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Government of Jharkhand

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District Name : Dhanbad

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Purpose of stamp duty paid : AGREEMENT

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इस रसीद का उपयोग केवल एक ही दस्तावेज पर मुद्रांक शुल्क का भुगतान के प्रमाण हेतु ही किया जा सकता है। पुनः प्रिन्ट कर अथवा फोटो कॉपी आदि द्वारा इसी रसीद का दुसरे दस्तावेज पर मुद्रांक शुल्क का भुगतान के प्रमाण हेतु उपयोग भारतीय मुद्रांक अधिनियम, 1899 की धारा 62 अन्तर्गत दण्डनीय अपराध है।

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AGREEMENT

THIS Agreement is made and executed on this 10th day of Dec., 2020 ("Effective date") at New Delhi

BY AND BETWEEN

The President of India acting through **Mission Director, Mission Office NM-ICPS**, Ministry of Science & Technology, Department of Science & Technology, Technology Bhavan, S J S Marg, New Delhi-110016 (hereinafter referred to as 'Mission' which expression shall, unless excluded by or repugnant to the context, be deemed to include its successors in the office and assignees) as the **FIRST PARTY**

AND

The Host Institute (HI), i.e., **Indian Institute of Technology (Indian School of Mines) Dhanbad**, A statutory body constituted under the Institutes of Technology Act 1961, functioning at its premises at Police Line Road, Main Campus Indian Institute of Technology (ISM, Hirapur, Sardar Patel Nagar) Dhanbad, Jharkhand 826004 acting through The Director, IIT (ISM) Dhanbad, (hereinafter referred to as 'HI' which expression shall where the context so admits includes its successors in interest and permitted assigns) as **SECOND PARTY**.

AND


Technology Innovation Hub (TIH), i.e., **TECHNOLOGY INNOVATION IN EXPLORATION & MINING FOUNDATION**, A Section-8 Company Registered under Companies Act 2013 with (CINU73200JH2020NPL015292) having office at IIT (ISM) Dhanbad, Jharkhand 826004 represented by Chief Executive Officer (CEO), **TECHNOLOGY INNOVATION IN EXPLORATION & MINING FOUNDATION**, (hereinafter referred to as 'Hub', which expression shall, unless repugnant to the context or meaning thereof, be deemed to mean and include its successors-in-interest, designates and permitted assigns) as **THIRD PARTY**.

"Mission", "HI" and "Hub" shall be collectively referred to as "PARTIES" and individually as "PARTY".

WHEREAS, HI, in response to the "Call for Proposals" issued by the Mission, has submitted a proposal to the Mission showing their willingness for establishment of a Hub i.e., Technology Innovation Hub (TIH) for implementation and realising the part of objectives of National Mission on interdisciplinary Cyber-Physical Systems (NM-ICPS).

AND WHEREAS, Mission has considered the proposal of the HI and based on its technical merit approved the proposal. Accordingly, the Mission agreed to support the Hub at HI with the Grant-In-Aid up to a maximum amount of Rs 110.00 crore to be released to the Hub over a period of 5 years subject to the fulfilment of all the terms and conditions enumerated in this Agreement. Mission has released a token grant of Rs 7.00 crore to HI as an initial grant through Science & Engineering Research Board (SERB) to initiate Hub registration and other administrative actions. The remaining amount will be released periodically and





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directly to the Hub by the Mission, DST. The HI has now created the Hub to achieve the targets set by the Mission.

NOW, THEREFORE, in consideration of the premises and mutual covenants hereinafter contained, the parties hereto agree and understand the responsibilities and obligations of the Parties in the **Agreement** including terms and conditions, financial arrangements, intellectual property rights, monitoring mechanism etc.

2. ABOUT THE NM-ICPS

Cyber-Physical Systems (CPS) are new class of engineered systems that integrate computation and physical processes in a dynamic environment. CPS encompasses technology areas of Cybernetics, Mechatronics, Design and Embedded systems, Internet of Things (IoT), Big Data, Artificial Intelligence (AI) and many more. The CPS systems are intelligent, autonomous and efficient and are expected to drive innovation in sectors as diverse as agriculture, water, energy, transportation, infrastructure, security, health and manufacturing. Thus, it is heralded as the next paradigm shift in technology that can exponentially spur growth and technology led economic development.

To harness the potential of this new wave of technology and make India a leading player in CPS, the Union Cabinet approved the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) to be implemented by DST with a total outlay of Rs.3660 crore for a period of five years. The Mission aims to create a strong foundation and a seamless ecosystem for CPS technologies by coordinating and integrating nation wide efforts encompassing knowledge generation, translation research, technology and product development, human resource development, innovation & commercialization standards and international collaborations. The Mission is implemented through a network of 25 Technology Innovation Hubs (TIHs) established across the country. Each hub will follow a technology life cycle approach, addressing all stages viz. Knowledge-Development-Translation-Commercialization in their assigned Technology Vertical. The hubs will be equipped and supported to function independently as stand-alone entities. However, they would leverage each other's strengths and power of collaboration to produce synergistic outcomes. The NM-ICPS Detailed Project Report (DPR) shall be an overall guiding document for the Mission and Hubs. The 25 Technologies Verticals assigned to 25 HIs are as under:

