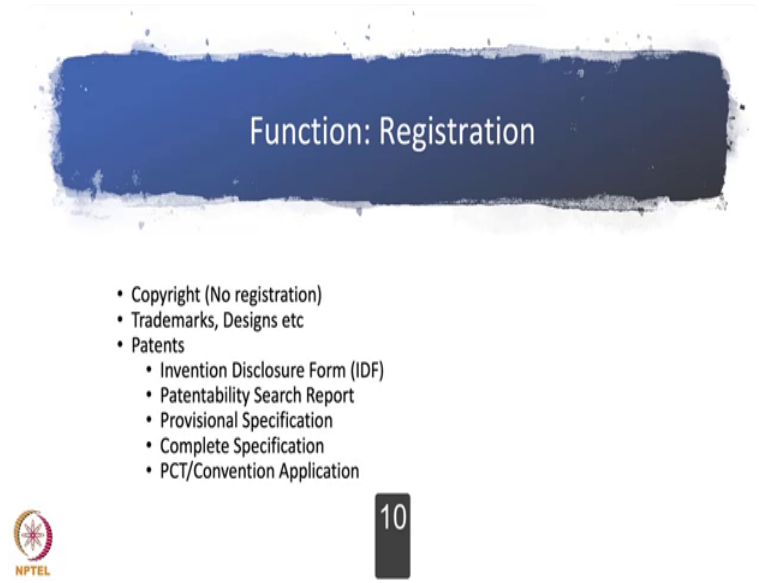
Managing Intellectual Property in Universities
Prof. Feroz Ali
Department of Humanities and Social Sciences
Indian Institute of Technology, Madras

Lecture – 44
Setting up IP Centres Part 2

(Refer Slide Time: 00:13)



The third function is a registration. There are some IP which we have already covered which do not require a formal registration copyright the moment it is created and published it gets protected. There are others which require registration like trademarks and designs. Patents require registration and for filing patents there is a series of steps that the IP centre has to involve in before a patent can be filed.

The first step will be to get a working disclosure something which we covered in last week's class and the working disclosure resident is done by filling an invention disclosure form or IDF and based on the IDF they can be a patentability search report that is generated to see whether the patent will stand the scrutiny of the intellectual property office. Then they could be a call taken on whether to file a provisional specification or a complete specification. There could be instances where a provisional makes more sense and we have covered this again and there could be instances where a complete could be the best way forward. And, finally, also take a call on whether to enter

foreign markets whether the patent has to be filed in foreign countries by a PCT application or a convention application.

Now, these are the registration related functions of an IP centre.

(Refer Slide Time: 01:38)

The IP centre was also involved in maintaining the IP. So, the basic function is what you will find in record-keeping. So, all the records of the IP filed are kept. So, at renewals are done on time. If the IP needs to be surrendered there could be instances where there is no commercial worth and there is no need to keep it keep renewing the IP. So, in such cases it can also be surrendered and by not paying the renewal fee it will be treated as an abandonment or a or they could also be cases where an application which was filed which for whatever reason there is no commercial potential coming up or the promise that it held is no longer there, applications can also be withdrawn.

So, there is quite a lot of record keeping involved in when it comes to filing IPs and as the IP portfolio of a university grows then it would also require you to have some tools like software to manage this. So, the maintenance function also involves apart from record keeping the licensing of the IP that is already granted. Now, licenses can be exclusive licenses; they can also be non-exclusive licenses.

In the non-exclusive licenses one of the models that universities can explore is the open licensing model. To allow industry people to take up the invention and to use it, but once

they commercialize it or once they start earning revenue they start sharing it with the university. So, you could be they could also be open licensing models which can be explored and licensing can also come by way of pattern pools where multiple owners of patents pertaining to a particular technology pull the pattern together on an understanding that they will cross license it to each other.

Now, the maintenance function of the IP centre goes beyond licensing; it also goes to enforcement what we call litigation. The only way you can stop a person from using your technology which is protected by patterns is to litigate and to get an order from the court restraining that person from using your patent. Now, this can happen in two ways; one, in some cases it would be prudent to inform the person whoever has utilizing your IP with a cease and desist notice – asking the person not to continue what he is doing as it is protected by your right.

Now, this is a call that the professional has to take as to whether to go for file a notice first or whether to go directly and file an infringement suit. So, infringement suits are the are cases filed before the court where you ask a person to stop infringing your patent. They could also be declaratory suits which can come as a part of the enforcement function of an IP centre.

