



InterAct Network Systematic review guidance

February 2023

InterAct Systematic Review Call 2

About InterAct

The **Made Smarter Innovation (MSI)** challenge aims to help UK manufacturing become more productive and competitive through the innovation and diffusion of digital technology, and to support manufacturing to achieve Net Zero by 2050. Whilst technology is important, there are many social and economic factors that will be hugely influential in achieving these aims.

InterAct is funded by **UKRI** as an investment under the MSI challenge. InterAct seeks to “pioneer human insight for industry” and is a call to arms for academics from the social sciences to support the innovation and diffusion of digital technologies that will result in a stronger, more resilient UK manufacturing industry. Working alongside other partners within the wider Made Smarter community, the long-term vision is to build a strong, vibrant, interdisciplinary community to support the digitalisation of UK manufacturing.

InterAct is led by the co-directors Professor Jan Godsell (Loughborough University) and Professor Jill MacBryde (Strathclyde Business School) and the core research team is comprised of researchers from Loughborough, Strathclyde and Sheffield Universities. The directorship and programme will act as a conduit to curate, amplify and augment insights from the economic and social science (ESS) to support the five MSI challenge objectives to:

1. **Increase UK manufacturing sector investment in industrial digitalisation R&D and increase the innovation and diffusion of Industrial Digital Technologies (IDT).** Insights from the economic and social sciences will help manufacturing firms to assess the risk, make the business case, and provide insights on the management practices that will enable successful adoption.
2. **Increase cross-sector collaboration between UK manufacturing sectors to drive the creation of common digital solutions** by working with manufacturing firms to identify the underlying mechanisms and management practices within a specific solution and providing a forum for sharing those mechanisms with other sectors, to enable the sharing of leading practices.
3. **Increase the number of digital technology companies providing solutions for manufacturing industries** by improving the visibility of technology providers to manufacturing companies and facilitating the relationships to understand the barriers and drivers to successful technology adoption.
4. **Increase the number of collaborations between SMEs and larger, more established companies up the value chain** by facilitating the connection between SMES and larger customers and using economic and social scientists to provide insights to mediate the relationships.
5. **Increase the potential for export of UK manufacturing and digital manufacturing solutions** by understanding the economic landscape and the policy drivers that would support this ambition, in addition to the capabilities firms require to support exports.

Economic and social scientists will benefit from the creation of an inclusive community, that finds innovative ways to embed their expertise more effectively within interdisciplinary research. Successful integration of ESS with science and engineering disciplines is vital to enable successful adoption of future digital technologies.

InterAct Systematic Review Call 2 - Overview

The purpose of systematic reviews in InterAct's Commissioned Research Programme is to provide a coherent summary of established knowledge from both academia and practice on the application and potential benefits of industrial digital technologies (IDTs) in the manufacturing setting. The outputs of the reviews will provide a solid foundation for the future research direction.

InterAct will fund **two** systematic reviews through this call, which address the following areas:

1) Manufacturing and the metaverse.

The metaverse is virtual space where people can interact with one another and is most commonly experienced in multi-player gaming. The industrial metaverse has more practical applications. It uses virtual and augmented reality to blend the physical and digital worlds to transform how businesses design, manufacture and interact with objects.

Many of the building blocks of the industrial metaverse are not new. However, the greater availability and affordability of AR and VR headsets, "internet of things" technology, and better connectivity and computing make it increasingly possible to bring industrial applications into the virtual world. Potential uses include training, collaboration and digital twins, which simulate the real world. Potential benefits include better customer experience, enhanced employee experience and improved decision making.

The industrial metaverse is a fast-growing field of study, often explored from within a single disciplinary perspective. There is a need for a systematic review of the existing body of knowledge on the metaverse, and the role that it can play in shaping the future of manufacturing we want. It could help to provide clarity on the terminology, technologies, and different roles that the metaverse could play in a manufacturing context. Help to articulate the barriers, drivers and benefits to adoption for individuals, firms, the manufacturing ecosystem and the economy.

2) Perceptions of Manufacturing

Recently, both in UK academic and practice circles, there have been conversations suggesting we need to change the way we talk about manufacturing (eg. Minshall 2022, Godsell 2022). This argument suggests that there are misconceptions that result in the manufacturing sector struggling to attract skilled workers and suffering from less attention from policy makers.

InterAct is currently conducting a survey in the UK to understand people's perceptions of manufacturing, in particular how these perceptions of manufacturing are affected by an increasingly digital world. This offers us insights that will help us address some of the problems the sector has in recruiting staff.

In 2023, InterAct will begin core research around the Future of Manufacturing Work with an international scope. To support this, a systematic review of the literature (from academia and practice) is required to establish attitudes to manufacturing and industrial strategies, and how manufacturing is discussed in other countries, particularly where digital technologies have been adopted.

We are looking for a review that presents interesting insights about manufacturing across the globe including strategies, attitudes, roles, skills and language.

There is no minimum value for a request, but the maximum that shall be awarded to any single project is **£62.5k (at 100% FEC)**, of which 80% will be funded by InterAct (that is, **£50k maximum funding for a single project**). The maximum duration of any project is **four** months.

