

International Technology Service



Learning from the world's best

An overview of overseas technology

dti

Department of Trade and Industry

Learning from the world's best



Further information is available from the International Technology Service:

Hotline: 0171 215 3884

Fax: 0171 215 3934

Website: www.dti.gov.uk/mbp/its/its.htm



As the world becomes a smaller place, the opportunities for enterprising companies only get bigger.

But competing internationally often requires access to world-class technologies – some of which are available from sources in the UK. However, the most competitive firms sometimes need to look further afield for new technologies for their products, processes and services.

This guide is for those companies that may be considering overseas technology sources. It is a guide to help you make a step by using UK sources of advice to signpost international networks.

Use it as a starter-pack to help you decide how to tap into new technologies.

Happy hunting.





Your approach

UK Company

Define your objectives

- What do you want to achieve
- What technology and business processes do you need to succeed?

Take advice

- Business Links
- Trade associations
- DTI

Can you get the technology from the UK?

- See *UK Networks* appendix at the back of this booklet
- Use suggested first points of contact to get further into networks

Choose the best way to get the technology

- Ways to obtain the technology
 - existing published material
 - original research
 - secondment
 - training
 - purchasing
 - licensing
 - strategic partnership
- Look overseas for the technology
 - UK networks will have contacts overseas
 - Make direct approach where appropriate using selected first points of contact
- Assess what you have to offer in return

Manage the transfer

- Ensure intellectual property is secure
- Devote sufficient time
- Keep records
- Ensure good communications
- Use training to maximise benefit
- Monitor position
- Evaluate results

How this guide can help you

Some of the most consistently, sometimes spectacularly, successful companies in the world are those that have taken an idea or a technology or a process that works somewhere else – and made it their own.

The best-known examples are many of the Japanese technology and automotive giants, and copy-cat competitors from other countries in East Asia, while the ideas of American quality guru Deming are credited with laying the foundations of Japanese post-war success. But UK companies are also benefiting from ideas and technologies tried and tested first elsewhere.

- Through collaborative research with a variety of European partners, a British electronics manufacturer has been able to enter new product markets and gain a financial return of up to 10 to 1 on its investment.
- By acquiring the latest production IT technology from a global supplier, a British cycle manufacturer has become one of the most profitable manufacturers in its market.
- A strategic partnership with a Belgian company has enabled a production line manufacturer in Redditch to expand its product range for the automotive industry with sales of £1.5 million to date.
- For a specialist in materials testing, new technology from Australia has enabled direct sales of more than £1/2 million.

It's a common grumble that great home-grown ideas are ignored here, only to be taken up in another country. This is your opportunity to make it a two-way process.

Of course there's no point in scouring the globe for an idea that may be on your doorstep – the starting point will normally be to look in the UK. But increasingly technology does not recognise national boundaries and it can be as easy for you to search for the product you want in the USA as here in the UK.

This overview has been written to explain the four key stages to successfully transferring technology or best practice into your business. Follow these, and you take a lot of the risk out of the process:

Stage 1

Define your objectives (page 8)

What are your aims, and what technology do you need to achieve them? (Skills, people, knowledge etc)

Stage 2

Find out where to look (page 10)

The range of potential sources is huge and you'll need help in narrowing it down. It might be a research institute or a university, or it could be a company, not necessarily in your own field. Either way, the answers may lie in the UK, or anywhere in the world.

Stage 3

Choose the best way to obtain the technology (page 24)

Again, there's a wide range of options, from using existing published material, contract research, secondment / training, licensing or a strategic or commercial partnership. Each has its own risks and returns.

Stage 4

Manage the transfer (page 29)

To make the most of the transfer, you will need to manage it carefully. Negotiate the best transfer arrangements you can, while making sure your own intellectual and other property is protected.

This process should of course be a continuing one.

For some initial contacts in the UK, please refer to the *UK Networks* listing at the back of this guide.

What to look for?

Technology

This could mean intellectual property or materials, machines, plant and equipment, components, intermediate and end-products, or it could mean better processes.

Markets are changing fast

Most markets are unrecognisable even compared with a few years ago. They've become more global, more responsive to increasingly high customer expectations, driven by powerful information and communication technologies.

To be successful in a changing market, companies have to force the pace of change themselves. They need to embrace new ideas and see change as a positive opportunity, not a threat.

Developments in communications and information technology offer new ways of doing business, managing a company and responding faster to changing markets. What was yesterday's state-of-the art will be obsolete tomorrow.

But by keeping up with developments in new technology and the best business practice, you can change the way you do things and keep ahead of the competition at the same time. It will help you to:

- **meet your customer needs and rising expectations**

Customers now expect far more – better products, better service and better value for money based on the most competitive technology.

- **compete**

Few markets are immune from rising levels of competition and the pressures these bring on price. New technology lets you cut the cost of production and/or increase the margins. But beware of making expensive mistakes which others can capitalise on.

- **introduce new products and services faster**

Companies which are first to introduce a new product or service have a big head start which they can use to build up a commanding market share.

- **become an international player**

The market place is now a completely global one. International competitors may be taking the lead in terms of technology or business process – and your UK competitors may well be tapping into the wealth of expertise overseas.

“We were increasingly losing out to competitors who were using better production management systems.”

Peter Sweetman
Falcon Cycles

More and more firms in the UK are catching on to the fact that to compete in today's markets they need to have a global outlook. Businesses in all sectors – from chemicals to retailing, financial services to automotives – are grasping the opportunities offered by working with partners from other countries.

Case Study **Falcon Cycles**

Employees 185
Turnover £20 million

In the early 1990s, Falcon Cycles invested in a new IT system to control production. "It transformed us from a loss maker into one of the most profitable companies in our market," says Peter Sweetman, finance director.

The decision was based on a careful evaluation of the company's business needs and market, and involved employing consultants to review how the company managed its supply chain. The evaluation showed that to become more competitive, Falcon needed to take all its final assembly activities in-house. This would allow closer control and enable the company to offer shorter lead times.

However it was apparent that to achieve this, the management information systems would need to be improved. "After careful consideration, we decided to go to a US supplier, with operations in the UK. One advantage of this was that it gave us access to the latest production management technology available world-wide. The results have more than justified the decision."

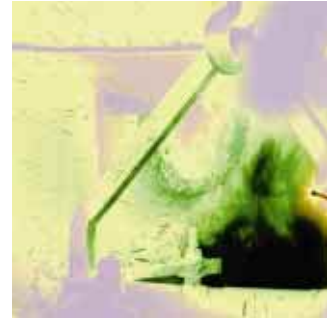
"Our market is increasingly international and to succeed you need to know what the latest developments are."

Dr Errol Harvey
Exitech Ltd



STAGE 1

What do you want to achieve ?



Successful companies don't just respond to changes in their market, they predict them, anticipate them, developing their products and services accordingly. Before you launch yourself upon the international stage, sit down and take a long hard look at your company – what are your strengths, your weaknesses? How effectively are you going to be able to meet future market demands? Time and effort spent at this stage will pay off in helping you find the right approach more effectively and more quickly.

