# AI and data science postgraduate conversion course scholarship programme

## Evaluation: First interim report

Report to the Office for Students by the Careers Research & Advisory Centre (CRAC)

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# Contents



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# Executive summary

Through the Office for Students (OfS), the Department for Science, Innovation and Technology (DSIT) is funding a programme of scholarships for students to study postgraduate conversion courses in artificial intelligence (AI) and data science. The aims of the programme are threefold, namely to increase:

- The diversity of graduates entering the UK AI and data science workforce;
- The supply of digitally skilled workers, by converting graduates who did not study a related or STEM degree;
- The extent of industry support in helping to diversify the UK AI and data science workforce.

To increase the diversity of those who progress into the UK workforce, the scholarships are being provided to encourage more women, black students, disabled students and students from lower socio-economic backgrounds to take the conversion courses at universities and colleges in England. These groups are currently significantly under-represented as students on these types of courses, as well as in AI and data science industries. To be eligible for a scholarship, students must also meet the national/residency criteria that would entitle them to apply for a Postgraduate Masters Loan, to ensure that funding is generally targeted at UK students.

Funding has been made available for up to 818 scholarships in the 2023/24 financial year, at a value of £10,000 each, across 31 higher education providers in the programme. Subsequent funding for the 2024/25 financial year will depend on the amount of industry funding or support leveraged.

CRAC has been appointed to evaluate the programme and assess whether its aims are being achieved, understand if its design and implementation are effective and assess its value for money. The evaluation will involve analysis of student and graduate outcomes data, surveys with students and graduates, and qualitative research with funded providers and other stakeholders. This very early first interim report focuses on progress to date, including efforts to leverage support from industry.

There is early evidence of a contribution towards the aim of **increasing the supply of digitally skilled workers** by converting graduates who did not study a related or STEM degree as providers are offering 57 conversion courses in the programme, including nine newly developed, with a variety of modes and delivery models. Reported application numbers to date appear to be very healthy in most cases, in line with achieving the 4,200 enrolments predicted in 2023/24, with multiple intakes planned during the year for 23 of the courses to handle the expected demand.

There is also evidence of progress towards **increasing the diversity of those graduating from these courses** as, to date, providers report they are broadly on track to allocate their targeted numbers of scholarships in 2023/24, although many are spreading the allocation across multiple intakes, so the final position will take time to emerge. A small number have some concern whether there will be enough UK students in the priority groups to take up their scholarship allocation.

In relation to the aim of **increasing industry support**, information to date suggests 120 industry organisations or bodies are contributing co-investment, with a total value of over

£6.7m. Most of this (just under £6.3m) is in-kind support. Co-funding for 22 scholarships has been secured from industry partners to date, across 10 providers. The extent of industry co-investment specifically in scholarships is below the levels aspired to in providers' proposals. While many employers are reported to support the programme's aim of a more diverse pipeline of talent into these industries, the specific proposition of co-funding a scholarship has to date appealed to few and is considered expensive, while the potential process to take part is considered cumbersome.

A number of issues are emerging as the programme moves forward:

- Large numbers of international students are applying for scholarships (despite being ineligible) and a few providers are concerned about whether there will be sufficient UK students eligible to take up their planned allocation;
- With many providers planning multiple intakes to courses through the academic year and spreading their allocation of scholarships across them, the picture in terms of overall utilisation of scholarships will take time to emerge;
- Some of the pre-existing courses now in the programme are not open to students from any discipline, potentially narrowing the range of students who can participate;
- If the level of funding for 2024/25 scholarships is to be related to the extent of industry support, we recommend that the funder and the OfS consider how to include the value of in-kind contributions within any such assessment;
- If industry investment directly in scholarships continues to be sought, it would be valuable to reconsider both the proposition and, especially, the funding model. There are perceptions that funding a placement or internship could deliver many similar benefits more simply and cost-effectively.

