Our battery capabilities and projects

We help companies to develop, prove, scale-up and commercialise new products and processes

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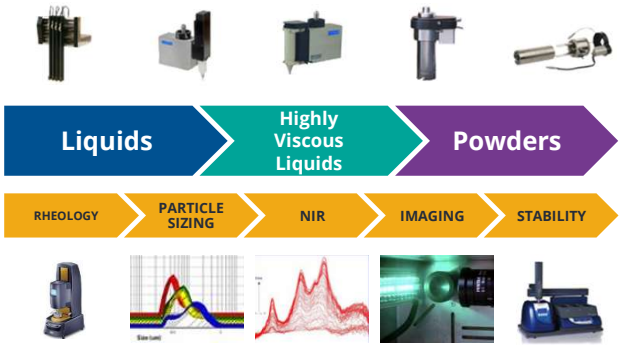
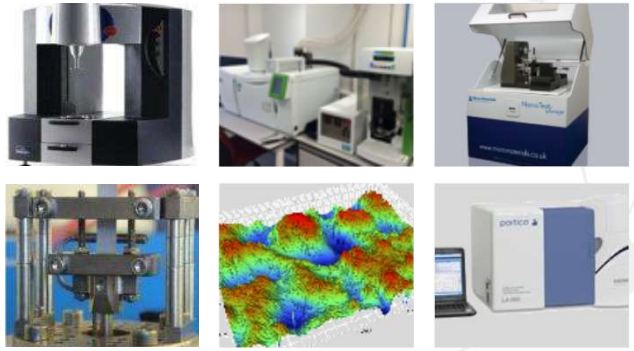
Capabilities in formulation

Automated formulation

Dispersion and scale-up

Characterisation





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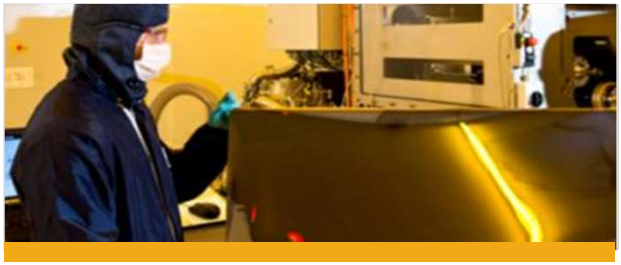
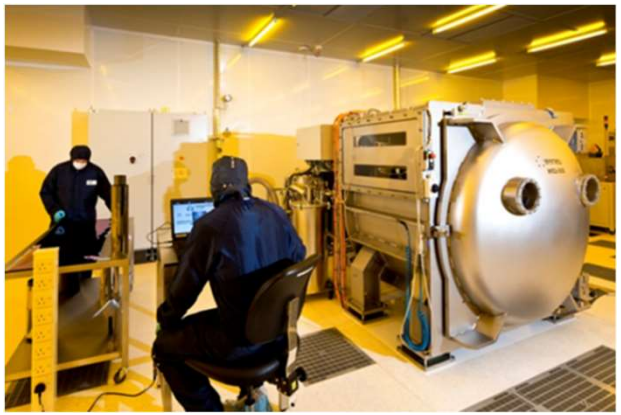
High volume coating capabilities