Assess your market

Customers, suppliers, internal brainstorming and market reports are all good sources of market intelligence. Ask yourself:

- How have my customers' needs changed? What will they expect in future from my product?
- Am I going to have to up the specification, improve the quality and reduce the price of my products and services – and if so, to what extent?
- Are my customers considering using new overseas suppliers?
- What new technological developments can be expected from other countries?
- What international standards or regulations are likely to come into force – and how will these change the market?
- Are my competitors doing things now which they weren't 12 months ago?
- What are our own technological strengths and weaknesses?
- Have my competitors introduced new management practices?

Take outside advice

For an objective view of your current position, you could consider bringing in independent external expertise. Business Links, trade associations, consultants and many others can all offer this service (*see page 10*).

Reports from the Foresight Programme too can be a good source of information and insight into your market and what the future might hold.

The Foresight programme aims to improve the competitiveness of the UK economy, and enhance the quality of life, by bringing together business, the

science base and Government to identify and respond to emerging opportunities in markets and technologies.

Foresight is about preparing for the future. It is about deploying resources in the best way possible – for competitive advantage, for enhanced quality of life and for sustainable development.

The programme is currently spearheaded by sixteen independent panels, each representing an important sector of the UK economy. The panels comprise representatives from business, the science base and government.

Following widespread consultation involving some 10,000 people, the panels published their first reports in 1995. These reports aimed to identify:

- the likely social, economic and market trends that will effect the UK in the medium to long term; and
- the developments required in science, engineering and technology to best address future needs.

Panels continue to develop and update their findings.

The Foresight panels are: Agriculture, Horticulture & Forestry; Chemicals; Construction; Defence & Aerospace; Energy; Financial Services; Food & Drink; Health & Life Sciences; IT, Electronics & Communications; Leisure & Learning; Manufacturing, Production & Business Processes; Marine; Materials; Natural Resources & Environment; Retail & Distribution; and Transport.

The original panel reports are available from HMSO. For details of these and other Foresight publications, please see the Foresight website: www.foresight.gov.uk or contact the Foresight directorate on fax number 0171 271 2015 for a full publications list.

Identify your needs

After your assessment, it is likely you will be in a position to decide one or more specific business objectives that might be fulfilled by applying a new or improved technology. These objectives could relate to any aspect of your operations.

By firmly identifying your business needs, you can decide whether technology will help meet them, and if so, which ones you should look at.

Identify the technology

Whatever the priorities, it is important to grow your business in a way that realistically reflects your existing capabilities and potential. A common mistake is to overspecify the technology you think you want. This will not only cost more than it need do, but also carry a greater degree of risk as to whether the technology will successfully deliver the improvements you are hoping for.

STAGE 2

Where should you look?



“Develop networks of personal contacts. Often these prove to be the best sources of information in a specific market.”

Julian Burke
Genpak Ltd

Having worked out what you want, the next step is to find it

Initially this might seem a daunting, almost impossible task. In fact, there is a lot you can do to narrow down your search to those areas that will pay dividends. There are numerous people you can turn to for help and advice. And there is a wealth of information available on specific countries or business areas.

PEOPLE WHO CAN HELP

It now depends on how well-defined your aims are. You may be totally sure of the way ahead but unsure of the route, or else completely lost and wondering if there's any help out there for you.

Either way, there are plenty of sources of help available to you.

Get networking

The most successful firms in adopting new ideas often underline the importance of networking. More often than not, this effort is led by the managing director or a senior manager(s).

You will find contact details of some of the different organisations that provide help across all industries in the *UK Networks* listing at the back of this guide.

Government departments

In the UK, the *Department of Trade and Industry* provides a range of services to help you identify and adopt technology. Overseas governments also have departments which help UK businesses interested in developing links with companies or institutions in their countries.

DTI – a package of services to help your business

■ International Technology Service

A range of services to help UK companies identify and adopt technology or best business practice. They include:

- *Global Information on Science and Technology (GIST)*, a regular update on reports of technological developments in other countries
- *Missions*, arranging visits by groups of UK firms
- *International Technology Promoters (ITPs)*, helping businesses identify and adopt overseas technology, specifically in Japan, the USA, Germany and France
- *Secondments*, providing secondments into foreign businesses for managers and technical staff

■ Overseas Trade Services

Aimed mainly at exporters but useful for any UK company looking to adopt technology or business practices from other countries. They include: *Country Desks* – they can help companies research opportunities in some 200 selected markets; *Export Market Information Centre (EMIC)* – a library and research resource; *Export Market Information Research Service* – offers access to EMIC without having to travel to London; *Programme Arranging Service* – this service helps set up meetings with overseas organisations; *Technical Help to Exporters* – part of the British Standards Institution, advising on national laws, technical standards and certification processes; *Languages in Export Advisory Scheme* – grants and advice for staff language training.

■ Sector Directorates

Organised on an industry basis, these can often offer advice and support on technology and best practice issues to small and medium sized UK businesses. Their sector focus makes them an ideal point of contact for firms in a particular industry.

There is a range of European initiatives which support the transfer of technology and best practice. Many provide help for collaborative research and development projects. The DTI, Business Innovation Centres, Regional Technology Centres and the Innovation Relay Centres can provide more detailed information on the support available.

“Personal contacts are often the best way of finding suitable partners. To this end, participation in networking activities has often paid off.”

Dr Harold Hayward
Cirrus Ltd





Agencies

Within England, business support, including delivery of many of the DTT's Overseas Trade Services, is mainly provided through the network of Business Links. The Business Links work in partnership with Training and Enterprise Councils (TECs), Chambers of Commerce, Local Authorities and others.

In Scotland, technology business support services are offered chiefly by Scottish Enterprise, Scottish Trade International and the network of Local Enterprise Companies and Business Shops. Each LEC provides assistance tailored to the needs of companies in its area.

In Wales, the Welsh Development Agency, Business Connect and the Training and Enterprise Councils provide support in the adoption of new technology and business practices.

In Northern Ireland, the Innovation Research and Technology Unit (IRTU) also offers services related to the take-up of new technology and business practices.

Customers and suppliers

Supply chains – the relationships between a company, its customers and its suppliers – hold a great deal of potential for the transfer of technology and best practice. Many Japanese (and other countries) companies based in the UK have worked with their suppliers to improve the quality and availability of products and services. Similarly, suppliers can sometimes guide you through providing advanced products or advice on business practices.

Both suppliers and customers may be appropriate partners to enter into joint research projects with you, for example to:

- prototype a specific product;
- generate solutions to a manufacturing management problem; or
- develop long-term technological capabilities such as customer service software.

Trade associations

Don't forget that trade associations can provide signposting and advisory services to companies in their sector for technology and best practice development. Many of these services are free to members, although non-members may have to pay.

In Germany and Japan, trade associations often play a direct role in helping their members improve their technological and best practice capabilities. Some of these services could be available to UK firms on a contract basis.