# 1 Introduction and context

## 1.1 Background

High-level digital skills are expected to be key to developing and implementing the new technologies, products and services that will comprise much of our future economy, including in artificial intelligence (AI) and data science. While AI, machine learning and data analytics are industries in their own right, as technologies they also underpin new ways of doing business much more widely; there is growing demand for specialised digital skills of these types in many sectors. The importance of both strengthening the digital education pipeline and developing advanced digital skills (such as AI, data science and cyber skills) were both highlighted in the 2022 UK Digital Strategy.[1] The Office for Artificial Intelligence (OAI) leads UK efforts to provide the skills and workforce necessary to harness AI and big data, identifying that a larger and more diverse specialist workforce is needed, along with better data skills in the wider workforce.

A pilot study by the Higher Education Funding Council for England (HEFCE) confirmed that postgraduate (PG) conversion courses could 'convert' graduates with a wide range of first-degree backgrounds, including non-STEM subjects, to potential employees with high-level skills in areas including computing and data science.[2] Within that programme, courses in data science were particularly successful. In 2020, the Office for Students (OfS), OAI and the Department for Science, Innovation and Technology (DSIT; formerly the Department for Digital, Culture, Media and Sport (DCMS)) funded higher education providers to develop new PG conversion courses in AI and data science to increase the flow of skilled graduates into relevant sectors. The funding included a scholarship programme targeted to increase participation by students in under-represented groups, with the aim ultimately of diversifying the AI and data science workforce. CRAC has been evaluating that programme, which recently ended. Interim reports of evaluation results demonstrated sufficient success – in terms of high course enrolments and use of targeted scholarships to diversify the student cohorts[3] – for Government to consider extension of funding and expansion of the concept.

Building on that success, a new funded programme was announced in September 2022 for delivery in academic years 2023/24 and 2024/25. This new programme aims to continue to increase the diversity of those entering the UK AI and data science workforce through scholarship provision, enhance the flow of students who convert from non-STEM degrees, and increase industry support for the scholarships that drive diversification.[4] The funding is provided only for the delivery of scholarships, worth £10,000 each. To be eligible for scholarship funding students must be from at least one of the following under-represented groups, with priority being given to the first four groups:

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[1] UK Digital Strategy, Department for Digital, Culture, Media & Sport, 2022: https://www.gov.uk/government/publications/uks-digital-strategy/uk-digital-strategy#s3-3

[2] Evaluation of a scheme to develop pilot engineering and computing conversion master's courses, OfS 2019.

[3] See https://www.officeforstudents.org.uk/publications/evaluation-of-data-science-and-ai-pg-conversion-courses/

[4] See https://www.officeforstudents.org.uk/advice-and-guidance/skills-and-employment/postgraduate-conversion-courses-in-data-science-and-artificial-intelligence/about-the-funding/

- Women
- Black students
- Students registered disabled
- Students from low socioeconomic background (Index of Multiple Disadvantage quintiles 1 and 2, low household income)
- Care experienced students
- Estranged students
- Gypsy, Roma and Traveller students
- Refugees
- Students from military families, veterans and partners of military personnel

They must also meet the national/residency criteria that would entitle them to apply for a Postgraduate Masters Loan, ensuring that funding is generally targeted at UK students.

The announced funding would support a total of 818 Government-funded scholarships in the 2023/24 academic year, while funding for the second year of the programme (2024/25) will depend on the amount of industry support leveraged.

CRAC was appointed by the OfS to evaluate this funding programme. This first interim report, at a very early stage of the programme (prior to delivery of the courses in which there will be funded scholarships), focuses on what is known about progress to date including efforts to leverage support from industry. Attention will be given in future reports to enrolment levels, demand for courses and scholarships, course delivery, student experiences and, ultimately, graduate outcomes.

# 2 Evaluation aims and approach

## 2.1 Evaluation design

At the highest level, the aims of the programme are essentially threefold:

(1) to increase the diversity of graduates entering the UK AI and data science workforce;

(2) to increase the supply of digitally skilled workers by converting graduates who did not study a related or STEM degree; and

(3) to increase industry support in helping to diversify the UK AI and data science workforce.