S No	Host Institute	Technology Vertical
1	IIT Kharagpur, Bengal	AI & Machine Learning
2	IIT Bombay, Maharashtra	Technologies for IoT & IoE
3	IIT Hyderabad, Telangana	Data Banks, Data Services & Data Analysis
4	IIT Bengaluru, Karnataka	Robotics & Autonomous Systems
5	IIT Kanpur, U P	Cyber Security & CS for Physical Infrastructure
6	IIT Jodhpur, Rajasthan	Computer Vision, Augmented & Virtual Reality
7	IIT Roorkee, Uttarakhand	Device Technology & Materials
8	IIT Patna, Bihar	Speech, Video & Text Analytics
9	IIT Madras, Tamil Nadu	Sensors, Networking, Actuator & Controls
10	IIT Hyderabad, Telangana	Autonomous Navigation & Data Acquisition systems
11	IIT BHU, Varanasi, U P	Data Analytics & Predictive Technologies
12	IIT Guwahati, Assam	Technologies for Underwater Exploration

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13.	IIT Mandi, H P	Human Computer Interaction
14.	IIT Delhi	Cobotics
15.	IIT Ropar, Punjab	Technologies for Agriculture & Water
16.	IIT Dhanbad, Jharkhand	Technologies for Mining
17.	IIT Palakkad, Kerala	Intelligent Collaborative Systems
18.	IIT Bengaluru, Karnataka	Advanced Communication System
19.	BITS Pilani, Rajasthan	Bio-CPS
20.	ISI Kolkata, Bengal	Data Science, Big Data Analytics & Data Curation
21.	IIT Indore, M P	System Simulation, Modelling & Visualization
22.	IIT New Delhi	Cognitive Computing & Social Censing
23.	IISER Pune, Maharashtra	Quantum Technologies
24.	IIT Tirupati, A P	Positioning and Precision Technologies
25.	IIT Bhilai, Chhattisgarh	Technologies for Financial Sector (Fintech)

3. GENERALISED ACTIVITIES OF HUBS

The Mission aims to create robustly productive and sustainable hubs with associated ecosystem. The Hub development mechanism adopts a bottom-up revenue model in which the initiation of the Hub is by government support, through NM-ICPS, for developing capabilities and gradual build-up of resource generation in the later years of the Mission period. For the purpose of clearly defining the objectives and the activities of the Mission, it has been divided into four major streams, namely –

(a) **TECHNOLOGY DEVELOPMENT:** Through expert-driven research, Consortium based Research through Cluster-Based Network Programmes, directed research for the specific requirements of Industry, other Govt. verticals and International Collaborative Research Programmes.

(b) **HRD AND SKILL DEVELOPMENT:** Through Fellowship Based UG/ PG, Ph.D., Post-Doctoral and Short Term Training for Faculty.

(c) **INNOVATION, ENTREPRENEURSHIP AND START-UP ECOSYSTEM:** To enhance competencies, capacity building and training to nurture innovation and Start-up ecosystem.

(d) **International Collaborations:** To establish and strengthen the international collaborative research for cross-fertilization of ideas.

4. HUB INTERNAL FRAMEWORK

(a) Within the academic institution, the Hub would be a team mandated to focus on the domain area of research. Such an entity may bring together faculty/researchers/technologists from different disciplines, multiple institutes and provide shared facilities.

(b) The Hub will work in a distributed model in which all the stakeholders may not necessarily be physically located in the Hub, but may contribute and avail services from their own location in a Hub and Spoke model.

(c) The Hub will laterally coordinate with other hubs for delivering integrated products, technology and services.

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- (d) Each Hub would be headed by a CEO. CEO should have techno-management experience and vision to drive the Hub to foster creation of unicorns.
- (e) Encourage faculty members with high quality publications and establish industry linkages. A hub is an outward looking entity wherein rapid collaborations with other Institutes is built rapidly and will work as an integrating platform with product delivery as a major motive.
- (f) Nurture collaborators from other institutions.
- (g) Develop International collaborators.
- (h) Industry Partners with financial support in kind and cash.

5. INSTITUTIONAL FRAMEWORK FOR SEAMLESS INTEGRATION OF HUBS

- (a) The objectives are to carryout transnational research and establish world-class R&D in specific technological verticals of the Mission. These Hubs would support and encourage innovative technology-based start-ups, industries, Public Sector Undertakings (PSUs) that have an application and/or impact in the core sectors of the economy. Hubs would also provide the incubation centres for start-ups with necessary guidance, mentorship, tech support, infrastructure, access to investors, VCs connect, networking, and facilitating a host of other resources that may be required for the start-up to survive and scale.
- (b) Government and industry/ industry associations will be encouraged to participate. It shall be joint collaborative mechanisms that Hubs shall manage, contributed and monitored. Value addition and service provision shall be the driving force. The existing and successful models and best practices shall be adopted in each Hub.
- (c) Under the Mission, each Hub to follow a technology life cycle approach, addressing all stages viz. Knowledge-Development-Translation-Commercialization.
- (d) As Hubs are part of technology life-cycle continuum in the Mission, these hubs will not have sharp boundaries of functions; overlapping of their operations will be encouraged to address the complete technology lifecycle, if the delivery and commercialization of technology is promising. With this design, each such hub will, on one hand have forward and/or backward linkage with each other; on the other hand, they will work in tandem with experts/ institutions outside or with other initiatives of government and international institutions. In the highly networked mode as each Hub would be, they will be equipped sufficiently to function independently as stand-alone entity, however, they would leverage each other's strengths and the power of collaboration to produce synergistic outcomes. This would ensure that there is a dynamic functional model where technologies being focused are driven by market demands.