(Refer Slide Time: 04:49)

Now, we have seen that it is the research output that needs IP protection, but research output is based on what we call an input which is the research spending. So, unless there

is a budget or unless there is research activity there will not be any IP that comes out of research activity. So, the need to; so, so you will find that when there is a push to have an IP centre or to have patents or to have to submit the number of patents you have filed, granted and commercialized. Though there is a push on this metric and patterns being a metric by which you can gauge the amount of research that is happening, you will find that the other side of the coin is that there has to be investment into research. There has to be a research happening within the university and the idea of pushing IP is that it also enables and facilitates a culture of research. So, one of the things you will find is that by incentivizing IP protection there is it could influence the way in which research is conducted. So, the input part involves spending time, resources and skill in research.

Now, IP protection as we said is the output that protects the results that come out of this research. Now, the output can be in different places it could be in research work which is which has to be found before publication it could be in PhD theses, it could be in consultancy projects, it could be in joint venture with industry, it could be in arrangement based on an MOU between other institutions and research centres. So, IP could come out of any of these places and this is where the IP centre will be monitoring to see whether any is coming out of these a avenues.

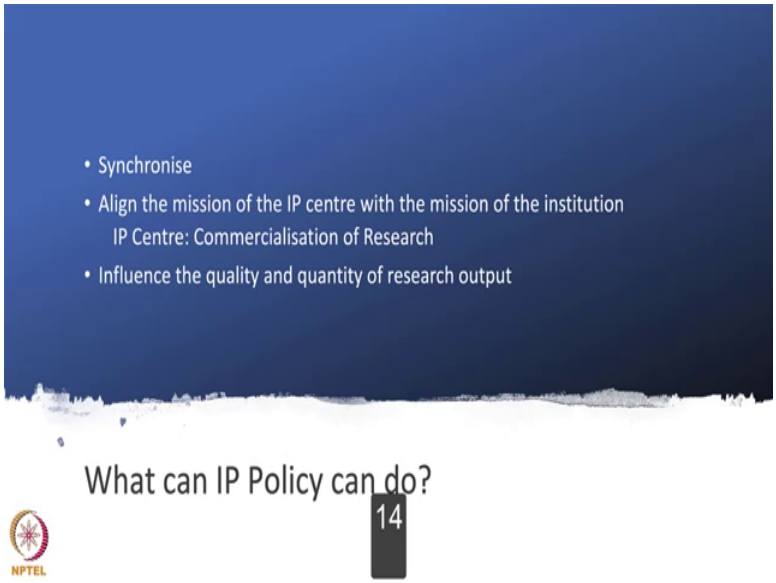
(Refer Slide Time: 06:55)

Now, what is the objective of an IP centre? Now, we had mentioned that the objective is research commercialization that is the main objective and they could also be instances

where even if there is no research, but the faculty or the students come up with an subject matter that can be predicted by IP again the IP centre can facilitate that. So, for the objective of the IP centre to be translated into reality there has to be clear guidelines on how the IP centre works and there has to be a clear indication of the objectives and mission and goals of the IP centre.

Now, this is usually captured in a document called the IP policy, the intellectual property policy or the intellectual property rights policy.

(Refer Slide Time: 07:47)



Now, let us look at the intellectual property policy as to what an IP policy can do for an institution. One, it can synchronize the research efforts of an institution. In an institution may have different departments, all involving in different kinds of projects and research work. This the policy can synchronize it because the policy is going to speak to everyone it is going to tell them what are the benefits of engaging in research. It is going to tell them if the research get commercialized then there is going to be revenue sharing or profit sharing and this would be something that will be commonly spread; it will be captured in words and it will be a document that will that is shared to everyone in the university, so that everybody is at the same level when it comes to understanding research and the commercialization of research.

Now, this would also help to align the mission of the IP centre to the mission of the institution itself. Now, the institution as we have seen a commonly has objectives as

