

**Patent Search For Engineers And Lawyers**  
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**Lecture - 22**  
**Types of Patent Search**

In the earlier part of the lecture we identified the aspects of what is the FTO search, the basis and the basics of the FTO search. In this lecture we will focus on what are the strategies in relation to FTO search.

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**Strategies based on FTO search**

- Buy the patent or licensing in
- Cross-licensing opportunity
- Design around to avoid infringement
- Patent pools
- Wait for patent expiry
- Choose a territory where no patent rights are enforced
- Argue non-infringement or potential invalidity
- Invalidate the patent

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And, what are the differences with respect to FTO visibility other types of patent search? There are several strategies that can be based on the FTOs report that is prepared. And, FTO search may provide you an option of the need for buying a patent or a licensing opportunity, so, that you can also operate in the market segment. In areas where the implementation of the inventions are across platforms or the implementation of certain processes is across products; in that case, it provides an important opportunity for cross licensing.

It is also possible that, the IP need to be pooled for instance in the electronic segment, there are a lot of patent pools. So, instead of paying for individual IP you are pooling the IP together. So, that a patent pool can be effectively a mechanism of a uniform licensing that can happen. So, rather than paying up the individual patentee you actually pay to the

patent pool. So, a scenario of a patent pool is also an opportunity that is created out of an FTO. Particularly the FTO search will also help to design around to avoid infringement.

So, one can actually look at inventing around or looking at what are the changes that can be done, what are the components that can be modified, what are the new components that can be added, what are the new steps that can be added to the process to avoid the infringement? Many a time the FTO report will also let us will also provide an opportunity to understand a later launch of a product. In this case we are waiting for the patent expiry in that particular technology area.

So, the company may actually now have adequate time to plan the launch of a product based on a patent expiry. So, therefore, looking at the patent maintenance status helps. In the case of pharmaceutical inventions and biopharma inventions, the patent term extension must be kept in mind. The other option that is available based on the FTO report is the case where, you can also choose geographies which do not have the enforcement of the patent.

So, if your report reveals that in certain countries there is that the patent is protected you can avoid those geographies. And, market in those geographies where there is no patent right. When you see an opportunity in the market that you can actually make a good profit of the product, you can actually also plan for what we call an invalidation of the patent act.

So, in an FTO search you are also actually assessing the patent strength of the competitor's patents. And, if you find that the competitor's patent can be actually invalidated, one can choose the route of invalidation of a patent. So, that is one potential case that is available or go ahead into the market and you can assert that there is non-infringement. So, that is one defense that one can take.

It is at this stage one needs to keep in mind, that today we are looking at technologies where no one is owning a given technology. There are multiple players in the market owning different sets of patents in relation to the same technology. This brings in an important question that is it possible that, there would be an there would be infringing each other's rights, yes that scenario could exist.

Because, you are here you are looking at technologies where each of them is actually holding a set of patents. And, whenever you are looking at implementing patents in a particular product, there is a clear case of infringement that can potentially arise. So, often when you are looking at an FTO search, these considerations become a big consideration in terms of a providing hindrance to the entire FTO search. It often becomes difficult to conduct an FTO search where you find nearby patents, when there is close competition in a given area of technology.

So, looking at which product, which patent, becomes really very difficult in such a scenario. So, one should also therefore, carefully choose the invalidation option, because it is possible that another case may be actually lined up against you. So, therefore, one has to really evaluate that option as well.

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Points to consider during FTO search

- Validity period of the patent should be checked
  - In case of pharma patents consider patent term extension
- Search for specific jurisdictions/markets
- While primarily issued patent are considered for FTO search, published patent applications may need to be searched
- Search for assignee can be the starting point of a FTO search

Therefore, when one is conducting an FTO search there are several considerations or points that need to be kept in mind. Since, the primarily the FTO search is centered around granted patents, the validity period of the patent should be checked. So, here you are looking at a patent term restoration, patent term extension is one thing which is kept in mind for form of patents.

Now, in many cases you can have expired patents, it does not necessarily mean that patents are available; it is possible that those patents may go into the restoration route. So, therefore, keeping track of that from the point of view of the real status of the patent

is also important. Again, the question of challenges to patents, challenges to claims need to be considered. So, there could be reexamine request being filed, in which case certain claims are already be are already at the heart of the process of where you know the reexamination process has become. So, understanding the validity of the IP in this case is again very important.

