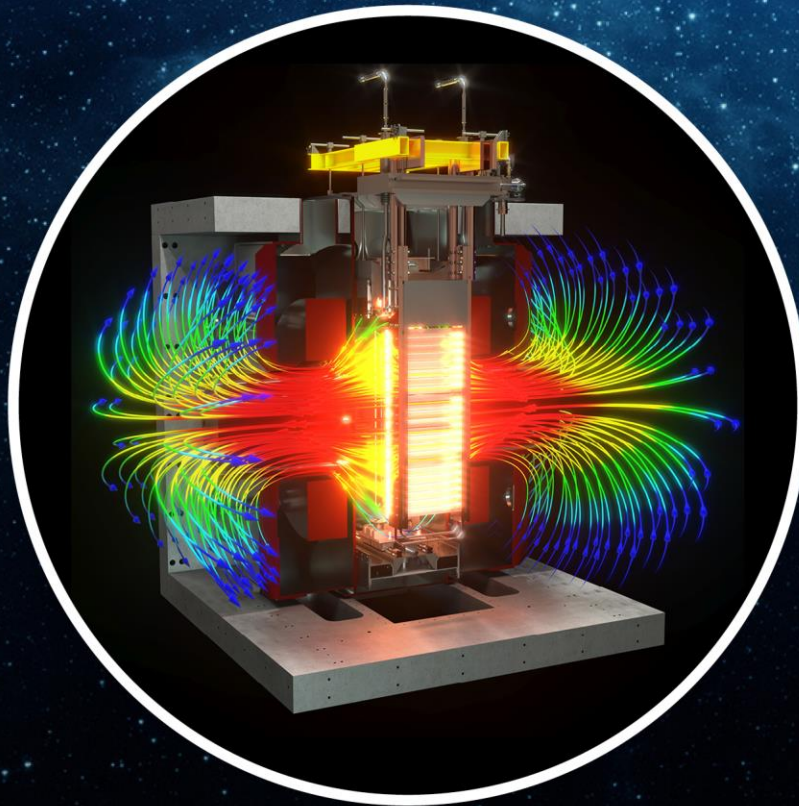
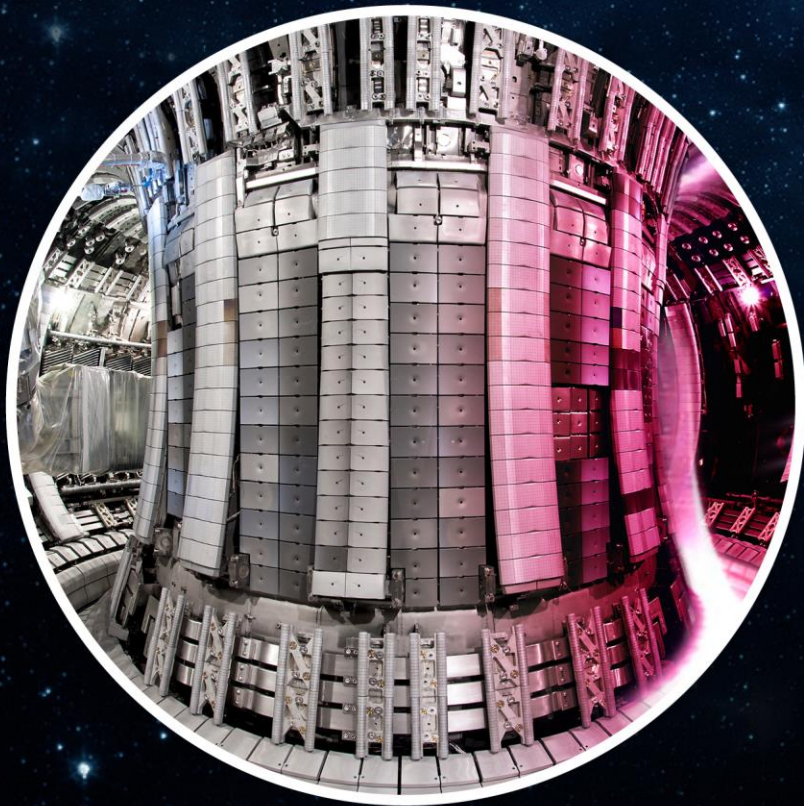