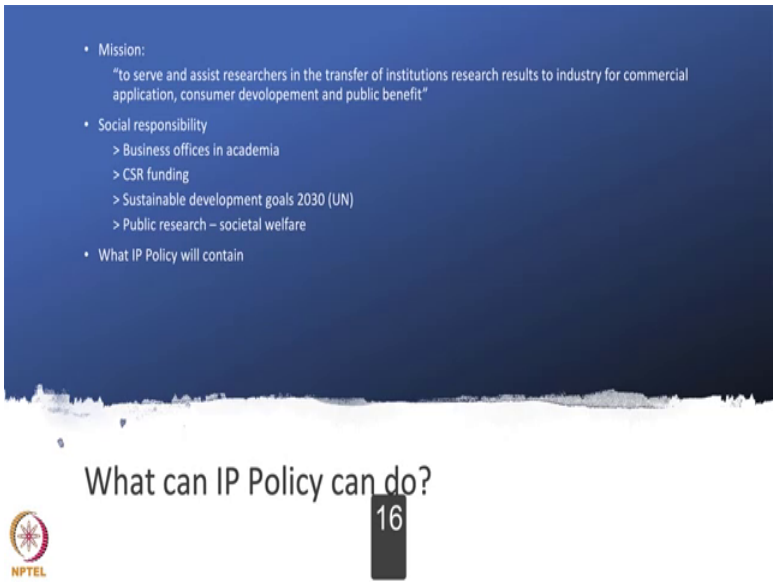
teaching and research, and these are common objectives which most it a higher educational institutions have. Now, the IP centres mission has to be in sync with the institution's objective. So, this is what we say that there has to be an alignment of what the IP centre is doing with what the institute is doing. So, this has to come out clearly in the IP policy.

Now, the IP policy can also influence the quality and quantity of research output. Now, you may wonder how just the policy can do that because the policy is seen as a road map to the future and the policy is also seen as a document that captures good practices. Now, when use when you mention in the IP policy that a patents will be filed for trestles of research, and if when they are commercialized the revenue will be shared with the inventors, then that itself becomes an incentive for people to look at the quality and the quantity of their research out.

(Refer Slide Time: 10:05)

Now, the policy document can spell out the mission statement of the IP centre. Now, the IP centre does service and in most IP centres the service is fully subsidized by the institution till the IP centre starts earning revenue through commercialization and the IP centre also does economic development it creates jobs, it has avenues for growth and the IP centre also act as a facilitation centre between the university and the industry.

(Refer Slide Time: 10:39)



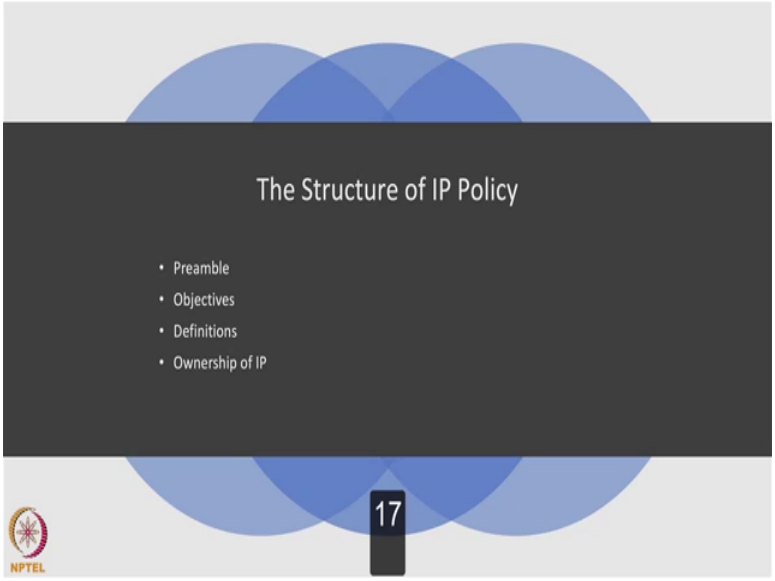
The mission of an IP centre could typically be something like this to serve and assist researchers in the transfer of institutions research results to industry for commercial application, consumer development and public benefit. It is a very broadly worded message mission statement, but this is this is something which any IP centre can have as it is mission statement.

Now, one of the things that IP policy should consider this social responsibility. Now, the we understand that the IP centres are business officers in an academic environment, but if the social responsibility part is articulated well then they could become eligible for CSR funding they could also become eligible for other funds which are there and it will also be in tune with the sustainable development goals of 2030 that have been set by the United Nations and the United Nations has already clearly stated that the what the sustainable development goals are. So, the social responsibility will actually make the IP centres role as something that will also befit the society.

So, so we are not just looking at filing patterns and commercializing them, but there is also a social responsibility in the research activities of the institution that can be spelled out clearly in the IP policy. And, the university can also engage in research of things that are of interest to the public keeping in mind the societal welfare.

Now, what will an IP policy contain?