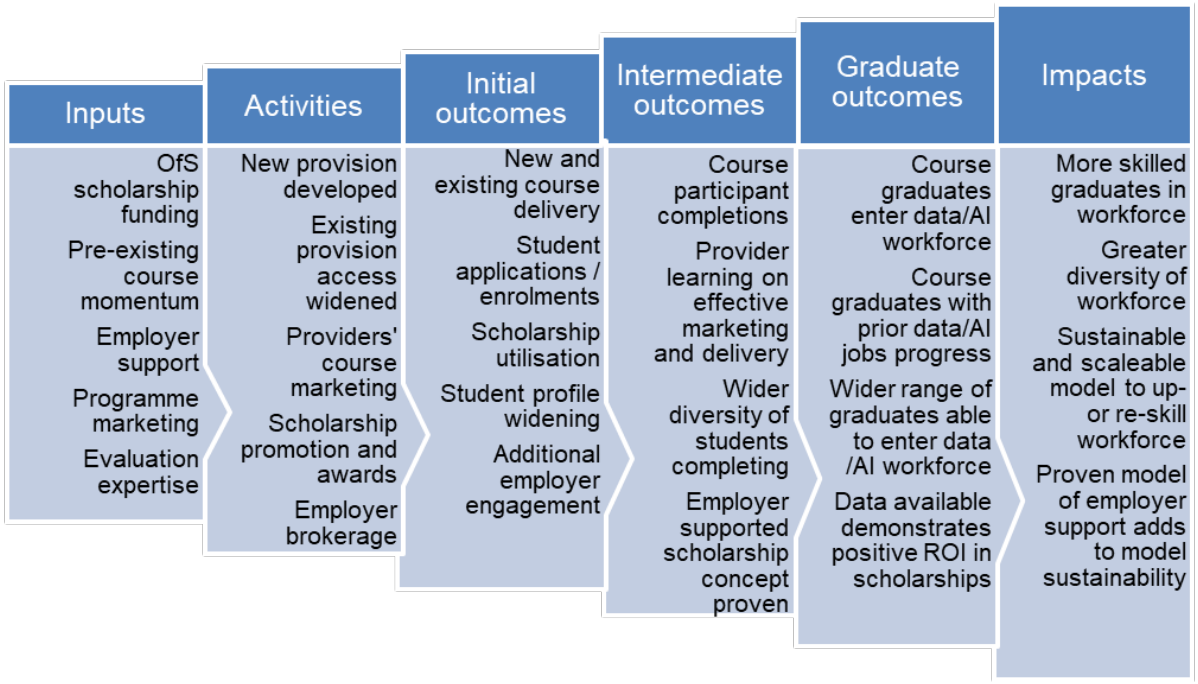
In turn, the aims of this evaluation are:

- An impact evaluation to understand the extent to which the programme is delivering its strategic aims and what has contributed to that performance;
- A process evaluation to understand if the programme has been designed and implemented effectively, and understand which parts work best and why;
- An assessment of the return on investment (ROI) of the programme and if it is delivering value for money.

The high-level programme aims are shown as impacts in the simple theory of change diagram developed to underpin the evaluation design (Figure 1). In practice, it will not be possible to measure some impacts within the timescale of the evaluation as they will take longer to emerge (such as graduates not immediately entering the workforce after their course, and for those yet to complete a course). Thus, assessing as many outcomes as

possible within the timescale is crucial and, working right to left in the diagram, measures of intermediate or initial outcomes will provide indications of progress which align with the desired impacts, where the latter may not be measurable directly.

*Figure 1. Simple theory of change for the postgraduate conversion courses programme*




## 2.2 Evaluation methods

The evaluation design is based on five potential sources of information during the project:

- Information submitted by funded institutions to OfS (original proposals, progress reports);
- Administrative data about participating students and graduates;
- Staff within funded projects (directly as informants, and providing monitoring information);
- Course participants (students and graduates);
- Other stakeholders (such as employers).

