**Patent Search For Engineers and Lawyers**
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**Lecture - 09**
**Introduction to patent search (Contd.)**

So, the harmonization of patent law has had a big impact on the way a patents were classified and indexed.

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So, to bring it altogether; so, of the file sharing systems have had big changed the development of INID codes which we also discussed in the earlier lecture. The international patent classification system and the continuing development on that; today we have what we call the country code IPC concordance that is simple illustration of that would be the for instance if the US patent is classified as per USPC which is the US patent classification, there would be a corresponding IPC code for it.

So, the equivalent codes are represented by the country code and the IPC concordance. So, that is one way of representation and of course, the development of the cooperative patent classification system again is making in bringing in some level of harmonization in terms representing certain classification course. There are minimum guidelines in relation to subject matters for patentivity. So, therefore, if you really look at it from the

point of view of claiming in certain particular subject matter in the way it is represented in patents documents, that is also brought in some level of search requirements.

So, today it is search is not only about pattern searches as professionals. In fact, even within the patent office there their guidelines developing. So, there are interfaces being developed for automating search even within the patent office to provide for examiner and easier platform. So, today we have a lot of examiner assistant search tools where pack the examiner may be looking at you know certain subject matter, which is allowed or not allowed under the law. So, that would bring in you know easy retrieval of information which are you know put in specific category.

So, today we have this examiner assisted search tools which help in actually pulling out you know requirements in relation to a particular subject matter. So, that is where the relevance of it is in this particular context. Now another significant development has been the building of what we call the TKDL database, which is very important contribution of India to the classification system.

So, very briefly touching upon the aspects of TKDL is based on the positions filed for by in India to certain patents being taken in the US and EP for the inventions based out of tradition knowledge which are inherently recognized as knowledge traditional knowledge in India. There was a need for development of the traditional knowledge database so, that this important part of traditional knowledge itself as a prior art is a is what was became an important considerations.

So, the traditional knowledge database represents four different systems of traditional medicine which are catalogued. And this database was shared with the USPTO in 2012 and 2004 and then again after the post case in the EP on the name case which was in 2007. Today more than 40 patent different patent officers actually adopt the tradition knowledge data digital library. Now what is the importance of this traditional knowledge digital library as per of the entire documentation? So, what it simply means is that when an examiner at a given patent office is looking for the prior art in relation to a particular patent, he will also necessarily screen it through the traditional knowledge digital library.

So, if there is any invention which is based on the traditional knowledge in relation to a particular plant source or a biological source, immediately it will flash to the examiner that there is possibly a prior art which is in inter interfacing in that particular invention.

So, that brings the examiner to looking at that the examination of the patent application in relation to a prior art, that is existing in the traditional knowledge digital library. So, this is a very significant development. Not only this India is also contributed based on this the traditional knowledge resource classification where in about 200 different subclasses of IPC were included into the IPC, which have based on the traditional knowledge information itself.

Today there are also specific patent databases like the Chinese medicine database which is the TCM Traditional Chinese Medicine database; so, where you can look for the patents specifically in relation to Chinese medicine. So, again if you really look at it from the point of view of patent documents, one another important thing which is important is the PCT minimum documentation. So, again aligning the requirements of documentation in relation to the PCT regulations is also one important thing. So, wherever the patent officers are accepting PCT documentation, PCT based applications it is important to adhere to the minimum documentation in compliance with rule 20 rule 34 of the PCT regulation.

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So, we come to an important aspect of discussion now on databases. So, there are different patent databases and the understanding what are the databases, what are the components of the databases is the first important thing before we really embark on a patent search. So, broadly speaking there are two different types of databases one is what

we call the free of charge patent databases, where the public access is possible for instance the US PTO website, the JPO website or the any of the patent office websites where the public data is available is the free of charge patent databases. Then today there are also a lot of databases which are organized by you know companies which actually sell them so, that people can actually undertake search and analysis in a very defined way.

So, there are fee based databases also which are predominantly subscribe databases. So, before we really embark on understanding different databases, there is one important thing every searcher must keep in mind every patent searcher must keep in mind is that, no search service or database is comprehensive in all the aspect of patent information. For instance even public databases may not be complete. For instance it is possible that in this week the patent officers publish certain documents which are yet not catalogued in the database. So, one must look at search from the point of view of understanding the background of the updation of the data in each database.

So, therefore, no search service is actually totally comprehensive from the point of view of covering all patent information. So, this is something we need to keep in mind. Now the second different aspect that we need to know is that, each database is inherently different and the type of search service that is available is also be different. So, therefore, understanding features of a database is important before we embark on a search.