# The UK fusion programme

Ian Chapman





# Changing fusion landscape

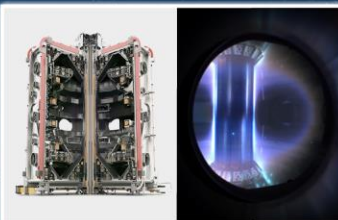




# UK Programme has unique breadth



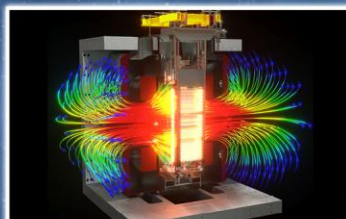
HIGH PERFORMANCE  
FUSION



SPHERICAL  
TOKAMAKS



MATERIALS  
RESEARCH



FUSION  
TECHNOLOGY



ROBOTICS



TRITIUM



ADVANCED  
DIGITAL COMPUTING



POWERPLANT  
DESIGN



INDUSTRY  
DEVELOPMENT

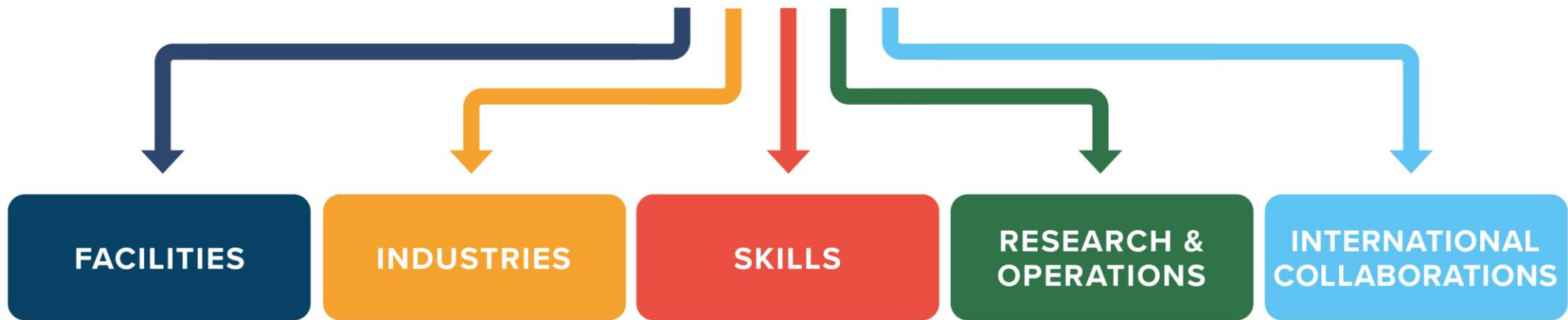


SKILLS  
DEVELOPMENT






TECHNOLOGY  
TRANSFER

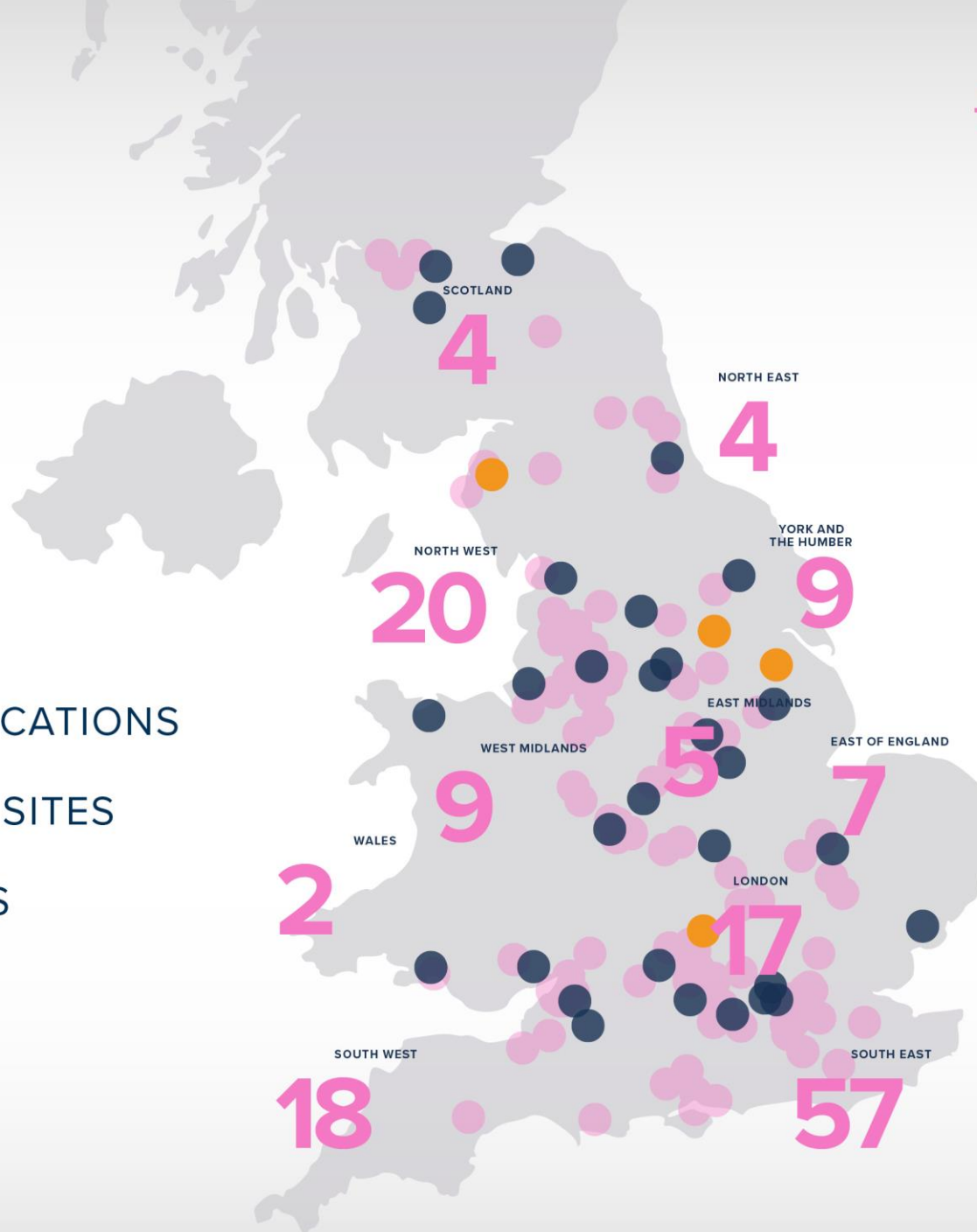
# \$800M FUSION FUTURES PROGRAMME



# UK research