Now, search for specific jurisdictions and markets, where you are looking for the granted patents is an important consideration. Here at this stage it is important to understand the technology space. So, a survey will reveal normally for those set of products what are the general geographies or the destinations.

Now, understanding that is important to embark on the possible search for patents in those jurisdictions. So, it is never easy to conduct a FTO search, because it is possible that you may miss out certain countries. So, before even looking at you know looking at the country search with respect to the FTO, it is also it is important to track product destination routes. So, that you understand that most likely this is where the product is implemented the product is actually brought it into that particular market.

Now, when you are looking particularly into processes there is added difficulty, because of processes or components which are put into given product it is much more difficult to search for those. So, therefore, the search that you do for a specific part the country you know where you are looking at patents is always tentative. So, it is important to keep reviewing the FTO search and have an iterative process of reviewing and searching once again.

Though the FTO search is primarily about granted patents it is often important that we look at published patent applications, because those again represent the stage of publication of patents, which are again very relevant. In many other jurisdictions the question of non-publication request can actually delay the publication of patents.

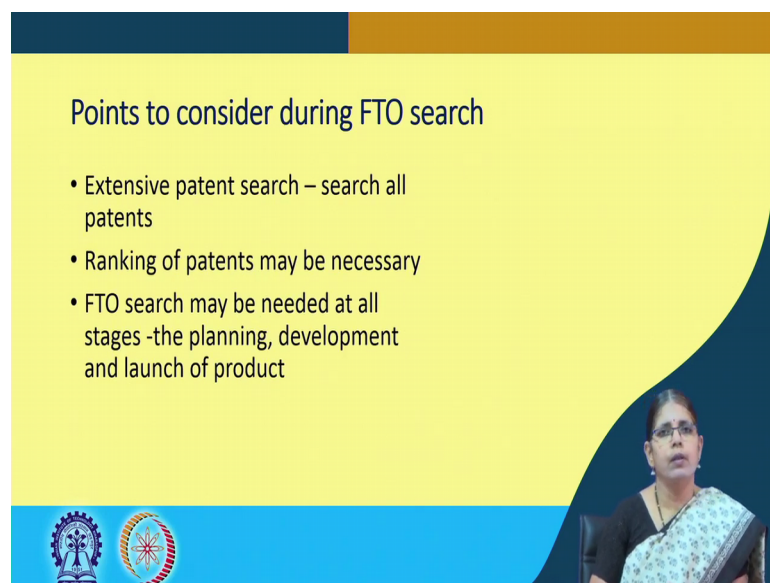
So, one needs to keep in mind the aspect of publication of patents also as a part of the FTO search, this is relevant also to now track the technology space. So, depending on whether the FTO is done at a very early phase or a later phase, some of these can become very imperative, in terms of the search. In some sense when you are doing an FTO search, search for an assignee becomes also useful because the assignee may have

different subsidiaries in different countries, the assignee may be bringing in different types of products into different countries.

So, search by assignee, if you remember in the earlier lectures in the simple aspects of search we dealt with the aspects of number search, assignee search. It is here that you can find the relevance of the assignee search, that it tells you the spread of the assignee with respect to the different subsidiaries, the different holdings and then the different technologies that they are bringing in the different geographies.

So, while the FTO search is centered around looking at granted patents and patent information. The FTO search also reflects on a lot of general business information that you are actually cataloging. So, you are actually trying to understand, where are the products of the competitor in the market and where is the competitors business and business interests are.

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Points to consider during FTO search

- Extensive patent search – search all patents
- Ranking of patents may be necessary
- FTO search may be needed at all stages -the planning, development and launch of product

Another important aspect that we need to keep in mind is the aspect of work including the entire gamut of patents in an FTO search. This is often difficult because while you are doing a country based search in relation to the FTO, keeping in mind the PCT route is important, what are the newer patents being filed inventions being filed for patents at the patent offices.

So, so, tracking that may bring in this consideration of looking at the entire search in relation to the entire patent data set, while prosecution history information is not so, very important in this particular case, but; however, when you are looking at a related patent applications that information is again important. And, if the FTO search is coupled into an invalidation search yes prosecution history information becomes important.