This guidance document contains all the key information pertaining to the InterAct Systematic Review Call 2, describing the types of projects, scope, ambition, and impact that applicants are expected to address in their proposals.

Timetable:

Call opens	Monday 13 February 2023
Closing time and date for applications	Friday 24 March 2023 at 12.00 (midday)
Projects may start from	Monday 5 June 2023

Successful teams will be required to attend the InterAct Annual Conference in London on Tuesday 3rd October 2023.

Scope

Funding is available for two projects that we believe will be of interest to the Made Smarter community during 2023.

The areas we have identified lend themselves to a systematic review, as they are areas where information is dispersed and coming from different disciplines, geographies and sources (not just academic literature).

We are looking for research teams who can pull together information from different domains on the topic and pull-out key insights that will be of use to the Made Smarter community and specifically the InterAct community. We are particularly interested in economic and social science insights. Reviews might in themselves have outcomes that deliver impact, but they should also lay the foundations for further work, e.g., by supporting the development of proposals for more substantive future research.

The outputs from the projects should contribute to the aims and objectives of InterAct which in turn contribute to one of the long-term objectives of the Made Smarter Innovation (MSI) Challenge which is to increase cross sector collaboration between types of academic disciplines; businesses and academics, different businesses, within the UK manufacturing sector, and to support the international aims within MSI.

As a minimum, outputs are most likely to be in the form of a report. Additionally, successful applicants are expected to work with the InterAct Impact Manager to complete an impact map and use more innovative outputs such as tools, proof of concept, multi-media demonstrations and other innovations to facilitate further engagement with audiences listed above.

Data is likely to be an important feature of most projects; a data management plan is required to ensure that data is appropriately curated, stored and made available for future research where feasible.

Eligibility

- Any UK organisation that is eligible to receive UKRI funding, typically academic institutions.
- Every Systematic Review project shall have a named Lead University/Lead Research Organisation. This organisation may apply independently or may include other Project Partners in its application.
- Funding shall be awarded only to the Lead University/Lead Research Organisation. Loughborough University will contract with the Lead University/Lead Research Organisation only. Any subsequent distribution of funding to Project Partners shall be the responsibility of the Lead University /Lead Research Organisation.
- The award holder may include other stakeholders (Project Partners) in their project team but should not exceed more than three Co-Investigators. The inclusion of Co-Investigators should be clearly justified in respect of their added value (e.g., bringing expertise from a different discipline, or a different methodology) and the duties/responsibilities they will commit to undertake as part of the project. Applicants are strongly advised not to submit proposals with multiple Co-Investigators from the same academic department, as this is unlikely to fulfil the Quality and Management Criteria.
- Each Systematic Review project shall have a named Principal Investigator (PI). The PI shall be employed continuously by the Lead University (i.e., their post will outlast the project). The PI shall be considered the key contact for the award, taking responsibility for delivery, budget, and reporting. The PI must be from the organisation that will administer the grant. The PI will take intellectual leadership of the project and manage the research. All named investigators are responsible for ensuring that successful proposals are undertaken and completed in the manner specified.
- Any funding requested for staff shall only be awarded for named individuals, who are already in post in the organisation. The relatively short duration of the Systematic Review projects precludes the option of making new appointments in the funding period.
- Early career researchers (ECR), (including post-doctoral researchers and new/probationary lecturers) are eligible to participate and are encouraged to do so and may act in role of PI. Where an ECR is the primary actor, it is requested that a senior individual is also included in the project to help oversee.
- Impact: in line with UKRI expectations, it is recommended that applicants should allocate approximately 10% of the requested costs for impact activities as outlined in the section 'Scope' of this document.

Eligible costs

If successful, applicants will receive 80% funding by InterAct on proposals submitted up to a maximum award of £62.5k (that is, £50k maximum funding for a single project).

Applicants are advised that value for money is a criterion in the assessment, so should ensure that their request is appropriate for the scope, ambition and expected impact, and can viably be spent within the maximum four months permitted.

- **Directly Allocated staff:** Investigators
- **Directly Incurred staff:** Researchers
- **Travel and Subsistence**
- **Other Directly Incurred costs:** project specific consumables, consultancy fees, and equipment costing less than £10,000. Applications that exceed this will require additional justification about why this amount is appropriate and represents value for money.
- **Other Directly Allocated costs:** e.g., support staff salaries, a share of the costs of departmental support staff and/or the costs of access to major research facilities.
- **Estate and Indirect costs.**

Ineligible costs

The following may not be requested under this Call:

- Associated studentships
- Any equipment costing £10,000 or more (including VAT)
- Costs associated with International Co-Investigators
- Costs associated with UK co-investigators in business, civil society or government bodies (where this exceeds 10% of the total amount requested)

Expectations

To align with the expectations of InterAct, successful applicants shall:

