



# The Alan Turing Institute

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Developing new  
innovations through AI  
and data science research.

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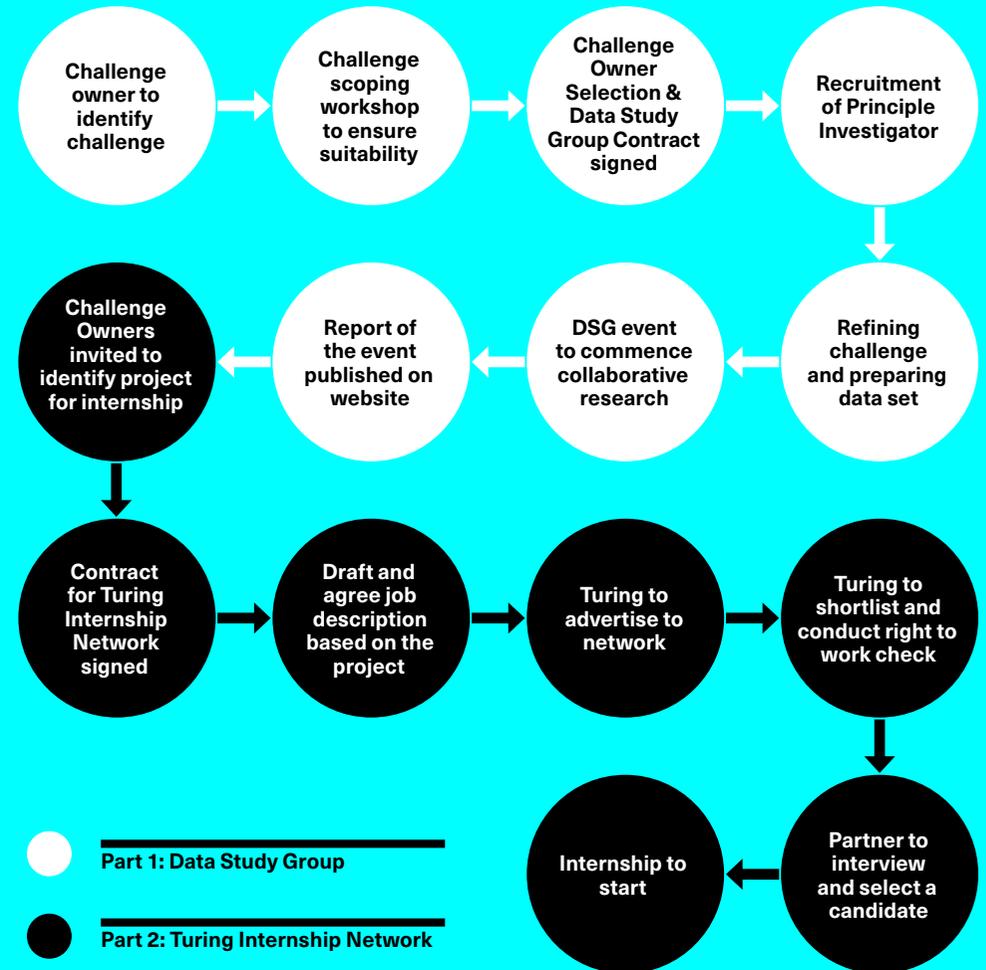
**Pilot Programme  
for SMEs**

# Pilot Pilot Programme for SMEs: Developing new innovations through AI and data science research.

New for 2023, The Alan Turing Institute are running a pilot programme targeted at early-stage small to medium enterprises (SMEs) who are looking to tackle some of the Government's AI Grand challenges. The pilot is designed to bolster the data-challenge ecosystem and create a diversity of projects and challenges that data science and AI can be applied to.

Having these explored under a Data Study Group (DSG) followed by the Turing Internship Network (TIN), the programme will encourage multiple novel approaches. These will be further developed by an intern, who will act as a champion for the business and take ideas forward to development. Our desired output is to help create sustainable impact for SMEs to generate more leads and new research that can potentially lead to innovation.