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So, if you look at patent search this is a very simplistic mind map created to understand where we search for different patent databases and how the different patent databases are available from different patent offices whether they are public sector public publicly available databases, services provided by national patent offices or regional patent offices. Or, even by WIPO which is the patent scope as you can see in the logo that is provided there and there are lot of free of charge also private sector, where today the area of patent search has picked up and gained so, much of importance that search engines are also providing us you know various ways in which patents can be searched.

So, there are also some of these deliberately created you know different type of patent databases, for instance we have Google patents patent lengths are representative of some of these free of charge, but they are developed by private entities. Then of course, we have this fee based private sector you know entities developing databases which are on a service based once. For instance you have orbit which is from questel which is a French concern, then you have patbase which is can be used and then there is STN, there is also Thomson innovation from Thomson Reuters, there is total patent and there is WIPS global.

Now, some of these subscribe databases are inherently very good for doing analysis. So, they provide us very good analytical options in terms of creating the patent landscades, in terms of providing the portfolio information telling us the gaps in between patent. So, they provide us easy user interfaces and also you know help in generating reports much more easily and so, mostly for professional work people also sometimes use these databases which are subscribe databases. So, you have the entire gamut of databases developed which are again here again you have different catering to different type of uses.

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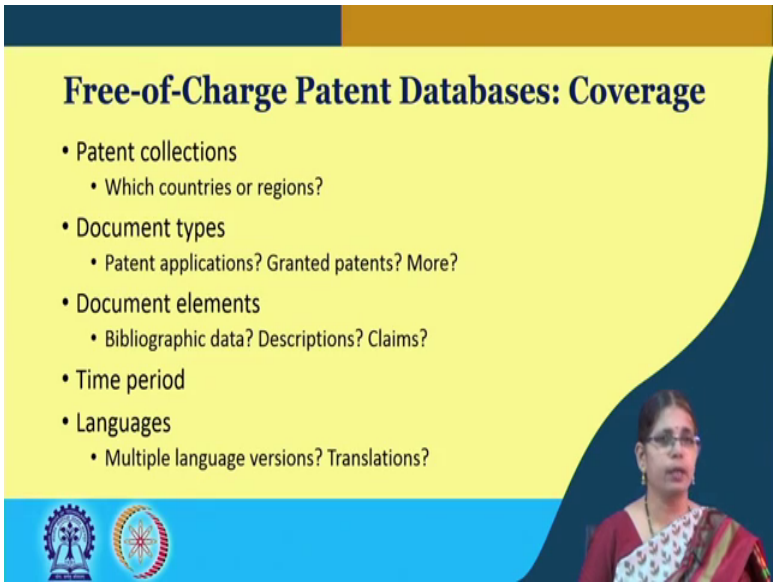


Let us understand little bit about free of charge patent databases and a little bit about that. So, whenever we look at any particular free of charge patent database, the most important thing that we need to take into consideration is what is called the coverage. So, what are the different patent collections that are available that is one important question to ask; that means, this patent database represents which countries and regions. What are the type of document types that are available at a particular in a particular database? Does it give us patent applications only? Does it give us also the granted patents what else is the information that is available and in this particular database?

How do we how are the how is the data captured in terms of bibliographic data descriptions and claims? What kind of time period of data patents are available? Because patents we talked about some of very early patents were available only in microfilms. So, today can we access those as part even the online set of patents that are available. Again an important consideration in relation to patents is language. So, language is an important consideration because in many of the countries they are actually printed in their language. So, do we have translations available for the particular patents?

For instance today you have manual translation you also have machine translation of claims and the other area of patent practices also been of curating machine translated claims into making them as near to the actual claim terms. And this is very important

because languages can present a different inherent issues when we are translating claims. So, it is also important to look at what languages does the database support.

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Now there is several patent database collections the if you look at the a world intellectual property organization, which offers a search service called the patent scope which is again provides information on the publications which are done worldwide in relation to PCT filing and also the arrangements under the PCT filing.

So, one can access that from patent scope. Now, Espacenet is the database which is for accessing applications in predominantly in relation to European patents, it also supports a lot of patents in its collection which are about from other countries about more than 8 different countries are covered under the E space net. Again this is a very unique a database for searching patents where you can also get concept based search in relation to patents.

Now, JPO also has this intellectual property digital library which is which has patents with specifically only related to Japan. USPTO has a patent database which supports application data, grand data and specifically in relation to United States though they also have this collection, which also has the PCT collection which are entry of PCT applications into the United States and also the expanded US p c class collection as well which is the which will talk about in the later set of lectures.

