**SCHEDULE 2**

**Letter of Appointment and Order Form**

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IFM Engage Ltd

**Letter of Appointment**

This Letter of Appointment is issued in accordance with the provisions of the Framework Agreement between The Department for Business and Trade and the Supplier dated 16th August 2024.

Capitalised terms and expressions used in this letter have the same meanings as in the Terms unless the context otherwise requires.

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| Order Number: | CR\_4522 |
| From: | The Secretary of State for the Department for Business and Trade ("Customer") |
| To: | IFM Engage Ltd ("Supplier")  Institute for Manufacturing  17 Charles Babbage Road  Cambridge  CB3 0FS |

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| Effective Date: | 27th August 2024 |
| Expiry Date: | End date 31st March 2025 |

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| Services required: | Set out in Section 2 (Services offered) and refined by:  The Customer’s Project Specification attached at Framework Annex A and the Supplier’s Proposal attached at Annex B; |

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| Key Individuals: | * **Project Director:** Dr Carlos López-Gómez, Head of Unit at IfM Engage * **Project Manager**: Dr Michele Palladino, Principal Policy Analyst at IfM Engage * **Academic Supervisor**: Dr Eoin O’Sullivan, Director of the IfM’s Centre for Science Technology and Innovation Policy * **Metrics Expert Group Chair:** Professor Sir Mike Gregory, founder on the Institute for Manufacturing * **Economic analyst:** Dr Jennifer Castañeda-Navarrete, Senior policy analyst at IfM Engage * **Economic analyst:** Dr Guendalina Anzolin is Research Associate at the IfM’s Centre forScience, Technology and Innovation Policy. * **Policy Analyst:** Dr Mateus Labrunie, Policy Analyst at IfM Engage   **Organogram of team** |
| Guarantor(s) | Not Applicable |

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| Call Off Contract Charges (including any applicable discount(s), but excluding VAT): | As per Annex C |
| Insurance Requirements | None in addition to those specified in the core terms of Futures Framework Reference Number: PS22410 |
| Customer billing address for invoicing: | Department for Business and Trade  c/o UK SBS, Queensway House  West Precinct  Billingham  TS23 2NF  Email: [ap@uksbs.co.uk](mailto:ap@uksbs.co.uk)  Telephone: 03332079122 |

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| Additional Clauses: | None |

**FORMATION OF CALL OFF CONTRACT**

**BY SIGNING AND RETURNING THIS LETTER OF APPOINTMENT (which may be done by electronic means) the Supplier agrees to enter a Contract with the Customer to provide the Services in accordance with the terms of this letter and the Terms.**

**The Parties hereby acknowledge and agree that they have read this letter and the Terms.**

**The Parties hereby acknowledge and agree that this Contract shall be formed when the Customer acknowledges (which may be done by electronic means) the receipt of the signed copy of this letter from the Supplier within two (2) Working Days from such receipt.**

**For and on behalf of the Supplier: For and on behalf of the Customer:**

Name and Title: Name and Title:

Signature: Signature:

Date: Date:

Annex D: Order Form

**ORDER FORM**

**Framework Agreement – Futures Framework**

Annex A – Customer Project Specification

Annex B – Supplier Proposal

Annex C – Pricing

Part 2 – The Terms as set out in this Framework Schedule 2 (Letter of Appointment and Order Form) shall apply to this Contract.

**FROM**

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| **Customer** | The Secretary of State for the Department for Business and Trade |
| **Service Address** | Old Admiralty Building  London  SW1 2BL |
| **Invoice Address** | Department for Business and Trade  c/o UK SBS, Queensway House  West Precinct  Billingham  TS23 2NF |
| **Contact Ref:** | Name: REDACTED  Phone: REDACTED  e-mail: REDACTED |
| **Order Number** | To be quoted on all correspondence relating to this Order: TBC |
| **Order Date** | 16th August 2024 |

**TO**

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| **Supplier:** | IFM Engage Ltd |
| **For the attention of:** | Name: REDACTED  Phone: REDACTED  e-mail: REDACTED |
| **Address** | IFM Engage Ltd  Institute for Manufacturing  17 Charles Babbage Road  Cambridge  CB3 0FS |

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| **1. SERVICES REQUIREMENTS** |
| * 1. **Services and Deliverables Required: As per Annex A Customer Specification** |
| **(1.2) Commencement Date: 27th August 2024** |
| **(1.3) Price Payable by Customer As per Annex C** |
| **(1.4) Completion Date: 31st March 2025** |

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| **2 ADDITIONAL REQUIREMENTS** |
| **(2.1) Supplemental Requirements in addition to Call-Off Terms and Conditions: None** |
| **(2.2) Variations to Call-Off Terms and Conditions: None** |