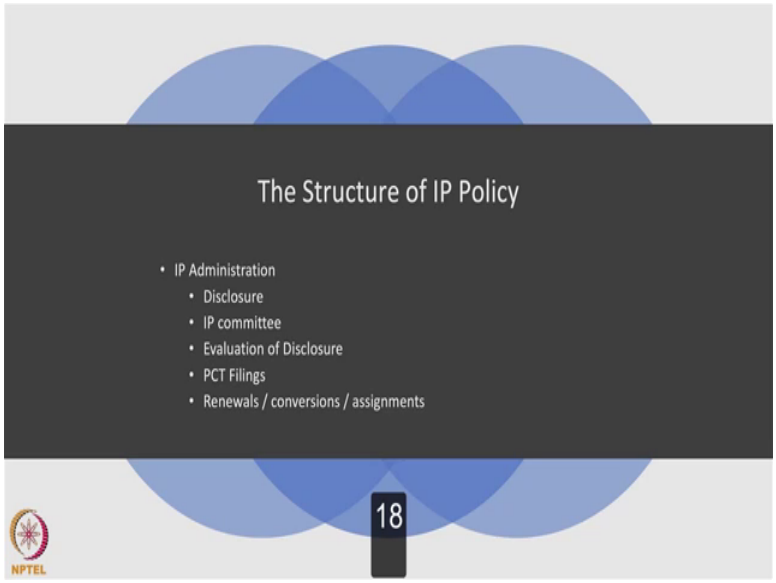
(Refer Slide Time: 12:26)



Now, let us look at the structure of an IP policy. The IP policy will start with a preamble, it will have objectives, it will have definitions clarifying; what are, what is a copyright, what is a patent intellectual property rights, it will have various definitions, confidential information, it will have a provision on ownership of IP, who owns the IP and there could be some distinction here, when it comes to copyright the institution may say that the copyright shall be owned by the professors and students who created the material whereas, when it comes to patents it may hold that the institute holds it.

So, these are variations that you institute can create knowing the differences involved in these in the creation and ownership of these rights. So, there will be the IP policy should capture a statement which makes it very clear for every stakeholder in the university on ownership of intellectual property rights.

(Refer Slide Time: 13:21)



Then IP administration, what we call IP management is something that has to be clearly demarcated how disclosures need to be collected, there has to be an IP committee which can decide or take a call on the investment that has to be made into filing IP and the IP committee will also look at the instances where a invention has to be protected locally or whether it has to be protected in foreign countries and as well. And, the IP committee would normally be constituted by faculty members who just assembled whenever they have to take a decision on some matter involving IP.

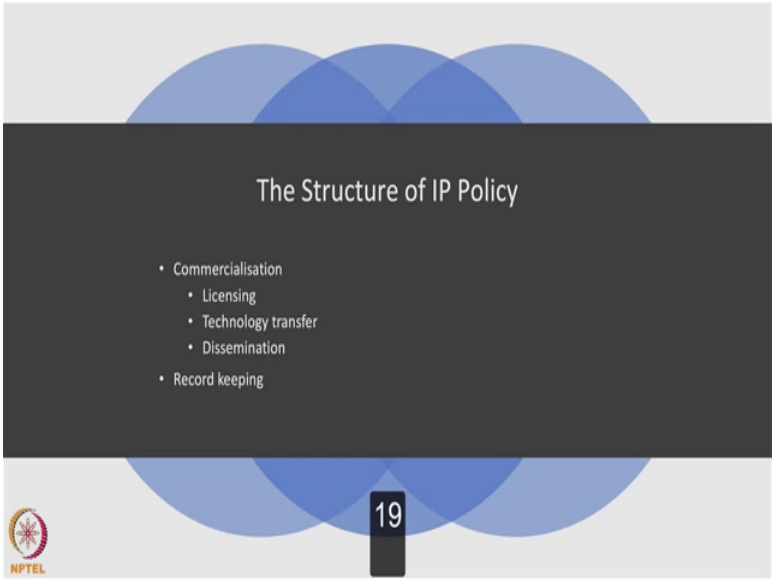
Now, evaluation of disclosure is again something that pertains to IP administration done by the IP centre and a filing foreign applications what we call PCT filings is again something that has to be provided for in the IP policy. Renewals, conversions, assignments and the IP policy needs to spell these things out. Now, the conversion part is something which is often neglected in an IP policy there could be instances where the routine manner in which patents are filed is by filing a provisional because provisionals are normally filed in a hurry there is some urgency to be met and you file a provisional. But, then following it up with a complete is something that would be done within say 12 months time.