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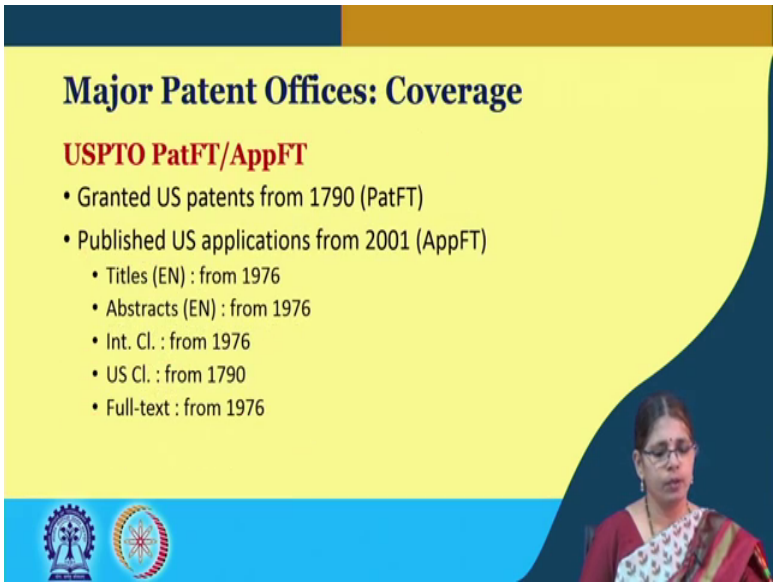


So, the granted patients that are available at the USPTO database start from the patents the first patent granted in 1790 which we saw in the earlier set of slides. They also have the application database the documentation which essentially is all the entire set of US published applications from the year 2001. So, suppose one way to really search for titles only.

So, you can get titles from as back as 1976. Now if you really looking at classification codes you can go back to from the time of 1790. That full text information in relation to patents was actually available at the USPTO from the time of 1976. So, you can imagine earlier to this there was very little formal documentation of the entire patents itself at the USPTO.

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So, if you look at the USPTO interface and this is one representation of the USPTO access to full text databases. So, you can you can have a look at this PatFT which is the availability of full text from 1976 and then it provides for quick search option advanced search and the full page images as well. And then of course, these information that you get on the history of the you know the entire file status of the documentation itself.

There is also the other database which is the AptFT which is the application database and this is available from 2001. So, these are the two different places where one could actually embark on doing the search. So, understanding this is important.

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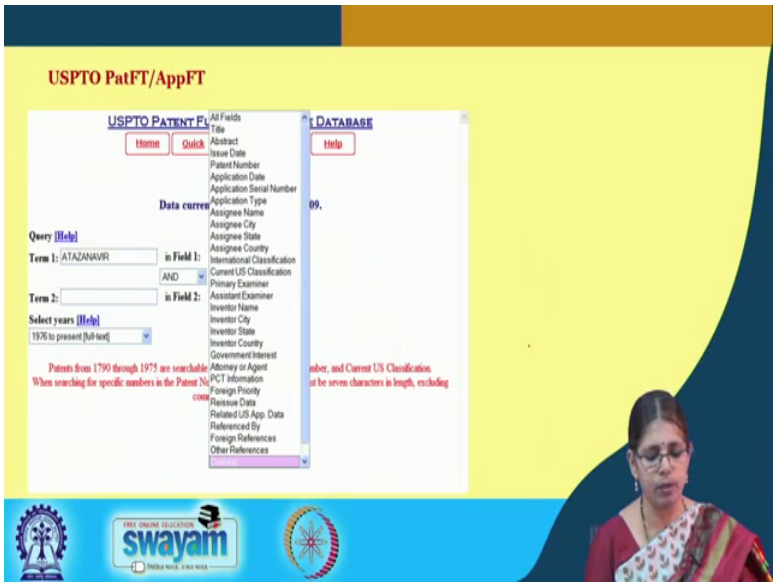


These are the various fields by which one can search for patents at the USPTOs. So, for instance you are looking at a you know the different categories of title abstract date patent number classifications. So, where you can actually look at the IPC, you can also go to the current US classification, you can understand who are the inventors and whether it is a federally funded this patent this invention is actually federally funded in which case government interest is there provided that information is to provided. Then is there any foreign priority with respect to a particular application and then all the different references and the related US application data is also provided.

So, this is a simple interface where you can see these are the different fields by which you can search for patents by which you can search for patents, and then you can actually combine them with using with one term and another term. And what you see here is an important category select years. So, I mention to you earlier about the different database that are available. So, the full text database that are available from 1976 to present. So, you can chose an option through and then look at the specific type of a database that you are looking at.