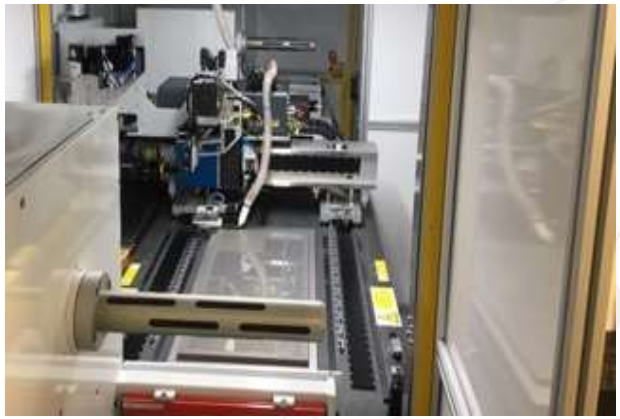


Roll-to-roll Vacuum Deposition

Roll-to-roll Solution Coating

Roll-to-roll Laser Processing





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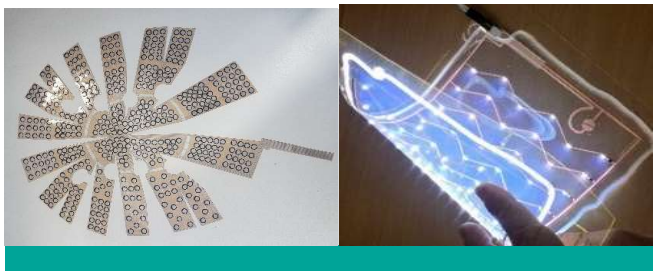
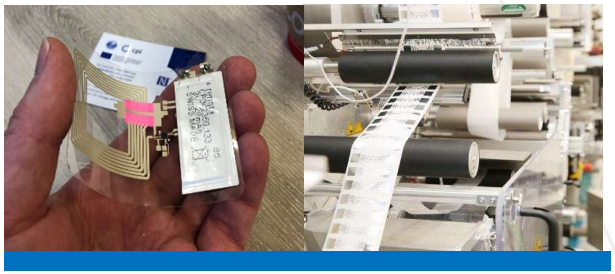
Embedded Sensing Capability