Consultants

There is a range of consultants able to help with the technology and best practice transfer process. These include consultants offering:

- technology broking or matching services;
- contract research capabilities;
- management development and training;
- consultancy services – for example, supply chain management or marketing strategy.

Consultants will usually meet with a firm to discuss its needs before charging any fees. Ask them for a proposal that sets out how they can specifically meet the needs you've defined. Project costs will either be on a fixed price basis or in terms of time used. The total cost of using consultants will obviously depend on the scale and complexity of the work and the type of consultant used.

Competitors

Working with companies in the same market can be attractive. It can build on complementary strengths, especially if this is to address a market neither has penetrated before or to attack the position of a common competitor.

Licensers

Licences are available from a variety of sources, including companies, consultants, research organisations and universities. Most large companies have technologies which are not core to their business and which they are looking to exploit through licences to other parties. IBM, for example, retains a permanent consultant to identify partners who might make use of its large stock of patents and underused technology. Licences can also be found for some specialised business practices, such as project methodologies.

Universities and Business Schools

Universities and business schools are a great source of help for both technology and best practice. The latter includes latest thinking on marketing strategy, risk management and rapid prototyping. The UK has a number of leading departments across a range of subjects. Most are open to working with businesses, either directly or through companies established specifically to manage commercial contractual relationships. You can get in contact through the Association of Universities Research and Industrial Liaison Offices (AURIL).





Case Study **Exitech Ltd**

Employees 36
Turnover £4 million

Exitech Design Equipment carry out 'micromachining' using excimer lasers. The company was founded in the early 1980s as a spin-out from the Rutherford Appleton laboratories. "Our market is international and extremely specialised – we have very few direct competitors," explains Dr Errol Harvey, managing director. Exitech has now formed strategic alliances with the German firms Lambda Physic (the main supplier of lasers in Europe) and Microlas, which also offers laser services. Dr Harvey believes managers should cultivate personal contacts: "Many of the links with these suppliers were formed by our directors when at Rutherford and are now handled at a high level by a core of four people," he says.

Dr Harvey identified the following key ways of accessing technology from overseas:

- Trade exhibitions
- Professional institutes – Seminars run by Institution of Electrical Engineers and the Institute of Physics have gained them exposure.
- International conferences have increased their technical exposure.
- Business Links – Oxfordshire Business Link organised local meetings which turned out to be a very good way of meeting other small, high-tech suppliers from the Oxfordshire area.

UK professional bodies

Most of these organisations look after the professional development of their members and can provide access to training and other development activities (such as conferences and seminars). These events can also be a useful way of networking and of gaining exposure for your company. Services are sometimes provided to non-members.

Research and technology organisations (RTOs)

There is a wide range of independent RTOs in the UK which provide consultancy, research and information services to businesses either in a specific industrial sector (for example, PIRA International in the paper and publishing industry) or across a range of sectors (such as TWI for joining technologies). Some of these bodies require firms to become members in order to access services and most charge for any help they provide. RTOs are usually able to draw on international expertise to address problems faced by clients. The Association of Independent Research and Technology Organisations represents most RTOs in the UK and can suggest which one(s) to approach for your particular needs.

Independent research organisations in other countries will also work on a paid basis with UK firms. Some of these are leaders in particular technologies able to provide leading-edge research as well as well-proven technical solutions. Interested UK firms can make contact directly.

Conferences and exhibitions

Attending such events are an excellent means of networking and keeping abreast of latest developments. If you can't attend, benefit can still be gained through requesting lists of attendees or papers submitted.

COUNTRIES WHO CAN HELP

The countries of most relevance to your business will depend on the industry sector(s) in which you operate, and also your objectives in seeking technology or best business practice.

The UK has great strengths...

The UK has an excellent record in basic research and development and leads the world in certain technologies. So for most of your technological or business practice needs, your starting point should be sources in this country. It is also a good base to source overseas technology because a wealth of information is available in the UK. In addition:

- there are no language or cultural barriers to contend with;
- travel costs are lower;
- the risks are likely to be lower as you will be more familiar with business law and general commercial practices.

...but so do others

A massive 95% of global research and development expenditure is spent outside of the UK.

Who are the other leading nations?

The following countries are good sources of many new technologies and best business practices but they are by no means the only ones. There are many other 'hot spots' of innovation and technological expertise; we've concentrated on the top research and development spenders: USA, Japan, Germany, France, Canada, Italy, Korea, Australia.

R&D expenditure

	Total R&D (\$ millions)	Business R&D as a % of total R&D
USA	168,967	71%
Japan	123,284	66%
Germany	48,404	66%
France	31,628	61%
UK	20,649	66%
Italy	12,366	58%
Canada	7,966	55%
Korea	7,666	83%
Australia	4,680	44%

Source: The World Competitiveness Yearbook (1996 – data for 1994).



As a general indication of who's investing in new technologies, these R&D figures help identify the countries that may be a good place to start in your search for new ideas. While the UK features prominently, the overall expenditure on R&D by these countries – as a percentage of GDP – is higher than the UK.

Understand your target countries

If particular countries seem relevant to your needs, you will need to devote time and resources to:

- Learning the business culture.
- Identifying potential partners. This should include developing suitable 'gateways' to help your networking. These will be organisations who can point you at providers of technology transfer or best practice and make the introductions.

Many companies find *North America* the easiest part of the world to start working in, especially if they have only limited language capabilities. Companies and institutions in the US and Canada are generally very open to being directly approached by potential partners.

European countries, as well as being closer to home, benefit from the fact that the EU has gone to great lengths to establish networks and programmes to help European companies share technology and best practice for mutual benefit.

Differing cultures can act as a barrier and every effort should be made to communicate – at least at the outset of a relationship – in the appropriate language. The technical strength of firms in Germany, France and Italy means that an ambitious UK business cannot afford to ignore what they have to offer.

Despite its distance and the relatively small size of its economy, *Australia* has some excellent technological capabilities. Its companies and research organisations share the extremely open business culture to be found in North America. Improved telecommunications and the Internet enable business to be transacted without having to travel to the other side of the world.

Japan and Korea present a greater challenge when trying to adopt technology and best practice (unless it is through their UK operations). The cultures there rely heavily on long-established relationships and the use of introductions and referrals. A first point of contact if you have not operated in these countries before should almost certainly be some form of intermediary, usually the British Embassy or The British Council. In the long-run, though, these countries present UK businesses with some of the most exciting opportunities for acquiring leading technology or business practices.

Case Study **Instron Ltd**

Employees 390
Turnover £75 million

As the UK arm of a multi-national company making materials testing equipment, Instron already benefits from overseas technology and ideas. Though each national site concentrates on its own specialisation, the company is looking strategically at how technology can be acquired and shared across the whole group. One solution has been the creation of a new grade – principal engineer. This will provide technical staff with a variety of career paths throughout the group, encouraging knowledge to be shared.

Technological capabilities have also been acquired more directly from external sources. By licensing video technology from a company in Australia for example, Instron has generated new equipment sales of over £½ million.