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And, this is how the search results are thrown once you actually undertake any particular search. For instance if I was searching by for the Atazanavir which is again age based drug I am getting 1 out of 5 hits and these are the titles of the patents and the patent numbers and you one click on this will take you to the entire patent data that is available on that particular patent.

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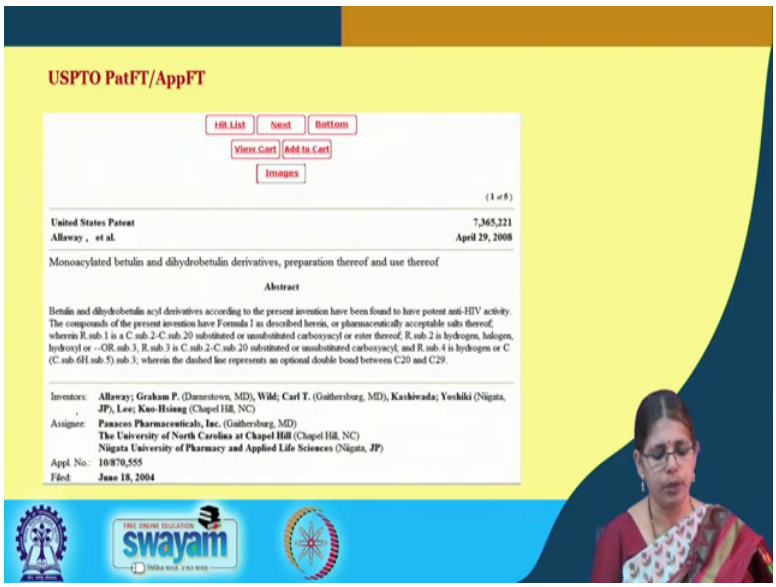

So, this is one such patent where you can see the details of the title of the patent, the abstract the details of the abstract who are the inventors assignee, when what is the application number and when was this patent filed.

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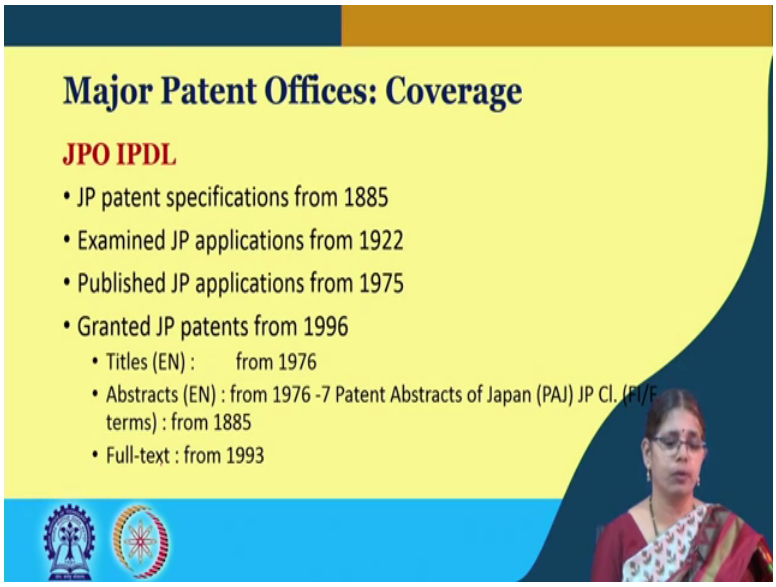


So, today we can access all of this information on the electronic mode. Another patent office information is the intellectual property digital library at the JPO and the this basically has applications beginning from the year 1885 and the examined JP applications available from 1922, then published applications at the Japanese patent office is have been available since 1975.

So, you have data from them and of course, you have the granted patent data also again. So, understanding the thresholds of actually from when the data is been available is important because many a time when you are searching you may not get information, that time its important for you to understand that does the database support actually that set of information from that year. So, therefore, it is important to look at this sort of the coverage of the particular application itself.

