



UK BATTERY
INDUSTRIALISATION
CENTRE

ilika

Bonus webinar: Enabling solid-state battery scale-up

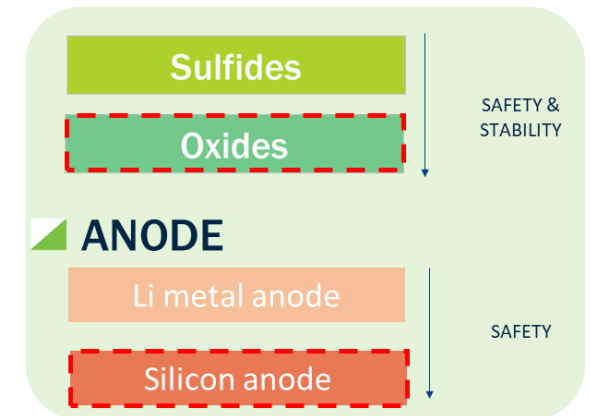
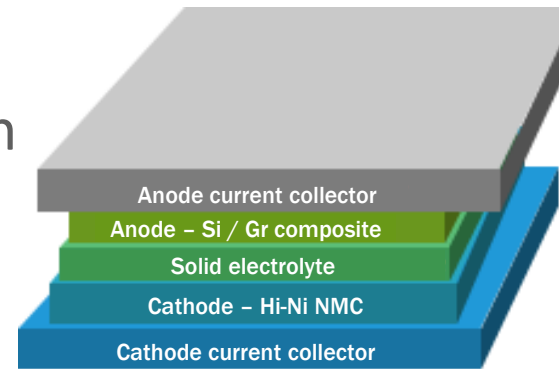
Denis Pasero and Andrew Britton

Who is Ilika?

Ilika is a pioneer in solid-state battery technology enabling solutions for applications such as Industrial EV, Defence and Medtech

Goliath

- A rechargeable solid-state lithium-ion pouch cell
- 10 Ah being optimised this year
- 50 Ah A-sample next



