DTNet+
Digital Twin NetworkPlus

Digital Twin Network+ (DTNet+): Transforming UK digital twinning capability

Pilot Projects and Feasibility Studies – Call for Proposals

Non-compulsory Sandpit: 4 & 5 September 2024, Sheffield University

Closing date: 17.00 Monday 21st October 2024

Please note this call is only open to DTNet+ members

Background

As digital twin (DT) technology advances, innovators must adapt and respond to a wide number of opportunities and challenges. Key to addressing these challenges will be a strongly cross-disciplinary approach, facilitated through our UK-wide network of academics and industry partners represented by DTNet+. The mission of DTNet+ is to develop game-changing breakthroughs that lead to a new generation of intelligent, resilient, and trusted digital twins. Ultimately the activities of DTNet+ will contribute to a much stronger UK capability in digital twinning.

DTNet+ complements the established practitioner-led activities such as, the DT Hub and the UK National Digital Twin programme. An important part of the DTNet+ activities will be to engage with and be complementary to these and other relevant activities.

The DTNet+ objectives are to:

1. facilitate knowledge exchange and stimulate new cross-disciplinary collaborations & innovations for digital twins
2. accelerate the development of underpinning academic research that is needed to develop robust, resilient and trusted DTs that can operate at speed and scale
3. articulate the challenges & help set the UK digital twin agenda via thought leadership activities
4. facilitate explorative cross-disciplinary pilot research projects & feasibility studies that stimulate further funding applications and opportunities relating to digital twins
5. support outreach, skills development & sustainability for digital twin technology

Pilot Projects and Feasibility Study funding call

DTNet+ will be funding the first round of pilot & feasibility studies in 2024.

Pilot Projects will focus on new ideas aligned with special interest group (SIG) topics (listed below). Pilot projects can be 4-9 months in duration and in the range of £20k - £50k (100% Full Economic Cost, FEC, funded by DTNet+ to 80%FEC). Up to 7 pilot projects will be funded in this round. ***Feasibility Studies*** can focus on any ideas and do not necessarily have to be aligned to a SIG topic. Feasibility studies can be 2-6 months in duration, and in the range of £10k - £25k (100% FEC, funded by DTnet + to 80% FEC). Up to three feasibility studies will be funded in this round. Funding will be awarded at 80% FEC under UKRI (UK Research and Innovation) terms and conditions.

DTnet+ Special Interest Groups

1. Uncertainty & Trust	5. Health
2. Scaling of DTs	6. Languages, Logic, and Ontologies for DT design, interoperability, and analysis (SIG LLODIA)
3. Design & Implementation of DT	7. Human Interaction & Representation
4. Societal Impacts	8. Resilience and Security

Eligibility

Applications are invited from all DTNet+ members. To join the network please see DTNet | DTNetPlus. Membership is open to all on our website page, all that is needed is an email address. Early career researchers (ECR) are particularly encouraged to apply for these projects.

Eligible organisations include all UK Higher Education Institutions that receive grant funding from one of the UK higher education funding bodies along with research institutes for which the Research Councils have established a long-term involvement as a major funder. Other independent research organisations (IROs) may also be eligible, See the UKRI/EPSRC website page at Check if you are eligible for research and innovation funding – UKRI

Industry only applications are welcome to discuss an application, please send an email to ukdigitaltwinsnetworkplus@turing.ac.uk

Eligible costs

Please note costs are allowed on a Directly Incurred (DI) basis only. Costs can include researcher time, travel, subsistence, accommodation, consumables etc, these should be included in the spreadsheet on page 3 of the form.

What is the aim of the funding?

The aim of the pilot & feasibility projects is to enable cross-disciplinary, speculative, adventurous early-stage research and idea testing. Bids to build demonstrative prototypes, or engage thought leadership, are also welcomed. We are aiming at funding that can help facilitate large proposals, innovation or other relevant opportunities.

