

Innovation in Digital Engineering – Materials Sector

IDEMS Programme | Call for Proposals

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Summary

The **Innovation in Digital Engineering – Materials Sector (IDEMS)** programme offers businesses of any size unique access to the latest technologies and highly skilled staff in the fields of Data, Modelling and Simulation, and AI, powered by the latest generation of High Performance Computing and Cloud facilities and platforms. Through IDEMS we aim to fast track the development of new capabilities, enabling productivity growth and global competitiveness of the UK materials sector.

The programme leverages £230 million investment in the **Hartree National Centre for Digital Innovation (HNCDI)** and industry direction is provided by the **Knowledge Centre for Materials Chemistry (KCMC)**. The **Hartree National Centre for Digital Innovation** is a collaboration between the **Science and Technology Facilities Council (STFC)** Hartree Centre and **IBM**.

Call outline

IDEMS is supported by HNCDI partners STFC and IBM, working closely with KCMC to support the material sector with a programme of Digital Design and Integration. The aim is to support the development and deployment of new materials, through the creation, application (and validation) of new digital methods and tools, de-risking the uptake of digital approaches in industry. The projects will create and test new capabilities applicable to key materials sector challenges.

As a result, we are seeking **proposals** from industry to turn into a series of **projects**, which demonstrate primary **use** of the technology in the **materials** sector.

IDEMS is offering **72 months of staff time** (combined from STFC and IBM resources) and **compute resources** to enable the initiation of up to **8 projects** (minimum 4 projects) to commence between March 2023 to June 2023 (and conclude by June 2024). This corresponds to an allocation of approximately **£2-3 M** of the total HNCDI budget (£210m) that will fund STFC and IBM staff time and cloud/computing access. No direct funding is available to organisations outside of the HNCDI partners.

Pending its success, we hope that the pilot IDEMS programme will be extended in the coming years as part of the HNCDI initiative.

Scope

The IDEMS programme will provide Digital Design and Integration expertise to support companies in development of materials with enhanced or new functionality for mobility and energy applications. We are seeking expressions of interest that propose materials and associated innovation activity to address:

- Reduction and elimination of critical raw materials (for example in permanent magnets)

- Enhanced and new functionality for advanced sensing, energy harvesting, storage* and generation
- Lightweighting of structures
- Provenance and tracking of materials

*traditional lithium-ion battery materials are not in scope but we would consider ancillary materials for example in thermal management

IDEMS is also open to expressions of interest for projects that address engineering challenges arising from the use and integration of new materials in components and devices for mobility and energy applications.

Proposals should include how the project will positively impact aspects of UK manufacturing and productivity, net zero, supply chain development resilience, future mobility and energy security. IDEMS goal is to deploy and increase adoption of DDI e.g., data, modelling & simulation, ML & AI – and the latest generation of compute facilities (HPC) and platforms to develop technology demonstrators applicable to real-world challenges with cutting-edge solutions, specifically for the materials sector.

Areas for consideration within the umbrella of DDI include (but are not limited to):

- **DATA** | e.g. Exploration of materials and processing through automated data interpretation, identification of correlations, and property prediction.
- **MODELLING & SIMULATION** | e.g. Modelling and simulation of materials properties and interactions through a variety of methods such as molecular dynamics or quantum based methods, and/or modelling at multiple scales
- **MACHINE LEARNING** | e.g. Machine learning to guide development of improved materials, coupling of physics based models and data analysis, or unsupervised machine learning model exploration and knowledge extraction.
- **OPTIMISATION** | e.g. Optimisation of new materials integration into existing or new infrastructures, and/or optimisation of material formulation or processing.

Funding type and expected outcomes

The IDEMS programme will fund all STFC and IBM staff, and compute resources. No direct funding is available to organisations outside of the HNCIDI partners.

Most projects are anticipated to fall in the **6-9-month** timeframe, with maximum project duration being fixed at 12 months.

We are looking for committed partners and as such in kind contribution is expected but no fixed amount is specified. In kind covers data, staff effort, materials to test developed methods, and time taken in testing the developed solution and providing continuous feedback.

During projects, we expect to build upon existing digital assets within STFC and IBM or to create new ones. It is hoped that any digital tools or platforms either developed or applied within a project should demonstrate a **Technology Readiness Level of 3 to 5 by the end of the project.**

For industry participants in the IDEMS programme, you will receive

1. Dedicated resource from the HNCDI partners for projects aiming to collectively solve your challenge.
2. The ability to collaborate with the STFC Hartree Centre and IBM Research - home to world-leading science facilities and knowledge, supported by the sector knowledge embedded in KCMC
3. De-risking innovation by providing access to a supportive environment and the ability to test new digital concepts.

Due to the nature of the funding, the digital assets themselves developed during the course of the project will be owned by HNCDI. Industry participants can expect to receive outputs from the projects including reports on the work carried out and associated results, models, algorithms and a software evaluation to **trial the developed methods** (the evaluation period term is negotiable and formalized in a legal agreement, an example of which is shown in Appendix C).

For the avoidance of doubt, any results of the project built on commercially sensitive information or data will be owned by the party providing the same.

Eligibility

To be eligible for participation to the submission and project delivery phases, your organisation **must:**

- Be a UK based business of any size registered at Companies House;
- Have an engineering or manufacturing base for the relevant product in the UK or provide the relevant product or service from or in the UK;
- If “in kind contribution” is provided, carry out its project work in the UK;
- Intend to exploit the results from or in the UK;
- Start the project in the window between 28th March 2023 to 30th June 2023
- End the project by 30th June 2024

Application process

The application process for this call has **two stages.**

- i) **Stage 1. Expression of Interest (EOI) | DEADLINE 23rd December 2022** The initial application process requires companies to submit a concise EOI through a 'Challenge Statement' Form (shown in Appendix D), describing the area of focus.

Companies are not required to describe the project they want to do; instead, they will need to describe the challenge, its nature, any techniques already tried and the value of solving it.

In addition, the application should include some assessment of how solving the challenge would benefit sales and other business outcomes, as well as the contribution that the company would like to provide (in-kind).

This application will be assessed by a board comprising members from STFC, IBM and KCMC against the selection criteria.

The submission of an EOI is a pre-requisite for participation in the full project proposal, but it does not guarantee that a future proposal derived from it will be chosen.