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| **3. PERFORMANCE OF THE SERVICES AND DELIVERABLES** |
| * **(3.1) Key Personnel of the Supplier to be involved in the Services and deliverables:**   REDACTED |
| **(3.2) Performance Standards:**  The Supplier shall work with the customer to ensure all deliverables are on time and to agreed standards. The Supplier shall have a robust quality assurance and should assume that any reports will go through a maximum of three versions, with two rounds of comments from the Customer before a final version for sign off. |
| **(3.3) Location(s) at which the Services are to be provided: At Supplier’s premises** |
| **(3.4) Quality Standards:**  The Supplier shall set out their organization's arrangements and security procedures for receiving, storing, and handling data, including securely destroying data when appropriate.  The Supplier must provide evidence of a current valid:   * Cyber Essentials certificate   If the Supplier cannot provide one of the above, they must provide evidence demonstrating how they will achieve such certification prior to Contract commencement.  Regarding accessibility requirements, the Supplier must comply with Public Sector Bodies (Websites and Mobile Applications) (No.2) Accessibility Regulations 2018.  Research and analysis to meet standards set out in [the Magenta Book](https://www.gov.uk/government/publications/the-magenta-book) the [Government Social Research code](https://www.gov.uk/government/publications/the-goverment-social-research-code-people-and-products), the [Market Research Society Code of Conduct](https://www.mrs.org.uk/standards/code-of-conduct) and the [HM Treasury Green book](https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-governent). |
| **(3.5) Contract Monitoring Arrangements:**  Provision of an initial project plan at the initial scoping meeting to be consulted on and signed off on by the Customer. Plan shall detail the Suppliers expected research, actions or methodologies to address each of the questions listed in the projects research aims.  Fortnightly/monthly progress meetings shall be organised and attended with the Supplier responsible for setting the agenda (with the agreement of the Customer) and distributing minutes in a timely manner (within 2 working days).  In tandem with these meetings the Supplier shall provide written progress reports explaining actions to date and future plans alongside an updated Gantt chart.  Final and draft final reporting will be quality assured and assessed for accessibility/formatting upon receipt by the Customer. Documents which do not meet these criteria shall be returned for re-working at the Suppliers cost.  Reporting shall be in the Customer’s standard branded template. The latest reporting template shall be provided ahead of the reporting period.   |  |  |  |  | | --- | --- | --- | --- | | **Meeting/report** | **Content** | **Frequency** | **Format** | | Inception meeting | Confirmation of methods and plans for upcoming research | Once at project initiation | Virtual/hybrid | | Progress meetings | Contract performance ideas discussion. | Fortnightly/monthly as required at different project stages with more frequency towards the end of the project. | Virtual/hybrid | | Wider steering group meetings | Likely project inception  Mid way progress report  Interim draft of final report(s) | Up to 3 over the course of the project. | Virtual/hybrid | |

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| **4. CONFIDENTIAL INFORMATION** |
| **(4.1) The following information shall be deemed Commercially Sensitive Information or Confidential Information:**  The Supplier’s tender including pricing. |
| **(4.2) Duration that the information shall be deemed Commercially Sensitive Information or Confidential Information:**  Three years. |

**By signing and returning this Order Form the Provider agrees** to enter a legally binding contract with the Customer to provide the Service specified in this Order Form together with, where completed and applicable, the mini-competition order (additional requirements) set out in section 2 of this Order Form. Incorporating the rights and obligations in the Terms and Conditions set out in the Framework Agreement entered into by the Provider and The Department for Science, Innovation and Technology and any subsequent signed variations to the terms and conditions.

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| For and on behalf of the Supplier- | |
| Name and Title |  |
| Signature |  |
| Date |  |

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| For and on behalf of the Customer- | |
| Name and Title |  |
| Signature |  |
| Date |  |
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**ANNEX A CUSTOMER SPECIFCIATON**

**Introduction**

The Department for Business and Trade (DBT) is the department for economic growth. We support businesses to invest, grown and export, creating jobs and opportunities across the country.

The purpose of this specification is to set out the scope of the Services that the Supplier shall deliver under the Contract.

**Background to the Requirement**

As part of the [Advanced Manufacturing Plan](https://www.gov.uk/government/publications/advanced-manufacturing-plan/advanced-manufacturing-plan-html-version) (November 2023), the Customer committed to exploring and piloting a Manufacturing Observatory – to improve our understanding of the advanced manufacturing sector from data and other digital tools, to complement official statistics and our ongoing monitoring and evaluation work.