platform

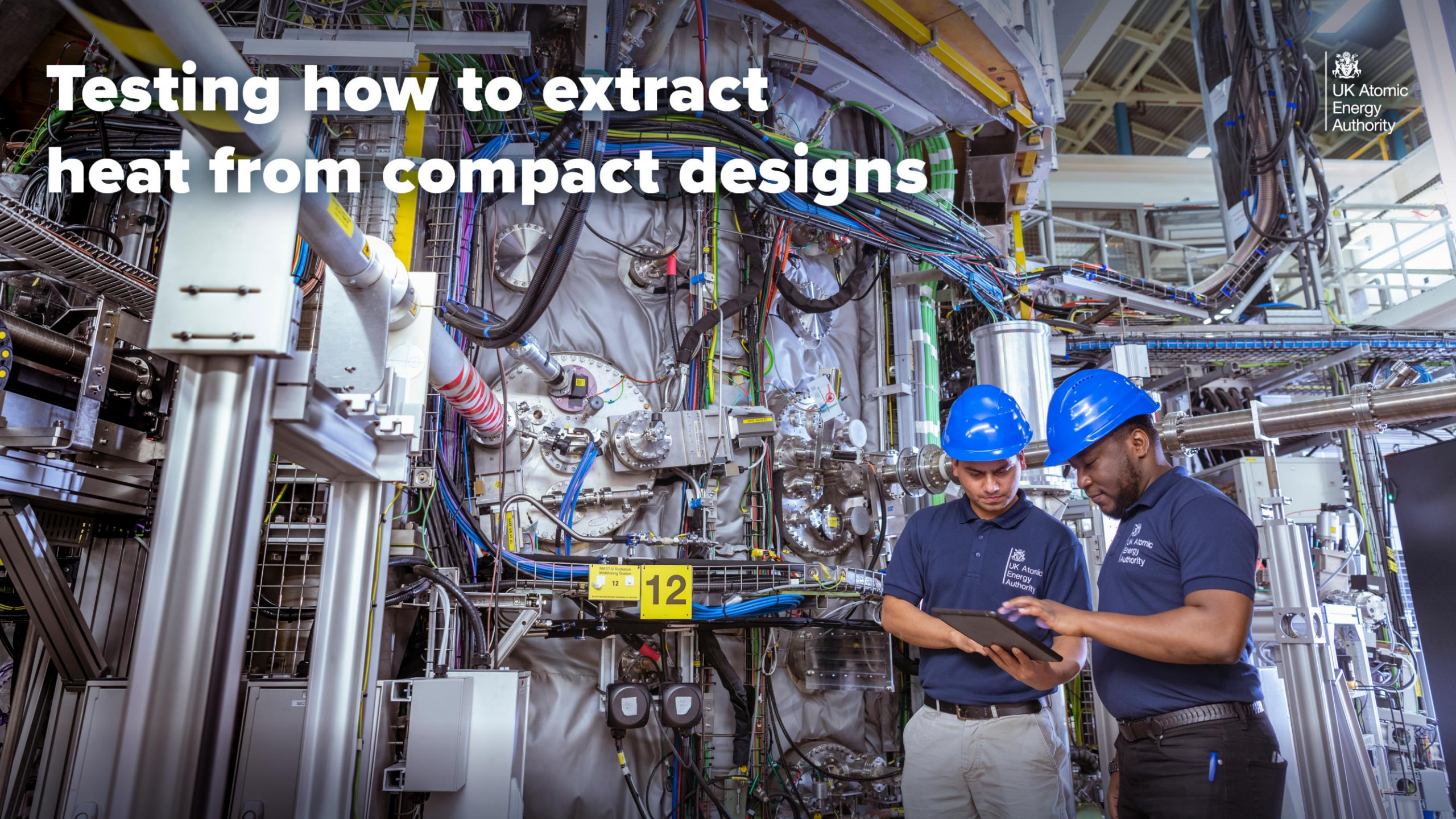


-  PARTNER LOCATIONS
-  UNIVERSITY SITES
-  UKAEA SITES



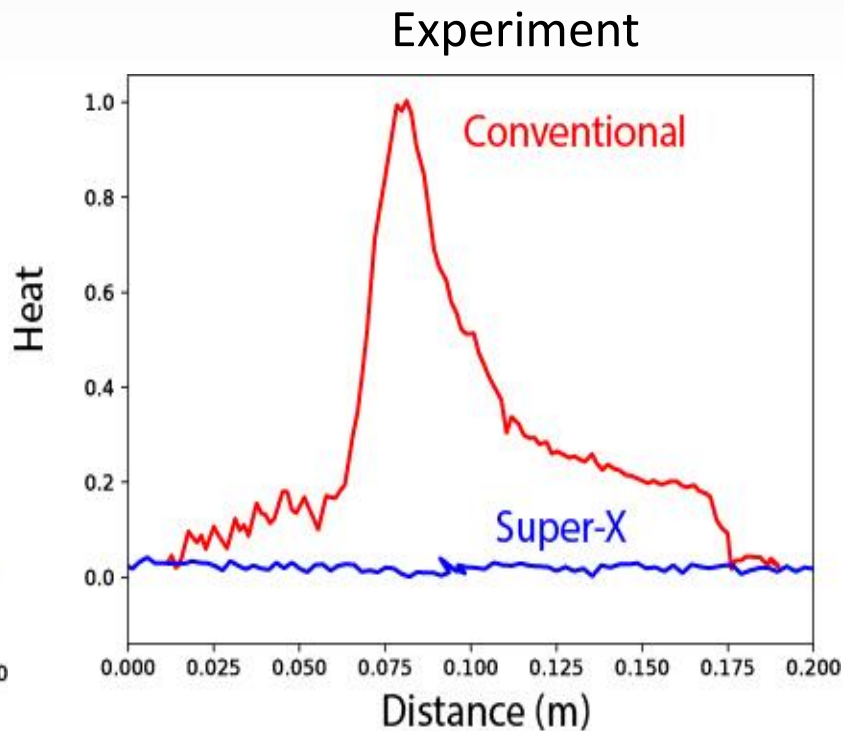
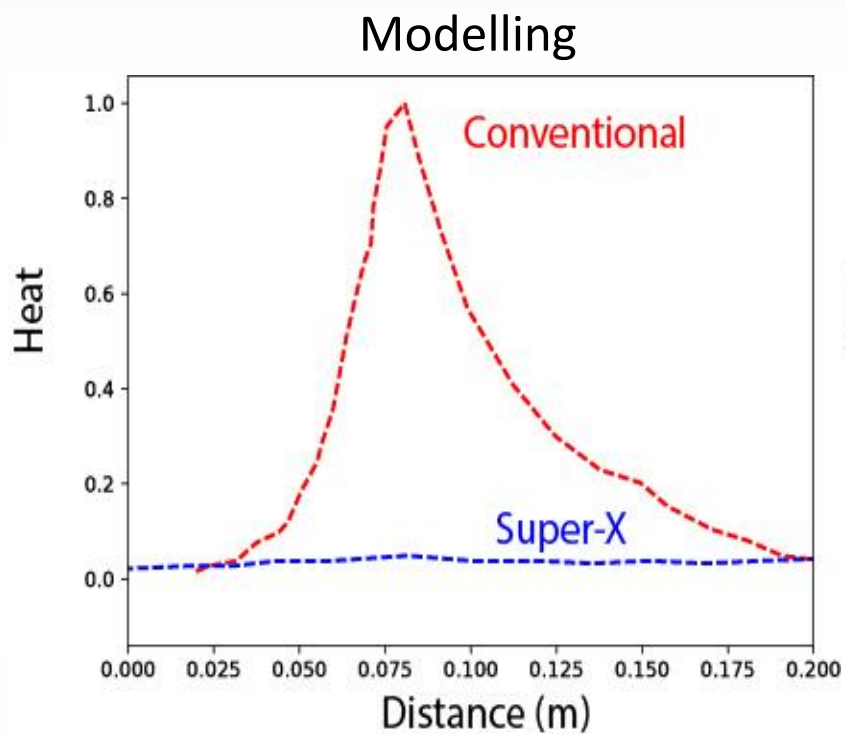