6. PUBLIC PRIVATE MODEL & REVENUE MODEL

Hubs with a Public Private Partnership (PPP) model in place will be encouraged with additional support. This would ensure that research output have Industry buy in. However it is difficult to attract private capital without Proof of Concepts (PoCs) in place, especially in a country like India, even for cutting edge areas of research such as CPS. Thus, initial phase would be driven by Govt. funding and in later years for Scale and growth phase, it is suggested to bring in 20- 30% capital from private pools, with majority of that capital coming in post 2 years, where enough output would be visible to attract private capital. The

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core area of output will be the following five revenue channels with a focus on creating a self-sustaining model.

- (a) **APPLIED TECHNOLOGIES & ENGINEERING** - R&D sponsored by Industry, Govt. or Start-ups leading to outputs in forms of innovative product or services that can be leveraged.
- (b) **IP CREATION AND LICENSING (COULD ALSO LEAD TO NEW VENTURES)** - Selecting ideas to co-create with Start-ups or Industries or Government with an aim to spinning it off into independent ventures. This could be done in a for profit setup supported by the Hubs with enough autonomy for execution. For this, close linkage be built with Industry, Accelerators and Venture Capital (VC) funding ecosystems.
- (c) **TRAINING AND CONSULTING** - Helping Industries, Govt. and other stakeholders on how to innovate their processes and leverage CPS strategically in their efforts, while increasing the base of CPS engineers by offering open source courses for faster adoption
- (d) **POLICY GUIDANCE AND HELP IN FORMULATION** – Standards development and Policy creation for rapid and adoption of CPS across various stakeholders.
- (e) **DATABANK CREATION ACROSS STRATEGIC AREAS OF FOCUS** - Aggregating Data banks across verticals from Govt., Industry for offering data as a service for bootstrapping CPS applications.

7. **MISSION MANAGEMENT AND HUBS PERFORMANCE EVALUATION & MONITORING:**
The following are the empowered bodies for evaluation, monitoring and quantification of performance of each Hub.

(a) **MISSION GOVERNING BOARD (MGB)**

The MGB will be the Apex Authority to provide the guidelines for implementation and operating the Mission, including decisions on all Mission related matters. The MGB will approve and determine the level of support for each Hub and review their performance. MGB will also set overall directions, goals, vision and targets for each of the Hub.

SCIENTIFIC ADVISORY COMMITTEE (SAC) is a technical committee, will involve in scrutiny, evaluation and monitoring of Hub and activities.

(c) **INTER-MINISTERIAL COORDINATION COMMITTEE (IMCC)** will facilitate in connecting the Mission and Hubs to stakeholders. The requirements of stakeholders shall be taken up as Tech. Development projects under Hubs.

(d) **COORDINATION COMMITTEE** A Coordination Committee chaired by Secretary, DST and comprising members of all Heads of Hubs/HIs will be created so as to ensure better outcomes of the research activities and for development of collaborative solutions.

8. **MANAGEMENT OF HUBS:** Each Hub will be managed by a Hub Governing Body

(HGB). A generic structure is as given below:

Director/ Vice-Chancellor of Host Institute
Academic representatives (not less than 2)
Industry Representatives (not less than 2)
Mission Director, Mission Office, DST
CEO/Project Director, Hub:

: Chairman
: Members
: Members
: Member
: Member-Secretary

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(a) **TERMS OF REFERENCE**

- (a) The HGB shall be the Apex body for overall supervision, control, directions and mid-course correction in the implementation of Hub at Host Institutes.
- (b) Will approve key guidelines for implementation of the Hub.
- (c) Governing Body of each Hub will be the final authority to provide guidelines for implementation and operating the Hub and all other matters related to them. HGBs will have full financial and administrative powers, including approvals to, re-appropriation of the budget within the ceiling of sanctioned budget, hire the appropriate manpower as per industry standards, sign Memorandum of Understanding (MoU) with International institutions and approve Collaboration foreign visits, partner with industry, receive/ support for projects in their domain areas to academic, R&D institutions, Industry, other funding agencies and linkages with existing TBIs or create a new TBI if there is no TBI in HI. Support for projects will be based on requirement, open call and with due scientific diligence and processes.
- (d) HGBs could co-opt eminent people (India/ abroad) as members.
- (e) The HGB would meet as often as required and at least once in six months.
- (f) Can Constitute sub-committees from time-to-time for efficient implementation of Hubs at HIs.

9. **OBLIGATIONS AND RESPONSIBILITIES OF THE PARTIES**

Broad roles and responsibilities of the three Parties to this agreement are as under:

(1) **OBLIGATIONS AND RESPONSIBILITIES OF MISSION**

(a) Mission to support funds amounting to a maximum of Rs 110.00 crore over a period of five years subject to fulfilment of all the specified terms and conditions of the Hub sanction. To release Year-wise outlay of the funds to Hubs in the broad following heads to achieve set targets. However, based on performance, Mission can moderate, increase or decrease or terminate funding support for the Hub.

Budget Head	Budget in Rs Crores					
	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year	Total
Recurring	11.00	20.00	35.00	8.00	4.38	78.38
Non-Recurring	7.00	15.00	8.00	1.00	0.62	31.62
Total	18.00	35.00	43.00	9.00	5.00	110.00

(b) Mission to review and steer the progress of the Hub, fulfilment of set targets and will hold meetings of SAC, IMCC, MGB and other Committees to review the Hub.

