

# The Institute of Science and Technology Professional Accreditation Framework for AI Practitioners

Registered Technician	Registered Practitioner	Advanced Practitioner
<b>RTechAi</b>	<b>RPAi</b>	<b>APAi</b>
Artificial Intelligence	Artificial Intelligence	Artificial Intelligence



## Background

Artificial Intelligence (AI) Professionals play a vital role in society. A framework in which their skills and expertise can be recognised and validated is essential in order to formalise an ever expanding profession.

A novel, ground-breaking professional registration framework has been established by the Institute of Science and Technology through which AI professionals can become accredited. Existing registers for other specific disciplines have been available for many years, e.g. by The Science Council's Chartered Scientist (CSci); and the Engineering Council's Information and Communications Technology Technician (ICTTech). The IST's AI framework now provides parity of recognition for AI professionals.

Professional recognition provides a benchmark through which the public, employers, industry and government can have confidence and trust that registered personnel have met internationally recognised professional standards. The Institute of Science & Technology (IST) is the Professional Body for the Technical Workforce, and it recognises and promotes the benefits to both employers and employees of professional registration. The IST and its Artificial Intelligence Special Interest Group have introduced a bespoke accreditation framework that provides the opportunity for much-valued expertise, skills and learning to be recognised; both nationally and internationally.

Academic research was used to inform the development of this framework for AI specialists. Work started in 2020, when the IST decided that the establishment of a registration scheme for AI professionals was needed.

AI Professionals did not see a community that reflected their work, aspirations or training needs. Neither did they see a specific qualification that would showcase their professionalism and skills. The IST set up a project to work with industry, academia and AI professionals to meet these needs. The AI accreditation framework was then launched in September 2023.

## The Framework

Our framework allows AI professionals to demonstrate that they:

- have the necessary technical knowledge and a genuine understanding of AI application;
- can work in an ethically robust way;
- are competent to apply their knowledge in a professional setting;
- can work with others and will take personal responsibility both for themselves and for those impacted by their work;
- are committed to professional development and maintaining personal integrity.
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The IST, in conjunction with experts from partner organisations operating within government, industry and academia has set the professional standards by which AI professionals will be assessed and has also defined the mechanism that is used to assess individuals against those standards. Registrants are recognised for their commitment to technical excellence and ethics. Our aim is that they should inspire the next generation of AI professionals. Registration based on these standards enables



better recognition of the value of technical roles to all. The basis of the AI professional standards is in line with those used in the previously existing registration frameworks in science, engineering and IT so that there is consistency across the workforce, irrespective of sector and discipline. This will ensure that AI professionals are acknowledged as being of the same professional standing to those that are currently registered within other disciplines/frameworks. It should be noted that the IST has held licences for over 10 years to award to the registers held by the Science Council.

## The Framework Standards

The professional AI registers encompass Registered Technician in AI (RTechAI) for early career professionals, through Registered Practitioner in AI (RPAI) for mid-career professionals (often managers), and finally to Advanced Practitioner in AI (APAI) for seasoned professionals (head of a group or institute but also for technical leaders in their field). We believe this provides a comprehensive and uncomplicated endorsement of all potential AI practitioners that might wish to seek accreditation both now and for a long time into the future.

The basis for the framework is a set of five standard competency areas, against which individuals are assessed. These competency areas are applied at all award levels but with the detailed requirements varying according to the level being assessed.

The five competency areas are:

- I. Knowledge, Understanding and Application
- II. Ethical Responsibility
- III. Interpersonal Skills and Communication
- IV. Critical Evaluation
- V. Professionalism and Standards

A more detailed description of each competency is available in a separate Handbook, which is provided for all applicants.

- All applicants are required to submit the following:
- Registration Application Form
- Competencies Report
- CV
- PPD Report detailing the Personal and Professional Development undertaken in the previous 12 months
- Equivalency Report (if necessary)



## Grades Matrix

The following provides a summary matrix of the registers grade requirements and this can be used to advise the most appropriate register for each AI professional.

<p><b>Description</b></p>	<p><b>Registered AI Technician (RTechAI)</b></p> <p>An early career professional that is able to apply proven techniques and demonstrates good analytical skills within their area of expertise. They are able to apply safe and ethical practices.</p>	<p><b>Registered AI Practitioner (RPAI)</b></p> <p>Has verifiable experience in their field and holds managerial, technical or social responsibility in the conduct of their work. They promote safe and ethical work within their field.</p>	<p><b>Advanced AI Practitioner (APAI)</b></p> <p>A leader in their field. Manages and develops models and/or policy and guides others to success. They demonstrate accountability and uphold standards in their work.</p>
<p><b>Key Attributes &amp; Academic Qualifications</b></p>	<p>OFQUAL Level 3 or equivalent</p> <ol style="list-style-type: none"> <li>1. Contributes to design, management processes and/or administration of analytical models or advanced analytics.</li> <li>2. Has technical or supervisory responsibility for models.</li> <li>3. Is able to effectively communicate and explain the technical aspects of their work.</li> <li>4. Committed to their professional values and progression.</li> </ol>	<p>OFQUAL level 5 or equivalent</p> <ol style="list-style-type: none"> <li>1. Has strong understanding of theoretical knowledge and analytical techniques in their field.</li> <li>2. Has responsibility for the design, management or implementation of models and projects.</li> <li>3. Is able to effectively communicate and interpret complex problems.</li> <li>4. Exercises professional integrity and reasonable challenge.</li> </ol>	<p>OFQUAL Level 7 or equivalent</p> <ol style="list-style-type: none"> <li>1. Applies a broad level of skills and knowledge to tackle complex problems.</li> <li>2. Is likely to manage a programme of work and has responsibility for the development of early career professionals.</li> <li>3. Has leadership experience and owns risk within their organisation.</li> <li>4. Is able to influence and promote ethical and professional standards within their organisation and field.</li> </ol>
  			



## The Approval Process

Following extensive collaborative work undertaken by the IST to develop and define accreditation standards, a Steering Group was established that considered and made decisions on the following areas:

- Timescale for Implementation
- Establishment and Management of the Register
- Assessment Process
- Awards and Certification
- Routes to Registration
- Monitoring and QA
- Promotion and Marketing

The Steering Group comprised experts from the IST, along with specialist representatives from partner organisations within government, industry and academia. The Steering Group scrutinised, moderated and approved the standards, processes and details of the IST Accreditation Framework before the launch.



## The Professional Accreditation Framework AI Practitioners Deserve