So, while the general FTO search is first planned, now while you do an FTO search you get an idea about actually, you get important leads in relation to well this is some important information available in relation to a patent, which may be necessary, which can be material for invalidation. So, and many in many other instances certain information becomes material such that they space available for creation of IP.

So, an FTO report is a very dynamic report to that extent and an FTO report is actually a completely researched report providing you different levels of information not just the patent data. Another important aspect is the ranking of patents. Now, we discussed the aspects of where technology space may be very closely represented by a diverse set of patents, there could be a patent ticket. In which case there could be technologies covered in those patents which are very close by.

So, therefore, ranking of a patent data is important in order to look at which of the patents actually are that are relevant in relation to that particular product. Another aspect, which an FTO search provides as an advantage is FTO search has to be done at every stage, that is during the planning, during the development, and during the launch of a product. So, understanding the value on FT of an FTO search is very important from the point of view of the role of a patent searcher.

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**Points to consider during FTO search**

- Understanding risks at a very early stage
- Attorney's need to work with technical teams for technology assessment
- Ranking of patents may be necessary
- FTO search may be needed at all stages -the planning, development and launch of product
- Detailed FTO opinion imperative to avoid litigation

Doing FTO at the right stage and review at the appropriate time

So, for a company which is in the early stage of manufacturing of a particular product or bringing in a process in relation to manufacturing a particular product. The need for an FTO search at a very early stage should be realized and this is what is the importance of an FTO search. This would mean that the company is involving a best practice of looking at an FTO, at a very very early stage of the manufacturing of a product. And, not waiting till the product is made and during the launch of a product there are risks in relation to patents.

So, in such a case the FTO search is routinely done. At every stage of one as we discuss the planning the product development at the different stages of the product launch itself, so, the entire lifecycle to that extent. There are certain important things which attorneys needs to keep in mind, when you are doing an FTO search whenever there is a FTO search done in an early phase of where the manufacturing is being planned.

And, attorney will come up with the information in the form of an FTO opinion, it is at this stage and attorney may need to sit with the technical team to assess whether there is space available in relation to the manufacturing, what are the risks at hand, how long is the manufacturing planned so, that the product can be launched into the market without the infringement of IP.

So, the technical assessment becomes an important stage. So, an FTO search would naturally enlarge into what we call the technical assessment or the feasible assessment of

that particular technology. So, often attorney sit with technical teams to discuss and the technical team gets the input and provides the information in relation to what are the aspects of the product that have been planned in relation to the development and manufacturing of that particular product.

So, a detailed FTO opinion is a imperative to avoid litigation. So, how detailed should be the report, it all depends on the number of patents available, it also depends on the area, if the area is a high technology segment, covered closely by a lot of technologies in the form of patents, then a detailed report is necessary. Not only in the case of a product launch, in the early phase of the FTO where the company is looking at an option of manufacturing a particular product even there also you need a detailed FTO report. And, why is that so, because essentially the FTO report is all about risk mitigation.

And, so, therefore, one needs to keep that particular aspect in mind. So, doing the FTO at the right stage is important, what is also important is reviewing it at appropriate times in it keeping this in mind.

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The slide features a yellow background with a dark blue curved border on the right. At the top, there are two horizontal bars: a dark blue one on the left and a brown one on the right. On the left side, there is a blue box containing the text 'Freedom to Operate'. On the right side, there is a blue box containing the text 'Freedom to Action'. In the center, a green speech bubble contains the text 'How are they different?'. Below the 'Freedom to Operate' box, there is a pink box with a list of bullet points: '• Nature of industry', '• Technology partnerships', '• Part open source part IP', and '• Open innovation'. At the bottom of the slide, there are three logos: the Swamyam logo (with the text 'FREE ONLINE EDUCATION swamyam'), a logo for 'Maha Vidya, Zindagi Ka Vidya', and a circular logo with a sun-like design. In the bottom right corner, there is a small video inset showing a woman in a saree speaking.

We also need to understand today the difference between freedom to operate and freedom to action. In the earlier part of this lecture we discussed about the aspect where, there are multiple players in the segment and patents are owned by different enterprises.



So, actually there could be no freedom to operate in each of the cases. Every company will come across a scenario where there will be no freedom to operate. What to do then? But, products will be planned, this is the stage at which we are looking at what we call the freedom to action, that is a company is well aware that bringing the product into the market will necessarily lead to IP infringement.

