



***Continuing Professional  
Development Framework for  
Knowledge Transfer Practitioners***

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Gate 2 Growth



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## Abstract

This document presents a revised competency framework for the continuing professional development (CPD) needs of knowledge transfer practitioners (KT Practitioners) engaged in developing and supporting knowledge exchange links, relationships and partnerships between universities, other public research organisations, private sector research bodies, industry and a range of external organisations involved in knowledge transfer (KT) activity.

The Framework is an evolving document which will continue to be assessed and revised on a periodic basis according to developments and feedback from users, and will contribute to the understanding and development of professional standards.

The first edition was published in 2001 and the second edition in 2003. This is the third edition and it has been produced in the light of developments and feedback from a wide range of users and stakeholders over the last 3-5 years, including its application to KT Practitioners operating across a range of sectors and across the EU. Much of the feedback has indicated that the job roles and responsibilities of those involved in Knowledge Transfer are characterised by a great deal of common ground regardless of the organisational or geographical context.

### The CPD Framework is divided into three sections:

- Section 1** Provides a series of introductory notes together with a chart that provides **an overview of all the key roles and units** that make up these proposed occupational standards.
- Section 2** Provides **details of the individual units and elements that make up the key roles**. For each of the individual units and supporting elements this section contains background notes that explain *What this means in practice*, *What you need to know and understand*, and the *Skills required*.
- Section 3** Provides **a diagnostic section** which explains how the information can be used as a basis for assisting both with selection and recruitment activity and also with the identification of individual ‘continuing professional development’ needs.

## Terminology

‘Knowledge Transfer’ is defined by the new Institute of Knowledge Transfer in the UK as “the systems and processes by which knowledge, including technology, know-how, expertise and skills, is transferred from one party to another leading to innovative, profitable or economic and social improvement”.

‘Knowledge Transfer Practitioner’ or ‘Knowledge Transfer Professional’ (for ease of use ‘KT Practitioner’ will be used throughout) is an increasingly widely used and accepted term to embrace a group of personnel engaged in the support, development and management of knowledge transfer processes involving: universities, public health bodies, other public research organisations, private sector research bodies, industry and a broad spectrum of other organisations. It embraces a wide range of job titles used by these organisations such as Knowledge Transfer Manager/Officer, Technology Transfer Manager/Officer, and Business Development Manager/Executive.

For ease of presentation throughout the remainder of this publication, the term PRO (Public or Private Research Organisation) will be used as an all embracing term to denote an organisation, as indicated in the paragraph above, which is involved in research and/or knowledge transfer, including Higher Education Institutions and other public and private research organisations. Research activity, as indicated above, suggests that the Framework applies equally well to KT Practitioners operating across the range of organisations.

# ***Section 1: Introduction to the CPD Framework***

**What is it?  
Who is it for?  
Scope and Purpose  
Value and Benefits  
How is it to be used?  
Key Roles and Units  
Skills Matrix**

# Section 1

## What is it?

The set of *Key Roles* and the associated *Units* and *Elements* provide a detailed insight into the roles and requirements of the knowledge transfer (KT) function within the organisation (PRO – see page 3). At this point in its development, prior to any adoption as the basis for a set of professional standards, this CPD Framework document continues to be presented as a practical guide. It is designed to provide knowledge transfer practitioners (KT Practitioners – see page 3) with an opportunity to work with the material and feedback their experiences.

The format and approach adopted has been designed to be comparable to standards being adopted by other professional bodies as well as being similar in format to the more generic management standards established by the Management Charter Initiative in the UK during the 1990s and now overseen by the Management Standards Centre<sup>1</sup>.

Adopting such an approach clearly has advantages, particularly when trying to assess an individual's competence and CPD achievement record at a significant career point, such as a change in job role.

Equally however, in attempting to make the detail more generic, there is always the danger that the context specific elements of the job role will be lost. This might make it difficult for an individual user to relate their experiences of the job role to the units and elements of a proposed standard.

In relation to these proposed standards an attempt has been made to overcome this problem by supporting the material with documentation that attempts to indicate in effect 'What the details might mean in practice', 'What needs to be known and understood' and 'What skills will be required'.

This approach has therefore attempted to ensure some degree of balance between the desire to facilitate comparability across similar professional and managerial positions whilst retaining what is regarded as the context specific elements of the KT function.

## Who is it for?

The original and recent research<sup>2,3,4</sup>, which provided the supporting material for these standards, highlighted the fact that the organisational settings in which the KT function resides are extremely varied in terms of size and scope. In some PROs the KT office (KTO) may employ several people whilst in others it may simply be a one-person unit. This might be a reflection of the fact that many of the activities of the KT function are decentralised into different sections and departments of the PRO. This has been supported by further subsequent research studies.<sup>5,6,7</sup>

These standards are aimed at those people in KT offices (KTOs) for whom a primary responsibility is that of managing operations and tasks related to activity at the interface between the PRO and the wider external environment. It is, however, recognised that in many situations a person fulfilling such a role may also be managing support staff and be responsible for the day-to-day management and administration requirements of the unit. Whilst there is some degree of overlap between the standards outlined in this document and the more generic management standards<sup>1</sup>, it is proposed that for guidance in relation to the more generic management skills, these proposed KT Practitioner standards are used in

<sup>1</sup> The Management Standards Centre is the Standards Setting Body for the national occupational standards for management in the UK, see <http://www.management-standards.org.uk>

<sup>2</sup> A Survey of the Continuing Professional Development (CPD) needs of Industrial Liaison Officers in Higher Education. A project supported by UCoSDA/THETO (subsequently HESDA and now part of the Leadership Foundation for Higher Education) and funded by the Department for Education and Employment (National Training Organisation Division) (1999).

<sup>3</sup> Review of the AURIL CPD Framework for Knowledge Transfer Practitioners (2005/06), AURIL (2006) – see Acknowledgements.

<sup>4</sup> Review of the CPD Framework for Knowledge Transfer Practitioners in Europe, ProTon Europe (2006) – see Acknowledgements.

<sup>5</sup> Business Interface Training Provision (BITS) review. A report produced for the Department of Trade and Industry by M.Zeitlyn and J.Horne of Oakland Innovation and Information Services Ltd, March 2002.

<sup>6</sup> Report on Training Survey. A report produced for the EARMA Executive Committee, March 2003.

<sup>7</sup> ProTon Europe pilot integrated survey, undertaken March-May 2003.

conjunction with the management standards. For those people, possibly in larger KT Units, whose primary responsibility is that of managing teams of professional staff, and who are seeking CPD guidance, reference to the management standards presented by the Management Standards Centre is likely to prove more appropriate.

The following profile of a KT Practitioner, which has been derived from the various research studies, may help to provide further clarification as to the intended audience.

The KT Practitioner is likely to have a first degree and may have a higher degree or a professional qualification. The first degree and higher degree are typically likely to be in a non-business/commercial discipline such as science, engineering or languages, to an extent reflecting the diversity of backgrounds from which KT Practitioners are drawn. The professional or postgraduate qualification is likely to be in a more job related field, i.e. qualifications such as the MBA or those from professional bodies such as the Chartered Institute of Marketing in the UK. In many organisational settings the position is regarded as a middle management post.

As well as people who are employed specifically within the KTO, it is recognised that there are many other people within the PRO who are operating at department level and who fulfil some of the operational activities of the KT Practitioner role. These standards may have some interest for such individuals. This is particularly likely to be the case for those people in such positions who find that progressively more of their time is taken up in knowledge transfer activity and who may be working in a collaborative capacity with KT Practitioners in their PRO.

## Scope and Purpose

In developing these standards every effort has been made to ensure that all areas covering the range of job roles of the KT function have been reviewed and outlined. It provides a basis for identifying what a competent person should 'know', 'understand' and be able to 'do'.

**It is very important to recognise however, that the demands of a specific job may not include all of the key roles (or units) identified in the CPD Framework but only require a subset of these key roles (or units). It is also extremely unlikely that any one individual will be competent in all the 'elements' outlined in these standards.**

For any one individual their particular strengths and weaknesses at any one specific point in time are likely to be a reflection of the nature and focus of the KTO in which the individual works and of the aspects of the job role which are currently important. Depending upon the scope and size of the KTO within an individual organisation, it is likely to be characterised by a degree of focus or specific operational direction. The skills and competencies of people employed in the KTO are likely to reflect such a focus and direction.

The presentation of standards in this way, however, provides a basis for individuals to reflect upon their strengths with regard to specific competencies and, at the same time, identify the need for development in other areas. This will enable individuals to develop a CPD programme consistent with the specific requirements of their job role and their career aspirations. This is obviously one of the key benefits of developing standards. The details outlined in the following section provide a more extensive review of the benefits of this exercise.

## Value and Benefits

The identification of key roles, units and elements provides a degree of clarity in relation to the expectations of the job role and the associated responsibilities:

- It should assist employees to develop an understanding of what is required of the KT Practitioner function, enabling them to identify their personal development and training needs, and assist them to establish a programme of continuing professional development.
- It provides a basis against which individual post holders can reflect upon their competence and,

following from the reflection, develop knowledge and skills and take action to increase their overall effectiveness as part of a policy of continuous improvement.

- In providing a common basis for the initiation of a more formal approach to CPD, it helps to define those who fulfil the role of KT Practitioner as part of a discreet professional body with appropriate professional standards.
- It provides a framework for a dialogue between a post holder and his/her line manager as a basis for personal review and personal development planning.
- Via diagnostic activity, the standards can assist with the process of staff selection and also with regard to decisions concerning staff retention.

## How is it to be used?

The primary purpose of this material is to help individuals to identify their 'continuing professional development' (CPD) needs. As has already been mentioned however, it can also be used to assist with selection and recruitment of staff to the KT Practitioner function.

In terms of recruitment and selection the details can be used to inform decisions about what attributes are 'essential' and what attributes are 'desirable' when recruiting to KT functions within an individual PRO.