Submissions should be sent to hartreecentre@stfc.ac.uk by midnight of the 23rd December 2022.

- ii) **Stage 2. Full Project Proposal | DEADLINE 3rd March 2023** For approved Challenge Statements, the next stage is the development of a Full Project Proposal in which the companies that have been successful in 'Stage 1. Expression of Interest' will work with the HNCDI staff. Although input information is required from the successful company, it is expected that the HNCDI staff will be leading the 'Full Project Proposal' activities such as detailed scoping of work packages and project risks.

In this stage specifics of the work to be done and further technical details will be addressed.

The 'Full Project Proposal' will then be reviewed by the IDEMS Advisory Board for final approval or rejection.

During each stage, the IDEMS team will be offering an interactive consultancy service on a 1:1 basis to assist participants develop their proposal.

Selection Criteria

Both 'Stage 1. Expression of Interests' and 'Stage 2. Full Project Proposals' are evaluated by the IDEMS Advisory Board, which comprises a minimum of 4 members:

- The Head of the KCMC or an alternative KCMC contact nominated by the Head;

- The STFC HNDCI Explore Workstream Lead or an alternative STFC contact nominated by the STFC Management Board;
- The IBM HNDCI Explore Workstream Lead or an alternative IBM contact nominated by the IBM Management Board;
- An independent assessor from a relevant organization.

The projects will be assessed through the two stages according to the same procedures and marking system, as per below.

The projects will be evaluated considering **two main categories**:

- **ATTRACTIVENESS** | i.e. how the project proposal is aligned to the strategic objectives of HNDCI and of the UK materials sector.
- **ACHIEVABILITY** | i.e. how easy is to deliver the proposed project outputs in terms of complexity, capacity and risks.

Both the categories are divided in 6 subcategories as per table below:

		ATTRACTIVENESS		ACHIEVABILITY	
		Sub-category	Description	Sub-category	Description
1	STRATEGIC ALIGNMENT		<i>The project aligns well with UK government priority R&D investment areas, and key industry and governmental organisation innovation strategies, the HNDCI strategic technology areas, and in particular with the relevant UK materials sector (represented by KCMC)</i>	SCOPE CLARITY	<i>The scope of the project is clearly defined with a logical delivery approach, output & expected outcomes and impact, producing relevant Case Study to industry at the end of it, i.e. answering to the question "What success looks like"</i>
2	NOVELTY		<i>The proposed solution is novel and quantifiably advances the state-of-the art in a particular field(s), generating new or improving relevant capabilities</i>	ABILITY TO DELIVER	<i>The HNDCI team, in collaboration with the proposal initiation, can deliver the project under the constraints of the IDEMS Programme and available skills</i>
3	SECTOR IMPORTANCE, POTENTIAL IMPACT AND SPILLOVER OPPORTUNITY		<i>The project is impactful to the sector and beyond, and key stakeholders in HNDCI strategic areas, e.g. increasing productivity (better, faster, cheaper), ROI</i>	TIMING OF THE PROJECT	<i>The project fits with the IDEMS time window</i>
4	TRANSFERABLE SKILLS		<i>The project is generating skills usable by current and future workforce and that could be re-deployed in other sectors for cross-pollination</i>	RISKS OF THE PROJECT	<i>There is a pro-active risk management process in place to identify and mitigate/accept risks</i>
5	LIKELIHOOD OF TRANSITION		<i>The project outputs are likely to lead to adoptable solutions</i>	INVOLVEMENT OF UK INDUSTRY / GOVERNMENT ORGANIZATION	<i>The engaged partners have relevant/appropriate skillsets, ability to dedicate time to the project, can provide data assets to support capability development. External partners can evidence a desire to collaborate and co design solutions.</i>
6	LIKELIHOOD OF CAPABILITY TRANSFERENCE INTO INDUSTRY		<i>The project outputs are likely to be directly implemented into industry following project complete</i>	DEPENDENCIES OF THE PROJECT	<i>The internal and external project dependencies are clearly identified and do not impact scope/timing</i>

Each sub-category will be given a score from 0 (lowest) to 10 (highest).

An averaged, non-weighted score will be derived for each category, i.e., Attractiveness and Achievability. We are seeking a balanced portfolio of projects, ranging from highly novel research projects to those with very high level of capability transference.

Projects that will position as high-ranked in both categories will be considered for the next phase.

We are seeking a balanced portfolio of projects, ranging from highly novel research projects to those with high level of capability transference. To diversify the portfolio of projects, the assessors will also take into consideration:

- the UK materials sector priority areas that the project is addressing and how the portfolio is balanced;
- the cost of the project to the HNCDI team and its impact to the available budget.

Ultimately, the proposals that make a strong case for a substantial positive effect of productivity on the UK materials sector from the participation in the IDEMS programme carry the highest chances of being successful.

Contracting process

For projects enabled under this call, there is a **two-stage** contracting process in place:

- i) 3 or multi-way CDA to enable free discussion.
- ii) Data License Agreement to enable data sharing in the project.

Examples of both are available in the Appendix.

Dates

The competition will be open for EOI challenge statements from the 18th November 2022 to the 23rd December 2022 with projects anticipated to commence before the end of June 2023.

Contacts

For more information about the IDEMS Programme, please use the following contact:

hartreecentre@stfc.ac.uk

Appendix A | The Hartree National Centre for Digital Innovation (HNDCI)

Enabling UK businesses and the public sector to explore and adopt innovative new digital technologies including AI and quantum computing for productivity, innovation and economic growth.

What is HNDCI?

The Hartree National Centre for Digital Innovation is a new collaborative programme between STFC and IBM which will enable businesses to acquire the skills, knowledge and technical capability required to adopt digital technologies like supercomputing, data analytics, artificial intelligence (AI) and quantum computing.

Through HNDCI we provide a safe and supportive environment for organisations to explore the latest digital technologies and skills, develop proofs-of-concept and apply them to industry and public sector challenges. Our dynamic and collaborative approach is driven by industry requirements and will help organisations to de-risk investment in new and emerging digital technologies. Whether you're at the start of your digital journey or trying to advance to the next level, we can help you navigate the possibilities of AI and quantum computing technologies to discover the next step for your organisation.

Who is it for?

We're here to help organisations and individuals with an appetite for change, who are ready to innovate and create useful solutions, enhance, and adapt products and processes, adopt new digital technologies and expand into new markets.