TAX BENEFITS: With Mission support on Hub is getting created. Mission to provide required certificates, authorisations etc and Hub to process with CBDT or GST Council or any other Authorities/Agencies to get such benefits like Income Tax, GST etc.

Mission to facilitate to get DSIR R&D recognition (SIRO) and FCRA clearance for Hub.

(2) **OBLIGATIONS AND RESPONSIBILITY OF HOST INSTITUTE (HI)**

(a) HI to constitute and notify Hub Governing Body (HGB) and will have full autonomy

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in devising their internal processes and procedures for achieving the targets/deliverables subject to the general directions of MGB. The HGB will have full financial and administrative powers, including re-appropriation of the budget within the ceiling of sanctioned budget; hiring of the appropriate manpower as per industry standards; sign Memorandum of Understanding (MoU) with national and International institutions and industry; approve Collaboration foreign visits; partner with industry; receive and give projects in the domain areas of Hubs to academia, R&D institutions, Industry and other funding agencies. HGB will have power to link and support existing TBIs or to create a new TBI for incubation. HGB will also evolve specific targets for the Hubs in consonance with the MGB directions and monitor the progress to report to MGB.

- (b) Provide the required space (minimum of 30,000 sq.ft. covered space preferably at a single location), infrastructure, and recruit staff for the Hub. The Hub to be managed by a dedicated full time Chief Executive Officer (CEO) with desired domain and management expertise and other core team/supporting staff for its successful operations within three months from the date of signing of this Agreement. A faculty could be designated as Project Director either full time or part-time and will act as an interface between Hub, HI and researchers. The HGB to take a decision on appointment of a Project Director and also to decide Roles, Responsibilities, Terms and Conditions of appointment.
 - (c) For the initial grant received through SERB, the leftover funds with HI, if any, to be transferred to Hub.
 - (d) HI to encourage/allow its faculty/researchers to bid projects in Hub. Student mentorship, guidance and supervision etc. are to be encouraged.
 - (e) Make available, provide access and facilitate some of R&D infrastructure available with HI to Hub vice-versa is also be encouraged.
 - (f) Encourage and incentivize faculty to work with Hub in translating their research concepts, co-develop PoC, prototypes and associate with Hub till it reaches higher TRLs. IP, monetization and patent facilitation through Hub is to be encouraged.
 - (g) HI to treat the Hub as their associated structure and as a facilitator to take their research to commercial domain i.e. Hub to be positioned and utilized as a research translation platform and research translation wing of HI.
 - (h) HI to provide supervisory / mentoring support and will award PG and Doctoral Degrees to the selected fellows. Fellowships amounts shall be disbursed by Hub as a sponsor.
 - (i) The HRD component will be executed jointly by Hub and HI.
 - (j) Conducive infrastructure and necessary mentoring is to be provided to the on boarded start-ups for performing seamlessly such as provisioning of co-working space, lab & infrastructure, workshop facilities, utilities, support services, pre-incubation services, networking, mentoring, financing through VC/Angel etc. Hub shall have overall responsibility in achieving set objectives, set targets, sustainability plan and overall success.
- HI to support in executing all the set targets enumerated in this Agreement. On accomplishment of which will make Hub to receive next instalments from Mission.
- HI to provide all HGB approved minutes timely to Mission. The views of MGB on minutes/activities is binding on HI.

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(3) OBLIGATIONS AND RESPONSIBILITY OF HUB

The Hub will be responsible for delivery, on a best-efforts basis, of deliverables and targets mentioned below:

S No	Target Area	Targets					
		1 st Yr	2 nd Yr	3 rd Yr	4 th Yr	5 th Yr	Total
1	Technology Development						
(a)	No of Technologies (IP, Licensing, Patents etc)	2	3	5	5	5	20
(b)	Technology Products	1	2	2	5	5	15
(c)	Publications, IPR and other Intellectual activities	5	10	10	10	10	45
(d)	Increase in CPS Research Base	5	10	15	20	20	70
2.	Entrepreneurship Development						
(a)	Technology Business Incubator (TBI)	1	0	0	0	0	1
(b)	Start-ups & Spin-off companies	5	10	10	10	0	35
(c)	GCC - Grand Challenges & Competitions	0	1	0	0	0	1
(d)	Promotion and Acceleration of Young and Aspiring technology entrepreneurs (PRAYAS)	1	0	0	0	0	1
(e)	CPS-Entrepreneur In Residence (EIR)	10	11	0	0	0	21
(f)	Dedicated Innovation Accelerator (DIAL)	1	0	0	0	0	1
(g)	CPS-Seed Support System (CPS- SSS)	1	0	0	0	0	1
(h)	Job Creation	150	1100	2000	2500	3000	8750
3.	Human Resource Development						
(a)	Graduate Fellowships	40	40	40	50	50	220
(b)	Post Graduate Fellowships	10	10	10	12	0	42
(c)	Doctoral Fellowships	5	8	10	0	0	23
(d)	Faculty Fellowships	0	2	1	0	0	3
(e)	Chair Professors	0	2	1	0	0	3
(f)	Skill Development	35	75	100	100	100	410
(g)	International collaboration	1	0	0	0	0	1

It will build linkages and collaborations with network of research institutes and labs across India and abroad. Hub to work in close collaboration with Industry to create symbiotic relationship and world class products development. Hub will emphasize on development of infrastructure tools for direct application of basic and applied