Application and assessment process

We have designed the funding allocation process with an aim to minimise any potential impact of bias at all stages of decision making. We are therefore piloting an approach that we hope will enhance fairness. The application form will be in four parts.

- Page 1 - contains our transparency notice regarding the collection and storage of data

- Page 2 - contains applicant details and eligibility checks
- Page 3 - contains financial information
- Page 4 - contains details on the project/feasibility project

Stages of the assessment process include

General Eligibility checks based on page 2 checked lists assessed by administrators. This assessment is independent of the project/feasibility review and is assessed on a pass/fail basis.

Project/Feasibility Assessment

DTnet+ will construct a list of expert reviewers from DTnet+ network who can declare no conflict of interest. Page 3 will provide an unidentifiable costing and will be assessed on a pass/fail basis. Key questions on pages 4 are assessed on a score of 10, please see appendix A for the scoring criteria. Scoring outcomes will be passed to the moderation panel. Please make every effort to ensure that no identifying content is included in pages 3 and 4 (e.g. host institution or industrial partner names). This will enable proposals to be considered without members of the panel having knowledge of the applicant's identity or affiliation.

Moderation Panel

The moderation panel will include DTNet + advisory board members and Turing Fellows and will check academic standing for the individual(s) and the institution and moderate the applications across the eight SIG groups. Applications could be accepted, encouraged to apply for the next round of funding or rejected. All applications will receive feedback.

How to apply

Applications can be submitted online via the Flexigrant system – see link below
https://ati.flexigrant.com/startapplication.aspx?id=13683

by 17.00 **Monday 21st October 2024**

Linked idea-generation sandpit

The sandpit will be held on September 4 & 5 at the University of Sheffield – further details to follow. Attendance at the sandpit is not mandatory to application submission but it is designed to help formulate ideas and collaborations.

Application Form Content

Page One

- Transparency statement

Page Two

- Project Title
- Lead organisation
- Principle Investigator
- Details of the project team, including industry partners. Please indicate which members of the academic team are early career researchers.
- Eligibility questions
- Written approval to submit application from your Institution

Page Three

- Costing spreadsheet

A breakdown of the allocation of the funds with a short justification for each category is also required. Costs are treated as directly incurred and there are categories for staffing, travel, subsistence, accommodation, consumables and other items. Applicants construct costings on a 100% FEC basis, in accordance with EPSRC/UKRI funding regulations, awards will be made at 80% FEC and organisations will be liable for the gap funding. Industry only applicants will need to follow a different process and should seek advice from UKDigitalTwinsNetworkPlus@turing.ac.uk

Page Four

- Justification for the costing (pass/fail depending on value for money) – 400-word limit
- Alignment to DTNet+ Objectives (10 points, 400-word limit)
- Involvement of early career researchers (10 points, 400-word limit)
- Outline project plan and deliverables (10 points, 400-word limit)
- Cross-disciplinarity of the proposal (10 points, 400-word limit)
- Involvement of industry stakeholders and/or collaborators (10 points, 400-word limit)
- Equality, diversity and inclusion aspects of the proposal (10 points, 400-word limit)
- Sustainable delivery (10 points, 400-word limit)
- Potential to accelerate impact of research (10 points, 400-word limit)
- Potential for follow-on funding or other activities (10 points, 400-word limit)
- Novelty of the work (10 points, 400-word limit)

It is a good idea to construct answers off-line and add to the flexigrant system once honed.

