# Guidelines for patent landscape

## Purpose of landscape

This is carried out at the start of development project to understand what has been done by others before. This is for two purposes:

1. To learn useful ideas from others which may be incorporated into the project(subject to the patent status)
2. To understand whether there is any possibility of infringement of the project ideas by virtue of other patents that are in force.

At the end of a project there may be another review carried out by a “clearance search”. The purpose of this is:

1. To check that there is no infringement of other patents for the actual ideas that have been implemented in the project. These may be different from the ideas at the start when the original landscape was done.
2. During the course of the project there may be new ideas of others and new patents, so this checks that these new patents are not infringed. This should not be necessary for a short project such as the M Eng projects.
3. If “inventive” ideas have been created during the course of the project, then it is useful to do a search on these to see if a new patent can be filed in the names of the inventors. It is at this point you need to be clear about ownership of the ideas. Students are not employees of the University and will normally own any IP they generate unless there are inventive contributions from a member of the University staff in which case the University will have part ownership of the invention and this person will be cited as an inventor. If there is an external agency, then there needs to be an agreement in force which clearly states the IP position. This should be in place at the start of the project. We differentiate between “inventive” and “non inventive” contributions. For it to be an inventive contribution the ideas have to form part of the claims. A non inventive contribution is typically work carried out under instruction e.g. producing mechanical parts from drawings, writing software code from a well defined idea, producing electronic circuit boards from a sketch. It is important that all persons who have made an inventive contribution are named as inventors on the patent spec, otherwise there is scope for later legal action.
4. If the IP is completely owned by the students then they are free to file a patent in their own names. However they would have to bear the expense of doing this. If the patent is filed by the University then this would need to be done under an agreement with the University who would then have some rights(e.g. a royalty on exploitation) depending on the form of the agreement.

## What the landscape should be

### Definition of project

At the start of the project a clear definition of the project needs to be created. This is at the point that the ideas have gelled. This should cover:

1. The overall scope of the project. A clear statement of what the project will comprise
2. A statement of the key constituent parts of the project. Some of these parts will be supplied by an outside party(e.g. a motor etc) so there is no need to do a search on these. It is only where there is development of a part where there is a possibility of an infringement of an existing patent or a new patent application. It is only these elements that need to be searched for. However all the constituent parts should be listed for completeness.
3. A search should be done on each key constituent element which is not an “off the shelf” part. If there is a mechanical part which has been specifically designed for the project then this may need a search.

### The search strategies

The search engine used should be listed. Either “espacenet” of “Google patent” will cover it. To limit the number of hits on the search a country specific search can be done (e.g. UK or EU).

The search strategy will be in the form of a set of words and the search may be limited to title, title and abstract, claims. E.g “autonomous sailboat” “autonomous sailing boat”

For each search strategy there will be a number of hits, so this number should be listed against the words used in the search. The search strategy will probably need refinement to come up with a shorter list(typically 5-10 case) which can then be looked at individually. Thus the landscape should include all the search strategies and the number of hits for each case. If the number is too large then the search will need to be refined. If it comes up with zero hits a broader search will be required.

### Review of the patents

If it is possible to limit the search to 5-10 cases then each of these should be reviewed in turn. The first points to make are:

1. What is the country in which it has been originally filed? E.g. US2015023456 implies that it has been filed in the USA. “EP” is in Europe and “GB” in Great Britain. To be able to see it on the search engine the application will have been published, normally 18 months after filing.
2. Is it an application or a granted patent? Granted patent numbers (e.g. US723466B) are different from applications (e.g. US201545678A) and normally have a “B” after them
3. What is the date of filing?
4. If it is a granted patent is it still in force? The legal status needs to be looked at and it may have lapsed, either through non payment of renewal fees or after 20 years from filing date when it expires anyway.
5. It is possible to do foreign filings up to 12 months from the original filing. The search engine will list patent family member showing the country coverage. They will all have the same filing date. When there is a shortlist then the family member should be listed. It Is not necessary to review each country separately(although the claims may be different in each country) but for this purpose a single review is required for each family. The country coverage should however be listed.

### Form of the review of each patent case

Only independent claims need to be reviewed. Claim 1 will be an independent claim. If it refers back to an earlier claim then it is “dependent” so a review is not required. There may be several independent claims (e.g. apparatus and method claims which are listed separately) so each of these should be reviewed.

For each independent claim it normally comprises several elements which are listed within the claim. To infringe, all of the parts have to be used so there is an implicit “AND”. If only some of the elements are used then it is not infringed.

Sometimes the claims will refer to a particular technology area, so if this area is not of concern then a statement can be made that this patent is not of concern as it refers to a different technical field.

If it is a patent application then a search still needs to be done, but with a comment that it is not yet a granted patent so it is not in force. Between filing and granting the patent application may be withdrawn so does not continue to a patent, or the form of the claims may change. However the application may be granted at a later date so these applications should be listed and reviewed.

Thus for each independent claim there should be a statement that it is potentially infringed (if it is) or if it is not infringed the reason why should be stated(e.g. wrong general technical field, or not all elements of the claim are used).

If it is potentially infringed, if the country is not of relevance (e.g. Korea only) then a statement can be made that there is potential infringement in a country which is not of concern. If there is potential infringement then normally this would not be stated as there is a potential legal issue. The design should be changed by virtue of a potential infringement, so this will be an output of the landscape but this can be discussed.

### Conclusion of landscape

This will summarise the status of all relevant patents and discuss changes that have been made to the design in the light of potential infringement.