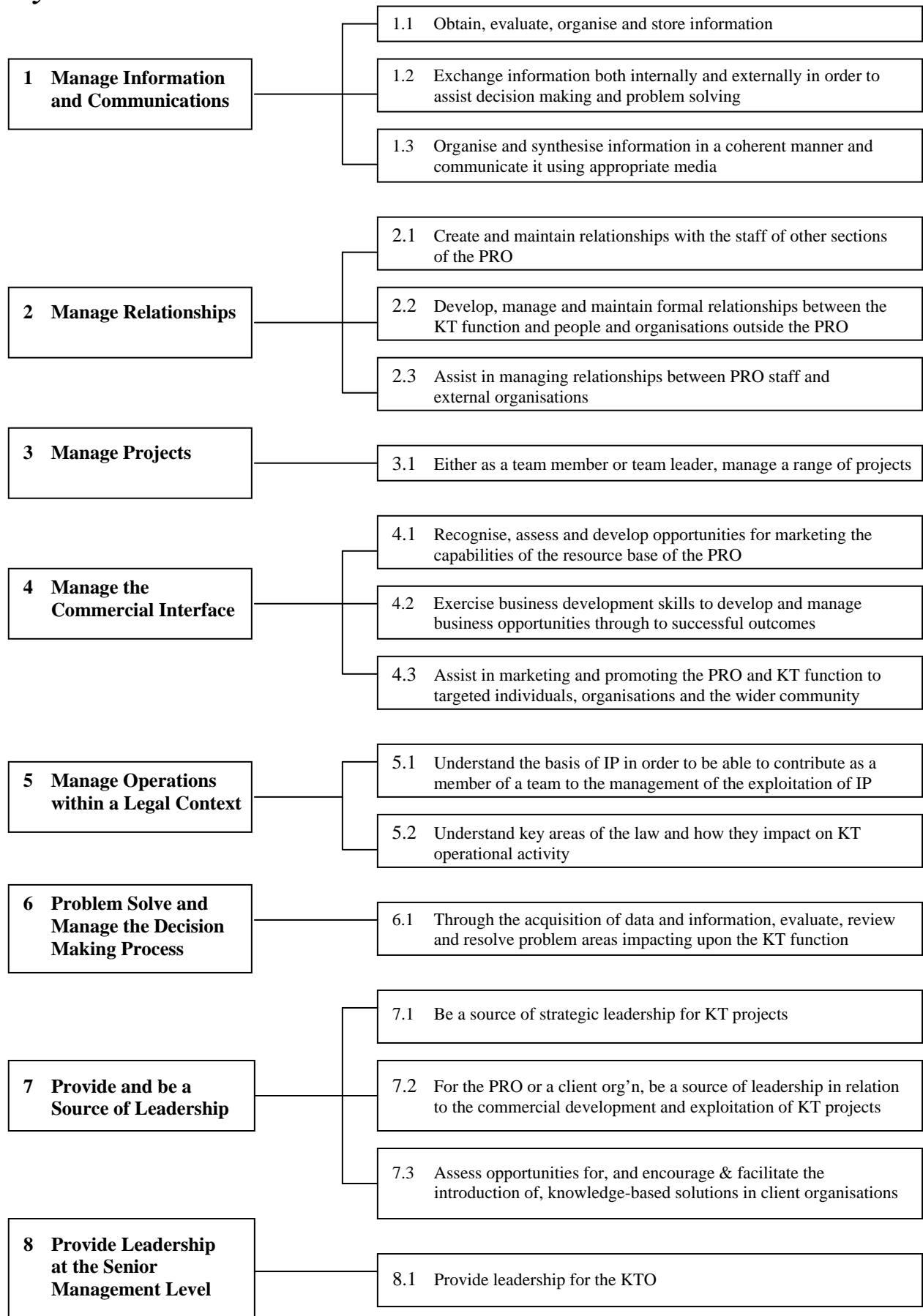
As was pointed out earlier in the introductory comments, it is recognised that in many organisations involved in KT, there are often other people operating at a departmental, as opposed to an organisational/KTO level, who fulfil some of the operational activities of the KT Practitioner role. These individuals may also find this material, and the related diagnostic material, helpful in enabling them to clearly identify specific development needs and so add to their range of competencies with regard to their KT responsibilities.

Section 3 of the material contains a number of diagnostic pro-formas together with detailed notes explaining the way in which the material can be used to identify individual development needs.

The following two pages provide overviews of the *Key Roles* and the related *Skills*. The provision of these two pages is designed to facilitate the use of the material contained in Sections 2 and 3. The first page provides an overview of the *Key Roles* together with details of the related *Units*. The second page reviews those *Key Roles* and *Units* and highlights the key skills relevant to ensure competent performance in each of the designated *Key Roles*.

As well as providing an overview these two sheets should provide a quick reference guide for the material presented in Section 2 and 3 and also assist with the diagnostic activity in Section 3.

## Key Roles and Units



# Skills Matrix

## Skills

## Key Roles

	Research	IT	Organisation/Coordination	Oral/written Communication	Active listening	Meetings: chairing/contributing	Presentation/Marketing	Editing and Proofing	Team Leadership/ Working	Influencing	Receiving feedback	Negotiating	Conflict Resolution	Planning/Time Management	Business Planning	Business Development/Selling	Facilitation	Problem Solving/Decisions	Networking/Relationship	Commercial Insight	Strategic Understanding	Leadership	Advisory/Mentoring	
1. Manage Information and Communications																								
1.1 Obtain, evaluate, organise and store information	✓	✓	✓					✓																
1.2 Exchange information				✓	✓	✓	✓																	
1.3 Organise, synthesise and communicate information				✓			✓	✓																
2. Manage Relationships																								
2.1 Relationships with other sections of PRO				✓			✓		✓	✓	✓	✓							✓					
2.2 Relationships outside PRO				✓	✓							✓							✓					
2.3 Relationships between PRO and external organisations			✓	✓			✓			✓			✓	✓					✓					
3. Manage Projects																								
3.1 Manage a range of projects				✓		✓			✓	✓				✓										
4. Manage the Commercial Interface																								
4.1 Recognise, assess and develop marketing opportunities										✓					✓	✓			✓	✓				
4.2 Develop and manage business opportunities				✓	✓					✓						✓	✓		✓	✓				
4.3 Market and promote the PRO & KT function			✓				✓					✓		✓					✓					
5. Manage opportunities within a legal context																								
5.1 Understand basis of IP and contribute to its management				✓	✓	✓						✓	✓		✓	✓		✓						
5.2 Understand areas of law & impact on operations				✓								✓												
6. Problem solve and manage decision making process																								
6.1 Evaluate, review and resolve problem areas			✓						✓										✓					
7. Provide and be a Source of Leadership																								
7.1 Be a source of strategic leadership for KT Projects			✓							✓					✓				✓	✓	✓	✓	✓	✓
7.2 Be a source of leadership for commercial development										✓					✓	✓	✓	✓	✓	✓	✓	✓	✓	
7.3 Facilitate solutions in client organisations			✓			✓				✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
8. Provide Leadership at the Senior Management Level																								
8.1 Provide Leadership for the KTO			✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

## ***Section 2***

### ***Key Roles - Units - Elements***

- 1. Key Role – Manage Information and Communication**
- 2. Key Role – Manage Relationships**
- 3. Key Role – Manage Projects**
- 4. Key Role – Manage the Commercial Interface**
- 5. Key Role – Manage Operations within a Legal Context**
- 6. Key Role – Problem Solve and Manage the Decision Making Process**
- 7. Key Role – Provide and be a Source of Leadership**
- 8. Key Role – Provide Leadership at the Senior Management Level**

## 1. *Key Role: Manage Information and Communication*

### Unit:

**1.1** Obtain, evaluate, organise and store information

### Elements:

**1.1.1** From a wide and diverse range of sources, both technical and non-technical, locate, obtain and evaluate information resources.

**1.1.2** By paying close attention to detail, and by adopting rigorous research processes, prepare and supply information to meet specified needs, and ensure the information is accurate and sufficient to meet reporting requirements.

**1.1.3** Record and store information in a systematic manner as part of a process of facilitating data/information retrieval activity.

**1.1.4** Organise information into the requisite form, prior to its inclusion in a range of written documents.

## 1. Key Role: Manage Information and Communication

### Unit: 1.1 Obtain, evaluate, organise and store information.

**NB** As with ‘problem solving’ and ‘decision making skills,’ communication skills are generic to almost any professional or managerial role. As a result similar details are outlined in the standards relating to other professional and management bodies and not least the management standards (see page 5). Identifying communication skills in this document emphasises the importance of communication skills in effectively fulfilling the KT role. Communication skills underpin and contribute to the effective performance of almost all other units.

- **What this means in practice:**

This means obtaining and storing information from a wide range of sources. This might be from library sources, archive material or material from third party organisations. It might be technical, non-technical or financial material, both qualitative and quantitative. It means being able to discriminate between different sources of information in relation to their contribution to specific KT projects or to the objectives of the KTO.

This information will need to be stored in a systematic manner related to the task and organisational goals of the KTO. Maintaining and developing databases is a vital element of efficient data access and retrieval.

It also means being able to access the information and use it in an appropriate manner for inclusion in a wide range of documents which the KT Practitioner has to complete or assist in writing and then presenting to a range of stakeholders and audiences. Examples might be; internal reports, grant applications, heads of agreement, position papers and ad-hoc reports related to the KT function and the PRO’s external role and position.

- **What you need to know and understand:**

This Unit requires a basic knowledge and understanding of where to locate specific information whether of a technical or non-technical nature both from within the PRO and externally from other sections of the ‘Knowledge Base’<sup>8</sup>.

This would require a knowledge and understanding of how to use the support facilities provided by a library or resource centre, in order to undertake rigorous and effective research and query activity.

Knowledge of how to make efficient and effective use of the range of search engines available on the Internet is clearly important.

It is also important to have an understanding of approaches to the cataloguing and storage of information. In this respect knowledge of ‘data and document management software’ and the capability of such software would be valuable. Data management software that will scan an image, whether picture or text, and then store the results electronically, providing a search system to enable immediate retrieval.

It means that someone fulfilling a KT Practitioner role needs to be aware of developments in ‘knowledge management’ and the implication of such developments for the KT function.

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<sup>8</sup> For the purposes of these details the ‘Knowledge Base’ would include material, databases and information and knowledge sources within organisations such as other Higher Education Institutions, Public Research Organisations, other Research and Technology Organisations including intermediary organisations, and Further Education Institutions.

- **Skills Required:**

Research skills, particularly in terms of rigorous data collection and information gathering.

IT skills, for both information storage and information retrieval purposes.

An ability to order and summarise material to support presentations and arguments.

Organisational skills.

## **1. Key Role: Manage Information and Communication**

### **Unit:**

**1.2** Exchange information both internally and externally in order to assist in decision making and problem solving.

### **Elements:**

**1.2.1** Initiate, lead and/or contribute to a broad range of meetings both inside and outside of the PRO.

**1.2.2** Use the opportunity of meetings to exchange clear, accurate and concise information as part of contributing to the decision making process

**1.2.3** Translate technical information and jargon into a form which a third party, whether inside or outside the PRO, can readily assimilate.

**1.2.4** Maintain information relating to a network of individuals and organisations with which the PRO needs to have contact or to be aware of their activities.

## 1. **Key Role: Manage Information and Communication**

### **Unit: 1.2 Exchange information both internally and externally in order to assist in decision making and problem solving.**

- **What this means in practice:**

This means attending a range of meetings inside and outside of the PRO and using such meetings as an opportunity to gather information. This information might then be used to help make decisions or solve problems in relation to the work of the KT function and the external relations activity of the PRO. It also means organising and arranging meetings, as well as contributing to meetings, in order to clarify understanding with regard to the issues raised and information presented. Such meetings, particularly with external individuals and organisations, should be regarded as a possible platform from which working relationships can be developed.

- **What you need to know and understand:**

How to arrange, organise and structure a range of meetings, both informal and formal, and then to outline the meeting's purpose and objectives.

How to chair a meeting in an effective manner such that the meeting achieves its purpose and objectives.

Know the established policies and procedures of the PRO with regard to meetings. Conduct meetings in accordance with such procedures, especially when the PRO is hosting a meeting.