So, the IP policy can clearly spell out though the provisional had to be filed in a situation of emergency the policy can spell out that there has to be a patentability search conducted before a complete can be filed. Now, the patent will research actually acts as a

measure to check the quality of the IP. So, if universities are having problem in commercializing IP it could also be due to the quality of the IP itself. Industry is known for it is ability to quickly analyze the quality of an IP and the industry may not partner with a university if the quality of IP is one bad or if the industry feels that these are patterns that cannot be enforced or if the industry feels that there is a way to work around these patents.

So, for all these reasons patents have to be filed in a way in which it captures the invention effectively and also that a call has to be taken as to or an audit has to be done what we call the patentability search report has to be generated before there is a conversion of a provisional into a complete.

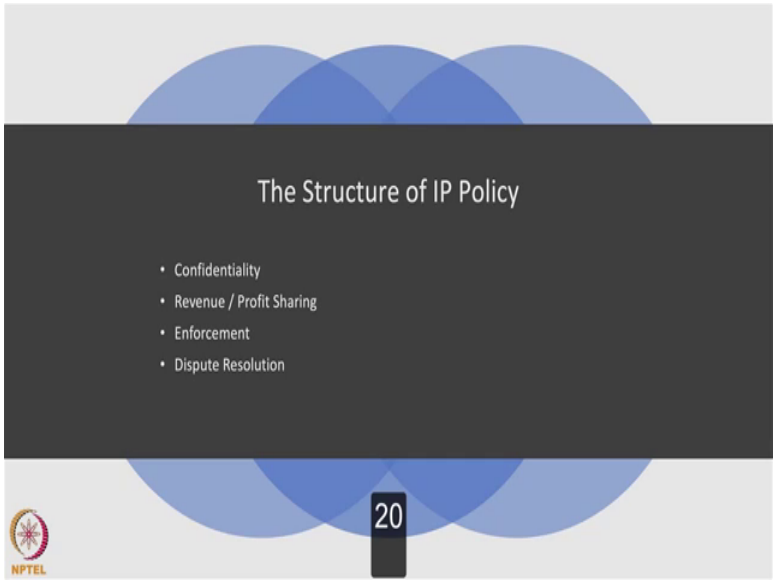
(Refer Slide Time: 16:11)



The policy will also provide for commercialization by what are the different means by which it can be commercialized by licensing and I already suggested that open licensing is a model that especially publicly funded university should consider; technology transfer what are the means by which that can happen and also dissemination, because dissemination itself is a way in which invention can be commercialized or diffusion.

Record keeping is a function which has to be enumerated in the IP policy how the records will be kept and where they will be stored, whether it will be centrally managed.

(Refer Slide Time: 16:55)

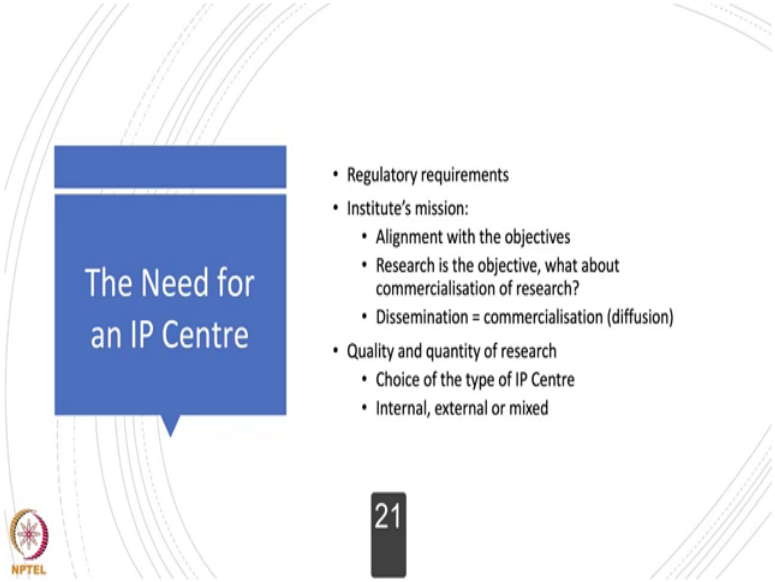


And, confidentiality because IP involves quite a lot of confidential information and you may have to have a policy on disclosure itself to third parties because every disclosure that is protected by a nondisclosure agreement does not invalidate a patent, it cannot be used for killing the patent novelty. So, all disclosures that come through a non-disclosure agreement are protected and it does not affect the novelty of an invention. So, that has to be clearly spelled out in the confidentiality part.