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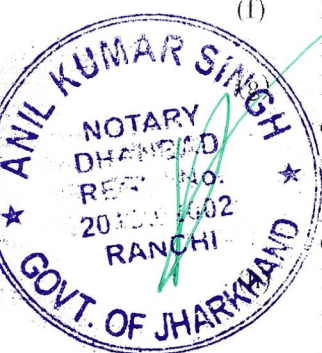
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research leading to Technology Development, including development of new areas of CPS applications/ platforms. Hub will provide the ecosystem for application based technology development and deployment. Hub will also be responsible for delivering commercial technology, and taking ideas / concepts or prototypes and turning them into marketable products by way of proactive coordination, communication and interfacing for technology transfer to the industry. These would work closely with Startup ecosystem, Corporate, Governments and Regulatory bodies. The Hub will specialize in a thematic domain and will connect with all institutes / groups / individuals who have expertise in that domain. It will co-ordinate across the country and will act as single point of contact for that particular domain. Hub will collaborate with industry for fabrication/ services, work with nano-fabrication, material centers, other Centers and TBI's. International network – Hub would connect to a global network of leading labs and institutes and researchers that can enable close research collaborations.

- (b) Hub will be the nodal centre spearheading the activities in a specific domain. With leading-edge knowledge, competency and facilities, the hub to attract talented individuals and harness expertise available nationwide, thus fostering research innovation, world class technology and product development. Hub to coordinate across the country and build linkages with research institutes and labs in India and abroad. Hub to work in close collaboration with industry to deliver commercial technology and products and build a vibrant innovation ecosystem by providing a reliable platform for technology-based start-ups and entrepreneurs.
 - (c) The Hub to establish a Technology Business Incubator (TBI) or connect with existing TBI, for development and translation of technologies into start-ups and Spin-off companies.
 - (d) Provide up to date data and information to the Mission Office to answer Parliament Questions, RTI, Public Grievances or other government requirements from time to time.
 - (e) Hub to follow open and transparent policy in their activities. HGB is the final authority in all decisions concerning the Hub. MGB will be the overall authority for the entire Mission.
 - (f) Hub can receive grants from Government and non-Government entities, trusts, foundations, CSR funds, financial institutions including Venture Capital institutions. Hub can bid international projects and receive funding support. Standards development is one of the core mandate of the Hub. Participation, contribution, ratification of standards and collaboration with international standards development Organisations/Agencies/Bodies/Nation and international standards development efforts.
- Hub can support projects in the domain area to academic, R&D institutions, PSU's, industry and other Hubs. Support for projects must be based on requirement, open call and with due scientific diligence and processes with the approval of HGB. The

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Hub *[Signature]*



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Detailed Project Report (DPR) submitted by the HI and approved by the MGB shall be the guiding document for the Hub.

- (i) Hub can provide support to student start-ups.
- (j) Can initiate international collaborative projects on cost sharing basis between India and participating country/ International institutions. Collaborations should be based on existing International cooperation modalities and as per requirements of Hub.
- (k) Real time update on all the activities of Hub to be made available on the web portal of the Hub and to be integrated with the portal of NM-ICPS Mission Office in DST.
- (l) Hub to complete all registration process like DARPAN, PFMS, other registrations mandated time to time by Govt.
- (m) Hubs funding would be prioritized with those having a Public Private Partnership (PPP) model in place. This would ensure that research output have Industry buy in. However it is difficult to attract private capital without proof of pilot in place, especially in a country like India, even for cutting edge areas of research such as CPS. Thus initial pilot phase would be driven by Govt. funding and in later years for Scale and growth phase, it is suggested to bring in 20- 30% capital from private pools, with majority of that capital coming in post 3 years, where enough output would be visible to attract private capital. The core area of output will be the five revenue channels as described in para 6 with a focus on creating a self sustaining model post initial 5 years of investments.
- (n) Hubs to provide scientific literature/ information on NM-ICPS to academicians, students and scientists for awareness generation. For the above purposes of education and awareness generation, a series of conferences, workshops, brain storming sessions and online platform & Web Portal and initiation of a dedicated Indian Journal of CPS are planned under Mission and hubs to facilitate the same.
- (o) A portion of the (around 50%) funds provided for development of technology products to Hubs will be earmarked for technologies/ products developed by multiple Hubs having complementary goals to work together.

10. CONFIDENTIALITY

The Hub undertakes on its behalf and on behalf of its sub-contractors / employees to maintain strict confidentiality of the project including, but without limitation to, the R&D work and know-how generated and prevent disclosure thereof, for any purpose, other than in accordance with this Agreement. All Parties will also ensure confidentiality as required for the project except the disclosure is warranted by operation of law.

11. INTELLECTUAL PROPERTY RIGHTS (IPR)

The Hub to formulate and notify its IPR Policy well within the guidelines, Regulations and Rules of Govt of India.

- (a) All IP should be owned by Hub if the project is completely funded and executed by it.