# Testing how to extract heat from compact designs



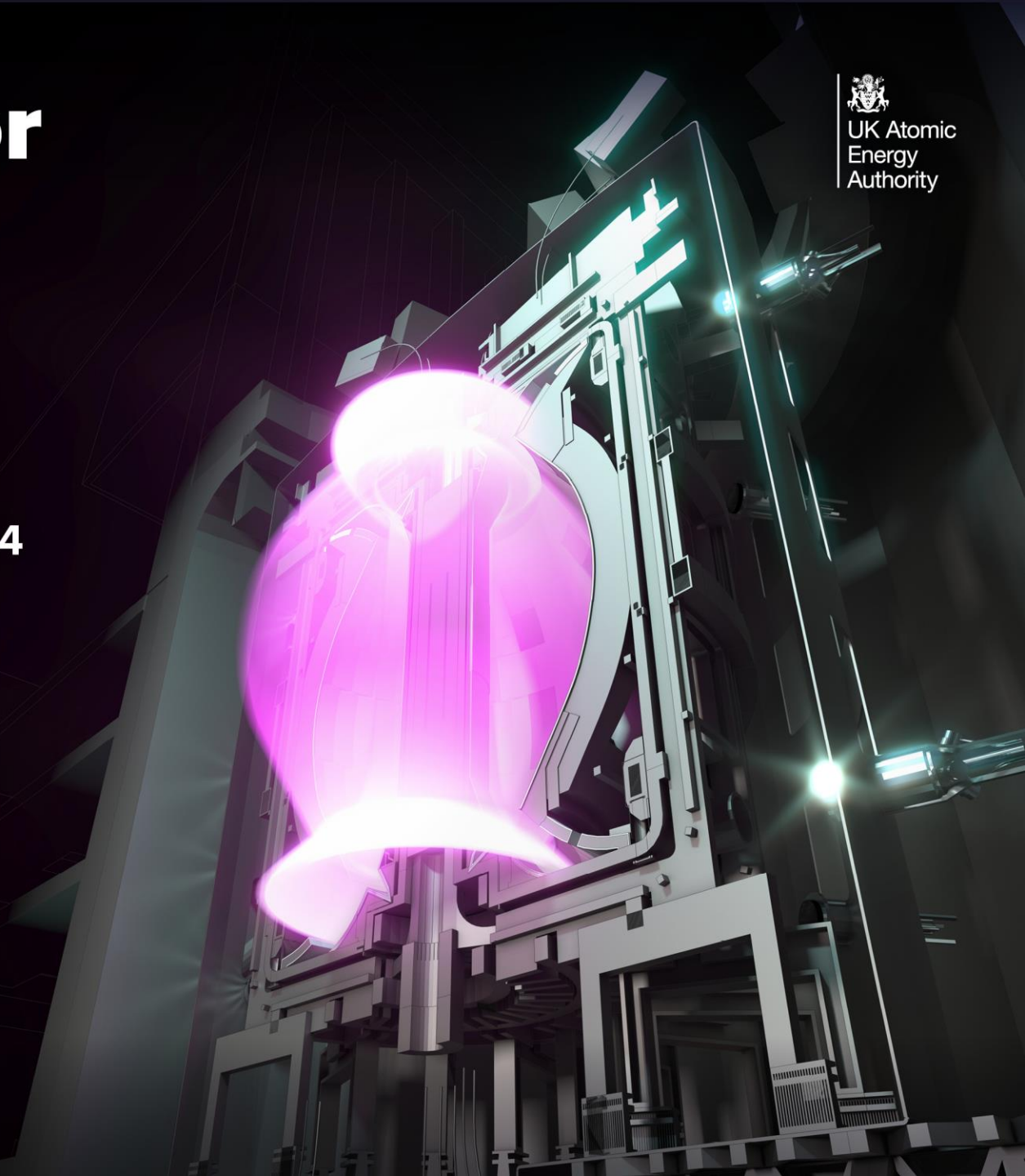


# Reduced heat by more than 10 times



# Spherical Tokamak for Energy Production

- ▶ Predictable net energy production
- ▶ Aim to minimise capital cost
- ▶ \$380M investment for concept design by 2024







