

USTIR: Guide to Intellectual Property Rights (IPR): 3.2 Innovators Workshops

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USTIR: Guide to Intellectual Property Rights (IPR): 3.2 Innovators Workshops	1
Acknowledgement	1
Introduction.....	1
Table 1: Duration of Protection for IPR	2
Table 2: Useful websites with further information and advice on IPR.....	3
Patents	4
Why review patent databases?.....	4
What rights does a patent confer?.....	4
Registering the patent	4
Surface transport patents.....	5
Plant Varieties	6
Utility Models	6
Trademarks and Designs.....	6
Topographies of Semiconductor Products	7
Copyright of materials	7
Trade Secrets.....	9
Summary	9
Disclaimer	10

Introduction

This guide provides information to innovators on Intellectual Property Rights (IPR). Innovation affects the success and failure of an organisation, and that Intellectual Property is protected by these rights. IPR confers value to innovations, which are just like any other tangible asset. IPR protect innovation activities such as Research & Development, incremental changes; new combinations of existing knowledge; creativity and design.

Intellectual Property is just like any other form of property in the sense that you need permission to use it. This guide provides an introduction to key areas of Intellectual

Property with some examples of Surface Transport Innovation. There are different types of intellectual property are presented in this guide and summarised in Table 1 together with information on the nature and duration of legal protection.

Table 1: Duration of Protection for IPR

Intellectual Property	Duration of protection	Is registration required for protection?
Patents for inventions	20 years from application date	Yes
Plant Varieties	20 years if registered in patent office	Yes for patents although may have unregistered design rights
Utility Models	7-10 years	Yes
Trade marks for brand identity	10 years if registered	TM -unregistered mark ® -registered mark
Designs for product appearance (e.g. car design)	25 years if registered at Design Registry 10-15 years if unregistered	optional
Topographies of Semiconductor Products	10-15 years if registered in patent office	Optional in some countries e.g. UK
Copyright of materials	70 years for literary, dramatic, musical & artistic works 50 years for recordings, broadcasts, programmes	No registration. Use of symbol ©, date and copyright holder asserts copyright, but not legally required in some countries e.g. UK
Trade Secrets	None without contract	No duty of confidentiality without contract

It is important to be aware of Intellectual Property Rights issues because:

- You need to respect the IPR of sources you use;
- You need to avoid duplicating IPR already in existence;
- You need to know and protect your own IPR;
- You may be working on collaborative projects, using and developing IPR.

More and more organisations set up collaborative innovative projects where it is important to clarify:

- The IPR that each organisation separately brings to the project (known as the Background - the information and IPR held by partners *before* beginning the project that is required for the project).

- The IPR that is *generated* through the collaborative project (known as the foreground) which may be jointly held or split between partners.

Sharing IPR requires:

- Negotiation and clarification within legal contracts and confidentiality agreements
- Management through licensing, granting access rights, and exchanging IPR with an open innovation strategy See <http://openinnovation.wikidot.com/>
- Clarification of IPR boundaries & ownership and maintenance of IPR
- An IPR exploitation strategy.

It is important to advise that Intellectual Property Rights issues vary in each country, and therefore this is just a general guide. For more detailed information there are some useful websites to consult. You may need to consult legal advice.

Table 2: Useful websites with further information and advice on IPR

Country	Website
Europe	Offers advice and access to patent databases and registration European Patent Office http://www.epo.org/patents/Grant-procedure/About-patents.html
Europe	Offers information on IPR e.g. a calculator to calculate the costs of protection, depending on the country, information on how you can protect your idea. http://www.innovaccess.eu/home.html .
Europe	This site assists SMEs, research centres, researchers and individuals working on Research Technology Development EU-funded projects about intellectual property issues. It also offers a calculator to calculate the costs of IP protection. Free service provided in English. http://www.ipr-helpdesk.org/
UK	Offers advice on patents, trademarks, designs & copyright, and advice on registration & gaining access to patent databases Intellectual Property Office website at: http://www.ipo.gov.uk/home.htm
US	US Patent & Trademark Office http://www.uspto.gov/
International WIPO	World Intellectual Property Organization WIPO is a specialized agency of the United Nations. It is dedicated to developing a balanced and accessible international intellectual property (IP) system, which rewards creativity, stimulates innovation and contributes to economic development while safeguarding the public interest. http://www.wipo.int/about-wipo/en/what_is_wipo.html
UK	Intellectual Property and Information Technology Update provides detailed advice and web-links. links http://www.ipit-update.com/udr.htm
France	Institut National de la Propriété Industrielle (INPI) Online access to patent database (for patents published in France, at the European Patent Office and international PCT since 1978)

Patents

A patent gives an inventor a right for a limited period (up to 20 years in the UK) to prevent use of the invention without permission. Patents are granted for advanced or complex technological breakthroughs and less radical inventions. The key criteria for granting patents are that they are novel, inventive and more than an abstract idea. Patents cover both functional and technical aspects of inventions.