Tips on each country



Here is a brief overview of the business culture you can expect in each of the main countries, and some useful contacts. Refer also to the DTT's *Hints to Exporters*, available from the relevant Country desk. One overriding 'tip' is not to underestimate the importance of speaking the local language or using a translator. Equally, make sure any publicity material is printed in the local language.

USA

- The private sector in the US is very strong and drives much of the research and best practice agenda. There is a strong focus on generating revenues from new developments and, while much leading technology is available, it is likely to be at a price. But US firms are also very interested in partnership arrangements and will often value highly such things as access to EU markets.
- Considerable funding is provided at State level for collaborative research and development programmes, many of which are focused on technologies in a specific sector. However, as with federally funded research, participation in programmes or access to research results may be restricted to companies with a presence in the US.
- Businesses make intensive use of the Internet. This provides access to information on most companies and research organisations and is often the best way of making initial contact. Indeed, companies will expect you to have researched them through this medium. Also use e-mail to overcome the five to eight hour time difference.
- 'Pockets' of sector-specific technology are prevalent across the country. For example, Silicon Valley near San Francisco has become a centre for development of information technologies. Given the size of the US, these pockets should be the starting point for any networking activities.
- Although becoming more globally aware, many US businesses remain domestically focused and overseas contacts need to demonstrate what they have to offer US partners.
- The DTT's International Technology Promoters are able to provide tailored assistance to UK firms looking to the USA for leading technologies or best practices.
- Extensive technology transfer networks exist, for example the Association of University Technology Managers. In addition, a number of universities, such as the University of California, are co-ordinating the marketing of their technological developments with other leading research institutions.
- An emphasis on legal issues and legal protection means that litigation in the US is widespread, and businesses can be wary of taking risks. It is vital to take good advice early on in negotiations. However, business deals can move rapidly to a conclusion, especially where a good personal relationship has developed.

Canada

- Canada is very informal in its day to day operations.
- Canada's business environment now revolves around the information superhighway, with a whole host of services available. Where a web site is quoted, take the time to browse the sites of interest before calling the contact up. This will certainly save a lot of time as questions such as "What is available?" will have already been answered.
- The trend within R&D policy in Canada is to launch programs with public (federal or provincial) funding and for them to become self-sufficient within a few years through industry participation.
- Canada is very keen to develop links with the UK – many of the cultural and language issues that could be a barrier in other countries do not exist here.
- If you are looking to create links with Canadian SMEs in your sector, why not contact either IRAP (Industrial Research Assistance Program) or the CTN (Canadian Technology Network) who are keen to develop such links.

Case Study **Cirrus Ltd**

Employees 110
Turnover £8 million

Cirrus makes production lines for the automotive industry. By adopting the best available technologies, the company has positioned itself at the high value-added end of the market. "This reduces the number of world-wide competitors able to offer a similar product," explains Dr Harold Hayward, the company's chairman. "At the same time, it increases our profit margins."

Cirrus works hard to source technology from outside, with activities including regular literature searches through the Institution of Electrical Engineers, joint research contracts with a number of UK universities, and government sponsored visits abroad.

But according to Dr Hayward, the most fruitful source is through personal contacts and networking. **From a contact initially made by Cirrus' sales engineers, the company has developed a strategic partnership with a Belgian manufacturer, resulting in over £1.5 million of business.** The two companies are currently co-operating on a proposal to an EU-funded research programme.

The success of this partnership has led Cirrus to create a similar arrangement with a German manufacturer and the company is now actively seeking to operate with other companies with a global reach.



Japan

- Most near-market technological and business practice developments are undertaken by private sector companies. Access to the most relevant companies is through Government departments (such as MITEI) and the British Embassy, or through the central Trading Houses of the major groups. The latter can also be appointed as agents to secure introductions to appropriate businesses outside their own group. Don't go direct.
- Similarly, use intermediaries such as specialised consultants based in Japan for regularly contacting your Japanese partner.
- There is a big difference between formal meetings during the day and the informal "after five" meetings which you can be invited to join for a drink or dinner. As "trust" is an essential ingredient for establishing a business relationship, your Japanese counterpart will ask you about your private life, your personal opinions, your hobbies etc. Be open, but understand that what has been said the night before is never to be used the next morning.
- Often cited, but still worth mentioning: do not take "hai", the Japanese word for "yes", for agreement. It only means that your partner has understood what you said.
- When meeting Japanese company officials, be aware that you never meet the decision maker: there is not "one" person in charge, but your request for buying technology will be discussed at different corporate layers.
- Establishing a business relation with a Japanese partner may be a big investment in time, but results in a partnership for life.
- Japanese companies continually strive to improve their technology, so it is essential for UK companies that use Japanese technology to do the same. Developments should be reported to your Japanese counterpart regularly – this reciprocity can be used as a tool to create a real two-way relationship. Japan is becoming ever more open in exchanging technology and there are many unexpected technological developments to be found there.
- Again, the DTT's International Technology Promoters can help UK firms access technology and best practice from Japan.

Korea

- A number of large companies dominate the Korean economy – familiar names such as Hyundai and Samsung – and act as a focus for the development of technological and business best practices.
- Direct approaches to most companies or other organisations will not be received well. Contact is best established through informal referrals and use could be made of the British Council, the British Embassy or private sector consultants to provide personal introductions. Alternatively, those organisations which can be approached as a first point of contact include:
 - Industry Associations or Co-operatives;
 - Public Corporations such as the Small & Medium Industry Promotion Corporation, the Korea Institute of Industry and Technology Information, the Korea Productivity Centre and the Korea Foreign Trade Association;
 - General Trading Companies such as Hyundai, Samsung, LG and Daewoo.
- Once contact has been established, it is essential to secure a personal relationship with the key individuals within the organisation.



- A recent survey of foreign companies found the major difficulties of working in Korea to be the level of bureaucracy (with over 11,000 economic regulations) and the system of foreign exchange transfer. Korean partners will also expect UK firms to respond quickly.
- Although Korea provides the greatest contrast with UK business culture in the world (according to an Executive Director of Samsung Electronics in the UK), there are good opportunities to establish long-term relationships if the right approach is taken.

France

- Much of the research and technological development activity in the country is funded and undertaken by the public sector or the large state-owned (or recently privatised) companies. The headquarters of these are usually in Paris and many of the individual research institutes and companies which undertake research are also based in the greater Paris area. Other concentrations of technology development include Sophia Antipolis, Cote d'Azur and Provence Alpes.
- Basic research is focused in the CNRS (National Centre for Scientific Research) and in university research departments. Two national bodies – ANVAR (the National Agency for the Development of Industrial Innovation) and DRIRE (Regional Directorate for Industry, Research and the Environment) – are responsible for distributing public funds to encourage innovation, the former acting largely at the state level and the latter through a network of regional organisations.
- A number of very large public research institutions are to be found in key industrial sectors (for example CEA in atomic energy and CNES in space and aeronautics). These organisations tend again to have a centralised structure to handle technology transfer to private sector companies in France and from other countries.
- Specialist R&D companies have also established a network – JINNOVE – to enhance the rate and success of commercialisation of new technology.
- French business culture is quite formalised and business acquaintances will still refer to each other using the 'Monsieur' and 'Madame' titles. There are also significant differences in certain business practices with, for example, payment times being considerably longer than in the UK.
- Language can still present problems in establishing contact and building working relationships. UK firms should make every effort to be understood clearly if they lack French language skills. Initial contact should be made using a well-structured fax, this usually obtaining a good response.
- The DTI's International Technology Promoters can provide direct assistance to firms in establishing links with relevant French organisations.