FEATURES



Non-flammable
No liquid



Competitive
performance
vs Li-ion

BENEFITS



Lighter vehicle
High cell-to-pack ratio



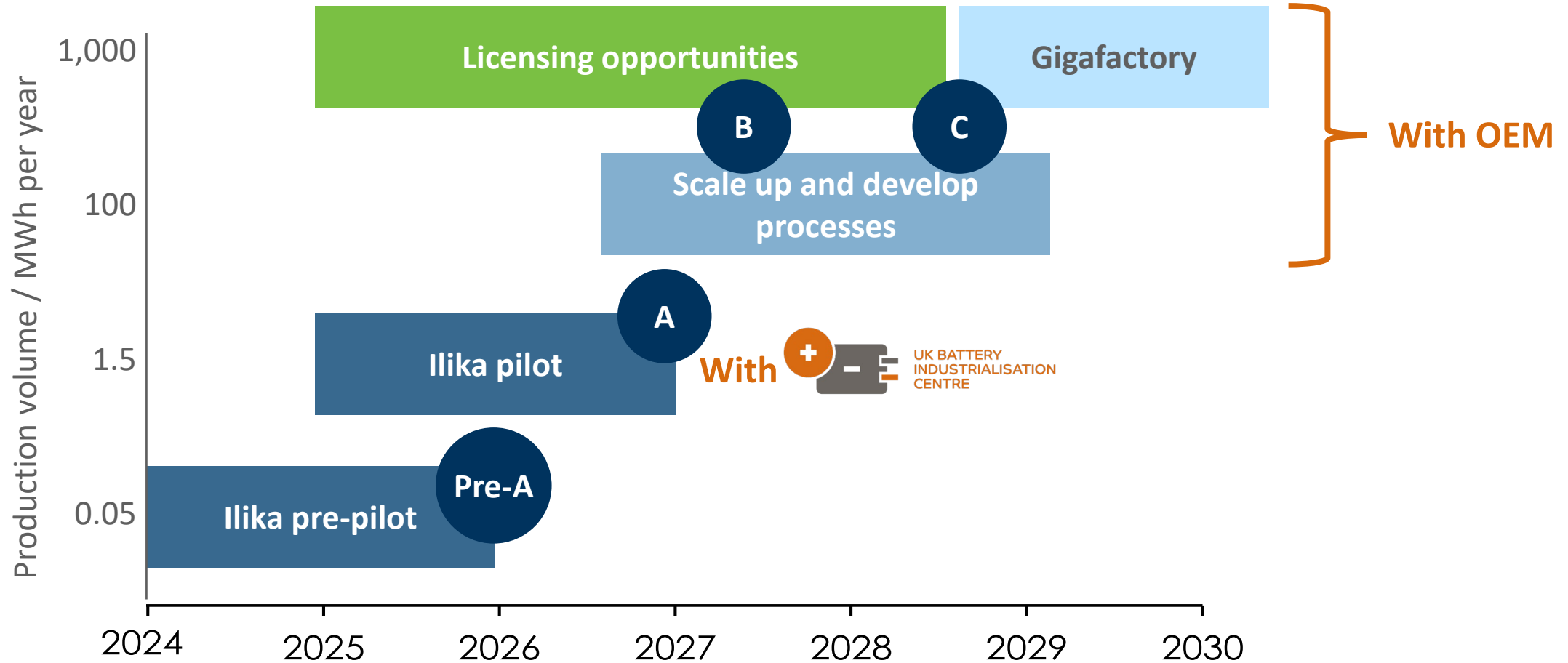
Longer range



Safe in
manufacture, use
and recycling

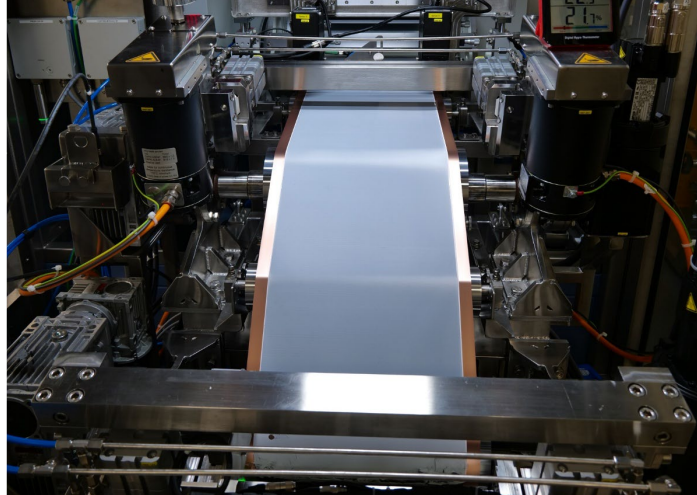


Commercialisation and industrialisation plan



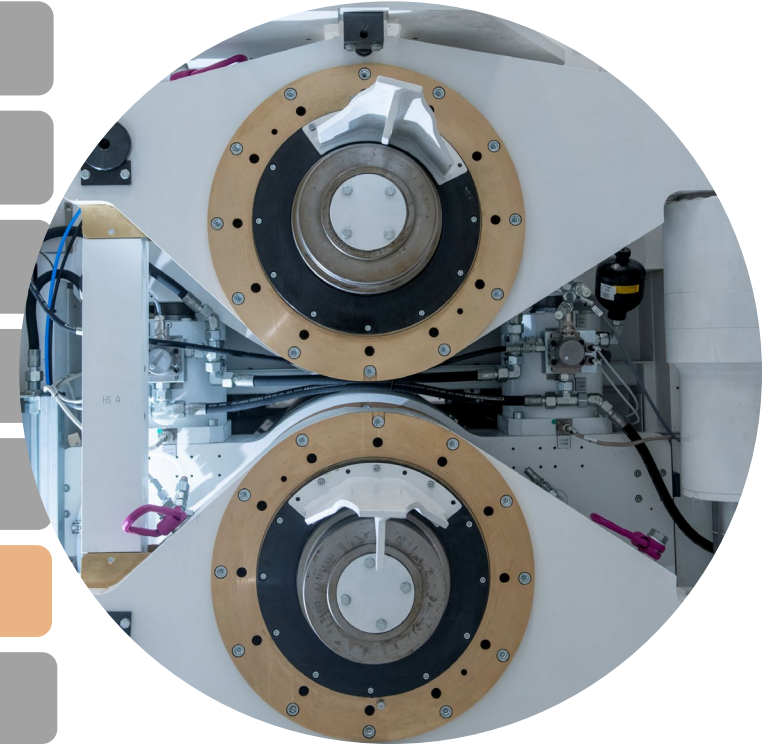
- A** MVP (A-samples) allow the Company to enter RFQs
- B** **C** Collaborate to produce B, C samples on production-intent equipment

UKBIC's capabilities: what do we do?