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- (b) IP generated by projects at HI or any other entity, funded jointly by Hub or other entities, will be jointly owned by entities and Hub, with revenue share of any benefits accrued from licensing or sale of such IP.
- (c) Based on the nature of IP and its translation into product or company, revenue share will be decided. Hub will have the exclusive right to commercialize (license, repackage or sell) the IP for the life of the IP right available.
- (d) Revenue sharing of the IP will be transparent and will be decided on a case to case basis by the IP committee and investment committee together with the mutual consent of the IP owners for maximizing returns for everyone.
- (e) Sponsored strategic research projects which fall into the roadmap decided by Hub by entities other than Hub will lead to joint ownership of IP. Hub will own exclusive rights to commercialize the IP. Participating entities can get non-exclusive rights to IP usage on a business model.
- (f) Hub can also decide based on funding amount to give exclusive rights for IP which is time-bound to the Industry partners.
- (g) Hub will take responsibility for the entire life cycle of the IP generated by Hub funding covering the filing for protection via patents, copyrights or trademarks and finding suitable licensees.
- (h) In case of startup being formed out of the IP, License to IP and depending on the IP, there may be more than one startup formed and hub shouldn't favour one startup over other in access to IP. This along with ownership will be transferred to startup in lieu of equity, revenue or data sharing or a combination thereof. In case Industry partners are significantly participating in IP creation, they can be given participation rights in the startup being formed via AI studio or Hub Venture Fund.
- (i) If the startup who is assigned IP gets closed before funding, IP ownership and IP rights goes back to Hub, which can further licence it out again.
- (j) Hub can create special IP licensing policy for pre-existing startups in case they are collaborating in Hub projects in lieu of data sharing for innovation and research.
- (k) In case Hub contributes significantly to IP creation along with pre-existing startup, it can take equity in lieu of transferring IP in exclusive fashion for a period of time via AI studio. Existing/prior IP at HI, in areas of relevance to the Hub, can be licensed to Hub for further commercialization with a revenue-sharing agreement on a case to case basis on the exclusive model.

IP Policy will be updated each year by the IP committee with the approval of the Hub Governing Board.

(1) IP relation between HI and Hub

- (i) HI may offer any of its IP to be licensed to Hub free of charge for possible commercial exploitation.
- (ii) Any IP created by Hub (faculty from HI and staff of Hub) without any kind of

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Dr. K.R. Murali Mohan
Mission Director (NM-ICPS)
Deptt. Of Science & Technology
Government of India
Technology Bhawan, New Delhi-16

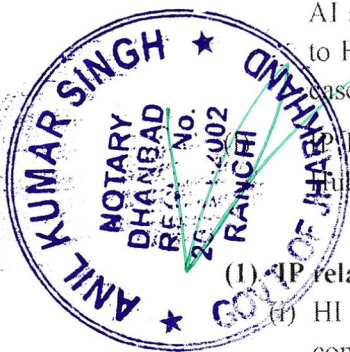
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29 DEC 2020



intellectual contribution from Industry Partner shall be jointly owned by HI and Hub.

- (iii) Hub will have no objection regarding use of IP's owned by Hub as background IP for new IP generation which will be owned by Hub.
- (iv) Commercial exploits based upon IP owned by Hub as well as IP owned by HI will be shared equally between Hub and HI under the supervision of the Joint IP management Committee of Hub and HI, taking into account all cost towards protection of IP and monetisation of IP.
- (v) IP generated through projects jointly executed by HI and Hub will be jointly owned by HI and Hub. Cost of filing and maintenance of the IP will be shared between HI and Hub. Commercial exploits will be also shared equally.

(2) IP relation in projects supported by Mission

IP's generated from projects supported completely by the Hub with the funds provided by The Mission, all IP's will be owned by Hub for commercial exploitation if not an alternate arrangement is specifically agreed upon by the parties

(3) IP in other conditions.

IP's generated under all conditions not covered by the above clauses will be covered by the IP Policy of Hub as per approvals of HGB and MGB.

12. FORCE MAJEURE

No Parties shall be held responsible for non-fulfilment of their respective obligations under this Agreement due to exigency of one or more of the force majeure events such as, but not limited to Acts of God, war, flood, earthquakes, strike, lockouts, epidemics, riots, civil commotion etc., provided on the occurrence and in cessation of any such event, the Party effected thereby shall give a notice in writing to the other Party immediately, after but not later than one month of such occurrence and cessation. The period between the occurrence and cessation of such event will be excluded while calculating the period during which the Party has to perform his obligations under this Agreement. If the force majeure conditions continue beyond six months, the Parties may mutually decide about the future course of action.

29 DEC 13:00

TERMINATION OF THE AGREEMENT

Mission may decide for the termination of the funding to the Hub based on on account of following:

- (a) The grant released is not properly utilized for intended purpose / activities or for the purpose for which it was released.
- (b) Failure to achieve the envisaged targets and objectives of the Hub in spite of best efforts.
- (c) Breach of Terms & Conditions of provision of this Agreement.

In the event of such eventuality, the HI and Hub shall return all balance unused funds to Mission.

14. AMENDMENTS

No amendments in this Agreement shall be effective unless it is in writing and signed by duly Authorized representatives of the Parties. The Agreement may be extended/modified/amended as may be required with mutual written consent of the Parties.

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15. VALIDITY

This Agreement shall be deemed to have come into force from the date of signing of the Agreement and will remain valid for the duration of the Mission or 5 years, whichever is longer.

16. RESIDUARY MATTERS

Any matter not covered specifically in the Agreement may be settled by mutual agreement and with the approval of MGB.