Whatever the size of your business or organisation we have an established track record working with industry, from start-ups and SMEs to large corporates, and public sector organisations such as NHS Trusts and local government.

We also offer training on an individual and group basis.

Why work with us?

The Hartree National Centre for Digital Innovation (HNDCI) is uniquely positioned at the intersection of exciting new science and industry applications and will grow a community of discovery that combines advanced digital technologies and applies the scientific method to address key challenges across UK industry. The partnership between STFC Hartree Centre and IBM Research will bring together an established track record in applied research and innovation with a strong network of collaborators across industry and research communities built on shared interest and a goal to accelerate innovation by reducing the risk of exploring and adopting emerging technologies.



Hartree Centre



KNOWLEDGE CENTRE
**MATERIALS
CHEMISTRY**

HNCDI is part of IBM's global Discovery Accelerator initiative, which seeks to accelerate discovery and innovation based on a convergence of advanced technologies by establishing research centres that foster collaborative communities and advance skills and economic growth through large-scale programmes. This programme builds on our previous Innovation Return on Research partnership with IBM Research, which was committed to solving industrial challenges and creating societal and economic impact.



Hartree Centre



KNOWLEDGE CENTRE
**MATERIALS
CHEMISTRY**

Appendix B | Knowledge Centre for Materials Chemistry (KCMC)

Established in 2009, KCMC facilitates valuable R&D collaborations between business, academia and the catapult in the chemistry-using industries accelerating product and process innovations in advanced materials at a reduced cost and risk. KCMC delivers a positive impact on UK businesses and economy, leveraging KCMC research organisations science and technology base.

KCMC is hosted by CPI, an independent technology innovation centre and founding member of the UK's High Value Manufacturing Catapult. The partnership enables KCMC to connect companies with the capabilities of its host CPI and the High Value Manufacturing Catapult, thereby supporting them from manufacture through to commercialisation.

At KCMC, we connect the business community to the latest university-based research and trends, government policies and initiatives, and the funding landscape connected to the materials and chemicals sector. Our extensive network of connections throughout the materials and chemicals industry has led to a diverse range of partnerships, maximising the opportunity and value arising from collaboration.

Appendix C | Template Legal Agreements

Three Way Confidentiality Disclosure Agreement

This Three Party Confidential Disclosure Agreement (“CDA”), effective upon execution by all Parties, between and among IBM United Kingdom Limited (“IBM”), United Kingdom Research and Innovation, a non-departmental public body incorporated further to section 91 of the Higher Education and Research Act 2017 acting in the name The Science and Technology Facilities Council, part of United Kingdom Research and Innovation, with an address at Polaris House, North Star Avenue, Swindon, United Kingdom SN2 1UH (“STFC”) and COMPANY whose registered office is at ADDRESS (“Client”) (singly, a “Party” and collectively, the “Parties”) provides the terms and conditions under which the Parties may exchange confidential information (“Information”) pertaining to potential activities between the companies while maintaining the Parties’ ability to conduct their respective business activities.

The Parties agree that the following terms will apply when one of the Parties or its Affiliate (as “Discloser”) discloses Information to the other(s) or its Affiliate(s) (as “Recipient”) under this Agreement. “Affiliates” means entities that control, are controlled by, or are under common control with a Party. For this purpose “Control” means that more than fifty percent (50%) of the controlled entity’s share or ownership interest representing the right to make decisions for such entity are owned or controlled, directly or indirectly, by the controlling entity. An entity is considered to be an Affiliate only so long as such ownership or control exists. Disclosure may take place through the Discloser or its Affiliates. Before a Party discloses Information to one of its Affiliates, the Party shall have an agreement in place with such Affiliate to insure such Affiliate conforms with and is governed by the terms of this CDA.

1. DISCLOSURE

Each time the Parties wish to disclose Information or to engage in multiple disclosures of Information relating to a specific subject matter, a supplement will be issued to this Agreement (“Supplement”) before disclosure. Discloser shall not disclose Information which is not within the scope of the subject matter described in a signed Supplement or which (even if within such scope) Discloser does not have a right to disclose to Recipient. The Supplement will contain initial and final disclosure dates, a non-confidential description of the Information to be disclosed and any additional or different terms and conditions. The Supplement must be signed by the Parties disclosing and/or receiving the Information. Information may be disclosed by: (i) presentation; (ii) delivery; (iii) authorized access, such as to a data base; or (iv) any other express means. Information must be identified as confidential at the time of disclosure, and all materials containing Information must have a restrictive marking. Information disclosed verbally or visually must be summarized by the disclosing party in writing and the writing provided to the receiving party within thirty (30) days after the disclosure failing which it shall be deemed not to be Information.

For the period of five (5) years from the Final Disclosure Date (as defined within the Supplement), Recipient will use the same care and discretion to avoid disclosure of Discloser’s Information as Recipient uses with its own similar information which it does not wish to disclose.

2. EXCEPTIONS

Recipient may disclose Discloser’s Information to: (i) its employees and contractors, and employees and contractors of an Affiliate, and of the Department for Business, Energy & Industrial Strategy (or any other department) of HM Government, who have a need to know it if such entities are obligated by agreement to

comply with and to be governed by the terms of this CDA, and (ii) any other party with Discloser's prior written consent.

Recipient may otherwise disclose Information to the extent required by law, but must give Discloser reasonable prior notice to allow Discloser a reasonable opportunity to obtain a protective order.

Notwithstanding the foregoing, no obligation will apply to Information that is; (i) already rightfully in Recipient's possession or rightfully received by Recipient without a nondisclosure obligation; (ii) developed independently by Recipient; (iii) publicly available when received, or thereafter becomes publicly available through no fault of Recipient; (iv) disclosed by Discloser without a signed Supplement as required by Section 1; (v) disclosed by Discloser to a third party without a non-disclosure obligation; or (vi) inherently disclosed by Recipient in the use, distribution, or marketing by it of any product or service; or (vii) disclosed in a published patent application or issued patent.

If STFC receives a request under the Freedom of Information Act 2000, ("FOIA") to disclose any information that is IBM's or Client's Information, it will notify IBM or Client and will consult with IBM or Client. IBM or Client will respond to STFC within 10 Working Days after receiving STFC's notice if that notice requests IBM or Client to provide information to assist STFC to determine whether or not an exemption to the FOIA applies to the information requested. IBM and Client acknowledges that the decision as to whether or not an exemption does apply and whether the Information requested can be withheld rests solely with STFC.