There has to be a statement on revenue sharing. Revenue sharing is one thing which universities are doing, but then there is also something called profit sharing where the university would only share the profit which means all the expenses incurred in filing administering and renewal of the patent is deducted and what to share is only the profit that comes.

Enforcement is again the policy has to provide for enforcement what will be the measures it will take, how it will involve with third parties and how it will take it forward and for dispute resolution. Dispute resolution we refer to the disputes with regard to IP that can arise within the institution and they could be in they has to be a mechanism and internal mechanism for solving disputes that arise.

(Refer Slide Time: 18:21)



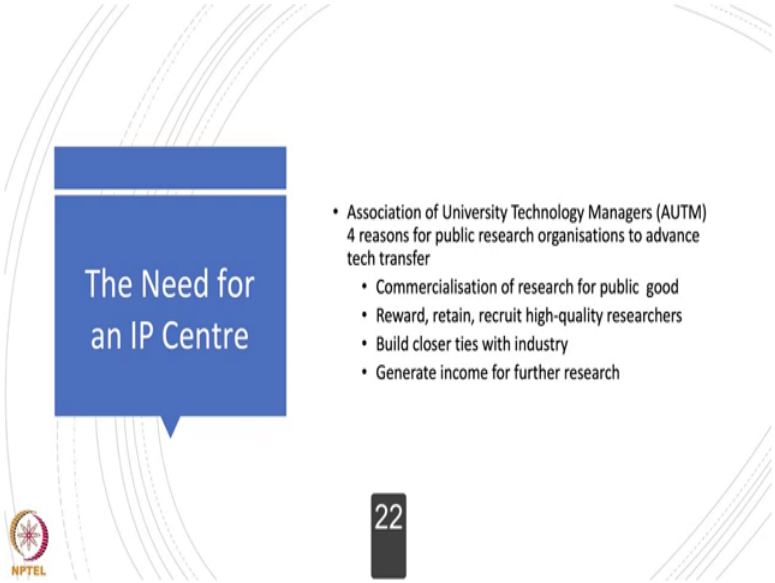
The need for an IP centre and we had seen that there are regulatory requirements which mandated and they sometimes it could come from the institutes mission itself if the institute is involved in research then there is a need to protect the results that of the research and the institute can also have a call on what kind of research needs to be commercialized. Normally basic research is not commercialized it is only the applied research that gets commercialized. And, as we said dissemination itself can be considered as commercialization.

Now, the IP centre will be a centre that can look into the quality and the quantity of research. So, this becomes an internal organ within the university which can look at the quality and the quantity of research. Now, the choice of the type of IP centre can depend on the amount of research that is being done in the institute. Now, it can be you can have three types of IP centres you can have an internal IP centre the IP centre has established runs and functions from within the institute. You can have an external IP centre the IP centre is run by a third party. It is not it does not have any office within the institute, it is completely managed by the third parties.

You could also have a mixed model. The mixed model is where there is a small office there is an internal part to it, but the internal part does not do all the functions and we see we saw that there are multiple functions that an IP centre does. So, the internal functions are little and the or rather it is a mix of internal and external. Some functions are done by

the team that is there internally other functions are delegated to a third party service provider.

(Refer Slide Time: 20:27)



Now, the Association of University Technology Managers – AUTM, lists out four reasons for public research organizations to advance technology transfer. 1 – commercialization of research for the public good; 2 – having one the technology transfer allows you to reward retain and recruit high-quality researchers. It builds closer ties with the industry and it generates income for further research.

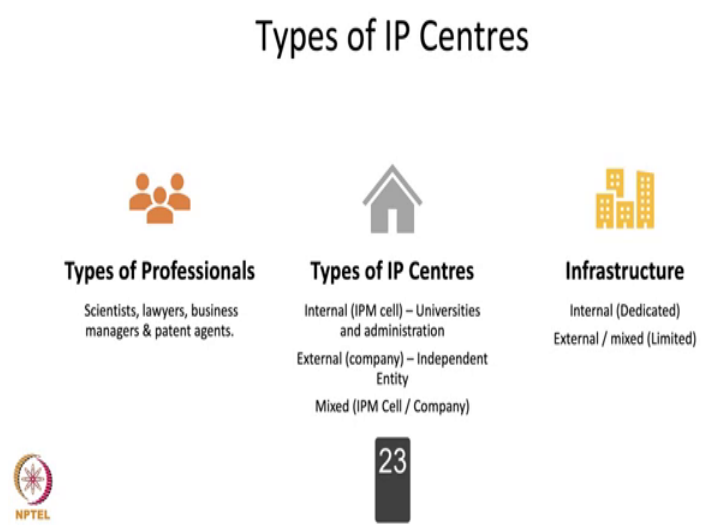
Now, why should a institute involve in technology transfer or what is the need or what is the benefit that a university gets in establishing an IP centre or in doing this in involving in technology transfer. So, first thing is that there is a public good perspective because all the research that is done is protected and it reaches the market. So, there is whatever happens within the university does not remain there, it is taken to the market and there is a public good involved in it.