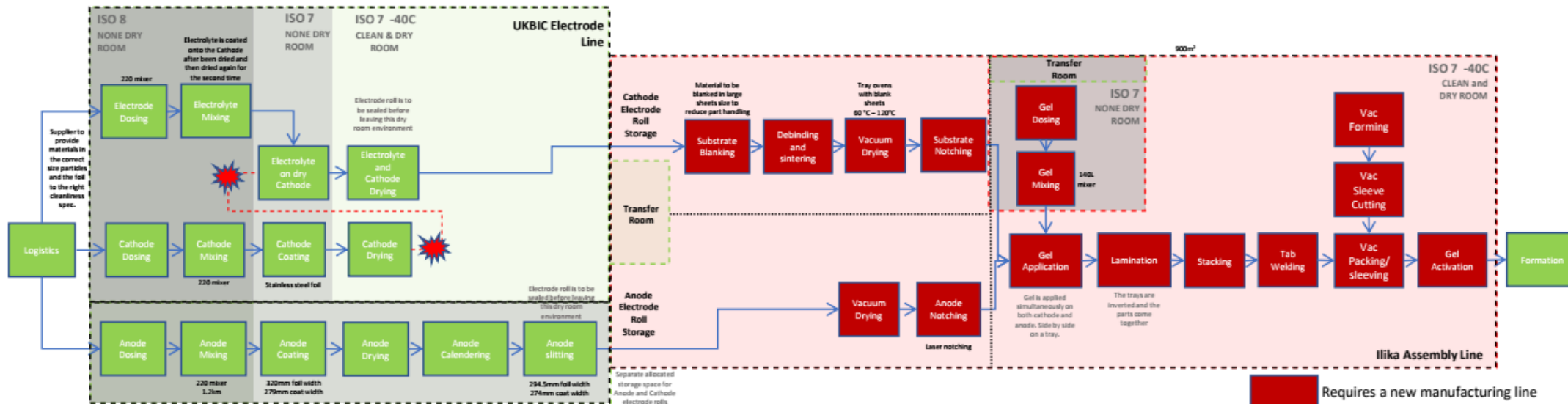
UK Battery Industrialisation Centre

- + UK manufacturing research facility based in the Midlands
- + Open to organisations looking to scale technology in the UK
- + Access to Module and Pack capability
- + Trial and validation at industrial scale, speed and quality
- + Available to any sectors looking to scale battery technologies
- + Customers retain full ownership of their IP developed at UKBIC
- + Delivering skills, training and knowledge transfer for the UK



BUS100 (Jun – Dec 22)

- **Aim:** Economic assessment on placing a 100 MWh SSB line at UKBIC
- **Learnings:**
 - A solid-state battery line could be installed
 - Attention required for solid electrolyte coating and cell assembly steps



Solid-State battery process flow map in the UKBIC facility

BUS100 (June-December 2022)

- UKBIC was subcontracted to produce a feasibility study
 - **Aim:** demonstrate whether it was possible to install a solid-state battery line in UKBIC which utilised as much existing equipment as possible

Gap analysis



Facility plan



Cost of
bespoke, non-
UKBIC
manufacturing
equipment



Health, safety,
and
environmental
assessment



SiSTEM (October 2023-March 2025)

- **Aim:** Validate the manufacturing of Goliath on Giga-scale equipment and plan for further scale-up
- **Learnings:**
 - Successful demonstration of manufacturing in a Giga-scale factory setting, using industry standard equipment, at UKBIC
 - Large scale preparation of Goliath electrolyte and the coating of our composite electrode-electrolyte



SiSTEM (October 2023-March 2025)

- Physical trials were undertaken at UKBIC to demonstrate the manufacturing of Ilika's SSB electrodes at GWh scale:



The results exceeded all expectations for product performance and the simplicity of the operation