3. DISCLAIMERS

DISCLOSER PROVIDES INFORMATION SOLELY ON AN "AS IS" BASIS. Neither this CDA, nor any disclosure of Information hereunder, in any way: (i) grants to any Party or its Affiliates any right or license under any copyright, patent, mask work or trademark now or hereafter owned or controlled by another Party; (ii) obligates any of the Parties or their Affiliates to disclose or receive any Information, perform any work, enter into any license, business engagement or other agreement; (iii) limits any Party or its Affiliates from developing, manufacturing or marketing products or services which may be competitive with those of another Party; (iv) limits any Party or its Affiliates from assigning or reassigning their employees in any way; (v) create a joint venture, partnership, employment relationship or agency relationship between or among any of the Parties or authorizes any Party or its Affiliates to act or speak on behalf of another Party; or (vi) limits any Party or its Affiliates from entering into any business relationship with any other Parties or third parties.

4. GENERAL

No Party may assign or otherwise transfer its rights or delegate its duties or obligations under this CDA without the prior written consent of the other Parties. Any attempt to do so will be void. Only a written agreement signed by all Parties can modify this CDA. Any Party may terminate this CDA by providing one month's written notice to the other Parties. This CDA shall continue as regards each Supplement then subsisting only to the extent that the parties agree in writing ("Continuation Agreement") prior to the effective date of termination of this CDA; and such Supplement shall terminate contemporaneously with the termination of this CDA in the absence of any such Continuation Agreement. Any provisions of this CDA which by their nature extend beyond its termination remain in effect until fulfilled and apply to the Parties' respective successors and authorized assigns. This CDA and any non-contractual obligations arising out of or in relation to this CDA will be governed in accordance with the laws of England, and the Parties submit the exclusive jurisdiction of the courts of England. Each Party represents that it has appropriate agreements with its employees or others whose services the Party may require, sufficient to enable it to comply with all the terms of this CDA.

5. EXPORT AND IMPORT LAWS

Each party agrees to comply and to reasonably assist the other in complying with applicable government export and import laws and regulations. Further, each party agrees that unless authorized by applicable government license or otherwise permitted by regulation, including but not limited to U.S. authorization, both parties will not directly or indirectly export or re-export, at any time, any technology, software and/or commodities furnished or developed under this or any other, agreement between the parties, or its direct product, to any prohibited country (including release of technology, software and/or commodities to nationals, wherever they may be located, of any prohibited country) as specified in applicable export, embargo, and sanctions regulations.

The parties agree the disclosures under this CDA are commercial in nature and will not result in the development of a defense article, as defined under the U.S. International Traffic in Arms Regulations (ITAR) or any other countries defense regulations.

This section will survive after termination or expiration of this CDA and will remain in effect until fulfilled.

6. THREE PARTY AGREEMENT

In light of the fact that this is a three-party agreement and that the Parties acknowledge that disclosure of tangible copies of some Information disclosed hereunder may not be suitable for disclosure to all Parties, the Parties agree as follows: Recipient may generally disclose Discloser's Information to the third Party to this Agreement but if documents or tangible items are marked with a restriction that they are provided by Discloser only to Recipient, then Recipient shall not give a copy of the document or tangible item to the third Party. Information disclosed orally by Discloser that is intended only for Recipient, must be identified at the time of such oral disclosure as "Information" and that its disclosure is intended solely for Recipient.

7. NON-BINDING BUSINESS TERMS

For the period of confidentiality, no Party will disclose the fact or content of their discussions unless otherwise permitted under the CDA. Although the Parties may exchange proposals (written or oral), term sheets, draft agreements or other materials, no Party will have any obligations or liability to the other unless and until the Party's authorized representatives sign definitive written agreements. Exchanged terms are non-binding to the extent they are not included in definitive agreements. Either Party can end such discussions at any time, for any or no reason, and without liability to the other. Each Party remains free to negotiate or enter into similar relationships with others. In view of the non-binding nature of our discussions, no Party will rely on the successful conclusion of a business relationship. Any business decision any Party makes in anticipation of definitive agreements is at the sole risk of the Party making the decision, even if any other Party is aware of, or has indicated approval of, such decision. Each Party will be responsible for its own expenses and costs related to these discussions. No Party is authorized to make any commitments or statements on behalf of another.

8. STFC/IBM RELATIONSHIP

STFC and IBM entered into a Research and Development Collaboration Agreement ("RDCA") dated May 1st, 2021. As between STFC and IBM only, the terms and conditions of the RDCA shall remain in full force and effect and any disclosures of Information by IBM to STFC or vice versa shall be governed by the RDCA. In the event of any conflict between the terms of the RDCA, this CDA or any Supplement, then as between IBM and STFC, the RDCA shall prevail.

Save as provided in the immediately preceding paragraph, this CDA and its Supplements are the complete and exclusive agreement regarding disclosures of Information and replace any prior oral or written communications between and among the Parties. By signing below for its respective enterprise, each Party

agrees to the terms of this Agreement. Once signed, any reproduction of this CDA made by reliable means (for example, Adobe PDF, photocopy or facsimile) is considered an original. This CDA may be signed in one or more counterparts, each of which shall be deemed to be an original of same CDA.

ACCEPTED AND AGREED TO:

IBM United Kingdom Limited

By:

Signature

Name

Director, IBM Research UK

Date: _____

ACCEPTED AND AGREED TO:

STFC

By:

Signature

Name

In-house lawyer, UKRI

Date: _____

ACCEPTED AND AGREED TO:

Name

By: _____

Signature

Printed Name

Title

Date

Project Agreement

THIS EXPLORE PARTICIPATION AGREEMENT IS DATED _____ DAY OF _____ 2022
("Agreement")

PARTIES:

1. **SCIENCE AND TECHNOLOGY FACILITIES COUNCIL a part of UK Research and Innovation** a body corporate established by statute pursuant to the commencement of section 91 of the Higher Education and Research Act 2017 whose principal place of business is at Polaris House, North Star Avenue, Swindon, SN2 1FL, ("**UKRI-STFC**");
2. **IBM UNITED KINGDOM LIMITED** a company incorporated in England and registered under Registered Number 741598, having its Registered Office at PO Box 41, North Harbour, Portsmouth, PO6 3AU ("**IBM**"); and
3. **[INSERT INDUSTRY PARTICIPANT FULL NAME]** a company registered in England and Wales (INSERT COMPANY NUMBER) whose registered office is at [INSERT REGISTERED ADDRESS] ("**INDUSTRY PARTICIPANT**");

Each individually referred to as a "**Party**" and collectively as the "**Parties**".