Know how to ensure that the key points, which are raised in the meeting, are clarified, summarised and confirmed. Ensure as appropriate that what is agreed is recorded and that follow up action is taken.

Know how to contribute to meetings to ensure that the meetings are effective.

Understand the need to translate technical information and jargon into a form which is readily understood by others and, if necessary, ensure the clarification of any related documentation.

Recognise when issues are raised which require further investigation or the input of a more specialist level of expertise.

Knowledge and understanding of 'contact management' or 'client relationship management (CRM)' software, and understanding of the value of using such programs in terms of maintaining a network of contacts. If required, be able to use such software as part of a strategy of client and contact relationship management.

- **Skills Required:**

Communications skills, specifically active listening, rephrasing, questioning and summarising skills to ensure clarification and to confirm mutual understanding.

The skills and ability to adopt a style within meetings that encourages others to participate and ask questions in order to clarify their understanding. The ability and skills needed in order to modify one's style and approach as the meeting develops and information is exchanged.

Meeting skills focused towards ensuring that all who are present have an opportunity to contribute and that no one individual is allowed to dominate a meeting in an inappropriate manner.

Presentational skills in order to present agenda items as a means of clarifying issues. Skills in using a range of media appropriate for such presentational purposes.

## 1. *Key Role: Manage Information and Communication*

### Unit:

**1.3** From a range of both technical and non-technical sources, including financial material, organise and synthesise information in a coherent manner and then communicate it using appropriate media.

### Elements:

**1.3.1** Provide clear unambiguous written reports in relation to projects and proposals with which the PRO is currently engaged.

**1.3.2** For a range of organisations, audiences and stakeholders, present and communicate, both orally and in writing, using appropriate forms and styles, material that has been synthesised and edited from a wide and diverse range of sources.

**1.3.3** From a range of documents, both technical and non-technical, including financial, synthesise information about complex subjects. Produce written material, either in terms of a formal report, grant application, or other supporting material, in line with the objectives of the client organisation and of the PRO.

**1.3.4** Adopt a communications style appropriate to specific circumstances. Consider and decide on whether a formal or informal style of communications is warranted.

**1.3.5** In relation to the requirements of organisations as diverse as grant awarding bodies, government agencies, private sector organisations, write, or contribute to the writing of, documents in a style and with a structure appropriate to meeting the specific evidential requirements of these organisations.

**1.3.6** Be aware of, and utilise, as appropriate, the variety of media and communications aids to ensure clarity of communications whether written or oral.

## **1. Key Role: Manage Information and Communication**

**Unit: 1.3 From a range of both technical and non-technical sources, including financial material, organise and synthesise information in a coherent manner and then communicate it using appropriate media.**

- **What this means in practice:**

As the KT function, by its very nature, operates at the interface between the PRO and the external environment, a key requirement of the role is knowledge of communications and an understanding of the range of communication approaches which can be adopted to reach different audiences. What this means in practice is that a person fulfilling a KT Practitioner role could be required to communicate with a wide range of clients, partners and collaborators. It could mean liaising with a group of industrial/commercial partners or other stakeholders within the context of a formal meeting. It could mean assisting a department/unit of the PRO to promote its services, such as short courses or consultancy, to a wider audience. Equally it might involve making inputs into grant applications to generate external funding. In practice this requires both knowledge of the range of communication approaches and an understanding of the skills needed to ensure different audiences understand the message.

- **What you need to know and understand:**

In order to be effective in terms of both written and oral communications it is necessary to have underpinning knowledge of many aspects of the communications process. Knowledge is required of the possible range of different report styles and formats required in relation to the demands of different audiences.

Knowledge of the communications style and presentational formats required by research bodies, government agencies and other private and public sector organisations is clearly important.

- **Skills required:**

Have sufficient level of skill in terms of communications in order to determine the appropriateness of different media and different presentational forms, according to audience and objectives.

Skilled at editing material in preparation for being able to communicate in a clear and concise manner.

Skilled at written communications, particularly in terms of being able to meet the differing demands required for completing grant applications and other such proposals.

## **2. Key Role: Manage Relationships**

### **Unit:**

- 2.1** Create and maintain relationships with the staff of other sections of the PRO.

### **Elements:**

- 2.1.1** Establish and maintain the trust of others within the PRO. Through 'trust' build mutually supportive working relationships with a wide range of colleagues from across the organisation.
- 2.1.2** Support the staff of other sections of the PRO to become involved with, and contribute to, the external relations activity of the PRO.
- 2.1.3** Support staff of other sections of the PRO with and through the range of processes involved with the commercialisation of knowledge.
- 2.1.4** Support colleagues to honour commitments that have been made in relation to the PRO's external activities and projects.
- 2.1.5** Adopt a pro-active approach in maintaining contact with other departments and sections of the PRO and seek to demonstrate to other sections of the PRO the productive role of the KT function.
- 2.1.6** Consult with colleagues, both within your department and the wider PRO, in a manner which encourages frank exchanges and constructive feedback.

## 2. Key Role: Manage Relationships

### Unit: 2.1 Create and maintain relationships with the staff of other sections of the PRO.

- **What this means in practice:**

This unit focuses on the role of the KT Practitioner with regard to relationships between the KTO and other sections and departments of the PRO. The unit recognises that involvement in outside activity may put additional pressure on the resources of a section or a department of the PRO. This unit recognises the role of the KT Practitioner in trying to support other sections of the PRO in establishing and maintaining relationships with external organisations and agencies. Such support might, for example, be in terms of assisting with the preparation of commercial project proposals, research grant applications, or the generation of details for an annual report.

This means that the KT Practitioner tries to provide help to other sections or departments to enable them to make a contribution to the external development activity of the PRO. It may mean managing the differing expectations that might arise between colleagues within the PRO and external partners. In practice this may mean trying to ensure that other colleagues within the PRO do not commit themselves to deliver in relation to inappropriate time scales which are inconsistent with other demands placed upon them or the PRO.

This requires that the KT Practitioner adopts a pro-active role in consulting with other colleagues within the PRO and in keeping them informed of progress with project activity in which they may have an interest.

In practice this means that the KT Practitioner needs to have flexibility in order to deal with a very broad and diverse range of individuals and departments within the PRO. In order to fulfil a 'liaison' role it is necessary for those in operational areas of the KT function to be able to handle the diversity which characterises the internal environment of the PRO.

- **What you need to know and understand:**

How to adopt strategies and styles of working that encourages effective working relationships. Recognise and understand that showing respect for the views and actions of others is one of the key bases for developing a relationship built on trust. Understand that sharing information and consultation can not only help to clarify situations, it can also add to the development of trust.

Understand when and how to influence others.

Understand how to establish relationships which are based on the principle of frank exchanges and constructive feedback. Recognise that at times this may mean pushing for clarification in situations when information is ambiguous.

Understand how to provide support and resources, particularly time, to others to assist with the achievement of agreed objectives.

Understand the value of giving information - written or oral - designed to keep people up to date with on-going activity.

Knowledge of organisational circumstances and how they might impact upon relationships.

- **Skills required:**

Skills and confidence to communicate in an open manner.

Communication skills, particularly with regard to the presentation of ideas and arguments.

Skilled at objective discussion and/or debate, which maintains the quality of relationships but facilitates constructive outcomes.

Sensitivity to recognise the differing cultural parameters that may be a feature of specific departments or units of the PRO, and the ability to be flexible and to adapt in order to ensure productive communications and relationships.

Team leadership and team working skills, particularly those skills that contribute to the establishment of mutual trust.

The skills to accept personal comments and criticisms without becoming defensive, and the skills to handle others' emotions without necessarily responding in kind.

Presentational and influencing skills with the ability to use such skills for the benefit of the organisation.

## **2. Key Role: Manage Relationships**

### **Unit:**

**2.2** Develop, manage and maintain formal relationships between the KT function and people and organisations outside of the PRO.

### **Elements:**

- 2.2.1** In relation to a diverse range of 'exchanges', plan the nature of the relationship in a manner designed to take account of the costs and benefits of the exchange.
- 2.2.2** Through a knowledge and understanding of a wide range of external agencies and intermediaries, be able to access such bodies in order to further the interests of the PRO.
- 2.2.3** Establish an appropriate negotiating strategy based on an assessment of the anticipated outcomes of the exchange.
- 2.2.4** Exercise negotiating skills in order to develop and build appropriate working relationships.
- 2.2.5** Adopt and encourage co-operative as opposed to competitive approaches to negotiations as a basis for maintaining on-going relationships.
- 2.2.6** Establish and maintain the trust of the other parties to the exchange, so contributing to the establishment and maintenance of on-going productive and successful relationships.

## 2. Key Role: Manage Relationships

### Unit: 2.2 Develop, manage and maintain formal relationships between the KT function and people and organisations outside of the PRO.

- **What this means in practice:**

What this means in practice is making contacts and developing relationships with a range of external clients, agencies and intermediaries and working with, and through, such organisations in the interests of the PRO.

This unit recognises that a key aspect of relationships with external organisations is likely to involve some form of 'exchange' between the PRO and external organisations. It might, for example, be a collaborative arrangement relating to research, R&D, consultancy or training services. Such collaborations are frequently characterised by related commercial considerations.

It is likely that such relationships will involve negotiating activity. This means in practice that the KT Practitioner will need to be able to exercise negotiation skills in order to build and develop appropriate working relationships and then maintain such relationships.

In practice a key element will be the ability of the KT Practitioner to assess whether the outcomes that may result from a commitment or an agreement, generate sufficient benefit for the PRO.

Equally, however, in developing such relationships it will be necessary to recognise that 'trade-offs' might have to be made. A person fulfilling the KT function will need to be prepared for such 'trade-off' activity and be able to recognise the implications of any 'trade-offs'. This means developing appropriate negotiating strategies and identifying what, in negotiating terms, they 'must achieve' to accomplish the commercial and business development objectives of the PRO and what they 'intend to' or would 'like to achieve'.

In practice it may also mean that when all the costs and benefits are taken into account the appropriate strategy is 'not to proceed with a possible relationship', since it could be less than advantageous to the PRO.

It also means that the KT Practitioner will need to understand and recognise the value of adopting 'co-operative approaches' to negotiating activity, both to further short term objectives and, more importantly, to facilitate the development of longer term relationships.

- **What you need to know and understand:**

Knowledge of negotiating activity and knowledge of the way in which to plan, structure and approach negotiating activity.

Knowledge and understanding of the different negotiating styles, particularly the distinction between competitive approaches and collaborative approaches, and be able to exercise the negotiation skills needed to achieve mutually beneficial outcomes.

Knowledge and understanding of how to evaluate the potential costs and benefits of an exchange both in financial terms and in the context of wider organisational objectives.

- **Skills required:**

Negotiating skills appropriate for a wide range of exchanges. The skills to build up an exchange based on adopting collaborative as opposed to competitive approaches to negotiations. Knowing how to convey without commitment.

Skills in developing collaborative relationships.

Listening skills and summarising skills.

Communication skills to enable communications to develop in an open manner.