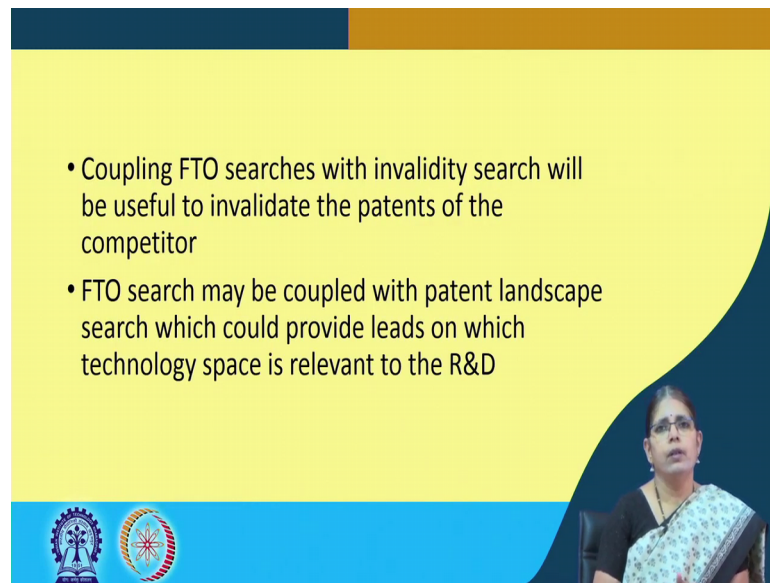
But still the product needs to be brought into the market. And, it is at this stage where you are looking at what should be the kind of partnerships that would be developed, how to effectively cross license the IP? How to ensure that the route of licensing works well for all the players in the market? And, this is particularly relevant for those technologies, which are highly complex for technologies, which are where there is a lot of interoperability that exists.

So, today often the term of freedom to action is also being used as a kind of an alternative or rather beyond the freedom to operate, because yes in certain cases there is no freedom to operate, but then there should be an option of a level playing field for all players in the market. So, there are opportunities coming up in that.

So, the nature of the industry becomes an important consideration, what kind of technology partnerships can be taken up, a lot of discussion happens for instance a very recent scenario of medical devices was being discussed where the case of a freedom of action is being planned. Also today a lot of technologies have open source used as the important starting point for the developing of IP.

So, this part open source and then there is IP derived out of open source, there open innovation platforms that are being also used to generate IP. Therefore, as we move into the complexity of a open source vis a vis open innovation the nature of how we will be looking at FTO reports is bound to vary.

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- Coupling FTO searches with invalidity search will be useful to invalidate the patents of the competitor
- FTO search may be coupled with patent landscape search which could provide leads on which technology space is relevant to the R&D

Often the FTO searches move into what we call a larger aspects of search patent search. So, it is possible that there is coupling of FTO searches with other types of patent search, when an early stage of FTO is taken into consideration where you are looking at in during manufacturing. And, you identify that yes there is freedom to operate, there you are potentially looking at filing of IP. In which case one actually plans for the search in relation to where you are looking at the need for understanding novelty all of that. So, one can actually look at that option.

Now, an FTO search may reveal that there is no freedom to operate. In which case, if you think that you can actually replace the market. And, in the case where the patent is not so, strong of the competitor you can actually plan for a invalidation. In which case the FTO search will be coupled with an invalidation search, in the earlier lectures we discussed the aspects of invalidation search. So, that can be now coupled with the FTO search to look at which claims to be invalidating and what set of patents to be invalidating with respect to the competitor.

Sometimes the FTO search may also lead you to doing a patent landscape search. So, for instance in the early aspects of the FTO search, if you realize that there is some space in this area of technology where you can actually bring in a product. You may want to assess your invention a future invention in the entire technology space where does it actually fit in. In which case you would undertake what we call the patent landscape

search it will be an elaborate search in relation to listing out the entire set of patents in a given area.

So, it provides you what we call technology trends in relation to that particular area. And, how does this help, it helps to actually provide you the gaps that are available between patents. So, one can actually embark on R and D. So, an FTO search can be coupled well with a patent landscape search and so, today FTO searches can mean quite elaborate and extensive searches in relation to the practice.

