In Isis, we have identified four points to emphasise in the presentation to a University (administration, management and faculty) of the case for a Technology Transfer Office (TTO).

These points are based upon our observations of working closely with university technology transfer offices at all stages of development, in many different countries around the world.

To explain our use of terms: the TTO is that part of the university responsible for commercialising university owned intellectual property through the core activities of: attracting and assessing invention disclosures; patenting and other forms of intellectual property protection; licensing; spin-out company formation; material sales; managing seed funds. The TTO may also incorporate a function that helps researchers sell their time as expert consultants.

The TTO is separate to the Research Office, which will typically support university researchers in identifying and winning research funding, and manage the contractual relationships with research funders.

1. **Technology Transfer is a good thing**

   It is a legitimate part of the University purpose, alongside the core activities of teaching and research. Taking the dissemination of new knowledge as the purpose of a university, technology transfer uses commercial routes to achieve these same objectives. When successful, technology transfer achieves a number of positive objectives simultaneously: transfer of new knowledge out from the university; source of new innovative ideas for industry; opportunities for income generation by industry and the university; generates positive social and economic impacts.

   Also it is important to emphasise directly to researchers within the University that technology transfer is a good thing at the personal level for them for a number of reasons: the chance to use income generated as discretionary research funding; the chance to see their science used for benefit of society; exposure to the intellectual challenge of turning laboratory scale research into products; increased awareness of interesting applied problems; the opportunity for personal wealth.

2. **Technology Transfer does not happen on its own**

   It is essential to invest resources for technology transfer to take place. If there is limited resource and support infrastructure for technology transfer in the university there may be some sporadic individual examples, but these will be unregulated and potentially risky.
The resources required are:

**People** - dedicated staff in the TTO, who over time develop the skills and experience to transfer technology from their university out to industry.

**Patent Budget** - a dedicated budget available to TTO to invest in the protection of inventions arising from the research base. The budget needs to be large enough to allow for the protection of inventions before they are marketed, and for sufficient time to learn whether or not there is commercial potential.

**Proof of Concept** - in due course it is desirable for the TTO to have access to funds which are applied to certain technology transfer projects to move technologies closer to market. Proof of Concept funds are used to builds prototypes, conduct market research, etc. These activities are intended to present university technologies to industry in ways intended to increase the likelihood of companies recognising them as ideas they should pick up and invest in.

If researchers are left to manage their technology transfer activities themselves, they have less time available for their research, teaching and administrative activities.

**3. There needs to be a policy framework**

There are a number of areas in which clear policy is required within the University so the rules and regulations are unambiguously set out. These include: ownership of intellectual property generated by university staff and students; transfer of rights between university and researchers; revenue sharing arrangements; arrangements for formation of spin-out companies; identifying and managing conflicts of interest; dispute resolution framework.

There are three requirements for a successful policy framework:

- Setting down the rules
- Providing Resources to help
- Sharing the proceeds

**4. It takes a long time to demonstrate the success of a technology transfer programme**

This is because the outputs of university research are inevitably early-stage and rarely close to market. It takes many years for university projects to be incorporated into successful products and services. There are two consequences stemming from this: (1) the sooner you start the better, so that the resources can develop and grow to a sufficient level to become self-standing; and (2) having started it is essential to continue a programme for many years until the benefits can be understood and appreciated. It is too common for a programme to start, be stopped after a couple of years, and considered unsuccessful. A two or three year government programme is highly unlikely to achieve sustainability. If you plant a tree and pull it up to look at its roots every couple of years, it will never thrive.