To leverage these information sources, three main strands of activity are planned within the implementation of the evaluation:

- **Data strand** – analysis of data provided by funded providers in their progress template reports returned to OfS during the programme, and OfS analysis of Student Record data and Graduate Outcomes survey data obtained from the Designated Data Body (DDB)[5];
- **Stakeholder research** – scheduled periodic dialogues with funded provider teams, primary research with employers and a programme of systematic online surveys of programme course students and graduates (alumni);
- **Formative engagement** – supporting sharing of learning across the programme through the dialogues with providers and a series of programme-wide workshops.

[5] All programme documentation refers to the Designated Data Body (currently Jisc, following its merger with the Higher Education Statistics Agency (HESA)).

These approaches build upon methods successfully implemented in our evaluation of the first postgraduate conversion course programme. Use of similar surveys with students and graduates, during and after courses, and in planned waves to reflect different intakes, should also enable longer-term impacts to be observed from previous cohorts of students, for whom key data should also be available from the DDB.

# 3 Emerging shape of the programme

## 3.1 Courses offered

Review of funded projects' proposals and their first progress reports enables depiction of the intended total activity considered here. The scholarships programme encompasses a total of 31 institutions[6], of which seven are within a consortium headed by Coventry University. Between them, 57 courses[7] are currently offered for scholarship eligibility, of which:

- 48 are pre-existing courses (including 25 developed in the previous Data Science and AI Masters Conversion Courses programme);
- Nine are new courses.

On the basis of their titles, these comprise 35 courses focused on data science, 15 on AI and seven which consider both these disciplines. It is notable that 13 of the courses have a specific further disciplinary locus, including health, fintech and urban spatial science. All are offered as MSc provision with the exception of the PGCert course on Applied Data Science at Birkbeck, University of London. Five are wholly online, with the remainder planned for blended delivery (i.e. some time on campus and some remote learning and/or self-study). A variety of modes of study are being offered, with 14 courses being full-time only, five part-time only and most (28) offered either full- or part-time. All are pitched as conversion courses, but our understanding to date suggests that a few are not open to students with first degrees in all disciplines. Future evaluation reports aim to consider the merits of different approaches.

## 3.2 Early insights into demand

In their proposals, funded providers together anticipated they would enrol 4,200 students on courses with intakes during the first programme year (and a further 4,475 in the second year). Although they did not systematically provide information about applications to their courses in the progress reports they submitted to OfS in August 2023, around one third stated the approximate numbers of applications to that point, which were in almost all cases healthy (and occasionally for pre-existing courses very large, i.e. over 1,000 applications).

A small number noted the vast majority of applications were from international students, and had some concern about how many UK-domiciled applicants they would receive and whether they could increase the latter by further promotional efforts. As these progress reports were based on applications to July 2023 and almost exclusively for course intakes in autumn 2023, more applications were expected, not least to providers planning additional

[6] 21 of the 31 providers also took part in the Data Science and AI Conversion Masters programme, although not necessarily with the same courses.

[7] This ignores variants with different delivery modes or with/without an integrated placement.

intakes during the 2023/24 academic year. At least 23 courses are expected to have multiple intakes per year (with one provider offering four intakes for blended delivery while one with entirely online courses has six potential entry points).

Funding allocated to providers in March 2023 following the competitive bidding process allowed for a total of 807 government-funded scholarships to be delivered across the programme in 2023/24[8]. The number per provider varied from nine to 120 (remembering that more than half the providers are allocating these across more than one course). Amongst the 13 providers with a single course, the numbers of proposed scholarships varied between 10 and 50.

Based on their August 2023 progress reports, all but one provider reported that they were on track to be able to allocate their targeted number of scholarships in 2023/24, which would align with the programme's aim to diversify the cohort of students and subsequently graduates in these subjects who could enter the workforce. 19 of the providers reported numerically on the number of eligible applications received for scholarships to date, comprising a total of 520 applications (against a cumulative target for 2023/24 of around 560 for these providers). This lends some support to the levels of confidence being expressed, particularly when seen in the context that many providers are spreading scholarships across multiple intakes, some of which are yet to receive applications. This suggests many providers will have to select between eligible applicants and some have shared their proposed scoring mechanisms. However, a number of providers expect there to be some 'attrition' in the sense that a proportion of student applicants whom they select for a scholarship will nevertheless not enrol on the course, and in those cases the scholarship may need to be re-allocated.