Germany

- German companies play a dominant role in research and development effort, with the largest German corporations (such as Siemens and Bayer) being the largest spenders on R&D in the world. Many of the leading companies also participate in European collaborative projects and this is a good way to make contact with them.
- Federal level research focuses on developing technology of strategic, national importance; at regional and local levels, the aim is to provide or stimulate more specific technology transfer and market-orientated technology activity. Blue sky publicly funded research is to be found in the Max Planck Institutes as well as leading university research departments. Polytechnics undertake more near-market research and the Fraunhofer Institutes operate on an industry-led largely contract basis.
- As a whole, the Fraunhofer Institutes (the equivalent of the research and technology organisations – RTOs – in the UK) represent the single biggest contract research organisation in Europe and encompass a huge range of leading technological expertise across most industry sectors.
- Technology transfer networks and centres have been established that encompass most research institutes, universities and polytechnics. At the Länder-level, there are usually technology transfer bodies operating but these vary in organisation and focus. Obtaining technology from the East of the country is made easier because the technology transfer infrastructure is more recent and has been developed using a common model between the Länder. In many instances though, the most leading technology or business practices are to be found from organisations based in the West.
- A wide range of social customs are important to the Germans and should be understood before contact is made, and especially before visiting the country. Things to bear in mind include not to use the familiar 'Du' form of address; the fact that the working day generally starts earlier than in the UK and punctuality is particularly important. There's a quiet hour from about one o'clock when calls would not be particularly welcome; and that there is a formal order to the handshaking ritual, even in social situations (eg women always first).
- A certain amount of formality when first getting in touch with a German organisation will usually pay dividends and mean that you are taken more seriously. Moreover, once contact is established, a potential German partner will expect you to follow up quickly with proposals on how to take the business relationship further.
- The DTI's International Promoters can help UK firms access technology from Germany.



Italy

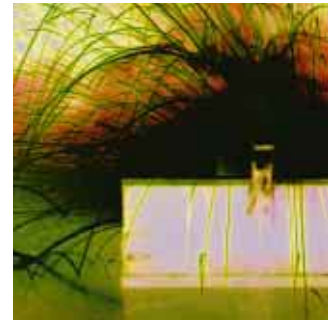
- More than in any of the other major European countries, the Italian economy is dominated by small and medium-sized businesses.
- Smaller firms in the same sector tend to be clustered together and there are approaching 50 'industrial districts' in Italy with concentrations of businesses in a particular industry (textiles, for example). These industrial areas often have associated research organisations supported on a collaborative basis by the public and private sectors.
- Manufacturing output is dominated by the north of the country. The North West region accounts for almost half of Italian export trade with Lombardy being a particularly important area economically.
- Large Italian companies are especially strong in manufacturing and undertake leading research in areas such as electronics and automotives.
- Chambers of commerce and trade associations provide good contact points in identifying potential partners in Italy. Membership of local chambers of commerce is mandatory and these organisations are very influential, their role extending to providing support for R&D, technology park development, local and regional trade fairs and other similar activities. Trade associations are also often active in industrial development and can offer guidance on technology transfer in their sector. For example, in the chemicals sector, the federation of trade associations has a subsidiary company called CIRC (Chemical Innovation Research Centre) which specifically promotes innovation within Italy's chemicals districts and firms.
- Use of European collaboration programmes or networking through European Innovation Relay Centres provides one of the best routes to making contact with appropriate partners in Italy.
- Language may prove a barrier but this becomes less of a problem once potential partners are aware of what UK firms can offer. Care should be taken to use simple and well-structured English and the use of faxes to establish contact allows the correct message to be put across.

Australia

- Australia has some excellent technological capabilities. The advent of improved telecommunications and the emergence of the Internet means that a significant degree of business can be transacted without the need to travel to the other side of the world.
- Australia has an exceptionally open business environment where direct approaches to individuals and organisations with whom there has been no prior contact are perfectly acceptable. First contact and initial discussions by telephone, fax or the Internet is also common.
- Research and development programmes exist at several levels – Federal Government, industry sponsored and State industry. At the Federal level, the CSIRO (Commonwealth Scientific and Industrial Research Organisation) co-ordinates and sponsors research across most industry sectors with individual research institutes focusing on particular technologies. There has been a notable growth in industry-related research within universities and public sector research organisations. This trend has been reinforced by the establishment of the Co-operative Research Centres Program. These centres are becoming the focus for cross-disciplinary work and account for half of all science and technology related research within universities. Many of these universities also have well established commercialisation arms which provide a clear contact point for industry.

STAGE 3

How to obtain it



Having found the potential sources of the technology or business practices you want, the next stage is to work out the most effective way to get them. Here, there is often a much wider range of options than a simple cash payment.

In fact, from forging new relationships, through collaborative research or a new business partnership for example, to exploiting individual skills through secondment, you will probably have several choices – each with its own risks and returns.

Only by carefully weighing up each option will you be able to choose the most effective solution.

Ways to obtain the technology

Possible avenues you might consider include using information readily available in the UK, through the DTI's Global Information on Science and Technology (GIST) and other services – for example patent searches, reviews of academic papers, sponsored technology mission reports. Also:

Literature Review

The easiest and least resource-intensive way is to use information which is readily available in the UK – for example through:

- a patent search;
- a review of academic papers;
- reading the reports published after DTI-sponsored technology missions;
- reference to external databases on research and technology.

Licensing & Purchasing

Buying or licensing from the best companies in the world is an obvious and fast route, once those companies and the particular technologies they have to offer have been identified. You could even buy the company that owns the rights to what you want. Licensed technology is also available from universities, research and technology organisations and consultants.

Research

This encompasses:

- contract research, where you commission a specific project from a provider of research services;
- collaborative research, where you enter into a joint research project with another company or research organisation and carry out some of the research yourself.

Personnel

Sometimes the best mechanism for obtaining the technology is through your own or the other company's staff, for example by:

- training;
- recruitment or secondment into the business;
- secondment to organisations with technology or best practices advantages;
- exploiting more fully the experience staff may have gained while working overseas;
- supply chain partnerships.

Strategic alliances

Business alliances, where two or more businesses develop a long-term relationship, can provide great benefits to all parties. Increasingly, smaller firms are using such relationships to access competencies they are too small to develop themselves. Effective alliances can be built through approaches such as:

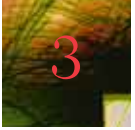
- a joint venture in a new project or company;
- a 'preferred' supplier relationship;
- selling or sharing equity in a partner business.