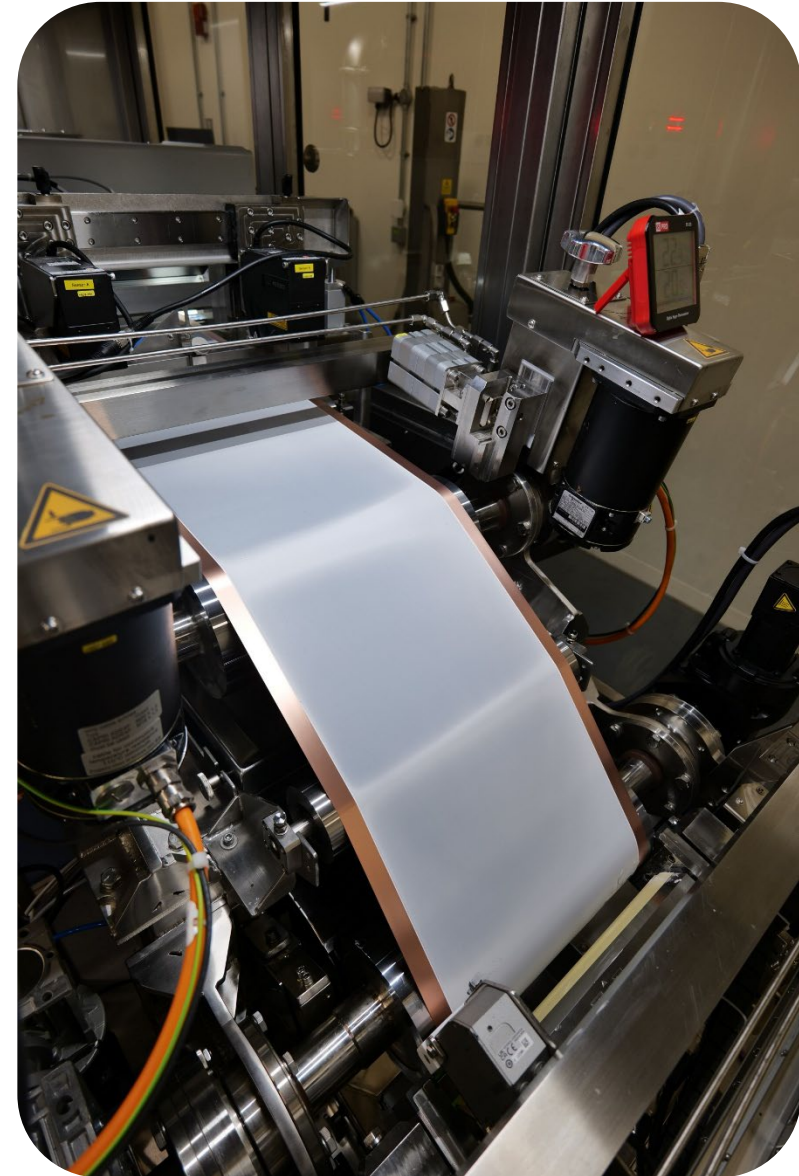
PRIMED (August 2025-June 2026)

- **Aims:**
 - Manufacture 50Ah A-sample prototypes on industry-relevant equipment at UKBIC
 - Build a digital twin of Goliath SSB manufacturing line (HSSMI)
 - Make Goliath ready for commercialisation
- Steering from JLR and Prof. Paul Shearing at University of Oxford



PRIMED (August 2025-June 2026)

- The programme uses UKBIC's Flexible Pilot Line (FPL) to carry out production of Ilika's SSB electrodes
- FPL is being used due to smaller amount of required material
- Initial trial run successful and production run is imminent



Summary

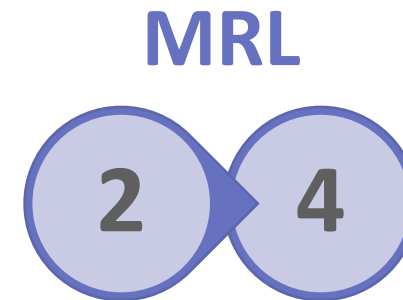
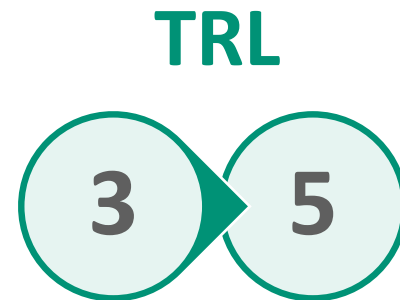


■ UKBIC

- Collaborating with Ilika is a perfect example of UKBIC delivering on its mission to assist UK organisations to scale up to volume production
- Working with Ilika has increased UKBIC's understanding of what the equipment and our people are capable of
- The current Ilika project is one of the first commercial projects on the FPL
- We look forward to continuing the journey with Ilika as they travel further up the TRL scale

Summary

- Ilika
 - Opportunity to work with UKBIC's experts has helped Ilika's cultural transformation from R&D to fluency in terms of manufacturing
 - Opportunity to work with UKBIC's equipment had helped Ilika evidence that our SSB technology can be scaled-up in LIB facilities
 - **NEXT:** Successfully complete the PRIMED programme and deliver A-sample



Thank you



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