BACKGROUND:

- A. UKRI-STFC and IBM in collaboration are hosting the Hartree National Centre for Digital Innovation (HNCDI) programme to support companies/business in learning what artificial intelligence ("AI") and machine learning can do for them and would like to use real-world data and expertise to help develop AI capabilities.
- B. The INDUSTRY PARTICIPANT has data and know-how, which it wishes to contribute towards the Project (as defined herein), as outlined in the Project Plan (as defined herein), in exchange for useful learning objectives delivered mostly in form of a report/ reports.
- C. Parties will participate in the Project subject to the terms and conditions of this Agreement.

IT IS HEREBY AGREED as follows:

1. Definitions and Interpretation

- 1.1. In these terms and conditions, the following expressions have the meaning set opposite:

Affiliate – means any legal entity directly or indirectly Controlling, Controlled by, or under common Control with a Party, for so long as such Control lasts.

Background Intellectual Property Rights – means all Intellectual Property Rights which may be used in connection with the Project that are (a) owned or licenced by a Party before the Start Date; and/or (b) created, developed or licenced by that Party after the Start Date independently of this Agreement;

Configuration Files - means files used to configure the parameters and initial settings for Models.

Control – of any entity shall exist through the direct or indirect (i) ownership of more than 50% of the nominal value of the issued share capital of the entity or of more than 50% of the issued share capital entitling the holders to vote for the election of directors or persons performing similar functions, or (ii) right by any other means to elect or appoint directors of the entity (or persons performing similar functions) who have a majority vote.

Data – means any Data made available by the INDUSTRY PARTICIPANT to UKRI-STFC/IBM for UKRI-STFC/IBM to use in the Project as set out in Appendix A.

End Date – means the end date (if any) stated in the Project Plan;

INDUSTRY PARTICIPANT Software – means any software made available by the INDUSTRY PARTICIPANT to UKRI-STFC/IBM for UKRI-STFC/IBM to use in the Project;

Intellectual Property Rights – any invention, patent, copyright, trade mark, trade name, service mark, registered design, design right (registered and unregistered), know-how, right of confidence, trade secret, right to extract or exploit data, database rights, any similar rights protected in any jurisdiction, whether now existing or coming into existence at some future date, any application for any of the above, and any accrued rights of action in respect of any of the above;

Models: means computer models, algorithms and/or artificial intelligence programs that have networks capable of learning unsupervised from structured or unstructured data.

Project – means the set of activities to be carried out by the parties, as detailed in the Project Plan.

Project Plan – means the scope of work and parties responsibilities attached as Appendix A.

Results - means any modifications to the INDUSTRY PARTICIPANT's Data and reports as stated in the Project Plan;

Special Conditions – means the special conditions (if any) appended to this Agreement;

Start Date – means the Start Date stated in the Project Plan;

UKRI-STFC/IBM means UKRI-STFC and IBM collectively;

2. General terms and conditions

- 2.1 No Party can assign, transfer or sub-contract any of rights or obligations under this Agreement to any third party without the prior written agreement of the other Parties, except as provided for in Condition 11.5.
- 2.2 Rights and/or remedies under this Agreement, whether exercised or not, remain available throughout the term of this Agreement.
- 2.3 This Agreement does not create any partnership or joint venture between the Parties at law.

- 2.4 This Agreement and any dispute or non-contractual obligation arising out of or in connection to them, shall be governed by and construed in accordance with the laws of England and each party agrees to submit to the exclusive jurisdiction of the English Courts.

3. DURATION

- 3.1 This Agreement comes into effect on the date of the last signature and continues until the End Date set out in the Project Plan or on any other date subsequently agreed in writing by the Parties, unless the Project is terminated earlier in accordance with its provisions (“Term”). The Project Start Date and End Date will be confirmed when the Project is set up. Any changes to these dates need to be agreed by the Parties in writing.

4. PERFORMANCE

- 4.1. Subject to Condition 8, UKRI-STFC/IBM will use reasonable endeavours to support the Project as set forth in the Project Plan.
- 4.2. The INDUSTRY PARTICIPANT will provide UKRI-STFC/IBM with any and all information, virus free Software, equipment, materials and documentation, and will carry out any task allocated as the INDUSTRY PARTICIPANT’s responsibility in the Project Plan in good time to allow UKRI-STFC/IBM to carry out its obligations under this Agreement.
- 4.3. If, in connection with the Project, UKRI-STFC/IBM permits any employees or representatives or collaborators of the INDUSTRY PARTICIPANT to have access to any UKRI-STFC/IBM premises, the INDUSTRY PARTICIPANT will ensure that, while on UKRI-STFC/IBM premises, its employees and representatives and collaborators comply with (i) all applicable health and safety, security, environmental and other legislation which may be in force from time to time; and (ii) any UKRI-STFC/IBM policy, regulation, code of practice or instruction relating to health and safety, security, the environment or access to and use of any UKRI-STFC/IBM laboratory, facility or equipment which is brought to their attention or given to them whilst they are on UKRI-STFC/IBM premises by any employee or representative of UKRI-STFC/IBM.
- 4.4. If, in connection with the Project, UKRI-STFC/IBM permits any employees or representatives or collaborator of the INDUSTRY PARTICIPANT to have remote user access to any UKRI-STFC/IBM network or HPC service, the INDUSTRY PARTICIPANT will ensure that its employees and representatives and collaborators comply with (i) the UKRI-STFC/IBM acceptable use policy; and (ii) any UKRI-STFC/IBM policy, regulation, code of practice or instruction relating to health and safety, security, the environment or access to and use of any UKRI-STFC/IBM laboratory, facility or equipment which is brought to their attention by any employee or representative of UKRI-STFC/IBM.
- 4.5. UKRI-STFC/IBM has absolute discretion to deny access to any person to any of its premises at any time.