What have you got to offer?

As with every business transaction, potential overseas sources of technology or best practice will be looking for some benefit from establishing a relationship with your business. A number of things, other than simply your money, motivate overseas partners to work with UK companies, including:

- gaining entry into new geographic markets – your access to the markets in the European Union will be attractive to potential partners wishing to introduce their products to the EU;
- accessing new technology or best practice – you may have developed technology or operate leading business practices which potential partners may be interested in accessing;
- reducing development costs – potential partners may be looking for collaboration in developing new technology to spread the cost and risk of the research and then share the benefits of exploitation;
- upgrading local suppliers – your overseas customers (including those based in the UK) may wish to work with you to improve the quality of the products and services they receive.

This wide range of motives means that even the smallest or most specialist UK business can offer some benefit to a potential partner. It is therefore important to understand what your strengths are and then identify the types of partner that are likely to be interested in what you have to offer.



In particular, you should highlight what distinctive things your business has to offer in terms of:

- product and service portfolio;
- underlying technological competencies;
- staff skills and experience;
- access to geographic or product markets.

What do you need to protect?

The process of identifying what you have to offer also helps you recognise what you need to protect.

But before you make even preliminary contact with a potential partner, and certainly before you enter any form of negotiation, it is essential you protect this knowledge and your capabilities.

You should ensure that:

- your own technology and intellectual property is adequately protected by the appropriate patent, trademark or copyright provisions;
- confidentiality agreements are put in place early in the negotiations with potential partners. If they refuse, consider their motives in working with you;
- the possibility of losing key staff to your partners is minimised;
- the arrangements for exploitation of any joint products or intellectual property has been set out clearly in a collaboration agreement.

Again, advice at an early stage is invaluable in helping to avoid costly and possible business-threatening mistakes at a later date.

“Listen to what your client wants – he can tell you the things that go wrong in his industry.”

Tony Lakin
Micro Tech Ltd

Understand your partners' motives

Having made contact with a potential partner, you can assess the risk of working with them by establishing their motives as soon as possible. Ask yourself...

- are our geographic or product markets too closely aligned to allow full co-operation?
- is the interest shown by the partner simply a ‘fishing trip’ to find out what we’re doing in terms of technology or business practice?
- what scope exists for the partner to exploit the technology without our involvement?
- is this a one-off project or are they interested in a long-term relationship?

And if you are asking these questions about your potential partners, they will certainly be asking them of you – which again underlines the importance of making clear what you have to offer as part of the relationship.

Evaluating the options

The options which emerge about who to work with and how to work with them will require varying degrees of commitment and resources from your business in terms of time, money and people needed to make them work.

Each option will carry different levels of likely risk and return.

To determine whether to proceed and under what terms, you should therefore carry out a careful evaluation, including:

- **A review of objectives** – does the investment of resources fit properly with what you are trying to do as a business? Is it providing you with the technological capabilities you really need or access to the markets you want to be in? How easy will you find it to work with potential partners?
- **A technical appraisal** – what steps will be required to implement the technology or new business practices successfully? Does your business have the skills and resources to make it work or will additional technical assistance be required? How long before the new developments will begin to impact on company performance?
- **A commercial appraisal** – what is the total cost associated with the project? How will this be financed? What is the expected return? What are the implications for the firm's cash flow? Will this undertaking limit your ability to make other investments?
- **An overall risk assessment** – what is the probability that your partners will not be in a position to deliver the technology or new business practices? How sure are you of the impact that the new technology or business practices will have on your business? Is this impact large enough to warrant the level of investment (including management time)? What events could conceivably happen to increase the risk of failure? What can you do to make sure of success?

Case Study **Genpak Ltd**

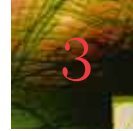
Employees 6
Turnover £200,000

Genpak, trading for 3 years now, produces DNA sequencing kits for DNA analysis purposes. Their competitors are two major global players and a number of smaller firms and they compete on the basis of having lower manufacturing and distribution costs and therefore keeping the price of their kits low.

Genpak uses data published in the technical press extensively, to determine how DNA analysis systems work and how to improve their products. They are constantly looking for manufacturers of new and innovative reagents that they could introduce into their kits. For example, a small US manufacturer gave Genpak sole UK distribution rights to include their product in the DNA kits with the added bonus that Genpak is beginning to generate sales in the US market.

Key messages include:

- Don't be afraid of patents – use patent searches to identify interesting ideas and then make contact with the developer. They are often looking for ways of exploiting their ideas and you can find that the technology you need is not that difficult to obtain.
- Scour the WWW. For example, many people put out their own protocols on the Net.
- Make contact with those who have published interesting ideas recently. These people are often flattered to be telephoned and are quite happy to talk about their ideas.
- Speak to the big companies – they often don't know everything about their own technology and appreciate the chance to explore new ideas. Indeed, many larger companies now use smaller firms to test their own products and eradicate problems before going to market. This is one way to get to see the new technology early on, to develop commercial links with big players and to identify new market opportunities.



Case Study **Micro Tech Ltd**

Employees 40
Turnover £2.4 million

Micro Tech manufactures power electronics products for markets ranging from laser systems to film lighting. One of the most fruitful sources of new ideas is through participating in collaborative research under a number of EU programmes. In fact, research recently undertaken with European partners has enabled them to enter several new product markets and gain a return of up to 10 to 1 on their investment.

But that's not all. The business relationships the company has made through these programmes have led to additional spin-offs. For example, they learnt that one of their partners, the Italian company ENEL had carried out some preparatory research in another field, which Micro Tech were then able to convert to a workable design.

According to the company's director Tony Lakin, networking is crucial. "But when you're working with partner companies, make sure there is no conflict in terms of end product markets; in other words, that you're both trying to sell to the same market. And try to understand what a potential partner's motives are. Is there real interest in establishing a two-way relationship, or is it just a fishing trip to see what you're doing?"



STAGE 4

How to manage it



Excellent project management skills are central to the successful adoption of new technology or business practices. To succeed, you should:

- **Appoint a project manager** – someone with full responsibility for seeing the project through from start to finish.
- **Devote sufficient senior management time** – projects which do not receive sufficient attention from senior management are at much higher risk of failure.
- **Keep good records** – these are necessary to safeguard your intellectual property. They are especially important in spelling out the exact content of the transfer and any changes to collaboration agreements or contractual arrangements.
- **Ensure good internal communication** – your staff should be aware of the objectives in transferring the new technology or business practices and should be equipped to make use of it through training and other development efforts.
- **Undertake necessary training** – make sure that the specified training is carried out and achieves its objectives in enabling the firm to make full use of the technology or business practice.
- **Ensure good external communication** – regular meetings with your partner(s) are advisable and, by resolving issues before they become major problems, can more than cover the cost of travel. Inevitably, communication at a distance is more difficult and effort should be devoted to maintaining contact. The Internet or electronic mail is especially effective in allowing regular updates on the transfer process.
- **Review your partners' expectations and ensure you deliver** – pay close attention to what they expect you to deliver, and when. Failure in this respect can fatally damage the trust necessary for the transfer to work.
- **Monitor the commercial position** – tight control is essential over the commercial effects of the transfer on your business. You should continually review all revenues and costs, and the risks to which your business may be exposed. You should also assess how the relationship with your partner(s) is affecting your market position, share or perception by customers or suppliers.