## The process



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# Part 1: Data Study Group

Data Study Groups (DSGs) provide a structured approach to help you tackle a data science challenge. Maybe you have a data set that you're not sure what to do with, or a problem without a clear solution. DSGs are not a consultancy process, but instead will help you leverage your data in innovative ways using approaches, techniques and skills from across data science.

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## Principal Investigator and structure

A DSG is a structured approach to a challenge posed by an organisation, or Challenge Owner (CO), who has a data set they want to understand or utilise better. The programme is designed to suit both data sets where its potential has been unexplored or to work with you to tackle a specific problem that does not have a defined outcome. Over a period of approximately six months, a dedicated Principal Investigator (PI) will work with you to help specify the scope of the challenge, the research questions, and to better understand the nature of your data set, guiding you in the process to ensure it is ready for the DSG event.

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## Challenge Week

Prior to tackling the challenge, we host an online pre-sessional event. During this we provide training to the participants and set the scene. During the challenge event itself, a group of approximately ten participants will work together to start providing a solution to your challenge. The event, which is one week if held face-to-face or two weeks if online, will be supported by the PI and during this time the participants will be working with the data in the Turing Safe Haven, which is our secure research environment. Participants are typically PhD students, from across the UK and sometimes internationally as well. We recruit participants from a broad range of data science domains. This interdisciplinary nature of DSGs help drive innovative outcomes to challenging data programmes. The outcomes of the challenge are presented to all participants at the end of the event.

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# Part 1: Data Study Group

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## Skills

DSGs provide PhD students with hands-on experience with real-life data science projects. It also enables the CO to place a couple of junior data scientists within the challenge. This enables them to act as experts on the data set, whilst also gaining vital skills by working with more experienced data scientists. Furthermore, the DSG event is the opportunity for COs to engage with participants for recruitment opportunities, which leads to Part 2 of the programme: the Turing Internship Network (TIN)

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## Post-challenge

Upon completion of the challenge, the CO will get the code. It is not expected that DSGs will result in fully implementable solutions, and so the CO is able to build their own IP on top of the proposed way forward. Any IP generated during the challenge is owned by the Turing, but fully licensed under an open-access license to the CO. All challenge outcomes are published, which is especially vital for the participants, so they can evidence their feedback. This typically takes place within six months after the event, on the Turing website. In certain cases, we may be able to delay the publication, if the CO needs to apply for a patent for IP built on top of the challenge outcome.

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# Part 2:

## Turing Internship Network

The Turing Internship Network (TIN) enables organisations to explore their data science challenges by placing highly skilled data scientists in three to six month internships. TIN helps organisations to build a pipeline of motivated PhD students to bring fresh ideas, diversity and expertise to your team. Students are eager to apply their research and technical skills to solve real-world problems in a business setting and will typically take time out of their PhD to undertake the internship. We can also facilitate a part-time route where needed.

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### Drafting the job description

Once you have identified the scope of the project, you will need to develop a first draft of a job description. The TIN team can support in developing a job description which is specific enough to attract a highly skilled candidate but generic enough to attract students from a broad range of backgrounds and domains.

When drafting the job description, consider where this role will be placed in or out of the office. Our experience is that flexible arrangements work best as they will appeal to the broadest range of candidates. We require job descriptions to be submitted to us four months before the start date of the internship.

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# Part 2:

## Turing Internship Network

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### Recruitment

Once the job description is drafted, we advertise the role to our full network. Casting a wide net we can bring a diverse range of candidates from multiple academic domains. We shortlist and do a right to work check, before passing the list on to you to review applications and decide which candidates you wish to interview for the role. Offers will be made after the interview stage is complete.

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### Involvement with the Turing

Once the intern starts in their role, we want them to feel part of the Turing community as well as of your organisation. We will include interns in social activities, share updates on the Turing's events, and offer them the opportunity to join training activities.

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### After the internship

We hope the intern is able to have a positive impact while they're with you and deliver real results. But we also hope that you stay in touch with the intern after they finish with you. Once they finish their PhD, they will be well-placed to be recruited into your organisation. Although we don't get involved in this recruitment, please do let us know. We'd love to hear your success stories.