5. DATA

- 5.1. The INDUSTRY PARTICIPANT is solely responsible, at its own risk and expense, for any collection of Data for the purpose of the performance of work under this Agreement, and for determining what Data may and will be provided under this Agreement.
- 5.2. The INDUSTRY PARTICIPANT hereby grants to UKRI-STFC/IBM and their Affiliates an internal, nonexclusive, worldwide, and fully paid-up license to use the Data for performing work under this Agreement. This license includes the right to use, execute, display, reproduce, perform, prepare derivative works from, and distribute and transmit internally the Data.
- 5.3. The INDUSTRY PARTICIPANT represents and warrants each of the following:
- a. All of the Data the INDUSTRY PARTICIPANT provides fits entirely within one of the following categories:
 - (i) Data which does not contain personally identifiable information (“PII”), whether or not anonymized or de-identified in any fashion;
 - (ii) BCI (as defined in Condition 5.6) of the INDUSTRY PARTICIPANT, its personnel and authorized users;
 - (iii) Data which may have contained PII, but which has been fully anonymized prior to the delivery of Data so as to ensure that the Data no longer contains personal information and a person without prior knowledge of Data and its collection cannot, from the Data and any other available information, identify the nature of the transactions or any personal information ((i), (ii), and (iii) collectively, the “Condition 5.3 Data”); or
 - (iv) Data which contains PII and that have or will be handled by the Parties in a manner fully compliant with Condition 5.4.
 - b. The INDUSTRY PARTICIPANT acknowledges that UKRI-STFC/IBM have no obligation to review Data provided by it to determine if Condition 5.3 Data contain PII. However, if UKRI-STFC/IBM become aware of PII provided by the INDUSTRY PARTICIPANT, they will delete or return the PII and in either event will notify the INDUSTRY PARTICIPANT.
 - c. The INDUSTRY PARTICIPANT has all necessary consents and licenses to permit the licensing and use of Data such that the use of Data by UKRI-STFC/IBM in accordance with this Agreement will not violate any laws, including privacy laws.
- 5.4. The INDUSTRY PARTICIPANT agrees that it will not deliver or otherwise provide UKRI-STFC/IBM with access to any data that may include PII (except the PII referenced in Condition 5.3(a)(ii)) or any data that may be subject to personal data protection and privacy laws of any jurisdiction, and including the European General Data Protection Regulation (EU/2016/679) (GDPR), unless and until the Parties have reached an agreement in writing on the requirements for receipt and processing of any such other data.

- 5.5 If a third party asserts a claim against UKRI-STFC/IBM, whether directly or indirectly, with respect to a breach, or an alleged breach, of the INDUSTRY PARTICIPANT's representations and warranties in this Condition 5.0, the INDUSTRY PARTICIPANT will defend UKRI-STFC/IBM against that claim at the INDUSTRY PARTICIPANT's expense and pay all costs, damages, and attorney's fees that a court finally awards against such Party or Parties with respect to the Data or that are included in a settlement approved in advance by UKRI-STFC/IBM, provided that UKRI-STFC/IBM: a) promptly notify THE INDUSTRY PARTICIPANT in writing of the claim; and b) allows the INDUSTRY PARTICIPANT to control, and cooperate with the INDUSTRY PARTICIPANT in, the defense and any related settlement negotiations.
- 5.6 The Parties and their Affiliates may process and store business contact information, such as telephone, address, email, user IDs, and, if required per the terms of this Agreement, country of citizenship and emergency contact information (collectively, "BCI"), of the Parties' personnel, representatives and authorized users, wherever the Parties do business. Where notice to or consent by individuals is required, the providing Party will notify and obtain such consent from their respective personnel, representatives, and authorized users.

6. INTELLECTUAL PROPERTY RIGHTS

- 6.1. Except as expressly stated to the contrary herein or in any Special Conditions, nothing in this Agreement assigns or transfers any Intellectual Property Rights or grants any Party any licence to use any Intellectual Property Rights.
- 6.2. UKRI-STFC/IBM may use, for the purpose of performing their obligations under this Agreement, all INDUSTRY PARTICIPANT Software and materials supplied to it by or on behalf of the INDUSTRY PARTICIPANT.
- 6.3. Any and all Background Intellectual Property Rights shall remain the exclusive property of the Party that owns it.
- 6.4. All rights to inventions, patents and patent applications generated under the Project shall be under the sole ownership of UKRI-STFC/IBM.
- 6.5. Subject to clause 6.44, the INDUSTRY PARTICIPANT will own copyright in the Results and Configuration Files containing INDUSTRY PARTICIPANT's Data, and UKRI-STFC/IBM assigns such copyright to the INDUSTRY PARTICIPANT. Modifications to UKRI-STFC/IBM Background Intellectual Property used in the Project shall belong to UKRI-STFC/IBM respectively.
- 6.6. For the avoidance of doubt, all Intellectual Property Rights in Results and Configuration files other than those expressly assigned in this clause 6 shall remain the exclusive property of the Party introducing it into the Project.

- 6.7. Notwithstanding anything to the contrary in this Agreement, nothing herein limits the Parties' ability to assign their personnel to other projects, to utilize the experience naturally acquired by such personnel during the course of the Parties' relationship, and to produce similar deliverables for other entities.

7. CONFIDENTIALITY

- 7.1. In the event that performance of work under this Agreement necessitates disclosure and/or receipt of confidential information between two or more Parties, such disclosure and receipt will be covered by Non-Disclosure Agreement reference XXXX between the Parties.
- 7.2. INDUSTRY PARTICIPANT Data, including any hard copies, printouts, digital backups or other related form of documents shall be destroyed or deleted from UKRI-STFC/IBM software and storage with immediate effect from the End Date.
- 7.3. UKRI-STFC/IBM agree to return Results to INDUSTRY PARTICIPANT by or on the End Date.
- 7.4. If UKRI-STFC receives a request under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004 to disclose any information that, under this Agreement, it will notify and consult with the other Parties. The Parties shall respond to UKRI-STFC within 10 Working Days after receiving UKRI-STFC's notice to assist UKRI-STFC to determine whether or not an exemption to the Freedom of Information Act or the Environmental Information Regulations applies to the information requested. The Parties acknowledges that the decision as to whether or not an exemption does apply to the Information requested rests solely with UKRI-STFC.
- 7.5. The Provisions of Condition 7.4 shall also apply to the Parties if they are subject to the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any equivalent legislation.