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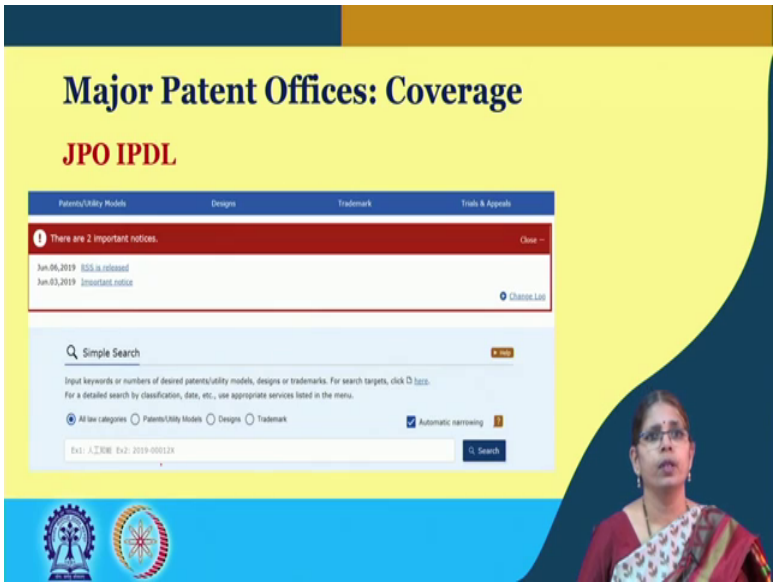


Now, this is another simple interface if you look at it from the point of view of the IPDL. So, this is a simple search which helps to you to search by different categories. Now in the case of Japan you can search by patents or also by utility model. So, that is another category. So, you can search by and of course, there are other intellectual properties you can search for by designs as well as trademarks so, also at the Japanese patent office website.

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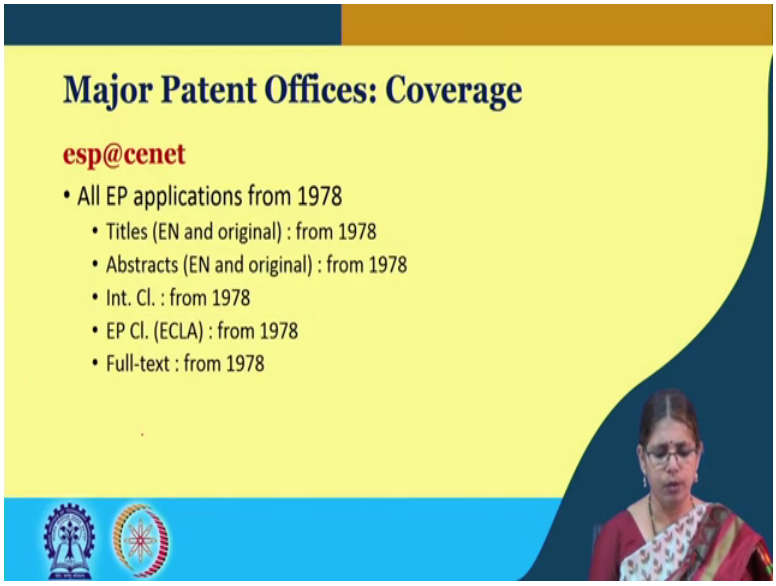

Espacenet is another major patent office and it has different types of coverage with respect to different type of data for example, if you look at all EP applications available from 1978. For instance if you are looking at the more uniform way of representation, almost all categories of the patent documents have been made available from 1978 itself.

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Now, this is one representation of these space net interface which is the website is given as and this illustration. So, the Espacenet provides. So, what we have these smart search which is the advance search and the classification search. The smart search is interesting because it also provides phrase search or the concept based search.

So, you can actually given particular phrase for instance I may say optical laboratories for a digital pen. So, it will throw up all the patents in relation to optical laboratories for digital pen. So, that is where we have access to the documents and as mentioned earlier the database also supports more than 80 different patent office information. So, that is and then it is also the other thing which is also important to note is that all these patent offices have updation of data either on a Tuesday or in a Fridays. So, you must remember that the most recent information relation to patents could be on that particular day.

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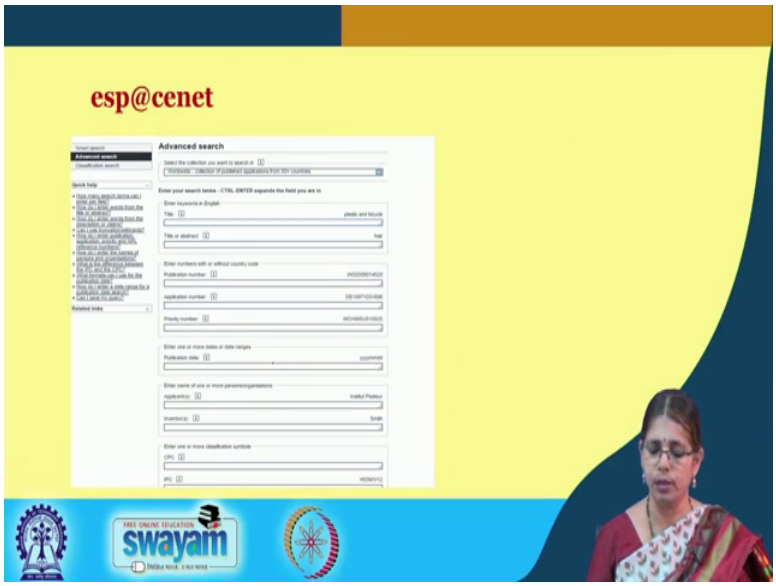


So, knowing that is also equally important. Many of the patent databases also support the not only the simple search, but also the advanced search because that is where you are looking at adding further categories in and homing down on specifics of each type of a patent. So, here they you can actually look at the different categories that are provided here and search by any of these or more categories in relation to searching for patents.