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Advantages	Limitations
<ul style="list-style-type: none"><li>• Reduces the litigation costs due to an unintentional infringement scenario</li><li>• Helps in tracking patent expiry for product launch</li><li>• Exploring potential licensing options</li><li>• Assess who are the potential assignees or clients for purchase or investment in a given product</li><li>• Orient R&amp;D to work in a specific technology area</li><li>• Expired patents provide a 'safe harbor'</li></ul>	<ul style="list-style-type: none"><li>• FTO cannot assure 100% clearance</li><li>• For PCT application, national entry phase need to be tracked</li><li>• Complex product integrate many technologies</li><li>• Potential competitors identification can be difficult</li><li>• Language barriers may hinder accurate evaluation of patents</li><li>• Difficulty in finding patent equivalents in some jurisdictions</li></ul>

As we now realize there are several advantages of FTO search. Let us look at some of those primarily it reduces litigation cost. So, that an early opinion is sought on the options that are available. The other aspect is one can actually plan product launches, depending on the patent expiry and this is particularly very relevant in many areas of technology including the formal.

Potential licensing options can be actually taken up based on the FTO opinion. Who are the people, who could be the provide you investment in relation to the IP, understanding of that can be realized from the point of view of the FTO report. It is also possible that you may be operating in a small space of that particular technology, which may be of value to the competitor. In that case you may actually look at selling away your technology to the competitor.

So, that assessment also can be done in terms of who are the ones who want to purchase this particular technology, FTO becomes a very very important option for those involved in R and D. So, that the R and D can be oriented to specific areas, today enterprises are investing a lot of money and effort in order to create products and processes of value. It is not always a pleasant thing to note that we work that one is working on technologies which are not no longer novel, which are no longer of value to the market.

So, therefore, in all those segments where products are being brought in where innovations are being planned by companies to bring in production to the market. So, in all those segments it is important for an R and D to keep in mind that a regular FTO search will be helpful in order to steer the R and D in relation to specific technology areas.

A search for patents may also help the industry to use what we call the safe harbor option, that is now that the patents are expired are no longer valid the industry can actually operate in that particular segment. So, this is how one can actually utilize the option of where they are expired patents and actually it can bring in production to the market.

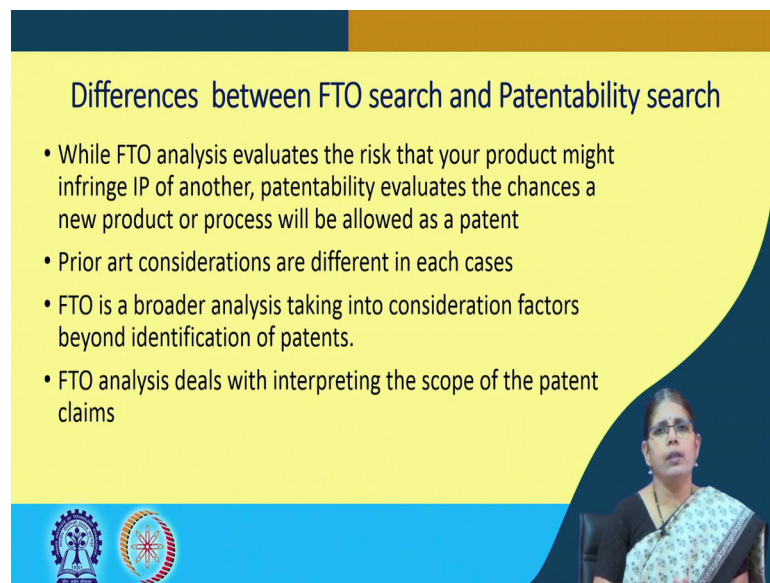
There are limitations of FTO search as we had discussed earlier no FTO search can give you 100 percent clearance, there are several limitations. One is that there are language barriers, which can actually prevent the accurate evaluation of a particular patent. Certain patents are not published in regular times at a patent office.

In which case that information is not available, some of the documentation that is available at the patent offices may not provide you the full description of the invention in which case again the question of mapping becomes a difficulty. Keeping track of the entry into the national phase of PCT applications can be quite an arduous task, particularly if there are many geographies that are involved.

We discussed the aspects of complex technologies, where the product may have an integration of many different technologies, which means patents belonging to either one technology as patents sets or patents can actually belong to different technologies. So, doing an FTO search would mean a real elaborate assessment of those patents and the link with respect to the product.

