



Invitation for Submitting EoI for Commercialization of 'Digital Mine using Internet of Things'

1.0 Background

CSIR-Central Institute of Mining and Fuel Research (CSIR-CIMFR) has developed a 'Digital Mine using Internet of Things'. Patent entitled "Digital Mine using Internet of Things", and copyright applications entitled "Digital Mine (DM) Software" and "Mine Environment Monitoring and Prediction (MEMP) Software have been submitted for the complete technology developed by CSIR-CIMFR. A 3D virtual mine using integrated monitoring and hazard prediction system has been developed for improving safety and productivity in underground mines. The integrated system includes different hardware and software modules (Fig. 1) covering: (i) Miners tracking and voice communication, (ii) Environment and gas monitoring, (iii) Strata monitoring, (iv) Store inventory management, (v) On-line production and dispatch monitoring, (vi) Personnel management, (vii) Fire and explosivity status monitoring, (viii) Rescue and disaster management, (ix) Machine health condition monitoring, (x) On-line form submissions and e-governance, (xi) Training module, (x) Slope/landslide monitoring, etc. The system uses 3D digital mine, IoT-enabled sensors and control units, and data acquisition, prediction and warning software. IoT-based sensors and devices have been used to control relay of power supply, fan speed, on-off motors and pumps, etc. for averting accidents in underground mines as well as to provide warning of impending hazards for taking necessary control measures.

2.0 Requirement

CSIR-CIMFR requires an industry partner for commercialization of 'Digital Mine Using Internet of Things'. Therefore, Expression of Interest (EoI) is invited from the firms for fabrication and commercialization of the system.

3.0 Eligibility Criteria

- (i) The firm should have experienced on development/fabrication, successful installation/operation and marketing of hardware/software along with qualified technical manpower. The technically qualified manpower should have experience in the above mentioned or similar type hardware/software fabrication/development and installation/operation.
- (ii) Total turnover of the firm should be minimum of Rs. 1.00 core during the last three financial years and Rs. 50.00 lakh in the last financial year.
- (iii) MSME, Start-up and Make in India firms are also invited to submit the EoI.

4.0 Terms and Conditions

- (i) The selected firm shall have to sign a licensing agreement with CSIR-CIMFR on

non-exclusive basis which shall be finalized on mutually agreed terms and conditions based on CSIR Technology Transfer Guidelines.

- (ii) Licensing agreement on non-exclusive basis shall be valid for 10 years and which may be renewed based on mutual consent.
- (iii) The fixed lump sum licensing fee of Rs. 15.00 lakh plus GST has to be paid by the selected firm before signing the licensing agreement for commercialization of the system.
- (iv) Royalty to be paid by the selected firm based on percentage of selling price of the system during commercialization period. It should be minimum of 4% of selling price of product (excluding taxes) and it's GST.
- (v) The technically qualified firm offering highest royalty rate will be selected for licensing agreement.