Three providers expressed some concern about the relatively low number of UK applicants for courses and scholarships they had received to date, for example:

> *"Despite concerted efforts to advertise and promote the scholarship opportunities as widely as possible, it continues to prove challenging to attract home students and those that meet the [relevant] nationality or residency status eligibility criteria."*

As UK nationality or residency status is a key scholarship eligibility criterion, this could limit the number of scholarships they can allocate. At this early stage, they did not anticipate being unable to award the target number of scholarships, but we draw attention to this risk and the need to continue to monitor progress by providers in this respect.

[8] Funding for 818 scholarships (£8.18m) is available to be allocated in the 2023-24 academic year. Following the competitive bidding competition, based on evidence of demand provided in funding bids, funding for 807 scholarships (£8.07m) was allocated to successful providers. The OfS may allocate further funding in the 2023-24 academic year to deliver the 11 remaining scholarships (£110,000), subject to evidence of demand. For full details of the outcomes of the funding competition and funding allocations for providers for 2023-24 please see, https://www.officeforstudents.org.uk/advice-and-guidance/skills-and-employment/postgraduate-conversion-courses-in-data-science-and-artificial-intelligence/about-the-funding/

# 4 Employer engagement and support

A key focus for this report is the extent to which funded providers have managed to engage employers in the programme and draw in industry funding for scholarships, which was an explicit aim of the programme. To support that aspiration, Group GTI was appointed as the programme's employer engagement partner in May 2022[9]. From the outset, the level of funding for year 2 of the programme (2024/25) by Government has been signalled as contingent upon such support from industry. The programme guidance stated that it is anticipated that for every scholarship that is funded by industry, the government will fund an additional three scholarships across the programme. Early findings in relation to employer engagement are necessary to steer the development of year 2 funding by Government.

It must be acknowledged that our findings at this very early stage – before any of the intakes to courses in the programme in year 1 – need to be regarded as preliminary, and the sources of evidence available at this point are limited. We have drawn information from activity reports by Group GTI to the end of August 2023 (which include some reported feedback from employers) and interviews with Group GTI staff, from our own interviews with four employers, and from higher education provider documentation (their proposals and first progress reports returned in August 2023), as well as from participation in two workshops with providers.

## Extent and value of support

In their proposals for programme funding, providers reported that they had engaged a total of around 150 partners, mostly from private-sector industry but also some public sector and community bodies. Analysis revealed that these were 130 separate organisations or bodies[10]. The value of that proposed support was stated at around £7.2m (with a few co-investment values to be confirmed), although the majority was pledged as in-kind support.

The recent progress reports give further detail about industry engagement and co-investment, listing almost 120 organisations in industry giving support (pledged, but with an increasing proportion now confirmed) with a stated total value from industry of £6.711m, and a further £204k of public sector support (figures to the end of August 2023). This level suggests that the original pledges in the proposals have very largely been maintained. Broadly the support can be categorised as three types of co-investment: scholarship co-funding; other co-funding; and in-kind support (Table 1).

[9] Supporting the Future of AI and Data Science, https://groupgti.com/ai-scholarships

[10] Based on understanding to date. A precise total is somewhat subjective as providers can report partnerships in differing ways (i.e. with an entity that may have a parental organisation).

*Table 1: Total industry co-investment to August 2023 (proposed, and pledged/confirmed)*

| | Total industry co-investment | |
|---|---|---|
| | **Proposed £** | **Pledged or confirmed to date £** |
| Total co-investment | 7,189,791 | 6,915,365 |
| Scholarship co-funding | 1,080,000 | 228,459 |
| Other co-funding | 6,109,791 | 192,000 |
| In-kind support (total) | | 6,494,906 |
| *Industry in-kind support* | | 6,290,470 |
| *Public sector in-kind support* | | 204,436 |
| Total industry co-investment | | 6,710,929 |

### *Scholarship co-funding*

Detailed analysis of the reported co-funding for scholarships confirmed or pledged by August 2023 suggests that a total of 22 scholarships[11] will be funded by 12 different industry partners during the programme, at 10 providers, with a value of £228k to date[12] (all from the private sector other than two from a third sector organisation). Only four providers have so far reached the mostly modest targets for scholarship support they set in their proposals. Co-funding for a further 11 scholarships has been pledged by three of the institutions themselves. Overall, the position is some way below the aspirations in the original project proposals for a total of 108 industry-funded scholarships (although six providers had not predicted achievement of any such scholarship investment in their proposal).

