Facility for Low Carbon Technology Deployment

**GEF BEE UNIDO Initiative**

Terms of Reference

**Industrial IoT Innovation Challenge 2020**

The **Facility for Low Carbon Technology Deployment (FLCTD),** a project of the United Nations Industrial Development Organization (UNIDO) implemented in collaboration with the Bureau of Energy Efficiency (BEE) is launching the 2020 Innovation challenge in the “Industrial Internet of Things” technology vertical.

Entries are invited to the 2020 FLCTD Innovation Challenge to identify promising innovative Industrial IoT solutions, which can be *deployed in Micro, Small and Medium manufacturing industries*. The solution should address technology gaps for, real-time monitoring and mobile reporting of parameters of equipment and processes to reduce energy consumption, increase productivity. The maximum award per entry is up to US$50,000 (excl GST).

Solutions should demonstrate new automation concepts and/or solutions to address the following use cases to achieve Expected Outputs listed below. *The first two use cases are mandatorily required*. The solution may have additional features to assist productivity improvement such as, but not limited to, tracking and maintaining operational health and safety requirements in the factory or the industrial unit.

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| **Use case\*** | **Expected Outputs** |
| Improve Energy Efficiency | * Track and reduce idle running of equipment while not in use * Track efficiency of equipment and Specific Energy Consumption of unit/plant |
| Energy saving through Production Optimization | * Optimize the Production process * Decrease interruptions in production processes, * Scheduling manual/autonomous operations |
| Improve Productivity | * Analytics, track machine conditions and reduce down time * Monitor KPI to track production improve * Track anomalies in Production process and quality of intermediate products to reduce rejection of finished product |
| Reduce Wastage of Raw materials and Emissions | * Monitor, Input quality Control, Producing Quality Products * Optimization of Resources utilized * Monitor emission levels to meet Government Regulations |
| Maintenance | * Condition based maintenance (CBM) * Analytics, Optimization of Maintenance schedules |

The proposed Innovative solutions should be based on proof-of-concept or early stage prototype and clearly indicate the replication potential and opportunities for scale-up, and also the following:

* Innovations that result in overall improvement in energy efficiency, productivity and maintainability
* Innovation should not have any negative impacts on the end product/ equipment/ environment/ occupational, consumer and community health and safety etc.

**Technical Shortlisting Criteria**

*This is only an indicative list, and is not exhaustive, and is subject to change and modification.*

* **Energy Saving Goal** of Industrial IoT deployment in the core operational processes
* **Innovation** achieved in above referred use cases due to Industrial IoT deployment
* **Empowerment** of personnel across different functions due to Industrial IoT deployment
* **The Technological reliability** of Industrial IoT system proposed / deployed
* **Readiness and Feasibility** for commercial deployment
* **Data Governance**
  + Data storage and maintenance
  + Data security in terms of protecting data from any unauthorized third-party access or malicious attacks and exploitation of data
  + Data privacy with respectto processing, storage and usage, and rights
  + Sharing with Operational Roles
  + Data Interoperability across Operational (OT) and Information Technology (IT) Systems

**Eligibility**

The innovation challenge is open to:

* Innovators / Entrepreneurs,
* Startups,
* Indian Technical Institutes / Universities / Research Institutes,
* Micro, Small and Medium Enterprises,
* Consortiums of entrepreneurs and academic institutions with industry partnerships are highly encouraged to participate in the innovation challenge.
* Innovation teams with **women innovators and/or entrepreneurs** are particularly welcomed.

**Incentives for Participation**

* **Grant** up to USD 50,000 for winning entry with provision for demonstration at multiple locations, wherever required;
* **Performance Verification** to establish the efficacy of innovative technology in-field working conditions;
* **Business Acceleration and Mentoring** support from industry experts;
* Opportunity to **Network** with investors and industry stakeholders to publicize the innovation;
* The winners of the Innovation Challenge will receive recognition from Bureau of Energy Efficiency and UNIDO;

**General Guidelines, Terms, and Conditions**

* Participant shall submit solutions/product designs owned by them or to which they have right to claim and use as owned by them. Suitable documents to this effect must be submitted along with the entry.
* Participant shall ensure that any submission made in the Challenge does not violate any of theirs or any third party’s intellectual property rights, confidentiality, trade secret and violate any statutory provisions.
* BEE, UNIDO, its employees, members of Expert Panel and organizers of this innovation challenge shall in no event be liable for any violation of IPR, or license or permits required from third party.
* Participant shall not assign any rights, obligations, or privileges hereunder without the prior written consent of Organizers of the Challenge.
* BEE, UNIDO, Organizers, members of Expert Panel, supporting organizations or any employee or agent shall not be liable for, any costs incurred or loss or liability or loss in expectation of profits or loss due to failure of understanding the terms and conditions of the Challenge or of any expected benefit of the participant in relation to entry and submission in the Challenge.
* By way of selecting the entries for evaluation at any Stage or for Final Award, Participants shall not be entitled to claim or have got endorsement from BEE and UNIDO of any sought whatsoever, or have earned approval of any sought whatsoever of BEE and UNIDO, for use in any form whatsoever anywhere in the Industry.
* At any Stage while evaluating the entries, organizers shall be free to contact the Participants and carry out discussions on the matter submitted by the Participants and seek clarifications. Any solicitation by participants in whatever form in respect of their entries shall not be entertained and entries of such participant shall be disqualified from the Innovation Challenge.
* BEE/ UNIDO/ Organizers may change the Terms and Conditions of participation at any time without prior notice. It shall be sole responsibility of the Participants to update themselves of information posted in the website from time to time.
  + BEE/UNIDO/Organizers may disqualify a Participant from the Challenge for breach of any of the conditions of this Challenge, or discontinue this Challenge.