Sometimes identifying potential competitors may be very difficult, because the information in relation to a business entity may not be actually provided in the public listing. So, that information may not be available. Another important limitation is the difficulty in identifying patent equivalents and different jurisdictions, which can materially affect the process of the mapping of the product to the patents. So, keeping in mind these limitations are important when you embark on a FTO search.

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**Differences between FTO search and Patentability search**

- While FTO analysis evaluates the risk that your product might infringe IP of another, patentability evaluates the chances a new product or process will be allowed as a patent
- Prior art considerations are different in each cases
- FTO is a broader analysis taking into consideration factors beyond identification of patents.
- FTO analysis deals with interpreting the scope of the patent claims

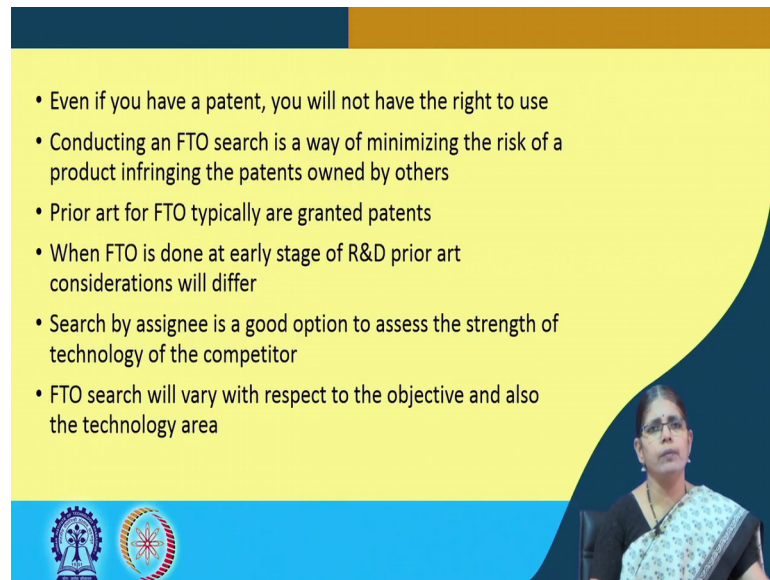
The slide features a yellow background with a dark blue header and footer. In the bottom right corner, there is a small video inset showing a woman in a saree. The footer contains two circular logos: one on the left with a gear and a tree, and one on the right with a sun-like symbol.

There are differences between the FTO search and patentability search, because essentially if you look at it from the point of view of a prior art considerations. In the case of FTO it is granted patents. The scope of the search also is; obviously, different in relation to FTO where you are really looking at the patent claims in this case in the FTO whereas, in the case of a patentability search, one is essentially looking at evaluating an invention for the purposes of novelty non obviousness.

So, in the case of a patentability search the issue is all about whether an invention will be allowed under a particular law, whether the patent office will allow it as a patent. In the case of an FTO analysis is typically a case of a risk analysis, the risk of infringing on an existing IP. The FTO search is typically a broader search unlike the patentability search, because it takes into considerations factors much much beyond the identification of patents.

So, we discussed about the need to understand business information, the need to understand other data in relation to FTO. So, therefore, there are differences essentially between the FTO and the patentability search.

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- Even if you have a patent, you will not have the right to use
- Conducting an FTO search is a way of minimizing the risk of a product infringing the patents owned by others
- Prior art for FTO typically are granted patents
- When FTO is done at early stage of R&D prior art considerations will differ
- Search by assignee is a good option to assess the strength of technology of the competitor
- FTO search will vary with respect to the objective and also the technology area

So, in summary if you have a patent it does not mean that you will have the right to use, because it is possible that when you are bringing the product into the market there could be other patents which would be infringing on. So, conducting an FTO search will help minimize the risk of infringing of the IP, usually the FTO search is done in relation to granted patents. However, when you are looking at FTO at an early stage of product development it could mean even beyond patents which are necessary to search.

So, those considerations will differ understanding the search by assignee is a good option to look at the strength of a technology of a competitor. The FTO search will vary with respect to the objective of the search and also with the particular technology in focus.

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The references for this lecture are from the patent search workbook developed by the course instructor and patent search tools and techniques by David Hunt.

Thank you.