This should also be seen in the context of the aspiration stated by the programme funder[13] for industry to fund one quarter of the anticipated up to 2,000 scholarships to be delivered across the programme (i.e. Government would fund three scholarships for every one that industry funds). The picture reported to date clearly falls below a trajectory towards that position although efforts to secure co-investment continue. More detailed feedback on providers' efforts to secure this support and on the experiences of some employers approached are given in a later section.

[11] 20 full and four partially-funded (which will be match-funded by the provider), equating in total value to 22 full scholarships.

[12] Three scholarships have a value greater than £10,000.

[13] The Department for Science, Innovation and Technology (DSIT).

### *Other co-funding*

With a total estimated value of £192,000, a handful of investments are reported from industry and the third sector which are not in-kind, including salaries and expenses for students on placements they host and remuneration for students who undertake projects they propose.

### *In-kind support*

By far the greatest number and value of co-investment commitments confirmed or pledged by industry partners (or other types of partner) were in-kind. Based on reported values of these arrangements, their cumulative value totalled £6.495m, the vast majority from the private sector, with £204,000 co-funded by public sector organisations. Closer analysis reveals that the majority of this value (£4.871m) is from arrangements by four providers for their students to have access to certain industry software or technology platforms (and, in one case, certification). The remaining £1.624m represents 110 arrangements, across 25 projects, for other types of in-kind support, mostly valued each at a few thousands or tens of thousands of pounds. These types of support include:

- Advice on skills for course development;
- Providing and managing work placement opportunities;
- Providing and co-supervising MSc dissertation projects;
- Providing example datasets or real-world problems for use in teaching or assessment;
- Access to proprietary algorithms or analytical programs;
- Provision of guest lectures or other talks;
- Hosting site visits;
- Mentoring of students or groups;
- Membership of an advisory board or similar;
- Access to careers support services including mock interviews;
- Access to promotion/marketing services.

## Provider experiences of seeking industry support

Group GTI was appointed in May 2022, prior to announcement of funded projects in March 2023, with the intention of warming up the potential market for industry support and developing positively minded contacts who could subsequently engage with providers and develop funding agreements with them. Having developed a ‘proposition’ it promoted this to around 120 industry contacts in summer 2022, largely targeting recruitment teams. This drew very little interest, with common feedback that a £10k investment was considered high in relation to recruitment expenditure and, practically, beyond such teams’ spending authority. As the offer was essentially linked to potential recruitment of a scholarship awardee, some employers wanted to know the course and university of that student, but at that point these were not known. Group GTI revised its strategy to target higher-level staff in companies, who either managed data functions, corporate social responsibility or government affairs, and also director-level staff across a wider range of industry.

Subsequently, promotion to a further 623 organisations was undertaken, which resulted in some engagement at decision-maker level with 103 organisations by August 2023. This ultimately has led to pledges from two employers for a total of five scholarships (£50,000 value). Two other employers pledged support in principle but then withdrew for differing reasons. Group GTI reported the key obstacles to be the relatively high cost of the

proposition (in relation to its perceived value, but also a level requiring senior sign-off) as well as its timing (before the providers were known), and that employers would have to undertake significant work to select and develop an agreement with a particular provider. Since the funded providers were announced, enabling development of a 'catalogue' of the courses, there has not been any significant upturn in interest from Group GTI's efforts.