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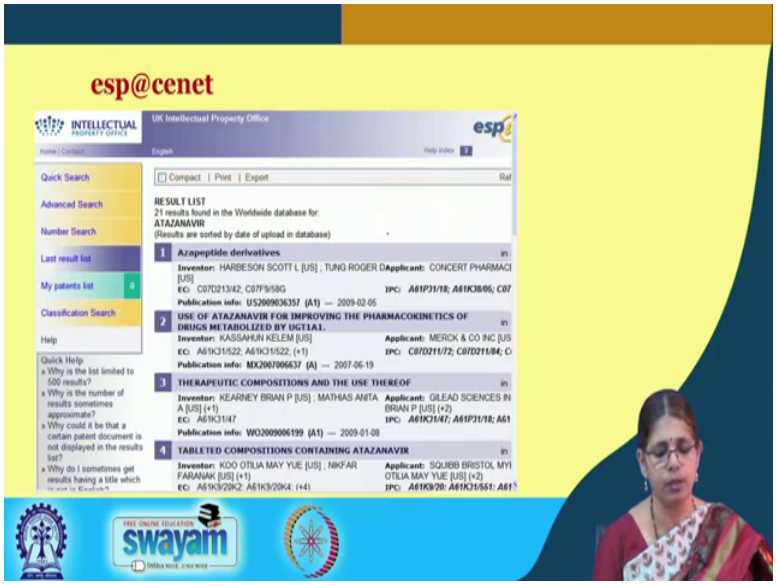


So, that is where you can see the; so, same search of that particular molecule of Atazanavir on the Espacenet is thrown up so, many different applications you are getting.

A different way of representation if you see here where, in the case of the US patent database, you could see the patent number and the title as the very first interface that you could see.

In this case you are not only seeing the title of the invention, you are seeing a simultaneous you know information on the inventor information and the publication information and you are getting the IPC, you are getting who is the applicant. So, these interfaces; obviously, are different you know each database has its own way of supporting and also presenting information.

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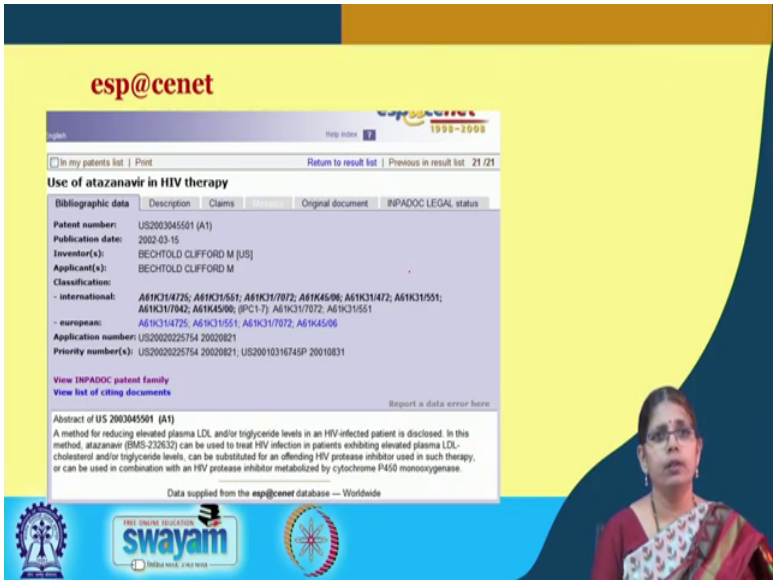


And when you click on the particular patent application, you can get layered representation of information. For instance if you click on the bibliographic data you are getting all the entire basic data on the application including the inpadoc family data, you click on the description then the claims and all the other documents.