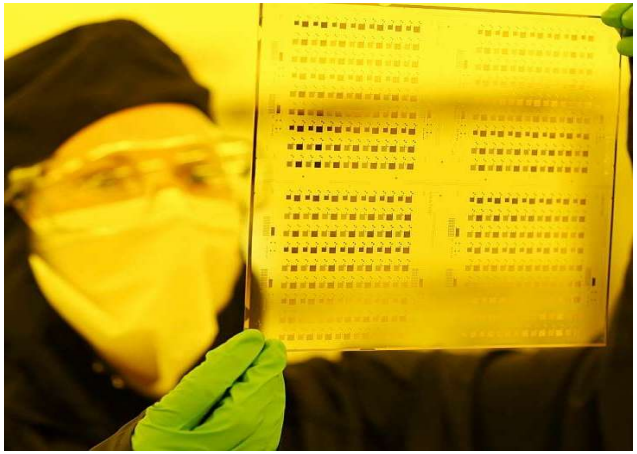
Sensor development



Roll to Roll Sensor Manufacture



Roll to Roll Sensor Integration



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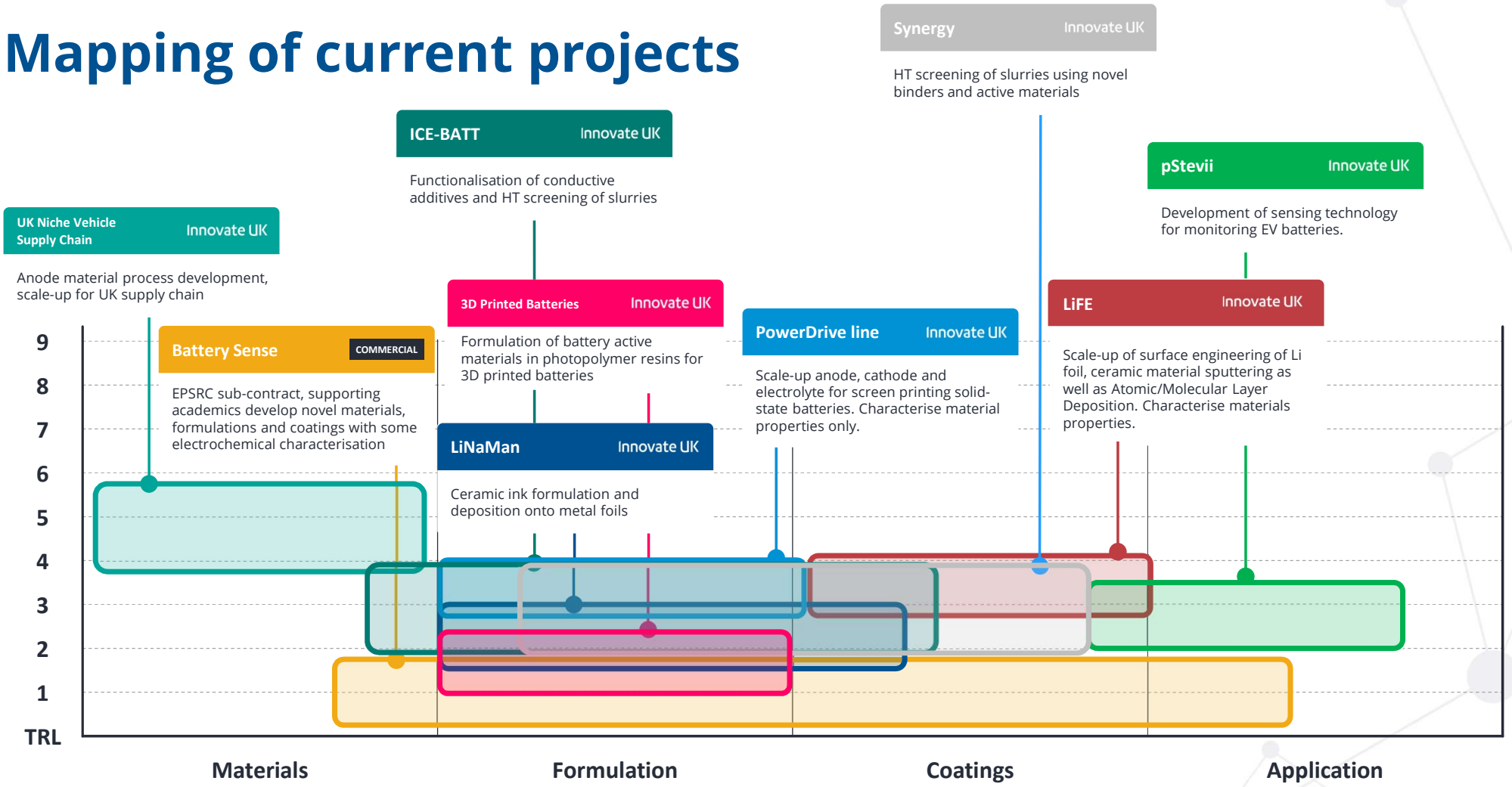
Mapping of current projects



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UK niche vehicle battery cell supply chain

Developing the UK supply chain

Niche electric vehicle development can be hampered in the UK by a lack of availability and supply security of suitable batteries. In turn the UK chemical industry is well placed to supply the active materials for cell manufacturing in the UK.

This project aims to bridge the gap between research and product and establish battery cell manufacture in the UK.

agm batteries

williamblythe Excellence in chemistry

WILLIAMS ADVANCED ENGINEERING

WMG THE UNIVERSITY OF WARWICK

Lancaster University

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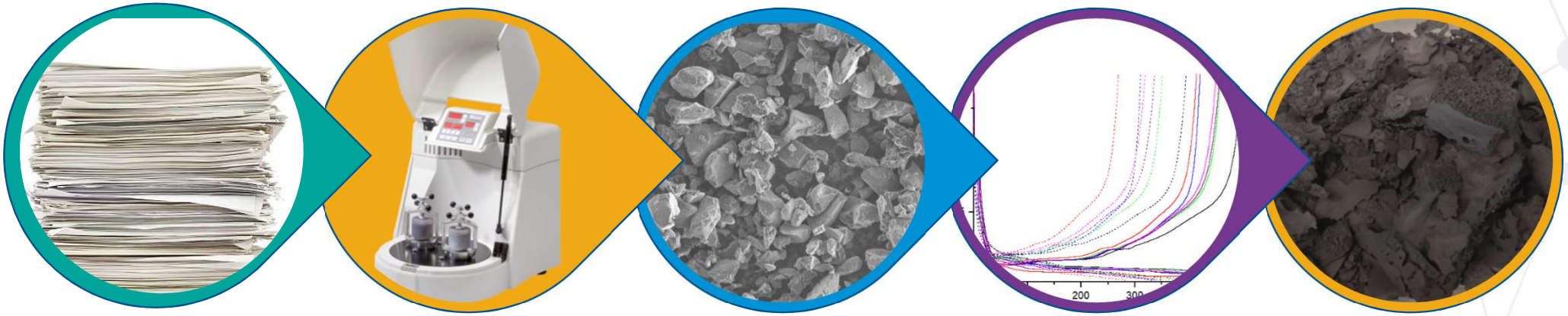
UK-NVBCSC: What are CPI doing?