In their August 2023 progress reports, around one third of providers commented on how challenging they had found the task of securing industry funding for scholarships, with many not securing any pledges of such co-funding, for example:

> *"Securing funding from industry for these scholarships has proved quite problematic. Organisations initially seem quite interested but are not prepared to commit as they 'don't see what is in it for them'."*
>
> *"It is proving difficult to get industry partners to commit funding to the project as they are unable to see the value for money…. They would rather support the project in other ways that does not require any commitment of funding."*

In the programme workshops, several providers revealed they had not found the 'sales pitch' easy, and would have appreciated more support centrally to know best how to articulate the benefits of the proposition, i.e. why an employer should invest in this scheme specifically. Some also felt a lack of clarity about how to work with Group GTI, having initially hoped the latter would develop a pool of funding partners that the providers could access and engage (but now realising they had to approach employers themselves, with limited central support).

Amongst the providers that had managed to garner industry co-funding for scholarships, several reported that they leveraged pre-existing relationships (although we note that three providers were originally 'introduced' by Group GTI). Many more reported that they found it far easier to engage with potential industry partners to leverage other co-funding or in-kind support, e.g. for placements, providing dissertation projects, mentoring, industry talks etc., which did not require cash investment. This is confirmed by our analysis of the in-kind contributions above. Indeed, certain types of organisation, including in the public sector, may not be allowed to commit cash funding and might only be able to provide in-kind support.

## Experiences of employers

Feedback from five employers – including some which had funded scholarships and some which had not – confirmed a widespread appreciation that AI and data science were areas of skills shortage, albeit some felt the market in 2023 was less competitive than previously as large tech companies had eased back on recruitment as the economy weakened. A programme supporting individuals from under-represented groups to enter this workforce was appealing as a potential corporate social responsibility (CSR) investment, although several employers had existing programmes with such an aim, targeted at young people or students. What was common to all we interviewed was the attractiveness of a proposition whereby industry investment in a scholarship would lead to three more funded by Government.

Rationales for considering participation varied quite strongly even in this small group. None we interviewed considered this (potential) investment directly as a means to support diversification of their own recruitment, which might be funded from a recruitment budget.

That said, all hoped potential sponsorship would lead to engagement with the scholarship students who might, ultimately, be recruited, albeit with funding from a commercial budget. However, several cited the need for "*much better line of sight*" between the investment and that potential end of engaging with specific students (including being involved in selecting them). This reflects experience in a prior funding scheme where several industry stakeholders felt that a programme with a more direct route to employment with the partner could be preferable (such as an apprenticeship)[14].

Investing in this programme was seen as a way for an organisation to demonstrate leadership in this area. However, for the investment to be considered as potential CSR activity, it was seen as too expensive in relation to the benefits (i.e. supporting a single student) and less attractive than models which support and engage a wider pool of students at an earlier stage in the pipeline for a similar level of investment.

Only one of the employers we interviewed had first heard about the scheme through GTI, and several felt that the potential process was convoluted, time-consuming and/or somewhat unclear. While there was an aspiration to engage with a supported individual scholarship student eventually, the process by which an employer had to select a university and then engage with it to develop a funding agreement was seen as "*tortuous*". A model where the investment could be made more quickly and simply would be preferable. In two cases the employer could have invested immediately, but by the time a provider was identified and an agreement reached that budget window had gone (and one of these did not subsequently fund any scholarships). We also learned that in some cases the employer was not made aware there had been a previous successful programme proving the impact of the scholarships, which suggests the proposition was not always articulated optimally.

Summarising, while the objectives of the programme (to increase and diversify the pipeline of skills) are seen as attractive by some employers, an emerging result from the process evaluation part of our work is that the current conception of industry funding of scholarships arguably may be falling between several stools, in terms of both clarity of proposition (for what is seen as a substantial investment) and also the existing model of implementation.

# 5 Emerging findings and issues

## 5.1 Findings to date

At this very early stage of the programme and evaluation, we can make observations about progress to date and identify some potential issues to monitor and consider as the programme progresses. On the basis of the information to date we offer the following early findings:

*In relation to the programme's aim to increase the supply of digitally skilled workers by converting graduates who did not study a related or STEM degree:*

- The funded providers developing new courses are confident that these will be launched in practice (augmenting the total number of conversion course opportunities available)

[14] *Evaluation of the Industrial Masters in AI (IMAI) programme*, Ecorys, 2022.

and that students will enrol (which with time should increase the number of students graduating with these skills);

- Providers are reporting high numbers of prospective students applying for the courses, especially courses that pre-date the scholarship programme, although in some cases the level of interest from UK students has been much more modest.