- **Provide updates on progress (if requested) and comply with mid and end project requests for reporting** (both during the project and post-completion). Reporting requirements will be provided to successful teams. These shall align with UKRI templates and ResearchFish and include commentary on whether aims have been achieved, methods used, data produced, publications or other outputs, other outcomes, impact achieved and planned, problems encountered, and forward plans.
- **Attend InterAct events, as required.** This may include presentations to the InterAct Board and InterAct Annual Conference in October 2023.
- **Promote and amplify InterAct through their own networks.** The InterAct Communications Officer will maintain contact with successful teams and those subscribed to receive updates to ensure that important information and announcements are disseminated widely.
- In collaboration with the InterAct Impact Manager and other members of the InterAct team, develop an impact plan and agree metrics to monitor the success of the project such as (but not limited to) the number of and type of people engaged in new networks, number of events and attendees, the number publications and their reach, new connections made by type, and new research partnerships formed by type.
- Permit research outcomes and updates to be shared with the wider InterAct Network via marketing channels and communications.

UKRI has commissioned SQW, an independent research consultancy (www.sqw.co.uk), in collaboration with the survey company IFF, Frazer Nash and the Institute for Manufacturing (University of Cambridge), to evaluate the programme. The evaluation will continue to 2025.

SQW will conduct a range of research activity for the evaluation including a survey of companies receiving funding from the programme, interviews with stakeholders and programme participants and analysis of secondary and monitoring data.

By submitting an application for this InterAct Systematic Review Call 2, which is part of the Made Smarter Innovation programme, you agree UKRI may share your contact details with SQW.

SQW may subsequently contact you to discuss your involvement with InterAct.

Any information you provide SQW will be treated in confidence and held securely. No information you provide will be attributed to you or your organisation. Aggregated and analysed responses will be used to prepare reports to UKRI. You can find SQW's privacy notice [here](#).

Assessment and Selection Process

InterAct reserves the right to reject proposals that are incomplete and that do not meet the requirements highlighted on the checklist before sending them to reviewers.

The checklist can be found in the Application Form.

The award of funding to proposals will be based on an independent evaluation. All proposals will be reviewed by peer reviewers using the criteria below.

Applications which meet the required standard will be discussed at the Commissioning Panel, comprising academics, industrial and InterAct stakeholders, the InterAct co-directors and an ESRC observer.

The Commissioning Panel will make funding recommendations to InterAct. Final funding decisions require the endorsement of InterAct.

InterAct reserves the right to take a portfolio approach to the Systematic Review Call 2 grants.

There are five Primary Criteria against which all proposals shall be assessed. Each contains three key points, as shown below. All applications shall be assessed against the same criteria, regardless of the size of request. Reviewers shall assess the size of the request solely in the *Value for Money* criterion. Proposals shall be scored against each of the five criteria on a scale of 0-3, as follows:

- 0 = sub-criteria not met
- 1 = sub-criteria partially met
- 3 = sub-criteria fully met

Scoring Criteria:

Contribution	<ul style="list-style-type: none"> • State clearly the aim and objectives of the research, its level of ambition, the expected addition to knowledge and describe its fit to the aims of InterAct and the Made Smarter Innovation (MSI) challenge. • Explain the need for this research and note why your approach is the most appropriate, and how it might be scalable. • Describe the problem that is to be investigated, with reference to the literature.
Rigour	<ul style="list-style-type: none"> • Describe and justify the research approach/method to be taken, making clear links to which team members will be responsible for delivery. • Explain how the project engages with the idea of interdisciplinary enquiry. • State the proposed outputs and outcomes from the research, with reference to destination journals, conferences, and industry groups.
Management	<ul style="list-style-type: none"> • Justify why this team is the most appropriate to deliver the project, with reference to their track record/s, and Equality, Diversity and Inclusion (ED&I). • Explain (with a timetable and work package/task structure) how you will ensure you deliver the research on time, including sufficient engagement and networking as part of the programme. • Provide an account of the key risks and how you will manage these (include any risks in respect of ethics, data management, and staffing).
Value for money	<ul style="list-style-type: none"> • Provide a clear justification for all resources requested. • Explain why your request is appropriate, given your review scope, ambition etc. • State how you will contribute to InterAct, making reference to your long-term plans for follow-on funding and collaboration.
Impact	<ul style="list-style-type: none"> • Describe the long-term effect that you expect your research to have on the InterAct agenda, and how you would expect this impact to be measured or recognised. • Set out your pathway/s to impact, including your target audience/s and beneficiaries, how you will reach them, and what change you expect to see. • Describe the potential to increase cross sector collaboration between types of academic disciplines, businesses and academics and different businesses within the UK manufacturing sectors.

Grant conditions

Successful applicants will receive a Grant Award Letter with the terms and conditions set out in the InterAct Grant Disbursement Agreement.

Applicants should make sure that these terms are acceptable to their organisation before applying for funding. The terms are not negotiable. [They are available here.](#)

Submissions

[Download an application pack.](#)

The deadline for submissions is Friday 24 March 2023 at 12.00 (midday)

Submissions should be sent to this email address: info@interact-hub.org

Contact

For all enquiries about the call, please email info@interact-hub.org