This project on the ‘Changing value and structure of the UK manufacturing sector’ shall provide vital context, background and framing for any future Manufacturing Observatory, and shall feed directly into work to develop its strategic business case.

**Summary Research Aims**

The aim of this project is to update our evidence base on the changing value and structure of the UK manufacturing sector. Key questions include:

1. What is the true value of manufacturing in the UK?
2. How can we better quantify ‘advanced’ manufacturing?
3. What is the extent of servicification in the UK manufacturing sector, and can we put any values on this?
4. What are the top emerging manufacturing sectors by value potential, and how can we identify emerging sectors?
5. How do other countries measure their manufacturing sectors?

The Customer expect these questions to be answered using analysis of secondary data / Big Data sources or a review of relevant literature. The Supplier may also consider consulting with trade associations, catapults or academic experts. Where possible, the Customer would like the Supplier to set out how the above questions could best be answered, grounded in suitable frameworks, such as Green Book methodologies, and robust international comparisons. The Supplier shall also set out the preferred / recommended methodology that any future Manufacturing Observatory could use for answering these questions in any future updates. Setting out multiple methodologies for each question is unnecessary unless the Supplier wishes to. While Green Book methodology has the advantage of being familiar other approaches are also welcome.

Where literature is reviewed the Customer are open to both newer and older sources, peer reviewed literature and grey literature from think tanks and research institutes etc.

**Detailed Research Aims**

1. What is the true value of manufacturing in the UK?

There have been a number of reports on the true value/size of the UK manufacturing sector, including studies by Oxford Economics on the [true impact of UK manufacturing](https://www.oxfordeconomics.com/resource/bd178a1a-dbb9-4651-9b0c-4aac020e109f/) (2018) and by the Institute for Manufacturing (IfM), [Inside the black box of manufacturing](https://www.oxfordeconomics.com/resource/bd178a1a-dbb9-4651-9b0c-4aac020e109f/) (2020) / [Manufacturing metrics review](https://www.gov.uk/government/publications/manufacturing-metrics-review) (2016).

These studies argue that manufacturing is more than just the production of goods and is inextricably intertwined with service sectors. While current data collection and analysis arrangements reflect international agreements, and are robust and widely respected, they do not facilitate detailed reporting of trends in the structure and dynamics of manufacturing, particularly the ‘value added’ within and between activities along the value chain.

In this current study, the Customer want to (very briefly) recap the question of “what is the true value of manufacturing” in terms of indirect value and employment, and if and why this interdependence deserves to be treated any differently to the indirect effects of any other sector. As this issue was covered in some detail in the 2016 IFM Manufacturing Metrics Review, the Supplier need only update the measures presented in this 2016 report and, if necessary, add updates to any arguments made (should there have been significant developments since 2016).

Based on this work, the Customer requires the Supplier to set a preferred methodology, for how we should value manufacturing in the UK. Any preferred methodology should be grounded in robust frameworks, such as those associated with the Green Book. Key questions for us are:

* Is there any truth to the argument that manufacturing in the UK is undercounted in comparison to other countries?
* Is there any evidence to say outsourcing has happened more in the UK than elsewhere in a way that makes comparisons inconsistent or unfair to the UK?
* How does the indirect manufacturing multiplier in the UK, compare internationally (does the sector support more, less or roughly the same ratio of indirect jobs)?
* What is the impact of outsourcing (within the country) on how manufacturing is measured in other countries?
* What are the options for properly valuing manufacturing in the UK, and what should be our preferred methodology?

For this question the Customer and the rest of HMG define “indirect value” as that created by the input purchasing activity of the sector. Also, indirect employment are those jobs generated elsewhere in the economy by the input purchasing activities of the sector in question. Some agencies also consider something called “induced value”. This is the value created by all those directly and indirectly employed by the sector spending their wages. This is not something we usually consider.

1. How can we better quantify advanced manufacturing?

The current workable definition of ‘advanced manufacturing’, covering the UN definition of high and medium high-tech manufacturing, incorporates the following Standard Industrial Classification (SIC) codes: 20-21, 26-30 (broadly, the automotive, aerospace, pharmaceutical, chemicals and electronics and machinery sectors).

In practice, advanced manufacturing is intended to be a broader concept, reaching beyond these sectors, to incorporate any manufacturing involving’ advanced processes. The [Advanced Manufacturing Plan](https://www.gov.uk/government/publications/advanced-manufacturing-plan/advanced-manufacturing-plan-html-version) defines ‘advanced manufacturing’ as “production processes that integrate advanced science and technology, including digital and automation, to manufacturing”. More examples of these processes include additive manufacturing (3D manufacturing), nanotechnology, advanced/composite materials and processes incorporating technologies such as AI, virtual reality and data analytics. See the [made smarter](https://www.madesmarter.uk/resources/case-studies/) website for case studies of these.