*In relation to its aim to increase the diversity of graduates entering the UK AI and data science workforce:*

- The providers report confidence, overall, that they will be able to allocate the numbers of scholarships in 2023/24 for which they sought funding, although for some this will rely upon sufficient numbers of enrolments and eligible scholarship applicants for intakes they plan after autumn 2023 (as they are spreading their scholarships across multiple intakes);
- A few providers are expressing some concern that the number of UK applicants with the priority scholarship eligibility characteristics may not prove sufficient to fill their intended scholarship allocation, although where that allocation is spread across more than one intake there will remain uncertainty about this for some months yet.

*In relation to the aim to increase industry support in helping to diversify the UK AI and data science workforce:*

- The intended extent of engagement with industry predicted in providers' proposals is largely being borne out in practice, with 130 external organisations involved in partnership arrangements, playing a wide variety of supporting roles through in-kind contributions, with an estimated value of nearly £6.5m. Most of this is from 120 private sector industry partners;
- Where there has been much less success to date is obtaining co-investment from industry for scholarships, with a much lower number (22) confirmed or pledged than the 108 predicted in bid proposals or needed to meet the wider aspirations for the programme. Industry funding of scholarships and other co-funding (rather than in-kind support) is just over £420k to date. The number of pledges of scholarship co-funding resulting from the activities of the industry engagement partner is reported to be very low to date.

## 5.2 Emerging issues

At this stage we can signal a number of issues for ongoing monitoring and review:

- On the basis of known applications to date, enrolments on courses in the programme are likely to be dominated by international students. Large numbers of international students are applying for scholarships despite being ineligible for them, while there are some emerging concerns about whether some providers will have sufficient UK students eligible for scholarships to take up their planned allocation;
- Many providers are planning multiple intakes to their courses through the academic year, reflecting the potential popularity of the courses. However, as allocations of scholarships will be spread across those intakes, this means the picture in terms of overall utilisation

of scholarships will only progressively emerge – i.e. if there is any shortfall, this may not be known until some way into the academic year;

- Very large cohorts of students are expected by some providers. If these contain a high proportion of conversion students, this could make high demands upon providers to make sufficient personalised support available to those students;
- One of the programme's aims is to increase the potential flow of graduates into the workforce by enabling non-STEM graduates to use these conversion courses to gain the requisite skills. However, we understand that some of the pre-existing courses now in the programme are not open to students from such a wide range of disciplines – this will be investigated in our dialogues with providers;
- We have highlighted that providers, and the industry engagement partner, have found it much harder than expected to obtain industry co-funding of scholarships. Aspirations for a substantial proportion scholarships to be funded this way look over-ambitious. If the level of funding for 2024/25 scholarships is to be related to the extent of industry support, we recommend that the funder and OfS consider how to include the value of in-kind contributions within such an assessment. In-kind support is a common form of industry support and can contribute to the programme's aims of an increase in industry support. If the number of industry-funded scholarships alone is used to derive the 2024/25 funding level, there is a risk that the overall programme aims to diversify the future workforce will not be met;
- Should there be such a greater focus on the value of in-kind contributions, OfS should ensure that providers can, without too much burden, estimate and report the value of these contributions consistently;
- In the longer term, if industry investment directly in scholarships continues to be sought, it would be valuable to reconsider both the proposition and, especially, the funding model. The latter in particular seems to fall between several aspirations, as it neither offers a centralised mechanism for easy investment (which could deliver a pool of students amongst whom they could select certain students to engage and support) nor a direct line of sight to sustained engagement with a particular student as a potential longer term recruit. Simply funding a placement or internship currently could deliver many of the benefits more simply and cost-effectively, and we note that there are examples of such arrangements within the other types of support currently provided.