Point of Contact

Any questions regarding your application or any issues you may have with navigating the Flexigrant system can be directed to: UKDigitalTwinsNetworkPlus@turing.ac.uk

Key dates

Dates	Activity
1 August 2024	Call for proposals goes live
4 & 5 September 2024	Non-compulsory Sandpit meeting

17.00 -21 October 2024	Deadline for applications
21 October – 27 November 2024	Proposals are reviewed
28 November 2024	Moderation panel
December 2024	Applicants advised of outcome
Jan-Feb 2025	Feasibility studies begin
31 January 2025	Contacts to be signed
31 January 2026	All projects should have completed by this date

Accessibility

We want all who to apply to have access to this opportunity, if you have any difficulty in engaging with the flexigrant systems please contact;
UKDigitalTwinsNetworkPlus@turing.ac.uk

Terms and Conditions

Funding for this activity is provided for by an EPSRC grant to The Alan Turing Institute, all applications will need to comply with EPSRC legal flow down conditions – please see page 2 of the Flexigrant for a copy of the terms and conditions. Grants are funded at the standard research council rate of 80% full economic costing. Successful applicants will need organisational sign off for a standard Turing award letter. If terms and conditions are not accepted within 30 days, then DTNet+ reserves the right to rescind the funding.

Funding

As the grant holder, The Alan Turing Institute is responsible for allocating funding to successful proposals and will reimburse organisations at 80% full economic costing. Academic institutions will be required to itemise bills based on 100% FEC and then invoice at 80% FEC.

Additional Information – post award

Successful applicants will be expected to participate in network events and will be required to present project updates at the DTNet+ General Assemblies. You will also be expected to provide information and updates for the dedicated project webpage on the DTNet+ website, when requested. DTNet+ will also promote its work across the sector, and occasionally project leads might be asked for short quotes or other information to demonstrate the activities that are taking place. You must also ensure that the work is acknowledged as being supported by UKRI and DTNet+ and the grant reference number is mentioned. Both UKRI and DTNet+ branding should be visibly included on any presentations.

Responsible Innovation

Responsible Innovation is a process that seeks to promote creativity and opportunities for science and innovation that are socially desirable and undertaken in the public interest. Responsible Innovation acknowledges that innovation can raise questions and dilemmas, is often ambiguous in terms of purposes and motivations and unpredictable in terms of

impacts, beneficial or otherwise. DTNet+ wants to ensure that any research it funds is undertaken with the values of Responsible Innovation in mind. As such, we expect researchers involved in funded feasibility studies to anticipate, reflect and engage on the wider ethical and societal impacts, implications and value of their work, entering into dialogue with the public and other stakeholders where appropriate, and respecting the views of others.

Inclusive delivery of DTNet+ activities

DTNet+ has a strong commitment to Equality, Diversity and Inclusion, in line with the UKRI commitment to EDI, and strives to ensure that all our network activities are open and accessible to all. We particularly recognise the impact of engaging with activities such as networks and are keen to challenge our own thinking as we deliver our programme. Therefore, we encourage applicants to discuss any specific requirements that will enable participation with the DTNet+ team.

There is also a separate EDI monitoring questionnaire which will help us review our impact and performance regarding inclusivity.

Mentoring

Each project will be provided with access to a mentor who will support the activities of the project. Your mentor will provide advice and feedback to you at appropriate times during your project activities. The aim is to provide your project with an additional level of support and guidance, rather than monitor its progress. Mentors may be asked to provide feedback to the DTNet+ Executive Board from time to time.

Further Information

If you have any questions regarding this call for proposals, please contact the DTNet+ Network Plus team via: UKDigitalTwinsNetworkPlus@turing.ac.uk

Appendix A: Panel Score Grading Scale

Score definitions

10	The response is exceptional; it very strongly answers the question to the highest standard. The panel agrees that it is difficult to articulate how this element could be improved.
9	The response is outstanding; it very strongly answers the question.
8	The response is excellent; it strongly answers the question.
7	The response is very good; it answers the question well but with some minor weaknesses/limitations.
6	The response is good; it answers the question well but with some clear weaknesses/limitations.
5	The response is adequate; it answers the question but with clear weaknesses/limitations.
4	The response is weak; it answers the question but with significant weaknesses/limitations.
3	The response is poor; it answers the question but has major weaknesses/limitations.
2	The response is unsatisfactory; it partly answers the question.
1	The response is unsatisfactory; it does not answer the question