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Planning

Coating/Dryer Equipment for Flexible Industrialisation Line (FIL)

UK Battery Industrialisation Centre

F01: Prior information notice
Prior information only
Notice identifier: 2022/S 000-025666
Procurement identifier (OCID): ocds-h6vhtk-036812
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Section I: Contracting authority

I.1) Name and addresses

UK Battery Industrialisation Centre

Rowley Road, Baginton

Coventry

CV8 3AL

Contact

Procurement

Email

ProcurementTenders@ukbic.co.uk

Telephone

+44 2475267743

Country

United Kingdom

Region code

UKG3 - West Midlands

Internet address(es)

Main address

https://www.ukbic.co.uk/

Buyer's address

https://www.ukbic.co.uk/

I.3) Communication

Additional information can be obtained from the above-mentioned address

I.4) Type of the contracting authority

Body governed by public law

I.5) Main activity

Other activity

Research & Development

Section II: Object

II.1) Scope of the procurement

II.1.1) Title

Coating/Dryer Equipment for Flexible Industrialisation Line (FIL)

Reference number

DN630815

II.1.2) Main CPV code

- 31600000 - Electrical equipment and apparatus

II.1.3) Type of contract

Supplies

II.1.4) Short description

UKBIC has a requirement to purchase a range of equipment relating to the manufacture of battery electrodes to establish a Flexible Industrialisation Line (FIL) at the UK Battery Industrialisation Centre.

The UK Battery Industrialisation Centre (UKBIC) is part of the UK Government's Faraday Battery Challenge. UKBIC is a national battery manufacturing development facility helping to scale-up battery manufacturing and facilitate upskilling in the battery sector. We are a publicly funded, open access facility, funded by the Faraday Battery Challenge at UK Research and Innovation (UKRI).

This PIN lists the general requirements for anode and cathode coating and drying equipment to be housed in a clean and dry room for a battery electrode Flexible Industrialisation Line (FIL) at UKBIC.

II.1.6) Information about lots

This contract is divided into lots: No

II.2) Description

II.2.3) Place of performance

NUTS codes

- UKG3 - West Midlands

Main site or place of performance

United Kingdom Battery Industrialisation Centre

Rowley Road

Baginton

CV8 3AL

United Kingdom

II.2.4) Description of the procurement

Vendors will be invited to submit a bid to provide a flexible coating and drying system to fit into a clean and dryroom. This system would need to be representative and scale-able to a larger system

A mixed slurry for anode and for cathode must be coated onto metal foils through a changeover delivery system.

• Machines in the range of 320mm to 640mm foil width will be considered

• The carrier foil is coated with the slurry by an application tool, such as a slot die. The foil can be coated continuously and/or intermittent.

• The foils are coated in a roll-to-roll process. The coating of the upper and lower side of the foil is realised sequentially by an additional run through the equipment unless double sided simultaneous coating is implemented as a desired option.

• After coating, the foil is directly passed through the dryer. Any solvent is extracted by heat and is then recovered as required e.g., NMP. The dryer is divided into different temperature zones. After drying, the electrode coils are rewound at ambient temperature.

• The coating machine will be installed in a dry and clean room down to -70°C dewpoint

• The coater/dryer should fit in a room approximately 15m long by 3m high internally by 4.6m wide

• Coating thickness per-side (wet) 50-300 µm and coat weight measured

• Coating speed range 2-10 m/min

• Heating range 30°C - 180°C (for all sections independently)

• Dryer system will be designed to handle a range of solvents typically used in lithium-ion and sodium-ion electrodes eg Water, NMP, IPA and others

• System will be designed to collect solvents in a condenser and entrapment system i.e., carbon bed external to the coating room

This system would need to be representative and scale-able to a larger system.

One coater/dryer machine must be procured – if budget allows, a second coater/dryer machine may be procured to separate anode and cathode coater process to avoid cross-contamination. The tenderer is encouraged to provide a quotation to suggest what savings could be made if a second coater/dryer was ordered at the same time as the first.

The equipment must offer modular solution, so equipment can be easily reconfigured or decommissioned in the future.

Bidders are encouraged to put forward next generation coating and drying technologies.

All equipment to provide UKCA conformity.

II.3) Estimated date of publication of contract notice

16 January 2023

Section IV. Procedure

IV.1) Description

IV.1.8) Information about the Government Procurement Agreement (GPA)

The procurement is covered by the Government Procurement Agreement: Yes

Section VI. Complementary information

VI.3) Additional information

We welcome the following information from any interested suppliers

• Budget Costing – Cost estimation for similar systems

• Indicative operational costs

• Timing

• Layout / footprint (operational and equipment)

• Brochures

• Specification sheets

• Unique selling points compared to competition

• Technical and service support in the UK

• Typical Services required for: Power (Load - XX kw)/ Chilled water (Load - XX kW) / Compressed air (Min/Max Pressure - XX bar)/ Special Gas requirements/ Compressed air (Min/Max Pressure - XX bar)/ Equipment heat load (Thermal power released - XX W)/ Waste-water and -air