Why review patent databases?

Reviewing patent databases helps to keep up-to-date with competitor activity, and can help avoid reinventing the wheel. Approximately €20billion p.a. in EU is wasted on R&D for technology already in patents. So it can be cost-effective to begin innovation activity with database searches and checks. It could also help to identify innovative partners holding patents of value to your organisation. It may lead to decisions to simply adopt existing technology.

Searching the patent database provides information on the inventor and provides a 'citations' list, which are documents found by the Patent Office to be relevant to the invention, (which in fact can reduce the novelty value of the invention). It names the patent agent who is a legal expert who steers you through the complexities of the patent application process.

What rights does a patent confer?

A patent is not the right to produce and commercially exploit an invention. For example, if a new vehicle is invented that produces polluting toxic by-products, it may be possible to patent the invention but commercial exploitation may be prohibited by environmental legislation. A patent is only a negative right, the right to exclude others from making, using, selling or importing the patented technology.

Patents are strictly territorial and patent applications in other countries need to be successful to protect from competitor imitation. Patent legislation only protects inventions against infringing products made, sold or imported into the countries where the patent is registered.

Patents can cover technological territory as well as geographical territory. For example, the first inventor of computer-controlled fuel injection for the internal combustion engine (i.c.e.) could register and ring-fence the patent. But if someone owned an earlier patent on ALL internal combustion engines – then this patent would be a subset of their patent area of control. To proceed with commercial exploitation would require establishing legal contracts to license the overlapping patent portfolios for use by each inventor. Contracts for mutual patent licensing precipitate numerous industrial collaborations.

Registering the patent

Patenting protection is a formal registration process with a legal framework provided by the state. In the UK, the Patents Act allows an inventor to enforce their exclusive rights for up to 20 years. It is noteworthy that many patent applications are never granted, and many patents will not be in force because their owners have not paid the annual renewal fees, which become less worth paying overtime with advances in technology.

Despite being fully publically disclosed, patented inventions are protected from competitor imitation. Disclosure provides a full, clear and complete description of the invention, what it is and how it works. But before registration non-disclosure is essential– if an invention is released onto the market or explained in a publication before an application is filed it will not be permitted. For example, conference presentations, disclosures in trade magazines, academic papers, conference proceedings, exhibitions at trade fairs or to would-be investors, even talking about it with friends could be enough for the ‘invention’ to be in the public domain, and make a patent application invalid. [See <http://www.epo.org/patents/Grant-procedure/About-patents.html>] So if you have an idea for an invention, keep it secret, and only discuss it with the minimum number of people necessary, and always with a secrecy agreement in place.

Surface transport patents

The International Patent Classification (IPC) groups patents related to Surface Transport in terms of:

- Vehicles e.g. bicycle,
- Railways e.g. rail train,
- Land vehicles for travelling excluding rail eg. truck, automobile
- Ships or other waterborne vessels

www.wipo.int/classifications/ipc/en/

Key themes in surface transport include Energy/Environment, Services and Infrastructure and recent patents show an increased proportion of patents for bicycle parts.

Example: patent Hybrid electrical power source

Abstract : (EP1967407) The present invention relates to a hybrid electrical power source comprising two or more electrical energy sources that supply energy to a connected load, such as a combination of fuel cell and battery. The present invention comprises first and second electrical energy sources configured to supply current to an output, and a controller configured to receive a signal indicative of the current being drawn at the output, to compare the output current with a reference current level, and to regulate the voltage provided by the one of the first or second electrical energy sources such that: when the output current is lower than the reference current level, the first energy source supplies current equal to the output current; and, when the output current exceeds the reference current level, the first energy source supplies current equal to the reference current level and the second energy source supplies the remaining current required by the load.

Advantage of Patent- A DC-DC converter controls the operating point of the fuel cell to provide efficient transfer of power from the fuel cell to the battery. -As a result, the

battery is used only minimally and so its life is prolonged. This is particularly advantageous where the fuel cell is not used to recharge the battery.