To our knowledge, there is currently no straightforward way of quantifying businesses which fall into this broader category. The Customer requires the Supplier to set out a suggested/recommended methodology, for how we might improve our measurement of the advanced manufacturing sector. Questions for this research therefore include:

* Are there any other methods (beyond using SIC 20-21,26-30) we should be considering for quantifying advanced manufacturing?
* What alternative methods are used internationally (or could be useable)?
* Is there any international consensus / thinking around this?
* What is the recommended approach for capturing / measuring the advanced manufacturing sector?

For this question the Customer are looking for a subset of the traditional definition of manufacturing (SIC section C) rather than something reaching into service sectors.

1. What is the extent of servicification in the UK manufacturing sector, and can we put any values on this?

There is evidence that manufacturers are increasingly diversifying their offer into providing services, as opposed to simply manufacturing goods. (This includes manufacturers selling ‘products as service’, e.g. OEMs selling engine hours rather than engines, and manufacturers selling service/product bundles, e.g. including software updates and servicing as part of the product sale.)  The IFM report, [Inside the black box of manufacturing](https://www.oxfordeconomics.com/resource/bd178a1a-dbb9-4651-9b0c-4aac020e109f/) (2020), estimates that in the EU embedded services account for up to 40% of manufacturers exports.

Building on this finding, the Customer requires the Supplier to explore several questions around ‘servicification’. The Supplier can propose options for suitable methodologies for quantifying servicification and put forward a recommended methodology. HMG does not have any existing data or agreed methodologies for measuring these.

* Is there any evidence that servicification may have resulted in a shrinking of the manufacturing sector (i.e. are some manufacturers now being classed as service companies)? Or alternatively, is this phenomenon, working to increase the size of the sector?
* Is it possible to put any sort of values of servicification? Do we have good examples of these?
* Should these services be considered manufacturing or services?
* Are there lessons to be learned here about promoting servicification to better contribute to economic growth?
* Do we see similar levels of servicification in other countries? What approaches are used internationally to measure servicification?
* What is the recommended method that any for quantifying servification in the manufacturing sector?

1. What are the top emerging manufacturing sectors by value potential, and how can we identify emerging sectors?

While we have qualitative evidence / intelligence that new manufacturing subsectors are emerging (for example, batteries, advanced materials, semiconductors, hydrogen and clean energy infrastructure), it is difficult to measure the size and value of these new sectors using traditional Standard Industrial Classification data.

The Customer requires the Supplier to explore whether there are alternative data sources (e.g. Big Data) for quantifying these emerging sectors.

Questions include:

* What data / methodologies can we use for estimating the value of nascent sectors? How can we better identify new sectors / fast growing sectors? What is the preferred approach?
* How do other countries measure the size / value of emerging and newer sectors?
* What are the most significant emerging manufacturing subsectors by value potential?
* How mature are these sectors and what are the key firms driving this growth?

1. How do other countries measure the manufacturing sector?

The Supplier shall conduct a review of the data collected by international counterparts (e.g. G7 countries) on the manufacturing sector and make recommendations on how we could improve data collection in the UK. Notwithstanding data availability the most valuable comparators would be those most similar to the UK (France, Italy, Canda for instance) but also other G7 and OECD countries, including peers such as Korea, Australia and Singapore or low cost competitors such as Czechia, Hungary and Turkey

**Additional Considerations**

The Supplier has scope to digress and attempt to address what they consider to be related or contextual issues around the five questions posed here or whether they could offer advice or opinions on the running and governance of the Manufacturing Observatory.

Foreign travel as part of the research proposal, for example to better facilitate fact-finding with respect to international comparisons and best practice, is allowable though costs of such travel and accommodation need to be costed as part of your overall proposal, please note there is no additional budget for travel, your costs must not exceed the stated budget.

**Reporting**

The main deliverable will be a full write-up of the findings, including an executive summary, in a Customer Microsoft Word reporting template following [accessibility guidelines](https://analysisfunction.civilservice.gov.uk/policy-store/making-analytical-publications-accessible/). This must be written with the assumption that it could be published for wider consumption.

The Supplier must be able to write for the audience in mind, which includes DBT, HM Treasury and wider government, the manufacturing community and the wider public

The final report shall include key findings, policy takeaways and, optionally, identify next steps for future research or analysis, in a clear and comprehensive manner, avoiding technical jargon where possible.