Networking skills for maintaining and fostering relationships

## 2. Key Role: Manage Relationships

### Unit:

**2.3** Assist in managing relationships between PRO staff and external organisations.<sup>9</sup>

### Elements:

**2.3.1** Support and assist staff of other units of the PRO with projects which involve the PRO and external organisations.

**2.3.2** Assist with establishing and maintaining critical working relationships between PRO personnel and personnel from industry and commerce and the wider environment.

**2.3.3** Help to manage the differing expectations of internal and external colleagues/partners so reducing the potential for conflict in working relationships.

**2.3.4** Ensure appropriate cognisance is taken of the working context and environment of the other staff of the PRO such as staff engaged in R&D activity.

**2.3.5** Ensure that any commitments that are made by any party are clearly recorded and are then honoured during subsequent stages and activities of the working relationship.

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<sup>9</sup> Although it is recognised that there is some level of overlap between this unit and unit 2.2 this unit acknowledges the role of broker that the KT function is often required to adopt in facilitating relationships between other sections of the PRO and outside organisations and agencies. This unit recognises the significance of such a role.

## 2. Key Role: Manage Relationships

### Unit: 2.3 Assist in managing relationships between PRO staff and external organisations.

- **What this means in practice:**

It is recognised that individual sections and departments of the PRO may establish relationships with external organisations on an autonomous basis. It is recognised that the KT Practitioner may provide help, advice and support to the department or section and via such support enhance the success of any contacts. This also serves to ensure that the interests of the PRO are not compromised and that there is a degree of consistency in the way in which such relationships are managed and maintained. The assistance may involve arranging meetings or hosting personnel from other departments of the PRO and personnel from industrial and commercial organisations. It might mean fulfilling a secretariat role in relation to such meetings. It may also involve providing access to relevant commercial and legal services. It may involve assisting with the acquisition of grants and other funding sources in order to maintain project activity.

This may mean, in practice, that the KT Practitioner fulfils a brokering role with regard to a range of critical relationships.

In fulfilling this role it is necessary for the KT Practitioner to recognise that there may be differences in organisational culture and in management style between the PRO and external organisations. Such differences may be a source of discord. This may mean that the KT Practitioner needs to exercise 'conflict resolution' skills in order to ensure progress in such relationships.

In practice it may also mean that the KT Practitioner ensures that any commitments that are entered into with outside organisations are in line with the general commercial policy and philosophy of the PRO.

- **What you need to know and understand:**

Knowledge and understanding of different organisational forms.

Knowledge and understanding of how to adopt conflict resolution strategies and how to resolve conflicts in a constructive manner.

Knowledge and understanding of different organisational cultures particularly in relation to research based organisations and commercial organisations and the impact of such differences on management style and on the approaches organisations might adopt towards relationships and business activity.

It requires knowledge of how to approach relationships in an open yet professional and business-like manner.

It requires the exercise of communication skills as part of a strategy of ensuring that all parties are kept informed of progress with regard to activity and operations.

- **Skills required:**

Communication skills necessary to build relationships and keep people informed.

Presentational and influencing skills.

Conflict resolution skills.

Planning and organisational skills.

Flexibility and adaptability in order to accommodate the impact of the different cultural mores of a wide range of organisations

### **3. Key Role: Manage Projects**

**Unit:**

- 3.1** Either as a team member or team leader, manage a range of projects.

**Elements:**

- 3.1.1** Contribute to the development, planning and preparation of a range of projects in accordance with the external relationship objectives of the PRO.
- 3.1.2** Clarify the scope and definition of a project and assist in the development of plans to achieve project goals.
- 3.1.3** Establish resource requirements for a range of projects and put in place monitoring and control procedures. Keep other stakeholders informed of project progress.
- 3.1.4** As a team member or team leader, contribute to, the development of project plans designed to achieve project goals.
- 3.1.5** Ensure, at both project planning stage and implementation stage, appropriate cognisance is taken of the specific working context of PRO's staff and of the working contexts of those operating outside of the PRO.
- 3.1.6** Through sound time management and an awareness of priorities, assist in keeping projects on time and on target. Use appropriate project planning tools to monitor and control activity.

### 3. Key Role: Manage Projects

**Unit: 3.1** Either as a team member or team leader, manage a range of projects.

- **What this means in practice:**

This unit recognises that much of the work of the KT Practitioner will involve a project or involvement in some form of project activity. This unit highlights the needs of the KT Practitioner to be able to lead and plan, or contribute to the planning and development of, a range of projects. In practice this may extend from a project designed to establish a 'spin-out' business, to a project involving organising a major conference. It means that the KT Practitioner needs to be familiar with project management techniques and understand the value of using computer based project management tools. In practice, this means developing a working knowledge of appropriate project management software such as 'Microsoft Project'.

It also means having the flexibility to work with different teams that are likely to be cross-functional in nature, and to represent the interests of the range of organisations likely to be involved in KT projects.

- **What you need to know and understand:**

Knowledge of how to prepare the outline of a project and timetable a project using structured approaches which can readily be translated for computer application.

In relation to the plans, be able to make reasonably accurate estimates of the time and resources required for project completion.

A working knowledge of project planning techniques and related software programs that can assist with both project planning and also with the control and monitoring of projects.

Understand how project-planning programs can be used to keep projects on target with regard to time, resources and budget.

When working with teams involving PRO personnel and external people, recognise the impact of the different organisational cultures in which people are likely to be working. Be aware of how such differences might impact on project management.

- **Skills required:**

Skilled in planning techniques and the application of such techniques to a range of projects.

Ability to outline project plans in terms of stages and milestones in a way in which the details can then be input into project planning software.

Ability to communicate in a clear manner - both orally and in writing.

Ability to exercise a leadership position in project meetings and ensure that issues are aired in a clear and concise manner.

Influencing skills enabling the presentation of ideas, views, and arguments, in a manner which ensures they are listened to and noted.

Team working skills, including the ability to provide a degree of leadership if called upon to do so.

Time management skills.

## **4. Key Role: Manage the Commercial Interface**

### **Unit:**

**4.1** Recognise, assess and develop opportunities for marketing the capabilities of the resource base of the PRO.

### **Elements:**

**4.1.1** Recognise the degree of 'fit' between the requirements of an external project and the resource base of the PRO. Recognise the need for the exercise of 'opportunity grasping' strategies.

**4.1.2** By contact with key areas of the PRO, maintain an awareness of the scope and direction of the research activity of the PRO.

**4.1.3** Maintain and develop an active network of individual and organisational contacts of relevance to the work of the PRO.

**4.1.4** As required, be able to assess the commercial potential of ideas and proposals. Where appropriate make use of relevant financial appraisal systems.

**4.1.5** Using standard approaches to business planning based on rigorous market research activity, take a leading role in, or contribute to, the formulation and development of business plans.

## 4. Key Role: Manage the Commercial Interface

### Unit: 4.1 Recognise, assess and develop opportunities for marketing the capabilities of the resource base of the PRO.

- **What this means in practice:**

This means that a KT Practitioner needs to be familiar with the key areas of strength of the PRO whether research, consultancy or training. This knowledge and awareness helps to ensure that the KT Practitioner is alert to possible opportunities for the exploitation of these strengths.

A key element of this role is that of maintaining contact with a range of networks. Maintaining contact enables one to keep abreast of any changes and developments, which might provide research and other commercially beneficial opportunities for the PRO. This is likely to mean being familiar with and, if appropriate, using 'client relationship management' approaches.

Managing the commercial interface may also mean developing financially sound business plans. As a result the KT Practitioner will need to be familiar with generally accepted approaches to developing business plans together with supporting financial forecasts and budgets. In practice such an approach is necessary, not only when assessing the feasibility of 'spin-out' businesses, but also with regard to a range of other projects.

In practice, this unit requires an understanding of key financial and operational costing systems with which industry and commerce are familiar, as well as those that are applied within the PRO.

Evaluating commercial opportunities requires an understanding of a range of financial appraisal techniques such as NPV (Net Present Value) and DCF (Discounted Cash Flow) and when the use of such techniques might be appropriate. It also means being able to balance risk and reward and yet at the same time avoid the temptation to introduce accountancy driven input measures too early into the 'opportunity' assessment process.

- **What you need to know and understand:**

It is necessary to have knowledge and understanding of the approaches and techniques that can be used to review the feasibility of a project. An aspect of this is the knowledge and understanding necessary to be able to evaluate ideas from a commercial perspective. This is likely to involve knowledge of appropriate management accounting principles and an ability to interrogate and review proposals based on an understanding of such principles.

This also requires knowledge of how to develop business plans. It involves the ability to interpret financial statements and financial data. It requires knowledge and understanding of the key resources and competencies of the PRO.

It is also necessary to have an awareness of appropriate financial appraisal systems and an understanding of when they might be used and of their limitations.

It also requires an understanding of the value of developing and maintaining a network of contacts in a broad range of both public sector and private sector organisations. A knowledge of, and ability to use, software packages that may assist in 'managing' such contacts would also be useful<sup>10</sup>

<sup>10</sup> Examples of such software packages are Outlook, Maximizer and ACT.

- **Skills required:**

Numeracy skills appropriate to the interpretation, interrogation and development of business plans and the related financial budgets and forecasts.

Skills with regard to the assimilation of ideas and concepts, and the recognition of the potential commercial application of ideas/concepts - skills that might be summed up as commercial insight skills.

Influencing skills.

Business development skills.

Networking skills.

Business and Marketing Planning Skills.

## **4. Key Role: Manage the Commercial Interface**

### **Unit:**

**4.2** Exercise business development skills to develop and manage business opportunities through to successful outcomes.

### **Elements:**

**4.2.1** Be pro-active to make contacts and set up meetings with organisations and individuals external to the PRO. Wherever appropriate use such meetings as an opportunity to attempt to further the commercial objectives of the PRO.

**4.2.2** Exercise creative skills and innovative approaches in identifying possible business or brokerage opportunities and then assisting with the management of those opportunities in the best interests of the PRO.

**4.2.3** Identify funding routes and keep up to date with relevant funding bodies and agencies and manage relationships with such organisations. Develop experience of working with these organisations to assist in achieving the funding objectives of the PRO.

**4.2.4** Follow up on marketing and promotional activity and seek opportunities to progress relationships towards achieving the objectives of the PRO.

**4.2.5** Through the use of appropriate influencing and communications skills, 'sell' the concept of a more commercial focus to other colleagues within the PRO.

## 4. Key Role: Manage the Commercial Interface

**Unit: 4.2 Exercise business development skills to develop and manage business opportunities through to successful outcomes.**

- **What this means in practice:**

PROs, like many other organisations, are frequently approached by third parties with ideas and proposals, which might result in income generating opportunities. Rather than simply being passive in this respect, this unit recognises that a responsibility of the KT Practitioner is to be pro-active and to evaluate opportunities for development. It means making contacts and establishing business development meetings in order to further the objectives of the PRO. This will call upon the exercise of many of the skills, knowledge and understanding, highlighted in other elements of this Key Role.

‘Business Development’ activity requires the establishment of a sound strategy, which is firmly grounded in the capability profile of the PRO. Business Development activity requires the exercise of a range of business development skills, selling skills and ‘relationship marketing’ and ‘relationship management’ activity. It is through such approaches that business meetings and business relationships can be moved forward in a defined and positive manner.