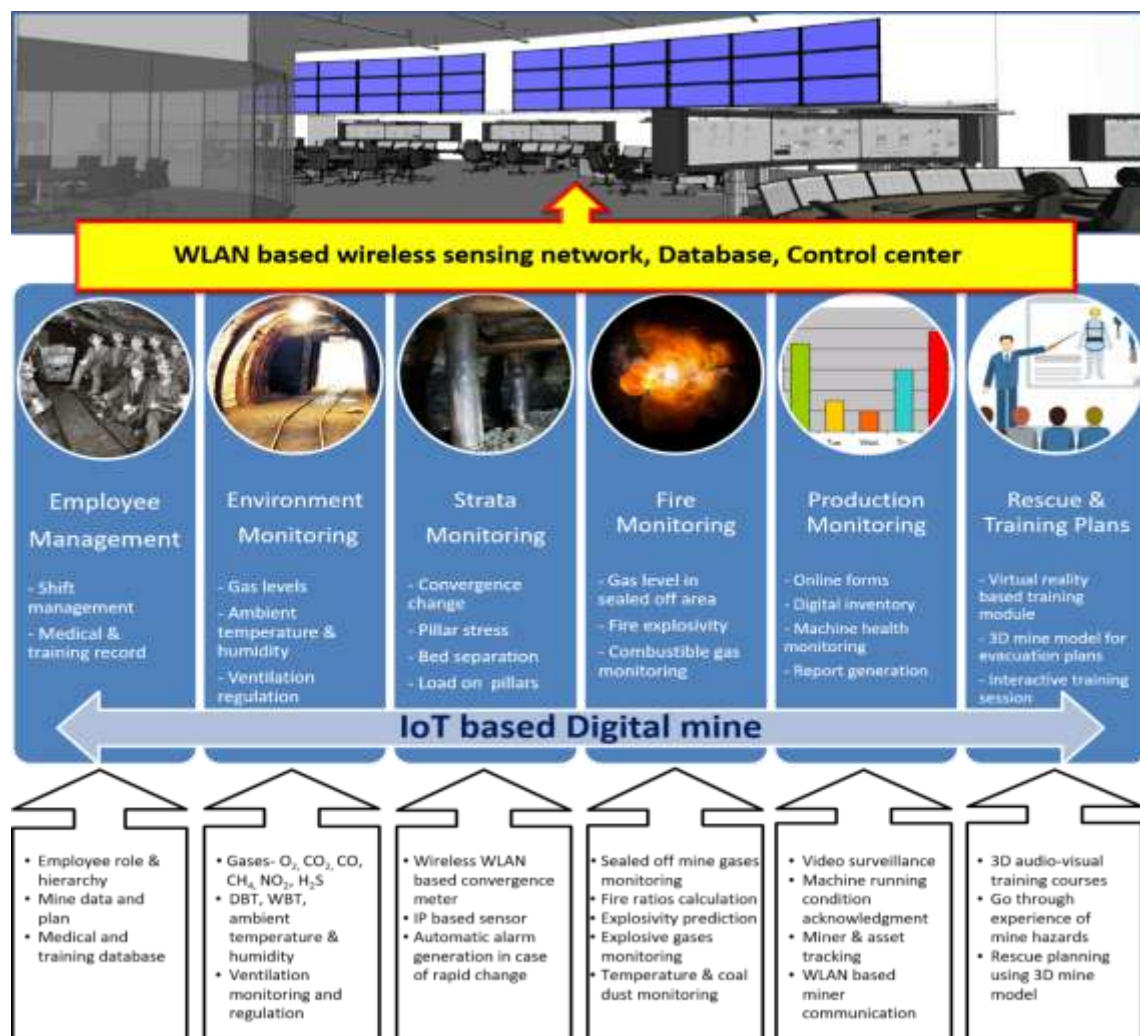


Fig. 1: Block diagram of different modules of digital mine using IoT



5.0 Expression of Interest

The interested firm should submit their EoI in two bids (Technical and Financial Bids) separately with all necessary information and documents.

(i) Technical Bid:

Technical bid should include following supporting document and acceptance by the firm on its Letter head:

Requirement	Supporting documents/ Acceptance to be given by the firm
a) Company profile and Registration details of the company covering: Company registration certificate copy, PAN copy, GST certificate copy, CIN/UDIN no., etc.	Provide information and enclose supporting document
b) Experienced details of the firm on development/fabrication, successful installation/operation and marketing of hardware/software along with qualified technical manpower. The technically qualified manpower should have experience in the above mentioned or similar type hardware/software fabrication/development and installation/operation.	Provide information and enclose supporting document along with qualification and experienced details of the technical staffs
c) Last 3 years Return of the company certified by a Chartered Accountant. Three years cumulative turnover of the firm should be minimum of Rs. 1.00 core and Rs. 50.00 lakh in the last financial year.	Provide information regarding turnover and enclose supporting document.
d) Acceptance of the firm to sign licensing agreement with CSIR-CIMFR for 10 years period on non-exclusive basis and which may be renewed based on mutual consent.	The firm should accept it.
e) During 10 years tenure of the agreement and thereafter the selected firm shall undertake on their behalf and on behalf of their subcontractors/employees/ representatives/ associates to maintain strict confidentiality and prevent disclosure thereof, of all the information and data exchanged/generated pertaining to work under the agreement for any purposes other than in accordance with the agreement.	The firm should accept it.
f) Arbitration: In the Event of any disputes relating to or arising out of this agreement, such disputes shall be resolved amicably by mutual discussions and negotiations in good faith. Failing the above, the disputes shall be referred to and finally resolved by	The firm should accept it.



<p>Delhi International Arbitration Centre (DIAC) under Arbitration and Conciliation Act. 1996 and the rules framed there under for the time being in force.</p> <ul style="list-style-type: none"> • The seat of Arbitration shall be New Delhi. • The language of arbitration proceedings shall be English only. • Each party shall bear and pay its own cost of the arbitration proceedings unless the Arbitrator otherwise decides in the Award. • The provisions of this clause shall not be frustrated, abrogated or become inoperative, notwithstanding this agreement expires or ceases to exist or is terminated or revoked or declared unlawful. 	
<p>g) Jurisdiction and applicable laws: The agreement including all matters shall be governed by Indian Laws both substantive and procedural for the time being in force and subject to the exclusive jurisdiction of Courts at New Delhi</p>	<p>The firm should accept it.</p>

(ii) Financial Bid:

Financial bid should include the fixed licensing fee of Rs. 15.00 lakh plus GST and rate of royalty to be paid to CSIR-CIMFR by the firm for the technology transfer:

Requirement	Confirmation by the firm for payment of fixed lump sum fee and Rate of royalty to be paid
<p>a) Fixed lump sum license fee of Rs. 15.00 lakh plus GST to be paid by the firm to CSIR-CIMFR before signing the Licensing Agreement.</p>	
<p>b) Royalty rate to be paid by the firm based on percentage of selling price of the product. It shall be minimum of 4% of selling price of product (excluding taxes) plus GST as per prevailing rate.</p>	

6.0 Submission of EoI

The interested firms shall submit their EoI in a sealed envelope mentioning on top “EoI for Digital Mine Using IoT” and inserting sealed Technical Bid envelope and Financial Bid envelope in the said envelope. EoI shall be submitted to the following address:

The Head, BDIL,
 CSIR-Central Institute of Mining and Fuel Research,
 Barwa Road, Dhanbad – 826001, Jharkhand, India