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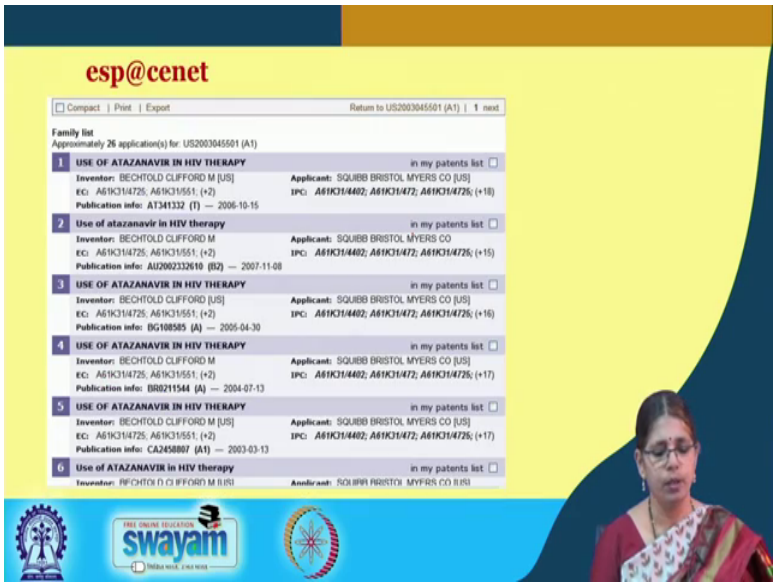


So, you can get a very layered view of each of these documents and these is again when you are back to this particular search, you can again surf through the other links that are available to a access the other different patents.

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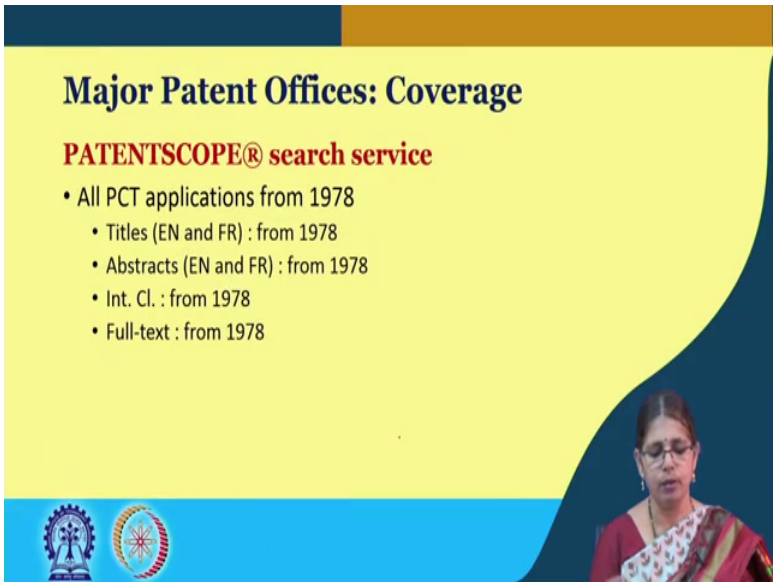


One of the other major source of database, with respect to patent so, application is the patent scope and patent scope information supports all PCT applications from 1978 and this is a very robust search service to look at patent applications available on the worldwide basis which is through the PCT mode.

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And, this is the interface that is the patent scope interface where you are searching for international as well as national patent collections and that is the important thing of this. Patent scope is supported by the WIPO it is database available at the WIPO website. It provides you different ways in which you can search for PCT publications and the information relation to the different patent offices.

So, almost you can search for more than 75 million documents and every now and then the database is enriched with additional documentation that is available.

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Now, the if you look at this structured search in relation to the patent scope and this is how you see the different categories thrown up. You can search by publication number application number, you can look at the English abstract of that particular for instance if its a Korean document file you can get the English abstract. So, you can understand national phase of that particular application.

So, that is also important for us to and you can get a whole lot of information in relation to searching for what we call the world wide applications. So, they are marked with what we call WO numbers and that is how you identify a PCT document.

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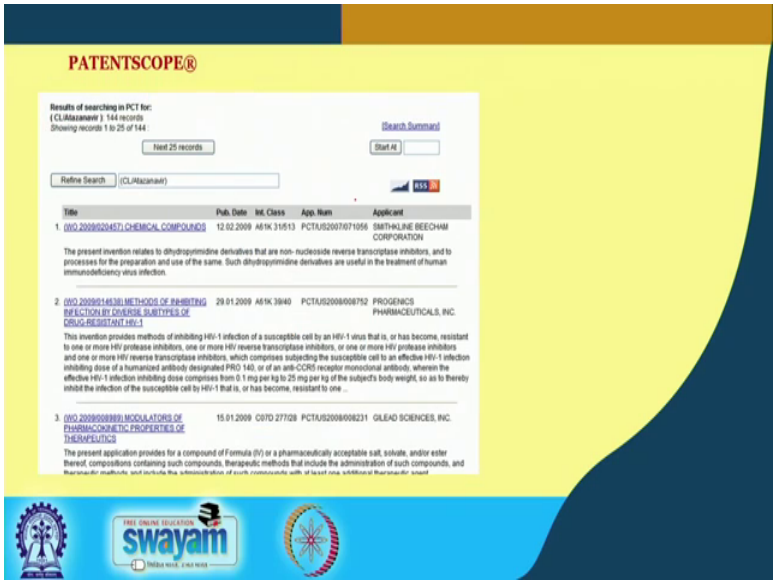