Fulfilling this role requires commitment and co-operation from colleagues in the other sections and departments of the PRO. It is only through such co-operation and active commitment that commercial activity can be established and sustained. This means that the KT Practitioner may have to exercise a range of ‘selling’ skills within the PRO in order to ‘sell’ the value of adopting a more commercial focus to other sections and departments of the PRO.

- **What you need to know and understand:**

Knowledge of how to turn strategy and plans into operational activity.

Knowledge of the key steps to take when attempting to develop business relationships and bring them to a successful conclusion.

Knowledge and understanding of key marketing and promotional tools and techniques which can be used to project and present the capability profile and resources of the PRO.

Knowledge and understanding of the concept of target marketing and how it provides a basis for ensuring that focused approaches are adopted with regard to the PRO’s marketing and communications strategy.

Knowledge and understanding of relationship marketing and the client centred approach it encourages, as a basis for developing and maintaining an on-going relationship with client organisations.

- **Skills required:**

Business development and selling skills.

Communication and influencing skills.

Listening skills.

Facilitation skills.

Customer/Client Relationship skills.

## **4. Key Role: Manage the Commercial Interface**

### **Unit:**

**4.3** By adopting a client centred approach, assist in promoting and marketing the PRO and KT function to targeted individuals, organisations and the wider community.

### **Elements:**

- 4.3.1** Contribute to the planning and implementation of activity designed to project, promote and market the activities of the PRO to identified individuals, organisations and sectors.
- 4.3.2** Use the results of market research activity to influence decisions with regard to marketing and promotional activity and then to enhance the direction and nature of marketing, advertising and promotions.
- 4.3.3** In relation to a marketing planning process, implement marketing and promotional activity in accordance with the details of the plan and the stated objectives of the plan.
- 4.3.4** Contribute to the establishment and maintenance of operational processes that are customer/client focused.
- 4.3.5** When dealing with individuals and organisations external to the KT function and the PRO, adopt an ambassadorial perspective designed to promote and project the PRO and the KT function.
- 4.3.6** Through the use of promotional techniques, advertising, PR and the management of media activity, contribute to the communications and awareness raising aims of the PRO.

## 4. Key Role: Manage the Commercial Interface

**Unit: 4.3** By adopting a client centred approach, assist in promoting and marketing the PRO and KT function to targeted individuals, organisations and the wider community.

- **What this means in practice:**

This recognises the requirements of the KT Practitioner to contribute in a significant manner to the planning and implementation of marketing and promotional activity. It also recognises the need for the KT Practitioner to use information and data derived from the results of market and market research activity.

This unit also recognises that if the PRO is going to be successful in highly competitive market places, it needs to adopt an approach that is customer/client focused. The KTO will play a major role in encouraging and maintaining such a focus for the PRO as a whole. This perspective should carry through into individual behaviour and activity with the KT Practitioner fulfilling an ambassadorial role for the PRO. Under certain circumstances this ambassadorial role may take a very direct form, for example, when a representative from the KTO is involved with a conference hosted by the PRO. For much of the time it may simply inform the on-going approach adopted by the KTO.

- **What you need to know and understand:**

Understand the major principles of marketing and how such principles can be applied in order to promote and market the capacity and resources of the PRO

Understand the value of using market research in order to increase the effectiveness of the decision-making process. A key element of this is understanding the importance of a rigorous 'research design' in ensuring that market research activity effectively address the information gathering objectives of the planned activity and so contributes to effective marketing.

It is necessary to have an understanding of the way in which client centred processes and procedures can be implemented within the KTO and other service units of the PRO.

Knowledge and understanding of the communications and promotional approaches required to present the PRO in a constructive manner. Knowledge and understanding of PR and media management.

- **Skills required:**

Planning skills.

Liaison and negotiating skills.

Organisational skills.

Marketing and promotional skills.

Customer/Client care skills

## 5. Key Role: Manage Operations within a Legal Context

### Unit:

**5.1** Understand the basis of intellectual property (IP) in order to be able to contribute, as a team member, to the management and exploitation of IP.

### Elements:

**5.1.1** Through knowledge of IP and an understanding of what might be protected, and how it might be protected, recognise the pitfalls and opportunities that might arise for the PRO.

**5.1.2** Be able to contribute to the development of strategies and the framing of policies for the PRO in relation to IP and its exploitation in the best interests of the PRO.

**5.1.3** In meetings and preliminary negotiations with other staff members and third parties, help to progress activity towards the establishment of operational strategies designed to ensure the effective exploitation of IP.

**5.1.4** When decisions are being considered concerning the protection and exploitation of IP, advise on the value of cost/benefit analysis as an aid to decision making.

**5.1.5** Assist with the development of the organisational principles on which the exploitation of IP can be managed either in the form of copyright, confidentiality agreements, licensing, patents, 'spin out', joint venture activity, or consultancy.

**5.1.6** In the case of IP developed as a result of grant funding, assist with the management and exploitation of that IP in accordance with the criteria of the grant awarding body.

**5.1.7** With others, contribute to the management of IP arrangements and be able to manage conflicts of interest which might occur between the PRO and other stakeholders.

## 5. Key Role: Manage Operations within a Legal Context

**Unit: 5.1 Understand the basis of intellectual property (IP) in order to be able to contribute, as a team member, to the management of the exploitation of IP.**

- **What this means in practice:**

This means working with other departments of the PRO to identify areas and activities which might be a source of IP and consequently be a source of income generation for the PRO. It means having sufficient knowledge of IP and copyright arrangements to contribute to the development of guidelines and practices related to the exploitation of the PRO's IP.

It may mean managing the potential for conflict which can arise in relation to the desire of the originators of the IP to publish and the consequent risk of 'prior disclosure'.

Given that 'spin outs', licensing and joint venture arrangements are complex issues, what this means in practice is working with others to develop principles and organisational guidelines with regard to such arrangements, so that the interests of the PRO are not compromised.

It also means working with other members of staff in the PRO to balance the interests of the PRO, any new organisational unit, 'spin out' company and any third party. It means being able to recognise sources of conflict ensuring they are identified and then managed.

It may mean supporting the PRO to meet the requirements of funding bodies in relation to the management and exploitation of IP. In practice this is likely to mean working with other staff of the PRO to develop an 'exploitation plan' - frequently a requirement of an initial bidding process - in relation to research outcomes and associated IP, consistent with the policies and strategies of the PRO. It may also mean bringing a marketing focus to technology-led exploitation propositions.

- **What you need to know and understand:**

It is necessary to have the strategic understanding to be able to advise the KTO on strategy in relation to the exploitation of IP and to advise whether approaches to particular projects are consistent with the policies of the KTO and PRO. It also means understanding where to draw the line between giving support and advice and ending up with the responsibility for making things happen.

It is necessary to have sufficient understanding of IP to know what can be protected and the form of that protection. It is necessary to have an understanding of the basic structures and processes involved in developing confidentiality agreements, licensing agreements, and patent registration. It is necessary to have a basic understanding of how, in relation to such agreements, international and territorial factors can have an impact. It is also necessary to have some understanding of the steps and stages leading to the formation of a company in the form of a 'spin out'. It is necessary to have knowledge and understanding of how such companies might be managed in the best interests of the PRO.

It is necessary to have an understanding of cost/benefit analysis and of when the use of such an approach is a valuable prerequisite to the IP protection and patent registration investment decision.

It may be necessary to know the arrangements for access to sources of finance, such as private 'business angels' or venture capitalists. It may also be necessary to have some understanding of corporate finance and the financial management of a company.

- **Skills required:**

Negotiation skills.

Communication skills.

Business planning skills, including related financial understanding.

Conflict management skills.

Business development and marketing skills.

Active listening.

Meeting skills.

Numeracy skills

Problem solving and decision making skills.

## 5. Key Role: Manage Operations within a Legal Context

### Unit:

**5.2** Understand key areas of the law, and the basic tenets that underlie relevant branches of law, and how they impact on KT operational activity.

### Elements:

- 5.2.1** Through knowledge of the structuring of legal agreements, including contracts, in the areas of intellectual property, patents, licensing, copyright, company formation and joint ventures, recognise the point at which the interests of the PRO would be best served by the involvement of specialist legal resources. Act to access such resources.
- 5.2.2** Contribute to the drafting of documents, which serve to establish the legal obligations of parties to such documents. As necessary, ensure such documents receive appropriate scrutiny from expert legal resources prior to binding commitments being agreed.
- 5.2.3** Be able to ‘convey without commitment’ as a definite negotiating strategy designed to move the potential exchange forward in a positive manner.
- 5.2.4** Be able to recognise and understand, within the context of an exchange, when an ‘offer’ is being made such that agreement might indicate acceptance, so moving the exchange towards a legally binding agreement. Take appropriate action in relation to such a development.
- 5.2.5** Contribute to the development of documents which spell out arrangements and which could form the basis of a legal agreement in the areas of intellectual property, licensing, patent and copyright, company formation and joint ventures.

## 5. Key Role: Manage Operations within a Legal Context

### Unit: 5.2 Understanding key areas of the law, and the basic tenets that underlie relevant branches of the law, and how they impact upon operational activity.

- **What this means in practice:**

It is anticipated that the KT Practitioner could be faced with a range of contractual issues relating to intellectual property, patent registration, licensing, copyright, R&D, consultancy, and company formation. It is not expected that the KT Practitioner will have an extensive and in-depth knowledge of the law. However, what is required in practice is a sufficient level of understanding of legal processes to know when it is advisable to call upon the services of a specialist legal advisor<sup>11</sup>. The KT Practitioner needs sufficient understanding of these elements of the law to know when discussions or relationships are moving to a position where specialist legal advice would be of value. Even when it is necessary to call on specialist legal advice there may, nevertheless, be a requirement for the KT Practitioner to assist in the drafting of legal documents that seek to establish contractual arrangements between the PRO and an external organisation.

This unit also recognises that the establishment of a legal agreement is likely to result from substantial negotiating activity. In practice, a KT Practitioner will need to recognise when negotiations are moving in such a manner that the end result is likely to be a legally binding agreement. This is likely to mean that the KT Practitioner (within the context of a negotiations exercise), needs to be able to 'convey without commitment'. They also need to recognise when a formal offer is being made such that the discussion could move towards the establishment of a legally binding agreement, and then how to respond to ensure commitments are not made which cannot then be honoured.

- **What you need to know and understand:**

It is necessary to have sufficient understanding of legal frameworks, including contracts, to be able to recognise the point at which it is wise to consult specialist legal services. From the perspective of the development of legal agreements between the PRO and a third party, understanding in the following key areas is necessary: confidentiality agreements, intellectual property rights licensing, patents, copyright, company formation and contractual terms. It is important to have an understanding of the issues in relation to 'prior disclosure'.

It is necessary to have sufficient understanding of contractual terms in order to be able to contribute to the drafting of documents which serve to move a relationship towards some formal agreement. This means having a sufficient level of understanding of contractual terms to ensure that any deal that is negotiated can readily be converted into a formal contract.