Contingent on how the Supplier approaches the brief technical annexes may be appropriate containing enough detail for any results to be reproducible.

The Customer requires that near-final drafts be fully proof-read to enable complete and efficient sign-off. It should be assumed that report drafting will go through three versions, with two rounds of comments from the Customer and a third “final draft” for internal sign-off.

The Customer anticipate holding on average, fortnightly project meetings with the Supplier, with perhaps greater frequency towards the start and end of the project than in the middle. This will include regular smaller project meetings with members of the contracting Sector Analysis team and Customer manufacturing policy colleagues and a smaller number of meetings with a wider steering group including other representatives of other government departments such as HM Treasury and the Office for National Statistics.

**Deliverables**

* Project plan of intended approach at the commencement of the project.
* Fortnightly/monthly progress meetings between the Supplier and the Customer project team. Meetings will be hybrid/virtual via Teams with the Supplier providing a draft agenda ahead of each progress meeting and written report on progress or upcoming issues
* A small number of these will be meetings with a broader steering group potential including representatives from other government departments such as HM Treasury or the Office for National Statistics among others (group to be convened by the Customer)
* Written fortnightly report on progress during fortnightly periods where a progress meeting is not due.
* Project management tools, including a Gantt chart and risk register alongside progress reports, to be maintained and reviewed during progress meetings.
* Up to two iterations of draft reports, leading up to a final report, for comment by the Customer and other stakeholders
* A final comprehensive written report, taking into account comments on the previous drafts, in a Customer Microsoft Word reporting template following Customer formatting and [accessibility guidelines](https://analysisfunction.civilservice.gov.uk/policy-store/making-analytical-publications-accessible/) suitable for publication

The Customer requires the report finished and the project to be concluded before end March 2025.

Milestones

Contract start date: August /Sept 2024

Initial Scoping Meeting: Ideally End July 2024

Mid project feedback and interim reporting: Late November 2024

Meeting to discuss draft of final report: Jan/Feb 2025

Fortnightly “contact” throughout the

Final report (Final draft): End March 2025 or prior

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|  | **July - 24** | **Aug - 24** | **Sep - 24** | **Oct - 24** | **Nov - 24** | **Dec - 24** | **Jan - 25** | **Feb - 25** | **Mar - 25** |
| **Contract start date** | **X** | |  |  |  |  |  |  |  |
| **Initial Scoping Meeting** | **X** | |  |  |  |  |  |  |  |
| **Mid project feedback** |  |  |  |  | **X** |  |  |  |  |
| **Interim reporting** |  |  |  |  | **X** |  |  |  |  |
| **Discussion of drating of final report** |  |  |  |  |  |  | **X** | |  |
| **Final report and presentation** |  |  |  |  |  |  |  |  | **X** |
| **Contract end** |  |  |  |  |  |  |  |  | **X** |

**Dependencies**

Regarding the question of the true value of manufacturing. There have been a number of reports on the true value/size of the UK manufacturing sector, including studies by Oxford Economics on the [true impact of UK manufacturing](https://www.oxfordeconomics.com/resource/bd178a1a-dbb9-4651-9b0c-4aac020e109f/) (2018) and by the Institute for Manufacturing (IfM), [Inside the black box of manufacturing](https://www.oxfordeconomics.com/resource/bd178a1a-dbb9-4651-9b0c-4aac020e109f/) (2020) / [Manufacturing metrics review](https://www.gov.uk/government/publications/manufacturing-metrics-review) (2016). The Customer expect the findings of these reports to be referenced, briefly summarised and built on (or perhaps refuted) in this Contract.

The Supplier shall conform to Customer formatting and presentation standards in its draft and final reports.

Where it is agreed possible the Supplier will be expected to act on and incorporate the comments of the Customer and related stakeholders in report drafting with the Customer quality assuring and signing off on the final outputs of the project.

The Customer will own all IP created by the project without limitation.

**Experience and Capability**

The Supplier must have and ideally be able to demonstrate sufficient technical capabilities, knowledge and experience, including:

* In-depth knowledge of UK and international industry classifications and of how national statistics are compiled
* Knowledge of national and international agency economic datasets and alternative data-sources and techniques such as private data sets, “big data” or web scraping.
* Knowledge of the manufacturing issues described in the research requirements ideally both domestically and internationally and familiarity with the associated literature
* Evidence of providing quality deliverables, including reporting, which meets government requirements including examples of previous government projects
* Evidence of project management skills necessary to complete the project in the specified time frame.

**ANNEX B SUPPLIER PROPOSAL**

**REDACTED**

**Annex C – Pricing**

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**REDACTED**