17. REPRESENTATION AND WARRANTIES

For the purposes of this Agreement, the Parties make the following representations and warranties:

- (a) The Parties holds all valid permissions, authorizations, approvals and consents, licenses and registrations, which may be required under the laws prevalent from time to time, for the performance and delivery of the Services under this Agreement. The Parties shall ensure that all such permissions, authorizations, approvals and consents, licenses and registrations, where required to be renewed, shall be kept valid and subsisting throughout the period of the Agreement.
- (b) All information or data furnished by the other Party or obtained either Party or developed under this Agreement shall be treated as Confidential and protected by the respective Parties to prevent disclosure to any persons other than those authorized by the other Party.
- (c) The Parties possesses the necessary expertise, know-how, technology, resources, and infrastructure along with enabling rights and will continue to possess all the Intellectual Property Rights (IPR) over its background Intellectual Property (IP), to enable the Parties to pursue the transactions contemplated under this Agreement.

18. CONFIDENTIAL INFORMATION

- (a) Confidential Information means any information, technical data, or knowhow, including, but not limited to, that which relates to the Technology, product or service plans, know how, intellectual property, agreement terms, products, services, employees, suppliers, customers, technology, markets, software, know-how, developments, inventions, processes, designs, drawings, models, frameworks, systems, integrations, engineering, hardware configuration information, marketing, finances, notes, analyses or studies and all tangible and intangible embodiments thereof of any kind whatsoever concerning the Parties, whether or not labelled as "Confidential Information" and disclosed by the disclosing Party in connection with the Agreement to the recipient, irrespective of the medium in which such information or data is embedded. Confidential Information shall be deemed to include any notes, analyses, compilations, studies, interpretations, memoranda, other documents (regardless of the form thereof), Technology or other derivatives made or derived there from by the receiving Party or its representatives which contain, reflect or are based upon, in whole or in part, any information furnished to the receiving Party or its representative pursuant hereto.

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(b) All Confidential Information disclosed pursuant to this Agreement, shall be used exclusively for the purpose of this Agreement, and the receiving Party shall be permitted to use Confidential Information disclosed to it pursuant to this Agreement only for such sole purpose of this proposal and for no other purpose, unless otherwise expressly agreed to in writing by the disclosing Party; shall not be distributed, disclosed, or disseminated in any way or form by the Receiving Party to anyone except its own employees, who have a reasonable need to know the Confidential Information and who are bound to confidentiality by their employment agreements or otherwise with the Receiving Party; shall be treated by the Receiving Party with the same degree of care to avoid disclosure to any other party as is used with respect to the Receiving Party's own information of like importance which is to be kept confidential; shall remain the property of the disclosing Party; shall not be disclosed to any other Party by the Receiving Party without the prior written approval of the disclosing Party; shall not attempt to (1) reverse engineer (e.g., decompile, disassemble, reverse translate) any Confidential Information provided by or on behalf of the disclosing party, (2) discover the source code of or trade secrets in any such Confidential Information, or (3) circumvent any technological measure that controls access to such Confidential Information in any manner whatsoever.

(c) Confidential Information does not include information which (i) is already in receiving Party's possession at the time of disclosure; (ii) before or after it has been disclosed to receiving Party, becomes part of the public knowledge or literature, not as a result of any action or inaction of receiving Party; (iii) is approved for release by written authorization of the disclosing Party; (iv) is disclosed to receiving Party by a third Party not in violation of any obligation of confidentiality and without any confidentiality obligation; (v) is independently developed by receiving Party without reference to or use of Confidential Information; or (vi) is required to be disclosed by a valid order by a court or other governmental body or applicable law. This exception shall not apply to any information or part thereof that has been published by IIT(ISM) Dhanbad in academic or technical journals.

(d) The disclosing party is disclosing the Confidential Information on "as is" basis without any warranty or representation of any nature whatsoever. The disclosing party shall therefore not be liable to the Receiving Party for any direct, indirect, special, consequential, incidental, or punitive damages or loss, regardless of the form of action or theory of liability (including, without limitation, actions in contract, warranty, negligence, or products liability) resulting from any defect in or use of any Information by the Receiving Party, even if the Receiving Party has been advised of the possibility of such damages or losses.

(e) Following the completion or termination of Agreement, the Receiving Party promptly shall return to the disclosing party, or destroy, all Confidential Information of the disclosing party provided under or in connection with this Agreement, including all copies, portions and summaries thereof, except as provided under this Agreement.

(f) The obligation to maintain confidentiality will survive for 3 years from expiration/termination of the Agreement.



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- (g) If the receiving Party commits a breach of, or threatens to commit a breach of, any of the terms of conditions of this Agreement, the disclosing Party shall have the right to seek and obtain all judicial reliefs (including but not limited to injunctive reliefs, specific monetary damages, interest and attorneys' fees and expenses) as may be ordered or awarded by a court of competent jurisdiction.
- (h) The provisions and obligations relating to Confidentiality under this Agreement shall survive the expiry or early termination of this Agreement.

19. USE OF NAMES AND TRADEMARKS: The Parties agree that they will not use the name of the other Party or its employees in any advertisement, press release or publicity with reference to this Agreement or any product or service resulting from this Agreement, without prior written approval of the other Parties.

20. PUBLICATION

HI faculty will share their research results, which emerge from an Hub funded project, with Hub's explicit consent before publicly disclosing their research results, with a timeout clause. In case Hub determines that IP protection is warranted for the research results, it will help with the entire process of IP protection, including paying for it. All other aspects of the publication policy of the Hub will be in concurrence in toto with the IP policy of the Hub.

21. TERM

The effective date of commencement of this Agreement is 10/12/2020 ("Effective Date") and shall continue until a period of 5 years.