In fulfilling this role it is also necessary to have a sound knowledge and understanding of negotiating processes and the manner in which, through the exercise of negotiating skills, relationships can be moved towards mutually beneficial agreements.

- **Skills required:**

Communication skills - both oral and written. (With regard to written communication skills, a key element for this unit will be the ability to translate and interpret ideas into a form which can be incorporated into appropriate formal/legal documents).

Negotiating skills.

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<sup>11</sup> The KT Practitioner needs to be keenly aware of the fact that, in relation to the range of agreements that can arise when involved in the exploitation of IP, mistakes made and then encapsulated in binding agreements can be extremely costly to resolve.

## **6. Key Role: Problem Solve and Manage the Decision Making Process**

### **Unit:**

**6.1** Through the acquisition of data and information, evaluate, review and resolve problem areas impacting upon the KT function.

### **Elements:**

**6.1.1** Through the exercise of critical thinking, identify the nature, dimensions, and source of problems and potential problems and plan accordingly.

**6.1.2** Using structured approaches, which can readily be understood by others, and using data and information from a range of sources, define and frame problems and problem areas. Verify true causes of problems and evaluate options as a prerequisite to problem resolution.

**6.1.3** With others, using structured approaches involving both critical and creative thinking, contribute to the resolution of problems which impact on KT activity. Agree decisions in relation to problem resolution and subsequent stages of activity.

**6.1.4** With others, seek solutions and make decisions when the choices between alternatives are unclear.

## 6. Key Role: Problem Solve and Manage the Decision Making Process

### Unit: 6.1 Through the acquisition of data and information, evaluate, review and resolve problem areas impacting upon the KT function.

**NB** It is recognised that problem solving and decision-making skills are generic across a range of professional and managerial roles. Its identification in respect of the KT role serves to emphasise the importance of these skills to the effective fulfilment of the role. Problem solving and decision-making skills also underpin many other skill areas outlined in the other units.

- **What this means in practice:**

In almost all areas of KT activity there is a requirement for the exercise of problem solving and decision-making skills. This arises largely because of the broad range of one-off projects and non-standard activities with which the KT Practitioner is involved. Given the fact that much of the work is of a non-standard nature, an important skill is being able to lay out problem issues in a structured and systematic way and develop solutions and then, with others where appropriate, make decisions.

- **What you need to know and understand:**

Through a knowledge and understanding of approaches to problem solving, be able to define problem areas and then structure an approach in order to address problems and develop solutions. This requires a knowledge and understanding of both critical and creative approaches to problem resolution.

Through an understanding of organisational issues and organisational goals and objectives, know how to prioritise problems in accordance with those goals and objectives. It is also necessary to be able to discriminate between, and so respond differently to, issues which are important and those which are urgent.

Knowledge and understanding of the approach to making decisions and then ensuring decisions are communicated, particularly to those affected by the decisions.

Understand the value of involving others in the problem solving and decision making process.

- **Skills required:**

Problem solving skills - that is, being skilled in defining the problems, classifying problems, collecting the requisite information, formulating options for possible solutions.

Decision making skills - that is, being skilled in ensuring sufficient information on the problem is available, being able to clarify exactly what the decision must accomplish, to decide the right action and then to take action. To learn from the process it is then necessary to monitor outcomes in order to review the effectiveness of the decision.

Team leadership and team working skills. This recognises the value of working either with or in a team in order to ensure effective outcomes.

Co-ordinating skills - that is skills in drawing information and resources together to ensure coherence in relation to the achievement of problem solving goals.

Critical and creative thinking skills

## **7. Key Role: Provide and be a Source of Leadership**

### **Unit:**

**7.1** Be a source of strategic leadership for KT projects

### **Elements:**

**7.1.1** Advise on the direction of development of KT activities consistent with developing the commercial portfolio of the PRO in accordance with its strategy and vision.

**7.1.2** Provide advice and guidance on how specific KT activity might complement or synergise with existing activities, and on the related development of strategies and procedures designed to ensure the exploitation of the KT activity.

**7.1.3** In relation to specific projects, provide operational leadership in relation to project implementation and progression to ensure consistency with the agreed strategic boundaries of the KTO.

**7.1.4** Provide support and guidance on strategy and strategic development for projects in other areas of the PRO involved with KT activity.

## 7. Key Role: Provide and be a Source of Leadership

### Unit: 7.1 Be a source of strategic leadership for KT projects.

- **What this means in practice:**

This means that the KT Practitioner must be aware of the capacity and the capability of the PRO in order to be able to determine whether proposals for specific KT projects and activities fit with the strengths and aspirations of the PRO. It means that the KT Practitioner must be alert to proposals which would give rise to a degree of complementarity and/or synergy with existing activity.

Through a knowledge and understanding of strategic frameworks and techniques for strategy development, the KT Practitioner must be able to advise on the strategic direction of activity and so provide guidance for the PRO in relation to the development of a portfolio of KT activity. It is via the development of such a portfolio approach that the PRO is able to build up areas of expertise which can become a source of competitive advantage.

Through a knowledge and understanding of strategic frameworks and strategy development the KT Practitioner can be a source of leadership and support, and able to provide assistance to other areas of the PRO with regard to specific KT projects. This might for example involve fulfilling, either explicitly or implicitly, a mentoring role with regard to other areas of the PRO.

In the case of advisory units, this might occur as a result of fulfilling a brokering role, thereby ensuring that a client gains maximum benefit from involvement with an appropriate third party.

- **What you need to know and understand**

This means having sufficient technical knowledge and understanding in order to be aware of the research and innovative capability and capacity of the PRO, and to be aware of the likely future direction and opportunities of specific research areas with which the PRO is engaged.

It means being aware of the overall vision and strategic objectives of the PRO.

It is necessary to have knowledge and understanding of principles and current practice in relation to strategic thinking and strategic planning and management. It means being able to utilise portfolio techniques, such as the GE matrix<sup>12</sup>, in order to provide a framework for strategic decision-making.

It is necessary to have knowledge and understanding of leadership skills and the way in which to exercise such skills, in order to ensure the development of constructive relationships with other areas of the PRO.

It means knowing and understanding when to encourage others to take the lead and take responsibility for the strategic direction and development of relevant KT projects.

- **Skills required:**

Leadership skills

Influencing skills

Strategic planning skills

Mentoring skills

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<sup>12</sup> The GE Matrix is one of a number of models designed to assist with decision making in relation to strategic direction. Such models provide a basis for analysing and positioning key business areas – see F. Abell and J Hammond, *Strategic Marketing Planning Problems and Analytical Approaches* (Prentice Hall)

## **7. Key Role: Provide and be a Source of Leadership**

### **Unit:**

**7.2** For the PRO or a client organisation, be a source of leadership in relation to the commercial development and exploitation of KT projects

### **Elements:**

**7.2.1** Provide a leadership role in relation to the commercial and business development process of KT project activities.

**7.2.2** Fulfil a mentoring role, particularly in relation to providing guidance and commercial insights during the early stages of the launch and market introduction of KT project activity.

**7.2.3** Provide guidance in relation to business processes and the establishment of an organisational infra-structure which will underpin the early stages of commercial development and support the later stages of development and commercial exploitation of KT activity.

**7.2.4** Provide leadership in relation to monitoring and reviewing actual performance against planned objectives and milestones.

## 7. Key Role: Provide and be a Source of Leadership

### Unit: 7.2 For the PRO or a client organisation, be a source of leadership in relation to the commercial development and exploitation of KT projects

- **What this means in practice:**

This unit recognises the leadership and guidance role which the KT Practitioner is frequently called upon to provide in relation to the stages of getting the outcomes of KT project activity into the market place. This may mean advising on how a licensing agreement can be structured in an appropriate commercial manner and how subsequent relationships between the licensor and licensee should be managed. It may mean advising on the establishment and early development of a spin-out or start-up business, a consultancy service or a training service as well as on the later stages of development. Either implicitly or explicitly it is likely to mean fulfilling a mentoring role in supporting other KTO staff or staff from other sections of the PRO or a third party organisation.

In the case of a new business activity (such as spin-out, consultancy, training etc), it is likely to mean providing guidance and advice on the business processes which need to be in place as part of ensuring the effective and efficient operation and control of the business, particularly in relation to establishing systems for the sound financial control of an embryonic business.

Given that the early stages of commercialisation and business establishment can be a difficult and demanding period, monitoring and review can be crucial disciplines. The KT Practitioner should be prepared to provide a degree of leadership with regard to this process.

- **What you need to know and understand:**

Knowledge of how to exercise leadership and influencing skills. Be aware of how to modify leadership style specifically in situations where one may have significant responsibility but only limited authority.

Knowledge and understanding of the types of support and advice people are likely to require and how to respond in order to meet those needs.

Knowledge of business planning, together with an understanding of 'new product' development strategy and of the related operational stages and processes.

Knowledge and understanding of business systems and processes<sup>13</sup>, particularly in relation to sound financial control, and know how to access specialist help and support in relation to such systems and processes, if required.

Sufficient understanding of the relevant knowledge/technology in order to be able to provide credible support to other sections of the PRO or client organisation in relation to the stages of concept to launch/commercialisation of KT projects.

Knowledge of how a suitable framework for monitoring and reviewing progress can be put in place, together with the analytical skills to ensure the process is carried out in a rigorous manner.

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<sup>13</sup> Including manufacturing processes – if relevant to projects and activities

- **Skills required:**

Leadership skills

Influencing skills

Project management skills

Skills in relation to commercial insight

Analytical and numeracy skills

Problem solving skills

Monitoring skills

Business planning skills

## **7. Key Role: Provide and be a Source of Leadership**

### **Unit:**

- 7.3** Assess opportunities for, and encourage and facilitate the introduction of, knowledge-based solutions in client organisations.

### **Elements:**

- 7.3.1** Maintain awareness of developments and innovations in chosen knowledge areas.
- 7.3.2** Recognise areas of fit between the needs of a client organisation for the application of knowledge-based solutions and the sources of relevant expertise, and facilitate the development of a productive relationship between such organisations.
- 7.3.3** Exercise a watching brief and take appropriate action to ensure that the relationship between the knowledge provider and the recipient organisation develops in line with planned objectives.

## 7. Key Role: Provide and be a Source of Leadership

### Unit: 7.3 Assess opportunities for, and encourage and facilitate the introduction of, knowledge-based solutions into client organisations.

- **What this means in practice:**

In practice this means building and supporting collaborative relationships and partnerships.

This unit recognises the brokerage role that may form a significant element of the job role of KT Practitioners in some PROs. In such circumstances it will mean that the KT Practitioner will need to keep up to date with innovations and knowledge developments in chosen areas. It will also mean maintaining an active network of knowledge leaders and developers. Where available, it may mean accessing and keeping up to date with 'knowledge banks'. It may in fact mean encouraging and contributing to the development and use of such 'knowledge banks' or knowledge stores.

It means that the KT Practitioner must also maintain contact with a range of organisations which are technology/knowledge active and are therefore able to accommodate, and so benefit from, the introduction of technology/knowledge based solutions.