Transfer of technology the AUTM tells us can itself become a way to reward quality researchers and to also retain and recruit people who engage in high quality research. So, if there is a culture of technology transfer then there is going to be setups by which we identify quality research, we identify the products that come out of quality research, we protect them and we commercialize them commercialize them and when they are

commercialized a portion is paid back to the researchers as royalty. So, when that culture is there AUTM tells us that it could attract better talent to the university.

Building closer ties is an obvious outcome because once the university starts commercializing its research and publicizing the technology that is patented by it industry would be interested in having closer ties with the university. And, the money that is generated from research can be pulled back into running the centre and also in into further research.

(Refer Slide Time: 23:02)



Now, let us look at the type of IP centres you can have. Now, for to run an IP centre to run a full fledged IP centre you read different types of professionals. You need people with science background in science scientists, lawyers who can look at various aspects of documentation or legal documentation, you need business managers who can look at the commercialization perspective and potential and you need patent agents.

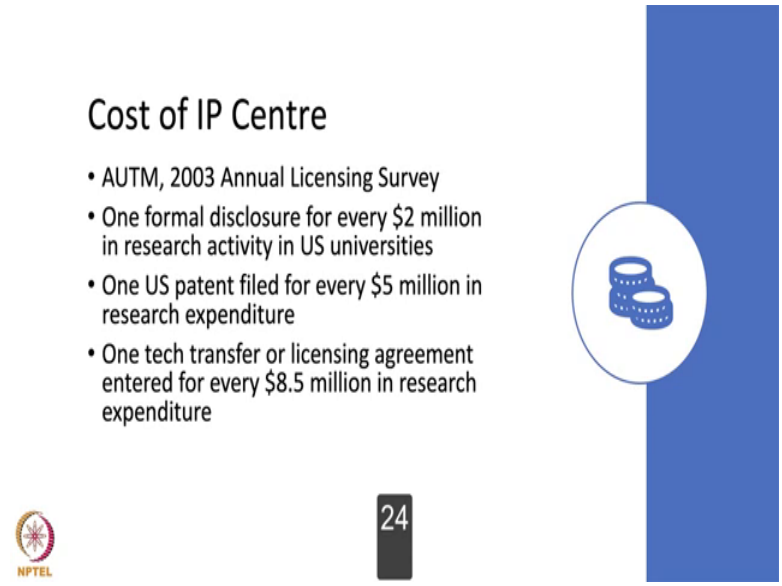
So, in effect you need to have people from four domains – the scientific domain, the legal domain, the managerial domain; MBA or graduates who have a background in business management, and you need to have the people who are at the interface of law and science what whom we call the patent attorneys or the patent agents.

Now, the type of IPM centres or IP centres the internal one as we mentioned are the typical IPM cells that you will find in many public refunded universities in India. Now,

these are administers administered from within the university itself. The external one could be a service provider or a company which is an independent entity which would run the IP centre for a institute or a university. The mixed variety is the IPM cell is there, but it is a small or a nascent IPM cell and it interacts with a company or a law firm to get the work done.

Now, the infrastructure required would for an internal it has to be dedicated infrastructure there has to be equipment, room, staffing and all the other concerns which we had seen in last week and there is also the infrastructure for an external or a mixed one could be limited because there are professional working remotely with the university.