Patentee(s) : Boeing, Planes Elena Batallier, Ramirez Jesus Angel Oliver, Suarez Oscar Garcia

https://www.espace-clients-tkm.fr/interface_ustir_energy/index.php?tab=0 (U-STIR restricted access)

Plant Varieties

Plants and plant products may be protected by patent and plant variety law. Although difficult to obtain, plant patents also cover methods of production and use, and potential mutations for new plant inventions that are industrially applicable. In surface transport this area of IPR would particularly relate to biofuels.

Utility Models

IPR associated with utility model laws are similar to those granted by patent laws. A utility model grants a statutory monopoly for a limited time to an innovator to train others to use something new. Utility models are associated with incremental inventions, and may be variously called "petty patent", "innovation patent", "minor patent", "small patent" or "utility innovation". Utility model legal protection is more easily granted than patent protection but is for a short period of 7-10 years. Methods, plants and animals, however, are usually excluded from utility model legal protection.

Trademarks and Designs

Like patents there is also a register for trade marks and designs. Not all trademarks are registered; the 'TM' is an unregistered or 'common law' trade mark. A Registered Trade Mark (RTM) is

- a sign which is capable of being represented graphically
- a sign which is capable of distinguishing the goods or services of one operation from another.

The following may be registered as a trademark: name, logo, slogan, shape, domain name and colour. For example, the Nissan logo on the Nissan Leaf Electric car, and the name Leaf are trademarks <http://www.nissanusa.com/leaf-electric-car/details.jsp#/details>. Any sign or brand that communicates about where goods or services have come from, that is acts as the 'badge of origin', may be registered as a trade mark. A trademark owner may take legal action against attempts to register a similar trademark where confusion in the public is likely to arise.

Design Registration protects the 'look' of a product – its 3-dimensional shape or 2-dimensional pattern. Design Registration is only permissible where there is design freedom and cannot apply to designs where the form of design is dictated by function. For example, the shape of the lights and the design of the control panel on the Nissan Leaf Electric car could be registered as a design <http://www.nissanusa.com/leaf-electric-car/details.jsp#/details>. It does not protect the way the product functions, the materials used, or the technology behind its use or manufacture which have to be protected by patents.

Topographies of Semiconductor Products

Legal protection of Topographies of Semiconductor products represents a new category of IPR. Semiconductors or silicon or micro chips, used to operate electronic equipment require the design of a topography, which is a three dimensional model of the electronic components for electric flows. This IPR is important for vehicle development.

IP protection

- covers the topographical design

IP protection does not cover

- the technical function
- technological arrangement of components
- or the underlying concept, process, system, technique or encoded information

This would have to be protected by different patents.

In most European countries, it is usually possible to register semiconductor chip topography with the Patent Office within two years of first commercial use for a period of protection that lasts 10-15 years. In the United Kingdom, registration is not necessary, as topographies are protected by unregistered rights. (See <http://www.ipr-helpdesk.org/>)

Copyright of materials

Copyright protects defined pieces of work. In transport this would apply to numerous areas of company operations in marketing, advertising, and technical literature. Works protected by copyright include:

- Original Literary Works, including articles, chapters, conference papers, books, theses, poetry, song lyrics, and computer programs etc;
- Technical literature, including technical reports, manuals, databases; engineering, technical or architectural plans;
- Original Musical Works, musical notation of songs, symphonies, film scores etc.;
- Original Dramatic Works, including plays, scripts, screen plays, mime, choreography;
- Original Artistic Works including painting, drawing, sculpture, jewellery, graphics, architectural designs, buildings, maps, charts, carvings, photographs;
- Performances including stage, films, sound recordings, broadcasts (of any form tv, radio, satellite, cable, internet)
- Business literature including promotional literature, advertising, promotional literature, advertising.

The ‘default position’ is that copyright initially belongs to whoever brought it into existence. Under UK law (1988 Copyright Act) no legal formality is needed to ‘register’ original work (e.g. publishing or performance establishes copyright).

Copyright is therefore unlike patents, trademarks and designs which can all be formally registered. The symbol ©, date and the copyright holder’s name asserts copyright, which may be required under some jurisdictions.

Although copyright ownership belongs to the originator of the work, it can be part of terms of employment or another contract that you sign, and may be assigned to employers, contractors or publishers.

Copyright law confers economic rights designed to protect a copyright holder from being disadvantaged financially. Some people booby-trap their work in order to legally prove their work has been copied!

Copyright also confers moral rights including the right to be identified as the author (or director) of a work; the right to object to derogatory use of a work; and the right to prevent false attribution (false referencing to your work).

Copyright protection can last as long as 70 years beyond the life of the author of artistic works, and usually lasts longer than the 20 year period of patent protection. Note that copyright is the right against copying or adaptation. You may not take action against a work which is the same by coincidence; such as if two separate people produce identical photos.