8. WARRANTIES

- 8.1. Each Party represents and warrants it will have appropriate agreements in place to enable the Party to comply with all the provisions of this Agreement.
- 8.2. Except as stated in Condition 5 (Data) and in this Condition 8, no Party makes any warranty, express or implied, concerning software, copyrightable materials, data, or other deliverables, including any operational reliability or accuracy of data or results, or services supplied or provided under the agreement, which are all provided "as is." Each Party explicitly disclaims the warranties of merchantability and fitness for a particular purpose, and any warranty of non-infringement of any third party's patents, copyrights, or any other intellectual property right.
- 8.3. Failure to achieve or deliver a particular outcome or result in accordance with the Project Plan will not be considered a breach by either Party.

8.4. The INDUSTRY PARTICIPANT warrants and undertakes that it has not been induced to enter into the Agreement by any representation or by any warranty (whether oral, or in writing) except those specifically set out in this Agreement. The INDUSTRY PARTICIPANT waives all claims for breach of any warranty and all claims for any misrepresentation, (negligent or of any other kind, unless made by UKRI-STFC/IBM fraudulently) which is not specifically set out in the Agreement.

9. LIABILITY

- 9.1 Nothing in the Agreement excludes or limits the Parties' liability for: (i) fraud or other criminal act; (ii) personal injury or death caused by negligence; (iii) damage for breach of obligations pursuant to Article 5.0 (Data) and/or obligations of the INDUSTRY PARTICIPANT pursuant to Article 5.6 (Indemnification), (iv) damages for misuse or misappropriation of intellectual property rights in breach of this Agreement; (v) damages for misuse, misappropriation or disclosure of Confidential Information in breach of a Party's obligations under Condition 7.0 or (iv) any other liability that cannot be excluded by law.
- 9.2 Each Party's entire liability for all claims in the aggregate arising in connection with the Agreement shall not exceed the amount of any actual direct damages up to a limit of 20,000 GBP (twenty thousand British Pound Sterling).
- 9.3 Subject to Condition 9.1, in no event will a Party be liable for any loss or damage resulting from: loss of or damage or corruption of data; loss of use of software, data or systems; loss of profits; loss of business; loss of anticipated savings; loss of revenues; loss of opportunity; loss of goodwill, or loss of reputation whether, in each case, direct or indirect and whether or not the type of loss was foreseen or reasonably foreseeable. Moreover, no party will be liable for any indirect loss or damage.
- 9.4 The above limitations and exclusions on UKRI-STFC/IBM's liability apply regardless of the cause of action, whether arising under statute, in Agreement, in tort (including but not limited to negligence), or in any other way.
- 9.5 Despite anything else contained in the Agreement, no Party will be liable for any failure to perform its obligations (except an obligation to pay) caused by circumstances beyond its control including, without limitation, any act or omission of any of the other Parties or of any third party (except a Party's employees, contractors or suppliers who will be deemed to be under its control for the purposes of this Condition 9.5). In those circumstances the INDUSTRY PARTICIPANT or UKRI-STFC/IBM (as the case may be) will be granted a reasonable extension of time for the performance of its obligations, the reasonableness of that extension to be assessed not only in the context of the Agreement but also in the context of UKRI-STFC/IBM's other commitments.

10. TERMINATION

- 10.1 A Party may terminate the Agreement by giving sixty (60) days written notice to the other Parties

- 10.2 The expiry or termination of the Agreement will not affect any accrued rights or liabilities of a Party, nor will it affect the coming into force or the continuance in force of any provision of the Agreement that is expressly, or by implication, intended to come into or to continue in force on or after termination.
- 10.3 Any rights and obligations which by their nature survive and continue after expiration or termination of this Agreement shall survive and continue and shall bind the Parties and their successors and assigns, until such obligations are fulfilled.

11 GENERAL

- 11.1 No forbearance or delay by a Party in enforcing its rights will prejudice or restrict those rights. No waiver of any right or breach will operate as a waiver of any other right or breach. No right, power or remedy conferred on, or reserved to a Party is exclusive of any other right, power or remedy available to it, and each of those rights, powers, and remedies is cumulative.
- 11.2 If any part of the Agreement is held to be illegal, invalid or unenforceable, the legality, validity and enforceability of the remainder of the Agreement will not be affected.
- 11.3 All notices to be given under the Agreement must be in writing or by email and be sent to the address or email address of the intended Recipient set out in the Agreement, or any other address or email address which the intended Recipient may designate by notice given in accordance with the provisions of this Condition.
- 11.4 Any notice may be delivered personally (including by courier), or sent by first class pre-paid letter or by email and will be deemed to have been served: if by hand, when delivered; if by first class post, 48 hours after posting; and if by email, when received.
- 11.5 UKRI-STFC/IBM may, provided it gives written notice to the INDUSTRY PARTICIPANT, assign, or otherwise transfer, its rights or delegate any of its obligations under the Agreement to any UKRI-STFC/IBM Affiliate.
- 11.6 No third party is entitled to the benefit of the Agreement under the Agreements (Rights of Third Parties) Act 1999 or otherwise, except that any Affiliate of UKRI-STFC/IBM may directly enforce or rely on any Condition expressed to be for the benefit of UKRI-STFC/IBM or any Affiliate of it.
- 11.7 Technology, software, and items furnished by IBM under the collaboration documents may be subject to United States export/re-export control laws and regulations, including the U.S. Export Administration Regulations (EAR) and the U.S. International Traffic in Arms Regulations (ITAR). UKRI-STFC and the INDUSTRY PARTICIPANT acknowledge the above and therefore each Party agree to comply with all applicable export and import laws and associated embargo and economic sanction regulations, including those of the United States, that prohibit or restrict the export, re-export, or transfer of products, technology, services or data, directly or indirectly, to certain countries, or for

certain end uses or end users. The Parties will not provide technical data, defense articles, or services controlled under the U.S. International Traffic in Arms Regulations (ITAR). Further, unless authorized by applicable government license or otherwise permitted by regulation, including but not limited to any U.S. authorization, each Party may not directly or indirectly export or re-export, at any time, any technology, software, and/or commodities furnished or developed under this Agreement between the Parties, or its direct product, to any prohibited country (including release of technology, software, and/or commodities to nationals, wherever they may be located, of any prohibited country) as specified in applicable export, embargo, and sanctions regulations. The parties acknowledge that these obligations survive the termination of this Agreement.

