# Internship role profile

| General details | |
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| **Role title** | Low-Carbon Tin Technology Scoping |
| **Department** | Technology |
| **Reports to** | Technologist |
| **Location** | St Albans (hybrid) or remote |
| **Duration and start date** | Minimum 6 weeks (ideally 8 weeks); flexible start date |

## Context

Tin is an essential metal today and for the future with its applications in electronics, AI, semiconductors, batteries, and many other industries. The International Tin Association (ITA) represents major tin producers across the globe and aims to track the development of tin technologies to enhance tin production and improve environmental footprint. Whilst primary tin is still plentiful, technologies to improve tin production efficiency through fines and tailings recovery, and low energy cassiterite crushing for example are essential. In parallel, lowering carbon emissions in tin production is also needed to meet tightening regulations. This includes technologies such as the potential to reduce cassiterite using hydrogen or aluminium powder instead of carbon, and the ability to produce low-carbon 'turquoise' hydrogen using molten tin.

## Purpose

ITA has already identified several promising technical directions, but further structured scoping is required for priority topics to:

- Map the current state of the art
- Identify key organisations and researchers active in each area
- Assess technical readiness and feasibility
- Define potential collaborative projects – partners, funding, KPI's etc

The outputs of this internship will directly inform ITA's future technology projects and research partnerships.

## Typical tasks

- Conduct structured technology scoping using tools such as Scopus, Factiva, and patent databases
- Review academic literature, patents, and industrial developments relevant to low-carbon tin production
- Convert technical findings into clear, concise knowledge summaries
- Identify potential project opportunities aligned with ITA priorities
- Map relevant industrial, academic, and technology partners
- Evaluate project feasibility and maturity
- Present findings and recommendations to the Technology Team

## Essential requirements

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| **Application/Energy** | • Strong interest in the real-world application of science, technology, and sustainability<br>• Highly self-motivated with the ability to work independently<br>• Professional approach to research, communication, and time management<br>• Curious, analytical mindset with attention to detail |

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| **Knowledge** | • Currently studying for a qualification in a science-based discipline<br>• Basic understanding of chemistry, reaction mechanisms, (optionally) chemical engineering<br>• Familiarity with mining or metallurgical processes is desirable but not essential |
| **Technical skills** | • Strong written and spoken English<br>• Ability to synthesise large volumes of technical information into clear, digestible outputs<br>• Confidence working with academic and patent literature<br>• Understanding of basic project planning & management |

**About the International Tin Association**

The International Tin Association (formerly ITRI) is the world's foremost authority on tin with over 80 years' experience in tin related technologies. It is a membership-based organisation representing major tin producers and smelters and is the premier source of tin related information. ITA has specialist knowledge of tin use in all the major sectors as well as groups responsible for statistical and market information, future uses, regulatory affairs and sustainability. It provides links to the main tin consuming sectors through a substantial network of industry contacts. The organisation hosts seminars and international conferences. It also provides marketing and technical support to its members and the tin industry in general. Further information can be obtained from http://www.internationaltin.org