However, problems can arise for a variety of reasons and working with partners in other countries means that any such problems can be magnified. A company may not have followed the steps outlined earlier – for example, failing to protect the intellectual property of a joint development adequately or to vet the capabilities of a partner, who cannot then provide the services expected to the standard required. Unforeseen events may occur.



Evaluate the results

Once the technology or best practice transfer is underway, you should evaluate its impact against the objectives you have set. This should cover:

- what the direct commercial return has been;
- how your company's technological or operational competencies have improved in the long-term;
- whether there have been changes in how you are perceived in the market place;
- what negative aspects of the process or its outcomes have been encountered;
- what opportunities arising from overseas technology or best business practice have been identified.

THE KEYS TO SUCCESS

Obtaining technology from overseas offers considerable potential. But at the same time it requires a business-like approach, persistence and commitment.

The companies that have exploited the opportunities available attribute much of their success to a few key principles.

Networking: this is central to opening up opportunities and providing you with the contacts who can solve your problems and help you grow your business.

Making use of your existing strengths: often your staff or your business contacts will already have knowledge. Some may already have worked abroad. Your suppliers or customers may have international links. Tap into this expertise and knowledge – perhaps through brainstorming or team working.

Applying your commercial common-sense: however large the potential rewards of a new development may be, you must also ensure it provides a proper return on your investment and that the associated risk will not be too high. In other words, don't charge into situations – carefully weigh up the risk and the return.

And above all:

Be proactive: don't just respond to events, but go out to make things happen.

APPENDIX A: UK Networks

Department of Trade and Industry General Enquiries 0171 215 5000	
<p>Sector Directorates The Department of Trade and Industry provides support to a wide range of industries through the DTI Sector Directorates.</p>	<p>Enquiries Tel: 0171 215 5000 Textphone: 0171 215 6740</p>
<p>International Technology Service The Department of Trade and Industry provides a range of services (of which this guide is a part) to help you identify and adopt technology.</p> <ul style="list-style-type: none"> ■ Global Information on Science and Technology (GIST) – a monthly magazine which provides summarised information about technical developments and policies from major industrial countries. The information, often unpublished sources, is gathered and produced by staff at British Embassies around the world. ■ Missions – Fact finding visits overseas by groups of UK firms and an academic organised by a sponsoring body (often Trade Associations) with the aim of reviewing a particular technology or business best practice. The results are disseminated through a written report and through open seminars. ■ International Technology Promoters – currently there are five individuals whose remit is to help small and medium-sized UK businesses identify and adopt overseas technology. They each specialise in one country, with ITPs in Japan, the USA, Germany and France. ■ Secondments – Support for UK firms from any discipline to enable them to second key staff into overseas organisations, for periods of 3-12 months to learn best practice, develop partnerships & raise market awareness. 	<p>International Technology Service Enquiry Line Tel: 0171 215 3884 Fax: 0171 215 3934 Web: www.dti.gov.uk/mbp/its/its.htm</p>
<p>Overseas Trade Services The DTI operates a range of services which, while primarily aimed at exporters, are relevant for UK firms wishing to adopt technology or best practice from other countries. Relevant services include:</p> <ul style="list-style-type: none"> ■ Country Desks – there are 55 based at the DTI's London Headquarters covering nearly 200 markets. Can provide information to assist companies research and begin to exploit selected markets. ■ Export Market Information Centre – a library and research resource which gives access to a large range of published market information, including details of potential contacts. ■ Export Market Information Research Service – offers access, for a subsidised charge, to EMIC without having to travel to London. 	<p>Enquiries Tel: 0171 215 5000 Textphone: 0171 215 6740 Web: www.dti.gov.uk/contacts/export.htm</p> <p>Tel: 0171 215 5444 Fax: 0171 215 4231 E-mail: emic@xpd.dti.gov.uk</p> <p>Tel: 0171 215 5707 Fax: 0171 215 6853 E-mail: emirs@ash001.ots.dti.gov.uk</p>

<ul style="list-style-type: none"> ■ Programme Arranging Service – available from a selected number of overseas posts if a company is able to demonstrate that its export performance will be improved, This service helps set up meetings with overseas organisations. ■ Technical Help to Exporters – part of the British Standards Institution, this service provides advice on aspects such as national laws, technical standards and certification processes. ■ Languages in Export Advisory Scheme – grants and advice are available to equip your personnel with the language skills necessary for dealing with overseas businesses. 	<p>Tel: 0171 215 5000 Textphone: 0171 215 6740</p> <p>Tel: 0181 996 9000 Fax: 0181 996 7048 Web: www.bsi.org.uk</p> <p>Tel: 01203 694554 Fax: 01203 695844</p>
<p>The Regional Supply Network (RSN) and Supply Chain Network Groups</p> <p>RSN is a Business Link branded service with 10 offices in England, complementing operations in Scotland, Wales and Northern Ireland. Its key aim is to help SME suppliers grasp market opportunities by bringing them potential new business. The 21 Network Groups act as a local forum for companies (especially SMEs) to exchange ideas and learn best practice in supply chain management.</p>	<p>RSN Tel: 0171 215 3862/63 Fax: 0171 215 3933</p> <p>Network Groups Tel: 0171 215 3863/3907 Fax: 0171 215 3907</p>
<p>DTI Business Support Programmes</p> <ul style="list-style-type: none"> ■ Export Information Assistance ■ ACTIVE – Achieving Competitiveness through Innovation and Value Engineering 	<p>Web: http://dtiinfo1.dti.gov.uk/support/eia.htm</p> <p>Web: http://dtiinfo1.dti.gov.uk/support/actiave.htm</p>

Business Link

This national network of local partnerships between the business community and government provides the simplest route to top quality information and advice for small businesses through a single point of access. Personal Business Advisers (PBAs) are skilled business facilitators who foster growth and competitiveness in established businesses through long-term relationships with owner managers and team managers of businesses with growth potential. Specialist counsellors for innovation, technology and design can put firms in touch with sources of help at local, national and international level and ensure that they receive the right assistance.

Business Link Enquiry line:

0345 567765

Web: www.businesslink.co.uk

Scottish Enterprise:

0141 246 2700

Web: www.scotent.co.uk

Business Connect:

01222 261 300

Web: www.netwales.co.uk

Business Link Network Company:

0171 793 3016

Consultants

European Association for the Transfer of Technologies, Innovation and Industrial Information (TII) – consultants, universities, research organisations and other bodies in Europe who provide services related to the transfer of technology.

