

# **GCRE**

## **Global Centre of Rail Excellence**

**Net Zero**

**07.04.22**

# Global Centre of Rail Excellence

- UK's only purpose built [rail research and test loops](#)
- Unique to UK offering a combination of facilities and features
- We want to be the UK's first Net Zero railway

# About GCRE

- An economic development project
- Compelling strategic case, with strong customer interest
- GCRE Ltd – a Special Purpose Vehicle currently wholly owned by Welsh Government
- Substantial private investment required to complete
- Operationally independent of any rail corporation/body
- Strong relationships with Local Authorities, Welsh and UK Government
- GCRE will develop and operate the facility, in partnership with public and private sectors



# Update

## **In place**

- Concept design
- Outline planning consent
- Land option
- Funding offers from WG & HMG
- Business Plan
- Cross industry written support

## **To come**

- Outline design (railway, safety case, earthworks, master plan, etc)
- Raise private funding
- Convert support to contracts
- Construction

# GCRE Service Offer

- Three primary business lines:
  - Rolling stock testing – selling capacity for 8 hour “slots” for new/upgraded trains & for maintenance
  - Infrastructure testing – selling 12 week “slots” on test environment to multiple concurrent projects, inc R&D
  - Storage & maintenance – renting out siding/shed space & track access

# GCRE Service Offer cont.

- Ancillary business lines:
  - Integration – major project de-risking (telecoms, power, track, signals, operations, rolling stock, etc)
  - Calibration & assurance – national test fleet; supplier accreditation
  - Training/education – eg driver training; specialist role certification; etc
  - Property – commercial & industrial units, hotel, data centre, training centre, etc
  - Energy – on site generation and storage; resale to users/grid

# Timeline

December 2021



Business Plan submitted to Welsh and UK Governments

March 2022



Both Governments make public funding Final Investment Decision

March 2022



Outline design commences

July 2022



Design complete/Earthworks commence

Autumn 2022



Procurement of construction work packages commences

Autumn 2022



Initial warm storage capacity operational

March 2023



Private funding deals agreed

April 2023



Railway construction commences

Autumn 2023



Industry focussed training provision offered

Spring 2025



Full operations, including both test loops



# Net Zero ambitions

- On site generation (eg 10-15MW solar)
- Private wire to local windfarm
- Energy storage (battery, super cap, cryogenic, etc)
- Green Hydrogen generation
- Trackside collection (eg local solar, brake regeneration & reuse)
- Offsetting (0.5m trees)
- Low embedded carbon (recycled products, innovative structures)
- District heating system
- High performance buildings

# Summary

- GCRE is a demonstrator for new technologies – rail and energy
- Seeking to embed innovation in construction and operation
- Opportunities for the industry to work with us

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