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Planning

Mixing Equipment for UKBIC Flexible Industrialisation Line (FIL)

UK Battery Industrialisation Centre

F01: Prior information notice

Prior information only

Notice identifier: 2022/S 000-025174

Procurement identifier (OCID): ocds-h6vhtk-0366c4

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Section I: Contracting authority

I.1) Name and addresses

UK Battery Industrialisation Centre

Rowley Road, Baginton

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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

Mixing Equipment for UKBIC Flexible Industrialisation Line (FIL)

Reference number

DN631119

II.1.2) Main CPV code

- 31000000 - Electrical machinery, apparatus, equipment and consumables; lighting

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 slurry mixing 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

II.2.4) Description of the procurement

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

For the mixing process of the anode and cathode materials to form a coatable electrode slurry, the necessary equipment must be procured;

In the first step, the materials (liquids and solids) of the electrode slurries must be dosed

to the mixing system from storage containers. The materials are subdivided into active materials (e.g. graphite, lithium metal oxide etc. – typically in the form of micron scale powders), conductive agent, binder, additives, solvents etc.

The target of the process is the production of a homogeneous electrode coatable slurry. Agglomerates or contamination of the slurry with foreign particles (especially metallic particles, air bubbles) must be excluded. Mixing is precursor step for coating and drying. The supplier must ensure that his system can be linked to the coating and drying line, or that slurry can be transferred to the coater.

- The mixer must be capable of both Anode and Cathode slurries, therefore the supplier must provide a thorough cleaning strategy for the system.
- Vendors are invited to submit equipment solutions to provide a mixing capability for minimum 25L to 70L per batch, mixing can be a batch or comparable continuous process.
- The equipment needs to operate between ambient conditions to -70°C dewpoint.
- The mixing equipment must be capable of producing homogenous, gas free electrode slurries suitable for slot-die coating on conventional coating and drying equipment.
- The mixing system must have the capability for inerting and provision of dry nitrogen or dry argon blanketing or vacuum system.
- The equipment must offer modular solution, so equipment can be easily reconfigured or decommissioned in the future.
- The equipment must be capable of producing different recipes and formulations and mixing protocols.

One mixing system must be procured – if budget allows, a second mixing system may be procured to avoid cross-contamination. The potential bidders are encouraged to provide information and suggest what savings could be made if a second mixing system was ordered at the same time as the first.

Bidders are encouraged to put forward space or energy efficient next generation mixing processes applicable to battery slurries.

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:

- Layout / footprint (operational and equipment)
- Timing
- 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