With copyrighted materials there are restricted and permitted acts if you wish to use copyrighted work. Restricted Acts are what you cannot do with copyright materials belonging to someone else without their permission including:

- Copying
- Issuing Copies to the Public
- Performing, Showing or Playing to the Public
- Broadcasting
- Adapting
- Storing in any Electronic Medium
- Rental and Lending
- Importing Infringing Copies
- Dealing In Infringing Copies
- Providing Means For Making Infringing Copies
- Provision of Premises or Apparatus for Infringing Performances
- Authorising Infringement

Permitted Acts are the exceptions which is what you can do with copyright materials belonging to someone else including:

- Insubstantial Use of materials
- Non-commercial Research or Private Study
- Fair Dealing for the Purposes of Criticism or Review
- Fair Dealing for the Purposes of Reporting Current Events
- Bona Fide Examinations
- Recording at Home For 'Time-Shifting' Purposes (to listen at another time)
- Recording of Broadcasts by Educational Establishments (for access from premises owned by the institution)
- Photocopying under CLA Licence
- Instruction in the making of films or soundtracks
- De-compilation with Caution

- Redrawing - with Caution

Not only do you need to reference your sources fully as a legal requirement, but ensure you have permission to use them (e.g. citing the source of a photograph does not give you the right to include it in your own publication).

There is no copyright in factual information or ideas only the way they are presented. Information may be taken from charts, tables and illustrations and presented in a different way. For example, a pie chart could be represented as a bar graph and this would not require copyright clearance (although the source must always be quoted).

With web materials the same copyright rules apply. Some sites give permission for copying, but if they do not, then permission to copy is needed unless covered by a Permitted Act. But be careful that the original website is not in contravention of copyright – if it says ‘open access’ or that downloads are ‘copyright free’ and they are actually another person’s copyright material you are still breaking the law!

Some materials are provided on an ‘Open Source’ basis whereby you are free to use the materials. There may be conditions – e.g. you need to sign up to a licence to share what you do with the material with others via a website. This is often used by collaborative web communities. See <http://openinnovation.wikidot.com/>

It is possible to seek permission to use copyrighted material from the copyright owner. It is important to get documented proof that permission has been granted (and any conditions applying). It may be possible to obtain permission more easily or cheaply in some cases for example if your intended use is for research, education, publication or non-commercial purposes only.

Trade Secrets

In many EU countries trade secrets are protected under unfair competition legislation, although there is no common system at present. There is no formal registration procedure and trade secrets are only protected by law if kept secret. There is no duty of confidentiality without a legal contract. Legal action may be taken against breaching confidentiality agreements or unauthorised disclosure of trade secrets by third parties.

Summary

Intellectual Property Rights provide legal protection for the outcomes from innovation activities, including Research & Development, incremental changes; new combinations of existing knowledge; creativity and design. This guide provides introductory information on key areas of Intellectual Property including:

- Patents
- Plant Varieties
- Utility Models
- Trademarks and Designs
- Topographies of Semiconductor Products
- Copyright of materials

- Trade Secrets

With the exception of copyright and trade secrets IP can be legally protected by registration. Registration is usually necessary in each country where protection from competitor activity is sought. It is important to advise that Intellectual Property Rights issues vary in each country, and therefore this is just a general guide with a particular focus on examples of Surface Transport Innovation. This guide offers some useful websites to consult, but you may need to consult legal advice.

It is important for innovators and organisations to be aware of the following:

- What constitutes IP
- How to protect IP both your own IP and IP shared in collaborative projects
- How to use patent databases and design and trademark registrations
 - to avoid wasting resources by duplicating IPR already in existence
 - to keep abreast of competitor activity
 - to find partners for sharing IP or developing new IP on collaborative innovative projects

More and more organisations set up collaborative innovative projects where it is important to clarify:

- The IPR that each organisation separately brings to the project (known as the Background - the information and IPR held by partners *before* beginning the project that is required for the project).
- The IPR that is *generated* through the collaborative project (known as the Foreground) which may be jointly held or split between partners.

Sharing IPR requires:

- Negotiation and clarification within legal contracts and confidentiality agreements
- Management through e.g. licensing, granting access rights, and exchanging IPR with an open innovation strategy
- An IPR exploitation strategy.

This guide can only introduce issues of IP categories, IP strategies and working with partners. Innovators should pursue more advice on best practice in establishing innovation strategy. IPR is governed by extensive legislation which differs in each country. To protect your IPR it is important to seek the advice of an IP lawyer. This guide is merely an introduction to IPR and aims to clarify some basic issues in this important topic for innovators.

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