Through maintaining such networks and contacts, the KT Practitioner, acting as a broker, is able to bring together source organisations and potential host organisations, and facilitate either the development of productive relationships, and/or the introduction of knowledge based solutions, earlier than may otherwise have been the case had such an intervention not occurred.

- **What you need to know and understand:**

It means having a sufficient level of technological knowledge and understanding to be able to recognise the potential for technology that has been developed and may be operating in one setting, being applied in another.

It means having knowledge and understanding of business systems, and business and manufacturing processes, to be able to recognise the potential for 'fit' between technology/knowledge 'source' and technology/knowledge 'recipient'.

It means understanding and being able to exercise a range of leadership and interpersonal skills necessary in order to fulfil a brokering role and understand how to support the establishment of productive working relationships.

It means knowing when to make specific interventions in order to assist developments and ensure progress is made towards achieving objectives.

Knowledge and understanding of the potential of 'knowledge banks', and of the existence and/or developments of such resources, in relation to chosen knowledge areas is also important.

- **Skills required**

Networking skills

Skills in relation to business systems and commercial insights

Negotiating skills

Interpersonal skills

Reviewing skills

## 8. *Key Role: Provide Leadership at the Senior Management Level.*

### Unit:

8.1 Provide leadership for the KTO<sup>14</sup>.

### Elements:

- 8.1.1 Fulfil a leadership role in relation to the staff and work of the KTO by facilitating a strategic planning process and providing a strategic direction for the KTO consistent with the overall strategy of the PRO.
- 8.1.2 Manage the differing demands of a range of stakeholders, and provide leadership in enabling KTO staff to learn how to adjust and respond to apparent ambiguities.
- 8.1.3 Ensure that key areas of KT activity within the KTO keep abreast of the environment in which they are operating.
- 8.1.4 Ensure that networks and relationships which facilitate the effective development of KT activity are maintained in an efficient and effective manner.
- 8.1.5 Maintain a productive working environment by exercising a leadership and management style consistent with the background and experience profile of the staff of the KTO.
- 8.1.6 Working with and through teams<sup>15</sup>, ensure delivery commitments are achieved on-time and in accordance with agreed resources, and use appropriate metrics to evaluate performance.
- 8.1.7 Fulfil a mentoring role in relation to key transactional areas where experiential learning is one of the most effective methods of skills acquisition and enhancement.
- 8.1.8 Provide leadership, encouragement, and the opportunities for members of the KTO team to undertake continuing professional development in line with the strategic objectives of the KTO.

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<sup>14</sup> This is likely to be a Senior Management Role requiring the exercise of the range of skills that any senior manager would call upon. This unit attempts to give particular prominence to those that are of specific significance for a senior manager managing and leading a KTO. Access to the MSC management standards (see footnote 1, page 5) will provide details of the more generic skills and requirements of fulfilling an organisational leadership role.

<sup>15</sup> As is indicated on the following page, given the range of stakeholders that can be involved in a KT project, project teams are likely to be 'cross functional' with membership derived from more than one organisation.

## **8. Key Role: Provide Leadership at the Senior Management Level**

### **Unit: 8.1 Provide Leadership for the KTO**

- **What this means in practice:**

As was indicated in footnote 13 on the previous page, this role is a senior management role. It is the role which provides the strategic direction and ensures that this is articulated in the form of a strategic plan and on-going strategic planning system. It is a role which provides the management and motivational skills to ensure systems operate in order to 'deliver' in relation to the plan.

It recognises that the KTO, like all organisations, operates in a changing environment and that as a result the environment needs to be monitored. In response to such monitoring activity it provides the strategic management to ensure changes are tracked and that the KTO is able to flex and respond to such changes.

It also recognises that the organisation of the PRO (and frequently the KTO within it), can be characterised by a significant degree of organisational ambiguity. What this means in practice is having the flexibility and adaptability to be able to accommodate and manage the sometimes disparate requirements and expectations of a wide range of stakeholders. At an operational level this frequently means managing 'cross functional' teams in order to achieve project objectives and goals.

It recognises the need to adjust management and leadership style in relation to the staff profile of the KTO and the demands placed upon it by the PRO and the external market place. It also means that, despite the fact that the staff of the KTO are likely to be working on diverse projects involving different knowledge areas, they are still able to perform as an effective team.

The role recognises the importance of networking and relationship management to the KTO and consequently ensures the monitoring of such activity. In practice this means ensuring that appropriate and efficient systems exist in order to facilitate the effective management and development of customer/client relationship management activity and so maintain productive working relationships with partners and stakeholders.

It means managing, motivating and leading staff of the KTO to ensure the delivery of agreed commitments 'on time' and in accordance with planned resources. An aspect of this is to ensure that systems are in place to facilitate the use of appropriate metrics and agreed performance measures such that the overall performance of the KTO can be readily assessed by the senior management of the PRO.

This role recognises the fact that there are a number of key areas of KT activity for which skills can only really be effectively developed through experience and practice, i.e. negotiating commercial agreements. As a result it means that this senior role provides appropriate mentoring arrangements for KTO staff.

The breadth of project activity of many KTOs means that for many staff working in a KTO it is necessary to be able to respond to a wide range of tasks. As a result it is necessary to keep abreast of a wide range of skills and knowledge. This means that this leadership role needs to provide the opportunities and the encouragement for KTO staff to maintain an active programme of continuing professional development.

- **What you need to know and understand:**

Know and understand how to exercise an organisational leadership role and how to develop and maintain an effective team.

Know how to manage the resources of the KTO in accordance with the performance requirements of the PRO, and how to manage the KTO in relation to meeting the objectives of the PRO.

Knowledge and understanding of the ideas underpinning the concept of 'appropriate leadership' and of how such ideas might be applied.

Knowledge and understanding of strategic thinking and strategy development and the implementation of strategy via an operational plan.

Understand organisational culture and know how to establish a culture and related management style appropriate to the effective management of the KTO.

Understand how to fulfil a mentoring role.

Knowledge and understanding of managerial interactions, in order to be able to respond in a confident manner when the KTO is faced with a range of differing demands.

Know how to create a working environment which facilitates the motivation of staff and provides opportunities for fulfilling their career aspirations.

- **Skills required:**

Leadership skills

Interpersonal skills

Strategic management skills

Motivational skills

Presentational and communications skills

Team leadership and team development skills

Networking skills

Conflict resolution skills

Mentoring skills

## ***Section 3***

# ***Diagnostic Tool***

**How is it to be used?**

**Job Requirements and Individual Capability – Knowledge (example)**

**Pro-forma: Job Requirements and Individual Capability – Knowledge**

**Pro-forma: Job Requirements and Individual Capability – Skills**

**Pro-forma: CPD Needs**

## Section 3

### How is it to be used?

The system to be used for assisting with the diagnosis of continuing professional development needs is based on a standard pro-forma (copy included at the end of this section). This standard pro-forma can be used for each of the Key Roles and the corresponding units by simply inserting the specific details of the Role/Unit under-review at the top of the pro-forma. This can be used either by an individual on a purely self-assessment basis or it can be used in co-operation with a mentor and/or line manager. If it is to be used in this latter way then the person acting in this mentoring role provides another perspective on the capabilities and performance of the person whose development needs are being assessed. The net result is then an assessment based on two perspectives - one is the result of self-assessment, the other is the result of someone else's view. Adopting such an approach can often give rise to a somewhat more rounded assessment than might be the case if relying solely on self-assessment.

The following details outline the steps involved in the review process using the pro-forma documentation contained in this section:

**Step 1:** Prior to undertaking a detailed review, either on an individual basis or in conjunction with a mentor and/or line manager, the first step is to determine which of the **key roles** and **units** relate to the **job** in question and are relevant to a review of the individual's development needs within that job.

**Step 2:** Having established which of the key roles and units are relevant, it is then a case of assessing the specific **job requirements** in relation to each of the specific **units** under review. This is done by assessing, on the basis of a scale from 'Very Strong' to 'Low', the significance of each of the specific units and related elements in fulfilling the requirements of the job.

**As emphasised in Section 1, it is very important to recognise within steps 1 and 2 that a specific job may not include all of the key roles and units and therefore assessments may not be appropriate for all units.**

**Step 3:** Using exactly the same approach, the individual can then assess their own strengths and weaknesses using the same scale in order to determine their **individual capability** in relation to the specific requirements of the **units** and associated elements.

**As also emphasised in Section 1, it is extremely unlikely that any one individual will be competent in all the 'elements' outlined in these standards.** For any one individual their particular strengths and weaknesses at any one specific point in time are more likely to be a reflection of what aspects of the job role are important within the context of the specific department within which the individual works.

If completing the pro-forma in a mentoring or line management capacity then the details represent the assessment by the mentor/line manager of the performance of the individual and their capability in relation to the requirements of each of the units.

Comparing 'job requirements' and 'individual capability' should help to identify any gaps between the needs and requirements of the job role and an individual's capability.

- NB** Preceding the assessment pro-forma for the individual roles/units, there are two pro-formas (plus a completed example) that provide a basis for summarising the information presented on the individual unit sheets. These two sheets provide a basis for collecting the knowledge and skills levels required for the role of KT Practitioner in a particular PRO compared with the individual's capability in each of the areas under review. The presentation of the data from the individual assessment sheets in this way should provide a useful overview to help highlight CPD needs.
- The completed example sheet has been provided to indicate how this information might be presented. Its presentation in this format should help to highlight gaps that might exist in terms of the requirements of the job and the capabilities of an individual.
- Step 4:** Having highlighted the level and nature of the gap, by reference to the information contained in the elements and the supporting notes on each unit, it should be possible to articulate in more detail an assessment of an individual's capability in relation to a specific unit. The results of this process can then be recorded in section 2 headed **'General Assessment of 'Capability' with regard to this Unit'**.
- Step 5:** On the basis of this general assessment it should now be possible to identify specific development needs (in section 3). These requirements should be expressed in terms of 'knowledge' requirements and 'skills' requirements. Reference to the detail of the documentation, specifically the details of the elements, the supporting notes for each unit that are headed *'What you need to know and understand'* and *'Skills required'*, and the skills matrix should help.
- Step 6:** The final section (section 4) provides for the recording of a programme of action designed to address individual development needs. The outline programme could take the form of a range of development approaches from formal courses to self-directed development activity.

Once the objectives of this action plan have been achieved and development has taken place then the information can then serve as a record of an individual's CPD achievements. This information and record might then form the basis of an individual's portfolio of development achievements.