Process Development and scale-up evaluation of anode material



Anode material manufacture route evaluation

Process development (lab)

Analysis of produced material

Evaluation of material performance

Product scale-up and technical transfer

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LiNaMan:
Re-engineering sodium ion battery technology

Safe, low-cost, high performance energy storage

Demonstrating that novel technology based on sodium nickel chloride can be used to replace existing lithium-ion (Li-ion) battery solutions in electric vehicles and for grid storage.

Developed prototype is cobalt free, with improved safety, and demonstrated path to scale-up and commercial viability.

LiNa energy

Lancaster University

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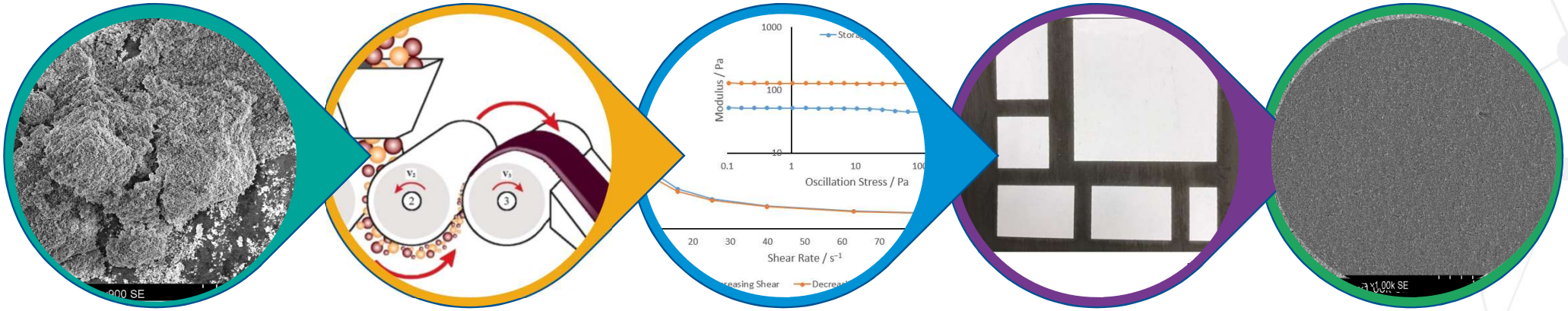
LiNa Man: What did CPI do?

Formulated electrolyte powder into ink for screen printing to a dense electrolyte film



Raw material characterisation

Formulate electrolyte into ink for screen printing

Rheology to select optimum formulation

Screen print to metal surface

Printed film characterisation

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ICE-Batt

Innovative **C**arbons for **E**lectrodes in **Batt**eries

Optimising existing Li-ion cathode materials, exploring alternative solvents and investigating the inclusion of innovative carbons in the electrode structure. Taking this concept through to commercial realisation.