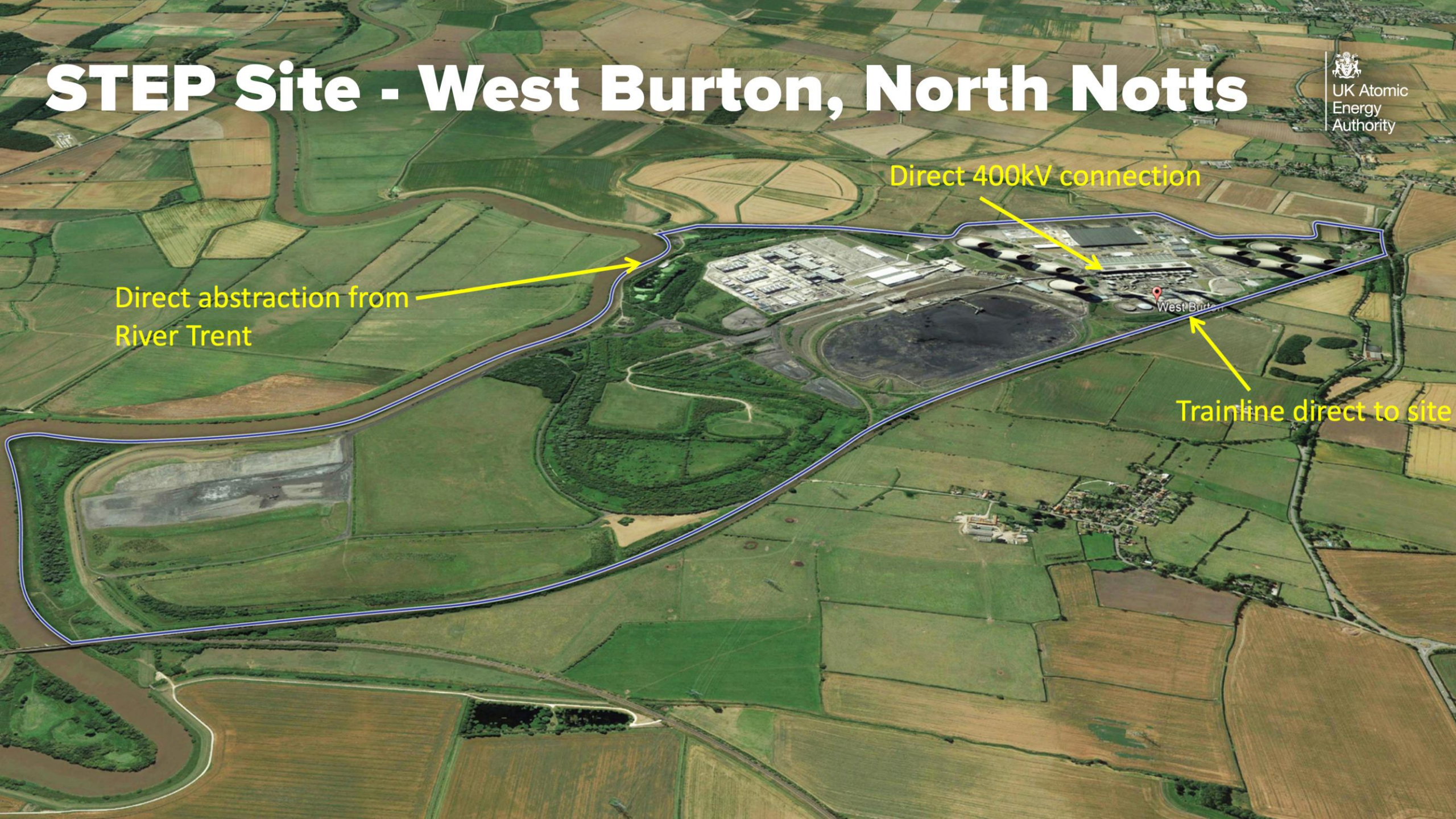


# STEP Site - West Burton, North Notts

Direct abstraction from  
River Trent

Direct 400kV connection

Trainline direct to site









# Build Public-Private Partnership

## Shareholder & Sponsor relationships

**Secretary of State**  
DESNZ

**DESNZ**  
Sponsor Department

**UKAEA Group**  
Shareholder & Shared Services

**UKIFS**  
(UK Industrial Fusion  
Solutions Ltd.)

## Integrated Delivery Team (IDT)

**Whole Plant Fusion  
Partner (UKAEA)**

**Whole Plant  
Engineering Partner**

**Whole Plant  
Construction Partner**

**Supply  
chain**  
(Strategic  
Suppliers)

**Supply chain**  
(non-Strategic  
Suppliers)



# Skills - Apprentices

**460** learners from  
**35** organisations now in training  
and aim to scale up to  
**1000** within **3** years





# Developing a fusion campus



LATE 2023



NOW OPEN



MID 2024



LATE 2024





# UK fusion is moving at pace



- Major advances this year: World records, new facilities, campus growth
- STEP progressing on track
- Major collaboration with industry and this will increase over the next year