## Job Requirements and Individual Capability - Knowledge (example)

	Job Requirements	Individual Capability			
		VERY STRONG	STRONG	MEDIUM	LOW
<b>1. Manage Information and Communication</b>					
1.1	Obtain, evaluate, organise and store information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Exchange information to assist decision making and problem solving.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Organise/synthesise information in a coherent manner & communicate it using appropriate media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>2. Manage Relationships</b>					
2.1	Create and maintain relationships with the staff of other sections of the PRO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Develop, manage and maintain formal relationships with people and organisations outside of the PRO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Assist in managing relationships between PRO staff and external organisations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>3. Manage Projects</b>					
3.1	Either as a member of a team or a team leader, manage a range of projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>4. Manage the Commercial Interface</b>					
4.1	Recognise opportunities for marketing the capabilities of the resource base of the PRO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Develop and manage business opportunities through to successful outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	Assist in promoting and marketing the PRO and the KT function.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>5. Manage Operations within a Legal Context</b>					
5.1	Understand the basis of IP and contribute to the management of the exploitation of IP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Understanding key areas of the law and how they impact upon operational activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>6. Problem Solve and Manage the Decision Making Process</b>					
6.1	Evaluate, review and resolve problem areas impacting upon the KT function	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>7. Provide and be a Source of Leadership</b>					
7.1	Be a source of strategic leadership for KT projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	For the PRO/client, be a source of leadership for commercial dev't/exploitation of KT projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3	Assess opportunities for, and encourage/facilitate knowledge based solutions in client organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>8. Provide Leadership at the Senior Management Level</b>					
8.1	Provide leadership for the KTO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Pro-forma: Job Requirements and Individual Capability - Knowledge

	VERY STRONG	STRONG	MEDIUM	LOW
<b>1. Manage Information and Communication</b>				
1.1 Obtain, evaluate, organise and store information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2 Exchange information to assist decision making and problem solving.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3 Organise/synthesise information in a coherent manner & communicate it using appropriate media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>2. Manage Relationships</b>				
2.1 Create and maintain relationships with the staff of other sections of the PRO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2 Develop, manage and maintain formal relationships with people and organisations outside of the PRO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3 Assist in managing relationships between PRO staff and external organisations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>3. Manage Projects</b>				
3.1 Either as a member of a team or a team leader, manage a range of projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>4. Manage the Commercial Interface</b>				
4.1 Recognise opportunities for marketing the capabilities of the resource base of the PRO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2 Develop and manage business opportunities through to successful outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3 Assist in promoting and marketing the PRO and the KT function.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>5. Manage Operations within a Legal Context</b>				
5.1 Understand the basis of IP and contribute to the management of the exploitation of IP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2 Understanding key areas of the law and how they impact upon operational activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>6. Problem Solve and Manage the Decision Making Process</b>				
6.1 Evaluate, review and resolve problem areas impacting upon the KT function	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>7. Provide and be a Source of Leadership</b>				
7.1 Be a source of strategic leadership for KT projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2 For the PRO/client, be a source of leadership for commercial dev't/exploitation of KT projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3 Assess opportunities for, and encourage/facilitate knowledge based solutions in client organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>8. Provide Leadership at the Senior Management Level</b>				
8.1 Provide leadership for the KTO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Pro-forma: Job Requirements and Individual Capability - Skills**

	VERY STRONG	STRONG	MEDIUM	LOW
<b>1. Manage Information and Communication</b>				
1.1 Obtain, evaluate, organise and store information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2 Exchange information to assist decision making and problem solving.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3 Organise/synthesise information in a coherent manner & communicate it using appropriate media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>2. Manage Relationships</b>				
2.1 Create and maintain relationships with the staff of other sections of the PRO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2 Develop, manage and maintain formal relationships with people and organisations outside of the PRO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3 Assist in managing relationships between PRO staff and external organisations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>3. Manage Projects</b>				
3.1 Either as a member of a team or a team leader, manage a range of projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>4. Manage the Commercial Interface</b>				
4.1 Recognise opportunities for marketing the capabilities of the resource base of the PRO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2 Develop and manage business opportunities through to successful outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3 Assist in promoting and marketing the PRO and the KT function.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>5. Manage Operations within a Legal Context</b>				
5.1 Understand the basis of IP and contribute to the management of the exploitation of IP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2 Understanding key areas of the law and how they impact upon operational activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>6. Problem Solve and Manage the Decision Making Process</b>				
6.1 Evaluate, review and resolve problem areas impacting upon the KT function	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>7. Provide and be a Source of Leadership</b>				
7.1 Be a source of strategic leadership for KT projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2 For the PRO/client, be a source of leadership for commercial dev't/exploitation of KT projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3 Assess opportunities for, and encourage/facilitate knowledge based solutions in client organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>8. Provide Leadership at the Senior Management Level</b>				
8.1 Provide leadership for the KTO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Pro-forma: CPD Needs

**Key Role (No...)(Details.....)**

**Unit (No.....) (Details.....)**

<b>1.</b>		<i>Very Strong</i>		<i>Strong</i>		<i>Medium</i>		<i>Low</i>	
		Knowledge	Skills	Knowledge	Skills	Knowledge	Skills	Knowledge	Skills
	Job Requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Individual Capability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**General assessment of ‘capability’ with regard to this unit**

**2.**

**Identification of development needs**

**3.**

*Skills:*

*Knowledge:*

**Possible strategies for fulfilling the development needs:**

**4.**

*Skills and Knowledge Development: Outline of Programme of Action*

*Time Period:* \_\_\_\_\_ *Date Completed:* \_\_\_\_\_

Agreement:.....

## Acknowledgements

The first edition of this Framework<sup>16</sup>, published in 2000 & 2001, was developed in the UK on behalf of AURIL (Association for University Research and Industry Links) with the support of HESDA (Higher Education Staff Development Association) in its role as the National Training Organisation for the UK Higher Education Sector, and with funding from the Government's Department for Education and Employment (National Training Organisation Division). Through its support HESDA was endorsing AURIL's approach to the professional development of its members and to the promotion of a trained workforce in this increasingly important area of professional practice within higher education institutions.

The original source material for the first edition was the result of a research exercise which was carried out during 1999 and which identified the key skills and knowledge required by KT Practitioners (or 'Industrial Liaison Officers' as they were then often known) in fulfilling their role within a Higher Education Institution. The research was published by HESDA in July 1999<sup>17</sup>. The Framework extended from that original research base and identified the key roles and tasks of the KT function.

The project team for the research exercise and the first edition of the Framework was:

Martin Haywood	University of Sunderland & Chair of AURIL (1999-2000)
Sheila Robson	Executive Secretary of AURIL
Professor Gus Pennington	Chief Executive of HESDA.
Professor Barry Warrington	Project Consultant, Director of People First.

The second edition of the Framework was also supported by Proton Europe and in addition benefited from the work of the CuPiD project in the North East of England – both with the continuing leadership and support of AURIL.

The CuPiD project (CPD for University-Industry links staff) was a 3-year pilot project that started in 2001 and was part-funded by the Higher Education Funding Council for England (HEFCE) through its Good Management Practice Fund. The project was managed by the University of Sunderland on behalf of Universities for the North East, a regional university association that also includes the universities of Durham, Newcastle, Northumbria, Teesside and The Open University in the North. In particular, the members of the CuPiD management team at the time were:

Martin Haywood	University of Sunderland (Project Director)
Liz Burdess	University of Sunderland (Project Manager)
Val Wooff	University of Durham
Garth Rhodes	Northumbria University
Tammy Long	University of Teesside
Judith Taylor	Universities for the North East / University of Newcastle
Bob Hogg	The Open University in the North

The CuPiD project used the Framework as the basis of its CPD/training delivery model, and developed an electronic version of the diagnostic tool (see section 3) that also supports a portfolio development approach with evidence collection.

ProTon Europe is a thematic network of Public Research Organisation (PRO) Transfer Offices (TOs). Starting in late 2002, its development is supported by the European Commission's Gate to Growth Initiative and funded under the Fifth Framework Programme of the European Union. In particular, Work Package 10 (WP10) of ProTon Europe, which is concerned with CPD and Training, reviewed the first edition of the Framework in the light of experiences in the different countries and of results from the ProTon pilot survey and endorsed the application of the Framework to the KT Practitioner community developing within ProTon Europe. The members of working group supporting WP10 at the time of the review for the second edition were:

<sup>16</sup> Continuing Professional Development Framework for Staff Engaged in University Industry Links. A project funded by the Department for Education and Employment (National Training Organisation Division) in conjunction with THETO (now HESDA) on behalf of AURIL (2000, 2001).

<sup>17</sup> A Survey of the Continuing Professional Development (CPD) needs of Industrial Liaison Officers in Higher Education. A project supported by UCoS/THETO (now HESDA) and funded by the Department for Education and Employment (National Training Organisation Division) (1999).

Martin Haywood	University of Sunderland (WP10 Joint Leader) (UK)
Eileen Clucas	University of Essex (WP10 Joint Leader) (UK)
Petr Holec	Brno Institute of Technology (CZ)
Oscar Lopez Lorente	University of Zaragoza (E)
Colette Henry	Dundalk Institute of Technology (IRL)
Jonathan Griffiths	Queen Mary College, University of London (UK)

The use of the Framework within these various communities (AURIL, CuPiD, ProTon Europe) and others has identified the potential for further development and clarification of the roles, units and elements within the Framework. In particular, a key component of AURIL's national KT training project, funded by the UK Department for Trade and Industry Office for Science and Technology, was a formal review of the Framework to take account of the needs of KT practitioners in sectors outside of higher education, as well as developments and feedback over the previous 3-5 years.

As a result, in September 2005, a research and revision exercise was commissioned by AURIL with the requirement that in undertaking such a revision an assessment should be made of the skills and competencies utilised by people involved with KT activity regardless of organisational context. The research was also supported and partially funded by the UK Department for Trade and Industry's Innovation Unit. The project team for this exercise was:

Professor Barry Warrington	Project Consultant, Director of People First
Martin Haywood	University of Sunderland & Director of AURIL CPD
Liz Burdess	AURIL CPD National Programme Manager

A further research exercise, commissioned by ProTon Europe in April 2006, reviewed the Framework in the context of the CPD needs of KT Practitioners across Europe, focussing particularly on those in Spain, Germany and Finland. This exercise demonstrated that there does not appear to be any significant differences in terms of the competences and skills required by KT Practitioners across Europe. The project team for this exercise was:

Professor Barry Warrington	Project Consultant, Director of People First
Martin Haywood	University of Sunderland & Joint Leader WP10, ProTon Europe
Gilles Capart	Chairman of the Board, ProTon Europe

This third edition of the Framework therefore takes account of the results from both of these research exercises. Although further research and working experience may be required, it is hoped that this latest version of the Framework can serve as a basis for adoption as definitive professional standards for KT across Europe. However, formal structures and processes need to exist at national and European levels to provide authoritative approval and adoption of these proposed 'standards', and any subsequent changes, on behalf of the KT Practitioner communities at these levels. The foundations for these formal arrangements already exist (eg AURIL in the UK, Red OTRI in Spain, and ProTon Europe at the European level), and it is hoped that further developments in the near future (eg the Institute of Knowledge Transfer in the UK) will provide the necessary infrastructure to support the management of professional standards for KT Practitioners across Europe.

Finally, I would like to thank all those who have supported this work over the last seven years, have provided comments and feedback, and/or have participated in any way in the above processes and surveys.

Any further comments or feedback on this Framework and its contents are welcome and should be sent to:

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AURIL ([www.auril.org.uk](http://www.auril.org.uk)) or

ProTon Europe ([www.protoneurope.org](http://www.protoneurope.org))