And, this is what is I mentioned the WO what you see here indicates that it is a PCT published document. And here again you see the representation of data is very different, you can see the link for the invention and here which is which is underlined. You can find the publication date, you can know the international classicfation and the subclass, you can understand the PCT application it is coming from the US priority and who is the applicant.

Another application you find. So, these are the various applications available in relation to that particular compound.

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And if you look at the individual patent, you can get a whole lot of information which is a bibliographic information most importantly you can get the priority data. It tells you the priority is as early as 2007 June 22nd and of course, a most another important information is the designated countries. So, you have all these difference are the codes of each individual country you have Australia, you have all these. So, Germany so, you have these different so; that means, that this particular application has been designated or which is relevant for all these particular countries. So, this is again an important.

So, by now you I have possibly understood that each database is providing different type of information which is again unique to its own database.

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So, we come to the important consideration of looking at having looked at information related to patent data and also the structure of different type of databases. It is worthwhile to note that patent search itself is an important job for many people and these are the various job titles. So, one come one comes across when it comes to patent search today people are hired either with the technical background or for or with techo legal background to be working either as patent engineers or they are called IP engineers, patent unless they also called knowledge scientist patent associates.

So, these are the various terminologies. So, it also talks about the this provides us an important site into that patent search itself is a big profession. So, that is what one needs to really appreciate when it comes to the importance of patent searches.

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So, the summary of lecture is on two aspects we have discussed. So, the purpose of patent search on how we need to look at direct in future R and D investments, strategic planning, how to enhance existing capability by searching and before bringing in products into the market realizing the value of patent searched.

Patent search history in terms of from where it was in the earlier times to where we are now from the manual process to today looking even at artificial intelligence assisted processes for really you know organizing a huge patent data in to an online you know into an online fore and also providing for data to greater speeds.

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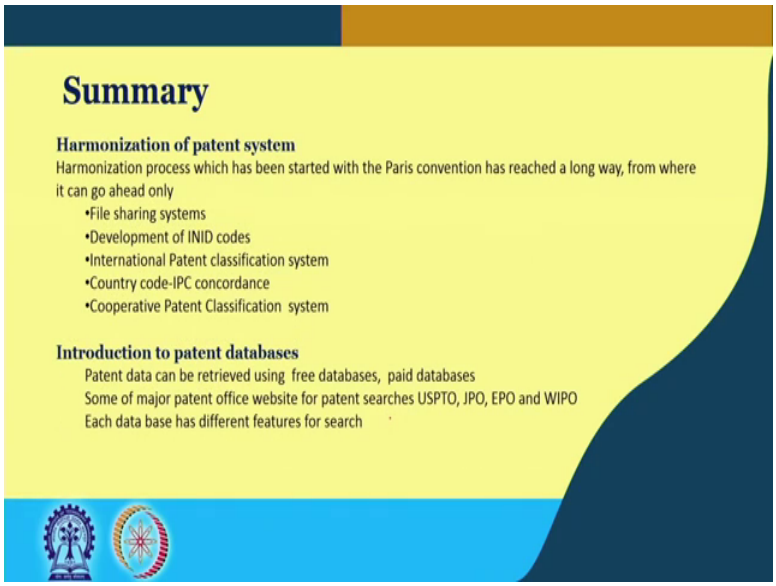


So, this is the value of the understanding the patent search itself from the historical perspective. Again the value of harmonization of the patent system one from the point of view of the patent offices practices sharing and another from the point of view of patent treaties which have had lot of relevance in relation to the development of the patent office practices from the point of view of sharing information, indexing information and documentation and also harmonizing the entire the practice in relation to classification as well as in relation to documentation.

So, that is again another perspective that we have learnt today and we also learnt a lot about the different patent databases on in terms of what are the interfaces and how each of them is unique from the other.

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So these are the various references that are available for access and there is a one book which is available which is patent search for tools and techniques by David Hunt; which provides some in site into aspects of patent search.