11.8 Except as otherwise provided herein, the Agreement does not confer any rights to use in advertising, publicity or other marketing activities any name, trade name, trademark, or other designation of either Party hereto, including any contraction, abbreviation, or simulation of any of the foregoing, without prior written agreement, and each Party agrees not to use or refer to the Agreement or their terms in any such activities without the express written approval of the Party concerned. Notwithstanding the foregoing, each Party may publish and present technical presentations, subject to the confidentiality obligations under the Agreement subject to the prior review and approval of the other Parties, such approval not to be unreasonably withheld or delayed.

11.9 This Agreement may only be amended by a writing signed by authorized signatories of the Parties.

IN WITNESS of which the Parties have signed this Agreement on the date stated at the beginning of this Agreement

SIGNED for and on behalf of
**THE SCIENCE AND TECHNOLOGY FACILITIES COUNCIL (A
PART OF UNITED KINGDOM RESEARCH AND INNOVATION)**
by its duly authorised officer

SIGNED for and on behalf of **IBM UNITED KINGDOM
LIMITED** by its duly authorised officer

Signature

Signature

.....
Print name

.....
Print name

.....
Position

.....
Position

SIGNED for and on behalf of
[INSERT NAME INDUSTRY PARTICIPANT]
by its duly authorised officer



Signature

.....
Print name

.....
Position

A. Project Plan

Project Name	
Project Start Date	
Project End Date	
INDUSTRY PARTICIPANT	
Project Outline	

1. Data and Report

- 1.1 INDUSTRY PARTICIPANT intends to provide UKRI-STFC/IBM with the following Data: describe the data].
- 1.2 UKRI-STFC/IBM intends to use the Data to [describe the intended use].
- 1.3 UKRI-STFC/IBM will complete a report/ reports and share it with INDUSTRY PARTICIPANT. Such report is anticipated to consist of the following: [list the scope of the report]

Appendix D | Expression of Interest “Challenge Statement” form

Introduction & Background

Brief introduction that provides background and context for the reader (approx. maximum 500 words);

Customer Response:

Problem Statement

Describe the problem you are encountering in sufficient detail that allows the reader an understanding of the challenges you face. This should include:

- *Clear description the problem challenge or business need*
- *Describe the current situation and how we expect this project to change it*
- *The expected technical outcomes of overcoming the problem.*

(approx. maximum 500 words)

Customer Response:

Previous Attempts to Solve the Problem

Describe what previous attempts have been made to solve the problem.

- *Approaches taken, including analytical methods used;*
- *Barriers identified*
- *Conclusion of these efforts.*
- *Have you seen a solution to a similar problem in another application / field?*

(approx. maximum 500 words)

Customer Response:

Solution Specification

If defined, what are the key criteria the solution must fulfil? What criteria are desirable but not essential?

- *Things to consider: Functionality, Customisability, Adaptability, Accessibility, Availability, Compatibility, Interoperability Scalability, Accuracy, Precision, Security, Privacy, Ethical, Licensing/IP.*

(approx. maximum 500 words);

Customer Response:

Expected or Estimated Impact/Value of the Project to your Business and/or Potential Impact to Wider Industry, Society, etc.

Please complete the boxes below (approx. maximum 100 words) each:

Will there be an increase in revenue from sales? (Include estimated value in £).	
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Will there be an increase in revenue from licensing? (Include estimated value in £).	
Will there be an increase in revenue from exports? (Include estimated value in £).	
Will the quality of products or services improve?	
Will there be an increase in employment of staff?	
What impact on productivity could be achieved? (Include efficiencies in processes, cost reductions in products or skilled services)	
Will the successful completion of the project provide a technological advancement to gain competitive advantage?	
What timescale would you expect to realise the benefits described above?	
Will the successful completion of the project accelerate the route to market for your product or service, and if so how?	
What benefits could the project have more widely to your industry?	
What benefits could the project have more widely to your geographical region?	
What other impacts could be expected from this work?	

Company Details

Please complete the boxes below:

Company name	
Companies House registration number	
Company's registered address (head office)	
Company's trading address (if different)	
Postcode where majority of work will be carried out	
Lead contact at company and contact details	
Total number of staff and size of organisation	
Where did you hear about the IDEMS programme	
Suggested technologies or equipment to be used (if known)	

Appendix E | Frequently Asked Questions

How are projects being funded?

Projects will be directly funded through the Hartree National Centre for Digital Innovation (HNCDI) Programme through government investment into the Science and Technology Facilities Council (STFC) Hartree Centre.

How and when will I be notified if my EOI or full proposal is successful?

The HDNCI team will continue to engage with all parties who have submitted an EOI proposal to understand the best route to bring the EOI to the Full Project Proposal stage, guiding the Full Project Proposal phase. As soon as the HDNCI management board believes that the Full Project Proposal contains all the convincing arguments to start the project, the organisation will be notified. The latest date for approval is 28th March, 2023.

Do EOI submissions have to come from within the materials sector?

The IDEMS team will accept proposals from organisations outside of the materials sector. However, the overall scope, objectives and activity carried out within a project should be demonstrated through a primary use case in materials.

Do I need to establish a consortium to submit an EOI?

No, the IDEMS Programme is specifically designed to accommodate a single organisation that would work with the STFC and IBM teams. However, consortia can apply where appropriate.

Can non-UK companies submit an EOI proposal and access the IDEMS services?

Overseas companies can only submit an EOI proposal if they have UK registered subsidiary and can guarantee that the R&D in a resulting funded project will be carried out in the UK and the results of the projects will be exploited from or in the UK.

How will EOI and Full Proposal submissions be assessed?

The HNCDI management board will apply a simple grading structure to assess proposals in line with the section "Selection Criteria" for both the EOI and the Full Project Proposal. The HNCDI team will provide feedback on how the proposal can be developed and improved on a regular basis.

What is the difference between HNCDI and IDEMS?

The HNCDI is the wider initiative under which the IDEMS Call Programme is running. Whilst the HNCDI covers a broad scope, IDEMS will be targeting the materials sector only.