Fax: 00 352 46 21 85

Information sources

The Patent Office

Tel: 0645 500505
Fax: 01633 813600
Web: www.patent.gov.uk

British Library – Science Reference and Information Service.

Tel: 0171 412 7494
Fax: 0171 412 7495
E-mail: SMS-centre-desk@bl.uk

Economist Intelligence Unit – provides reports and data on individual countries and industry sectors.

Contact: Jan Frost
Tel: 0171 830 1000
Fax: 0171 830 1023
E-mail: London.eiu.com
Web: www.eiu.com

CORDIS – European Technical Partner database with details of European Technology programmes.

Fax: 00 35 2 4301 32084
Web: www.cordis.lu/itt/itt-en/home.html

Development Bodies for Scotland, Wales and Northern Ireland

Scottish Trade International (STI)

STI is the Government's export development agency in Scotland. As part of its remit, it has established a network of international collaborators able to put Scottish companies in touch with appropriate overseas partners, including for technology transfer purposes.

Contact: Paul Dodman
Tel: 0141 228 2879
Fax: 0141 221 3712
Web: <http://www.sti.scotent.co.uk>

Scottish Enterprise

SE is responsible for supporting the development of businesses in much of Scotland. Most technology transfer and benchmarking services are delivered through 13 Local Enterprise Companies and vary from area to area depending on identified local needs. Contact details can be obtained from Scottish Enterprise.

Contact: Innovation Team
Enquiries: 0141 248 2700
Web: www.scotent.co.uk

Welsh Development Agency

The principal services of the WDA related to technology and best practice transfer are provided by the Technology Transfer Group and the Source Wales programme. The Technology Transfer Group delivers:

- *Technology Search* – aims to identify technology and product opportunities that match a firm's business objectives, manufacturing capabilities and existing product and market experience

Contact: Technology Transfer Team
Enquiries: 0345 775577
Fax: 01222 640031
E-mail: wda@netwales.co.uk
Web: <http://www.netwales.co.uk>

Development Bodies for Scotland, Wales and Northern Ireland cont.

- *Technology Exploitation* – helps firms to profit from in-house technical developments by identifying suitable partners to share further development costs or take licences
- *Technology Audit* – helps organisations assess their technical strengths and weaknesses and identify new opportunities
- *Centres of Excellence* – WDA supports collaborative research links between firms with the academic groups which are leaders in their field of technology
- *Technology Clubs* – these focus on particular sectors and bring together companies and their customers, academics funders and legislators. The aim is to network and share experience
- *Publications* – a range of journals and directories of use to firms seeking technology and best business practice

The Source Wales programme works with firms to identify sales opportunities in other countries and help them improve their capabilities in meeting the needs of their customers.

Northern Ireland

IRTU – Industry Research and Technology Unit

The IRTU is the main organisation responsible for supporting technology transfer and development amongst SMEs in Northern Ireland.

Contact: Bernie O'Hare
Tel: 01232 529 227
E-mail: info.irtu@nics.gov.uk

Research and technology organisations

Independent research and technology organisations in the UK (RTOs) are mainly sectorally focused and undertake a range of research and consultancy services on a commercial basis. Most RTOs are also networked internationally and can work with companies to access the best technology available worldwide.

Association of Independent Research and Technology Organisations

This Association represents 39 RTOs in the UK and can suggest the appropriate research organisation to approach with regard to particular technology issues.

Contact: Chris Wood
The Administrator
Tel: 01372 802260
Fax: 01372 802266

Regional Technology Centres

These independent non-profit organisations assist businesses in their region through encouraging and facilitating links between large and small companies, higher education institutions and research organisations. Services usually include advice on exploiting technology, marketing, product development and access to finance.

RTC National Contact Point
Tel: 0191 549 8299

Business Innovation Centres

There is a network of 100 BICs across Europe with the aim of encouraging technological and business innovation in SMEs. Help is offered to small and medium-sized companies in relation to strategy development, technology, finance and marketing and sales. Ten of these EU-supported centres exist in the UK, details of which can be obtained from:

**c/o UKBICs (Association of UK Business Innovation Centres)
Birmingham Technology Ltd**

Contact: Derek Harris
Tel: 0121 359 0981
Fax: 0121 359 0433
E-mail: 101515.2571@compuserve.com

Innovation Relay Centres

These organisations provide information and services to firms seeking to participate in or benefit from EU R&D programmes. They are also networked across Europe and are in a good position to search on behalf of UK firms for partners with particular technologies or market opportunities. There are seven Centres located in different parts of the UK.

Northern England – RTC North Ltd

Contact: Gordon Ollivere
Tel: 0191 516 4400
Fax: 0191 516 4401
E-mail: enquiry@rtcnorth.co.uk

East & West Midlands – Coventry University Enterprises Ltd

Contact: John Latham
Tel: 01203 838143
Fax: 01203 221396
E-mail: mirc@coventry.ac.uk
Web: www.coventry.com

Eastern England – The Technology Broker

Contact: William Blake
Tel: 01954 261199
Fax: 01954 260291
E-mail: bill@tbroker.co.uk

Southern England – Defence Evaluation and Research Agency

Contact: Dr Piers Grey-Wilson
Tel: 01252 392343
Fax: 01252 393318
E-mail: pvgreywilson@dera.gov.uk

Wales – Wales Relay Centre

Contact: Anthony Armitage
Tel: 01222 828858
Fax: 01222 640030
E-mail: 100065.3127@compuserve.com

Scotland – Euro Info Centre Ltd

Contact: Ian Traill
Tel: 0141 221 0999
Fax: 0141 221 6539
E-mail: ian.trail@scotint.co.uk

Northern Ireland – Local Enterprise Development Unit (LEDU)

Contact: Marshall Addidle
Tel: 01232 491031
Fax: 01232 691432
E-mail: ledu@nics.gov.uk

APPENDIX B: Overseas – Key contacts in major British Diplomatic Posts in other countries

Paris, France	Contact: First Secretary, Science and Technology Tel: 00 33 1 4451 3257 Fax: 00 33 1 4451 3440
Bonn, Germany	Contact: First Secretary, Research Tel: 00 49 228 9167 177/121 Fax: 00 49 228 9167 163
Tokyo, Japan	Contact: First Secretary, Science and Technology Tel: 00 81 3 5211 1100 Fax: 00 81 3 3230 4800
Washington, USA	Contact: First Secretary, Science and Technology Tel: 00 1 202 588 6672/6677 Fax: 00 1 202 588 6695
Seoul, Korea	Contact: First Secretary, Science and Technology Tel: 00 82 2 735 7341/3 Fax: 00 82 2 738 2797
Rome, Italy	Contact: First Secretary, Social/Science and Technology Tel: 00 39 6 482 5441/5551 Fax: 00 39 6 487 3324
Ottawa, Canada	Contact: Third Secretary Tel: 00 1 613 237 1530 Fax: 00 1 613 237 5211
Canberra, Australia	Contact: First Secretary Tel: 00 61 6270 6683 Fax: 00 61 6273 4360