JM Johnson Matthey
Inspiring science, enhancing life

Thomas Swan

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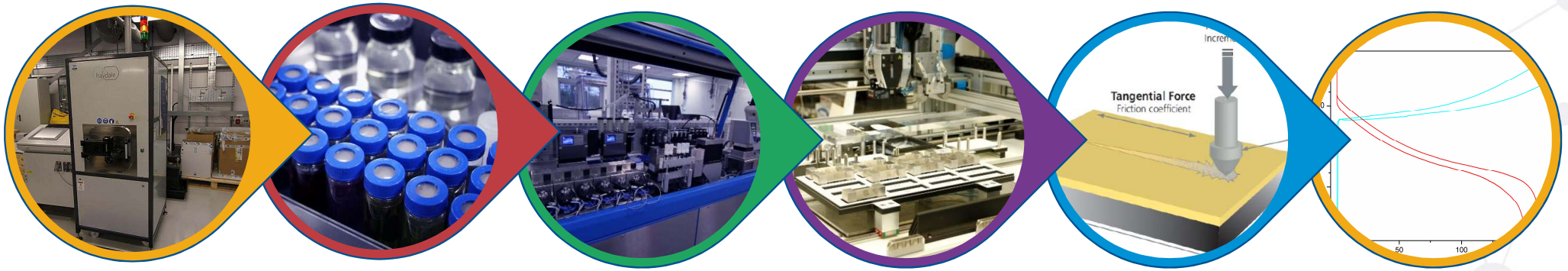
ICE-Batt: What are CPI doing?

- Intelligent, high throughput, formulation of actives, binders and innovative carbons.
- Functionalisation of innovative carbons for optimising dispersions.
- Characterisation and performance evaluation of cathode electrodes



Functionalisation Trials | Laboratory Formulation | High-throughput Formulation | Drawdown coating | Screening of electrodes | Material performance

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LiFE:
Li-foil coatings for Li-S battery technology

Safe, extended life-cycle and improved coulombic efficiency

Demonstrating handling, storage and processing of Lithium foils in a clean room and laboratory environment (non dry room).

Developed high energy radiation recipe for surface engineering, scale-up of ceramic coating, and low temperature ALD recipes of ceramic and organometallic coatings of Lithium foils.

OXIS ENERGY
Next Generation Battery Technology

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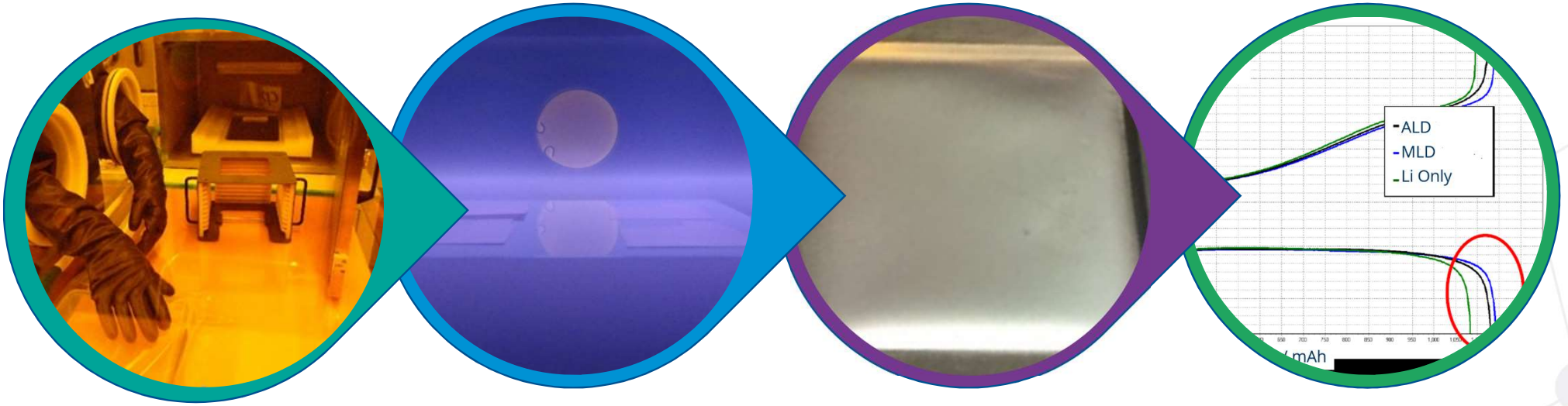
LiFE: What did CPI do?

Surface engineering, ceramic and organometallic coatings of Lithium foils



Tools modification to operate in non dry room (argon atmosphere)

High energy radiation surface engineering

Scale up of ceramic coatings

Low Temperature ALD of ceramic and organometallic coatings

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Thank you

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