22. NO ASSIGNMENT

It is understood by the Parties herein this Agreement is based on the professional competence and expertise of each Party and hence any Party shall transfer or assign the Technology or this Agreement, or rights or obligations arising hereunder, either wholly or in part, to any other Party without the prior written consent of the other.

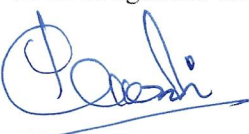
23. DISPUTE RESOLUTION

Any disagreement/ difference of opinion/ dispute between the Parties regarding the interpretation of the provisions of this Agreement or otherwise arising from this Agreement and the activities undertaken under this Agreement shall be resolved by mutual consultation by the Parties under the leadership of the Chairman, MGB or his nominee. For any dispute unresolved for a period not exceeding thirty (30) days, reference shall be made under the provisions of the Arbitration and Conciliation Act, 1996 or any statutory modification / re-enactment thereof and rules made there under. The place/venue/seat of arbitration shall be New Delhi and the proceedings shall be conducted in English or Hindi language. The award of the arbitrator shall be binding on all Parties.

LIABILITY

Save as otherwise provided herein, in no event shall Parties be liable to the other, either for or under this contract, tort or any other legal theory, for any direct, indirect, incidental, special, consequential, reliance or cover damages, including, but not limited to, loss of profits, revenue, data or use, incurred by the other Party under this Agreement even if advise of the possibility of the same and arising out of either the performance or non-performance of its obligations under this Agreement.

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25. GOVERNING LAW

This Agreement will be governed by and construed in accordance with the Laws of India and the Parties submit to the exclusive jurisdiction of the Courts of Delhi/India.

26. NOTICES

All notices, requests, demands and other communications under this Agreement or in connection herewith shall be given to or made upon the respective Parties as follows:

If to HI: Dean, Research and Development, Police Line Road, Main Campus Indian Institute of Technology (ISM, Hirapur, Sardar Patel Nagar) Dhanbad, Jharkhand 826004

If to Hub: CEO, Technology Innovation in Exploration & Mining Foundation: Indian Institute of Technology (Indian School of Mines), Hirapur, Police line, Dhanbad, Jharkhand India-826004

If to Mission: Mission Director, Mission office NM-ICPS, Department of Science & Technology, S J Marg, New Delhi-110 016

27. SEVERABILITY

In the event that any terms, conditions or provisions of this Agreement is held to be in violation of any applicable law, statute or regulation the same shall be deemed to be severable from the other provisions of this Agreement and this Agreement shall be construed as if such term, condition or provision had not been contained in this Agreement.

28. MODIFICATION

No term of this Agreement will be changed or modified unless the Parties mutually agree to such change or modification in writing.

29. ENTIRE AGREEMENT

This Agreement, including its Exhibits, constitutes the entire agreement between the Parties hereto in relation to its subject matter and will supersede all prior correspondence, arrangements or agreements, whether oral or written, entered into between the Parties hereto on the subject matter of this Agreement.

30. WAIVER

Any Party to this Agreement may (a) extend the time for performance of any of the obligations or other acts of any other Party, (b) waive any inaccuracies in the representations and warranties of the Parties contained herein or in any document delivered by the Parties pursuant hereto or (c) waive compliance with any of the terms or conditions of the Parties contained herein. Any such extension or waiver shall be valid only if set forth in an instrument in writing signed by the Party to be bound thereby. Waiver of any term or condition shall not be construed as a waiver of any subsequent breach or a subsequent waiver of the same term or condition, or a waiver of any other term or condition, of the Agreement. The failure of any Party to assert any of its rights hereunder shall not constitute a waiver of any such rights.



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31. NON-EXCLUSIVITY

Unless otherwise agreed between the parties, the relationship of the Parties under this Agreement shall be nonexclusive and Parties, including their affiliates, subsidiaries and divisions, are free to pursue other agreements or collaborations of any kind.

32. AUTHORITY







Each signatory to this Agreement represents and warrants that he/she is duly authorized by the Party for and on whose behalf he/she is signing this Agreement to execute the same in a manner binding upon said Party and that all corporate approvals and procedures necessary for vesting such authority in him/her have been duly complied with.

33. SURVIVAL

The other clauses of this Agreement, which by their very nature ought to survive termination / expiration of this Agreement, shall so survive.

34. SEAL OF PARTIES

IN WITNESS WHEREOF THE PARTIES HERETO HAVE SIGNED THIS AGREEMENT ON THE DAY, MONTH AND YEAR RESPECTIVELY SHOWN AGAINST THEIR SIGNATURES:

1	2	3
For and on behalf of the President of India Signature:  Dr. K.R. Murali Mohan Mission Director (NM-ICPS) Deptt. Of Science & Technology Government of India Name: Technology Bhawan, New Delhi-16 Designation: Date: 10/12/2020	For and on behalf of IIT(ISM)Dhanbad Signature:  Name: RAJIV SHEKHAR Designation: DIRECTOR Date:	For and on behalf of Technology Innovation in Exploration & Mining Foundation Signature:  Name: SHALIVAHAN Designation: DIRECTOR Date:
IN THE PRESENCE OF WITNESSES		
Signature:  Name: Sanjay Singh Payal Designation: Project Manager Date: 10/12/2020	Signature:  Name: R.K. GANGWAR Designation: AD (SRIC) Date: 27/12/2020	Signature:  Name: DHEERAJ KUMAR Designation: DIRECTOR Date:



Mission

Authorised.
u/s (8) (i) (a) of Notaries Act
1952 (Act No. 53 of 1952) HI

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