(Refer Slide Time: 25:03)

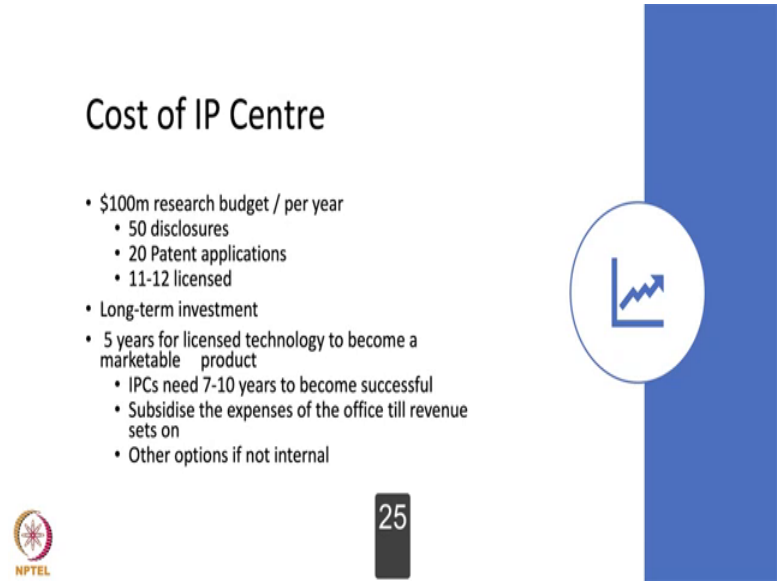


Now, the cost of the IP centre we had already touched upon this last week the AUTM, 2003 Annual Licensing Survey estimates that one formal disclosure for every 2 million dollars that is spent in research activities. Now, this is computed based on the input. I had already mentioned the input into the research is the research spending. So, the survey tells us that for every 2 million dollars that is spent in research and the search includes setting up labs, payings for salaries, for researchers everything the outcome is one formal disclosure.

And, one US patent is filed for every 5 million dollars in research expenditure now this is the data for you to understand that there is an input before IPR comes as an output. And, one tech transfer or licensing agreement is entered for every 8.5 million that is spent in

research. So, so you can see the amount of investment that gets in before the IP or the protection comes.

(Refer Slide Time: 26:15)

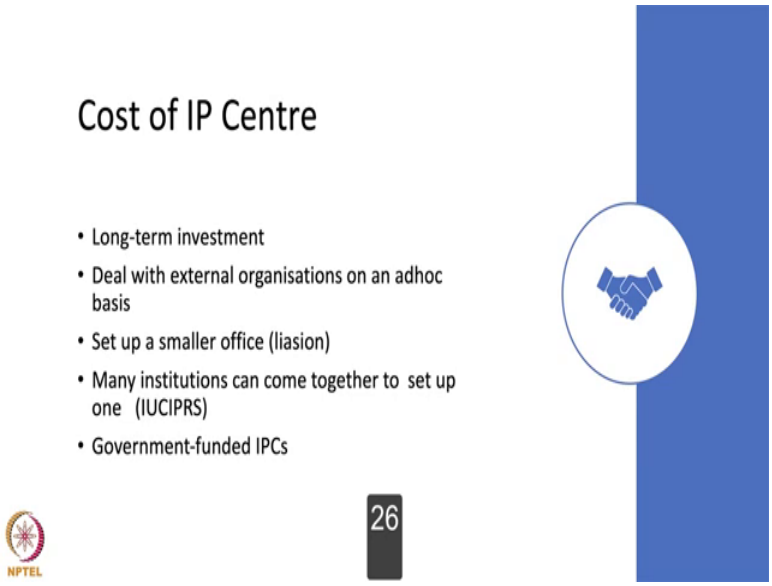


Roughly, if an institute has a 100 million dollar research budget you could get 50 disclosures, you could file 20 patent applications and you may get 11 or 12 of them licensed to the industry. Now, you will understand that for a university to involve at operations on this scale, the IP centre has to be a long term investment because of the expenses involved because of the long term commitment, it is tied to the research, it is not something you can run for few years and then shut down. So, it has to be a long term investment.

Now, it is said that it takes 5 years for a licensed product technology to become a marketable product. So, again there is a long time gap between the investment made and recouping the investment. So, this is something that has to be factored by the in institution because institute that spends money in establishing an IP centre is going to see profits only after sometime. IPCs or IP centres need 7 to 10 years to become successful, till such time the university will have to subsidize the expenses of the office till the revenue sets in.

There are other options if it is not internal as we had seen the external model is something which can also be explored.

(Refer Slide Time: 27:41)



Now, because of the long term investment involved the preferred model for institute which is looking at filing patents and starting up a new culture then it will be more viable for them to deal with external organizations on an adhoc basis. This would also bring down the cost by setting up a smaller office they can set up a smaller office and do the liaison work between the third party service providers and stakeholders and the university few institutions can come together and have set up a common IP centre.

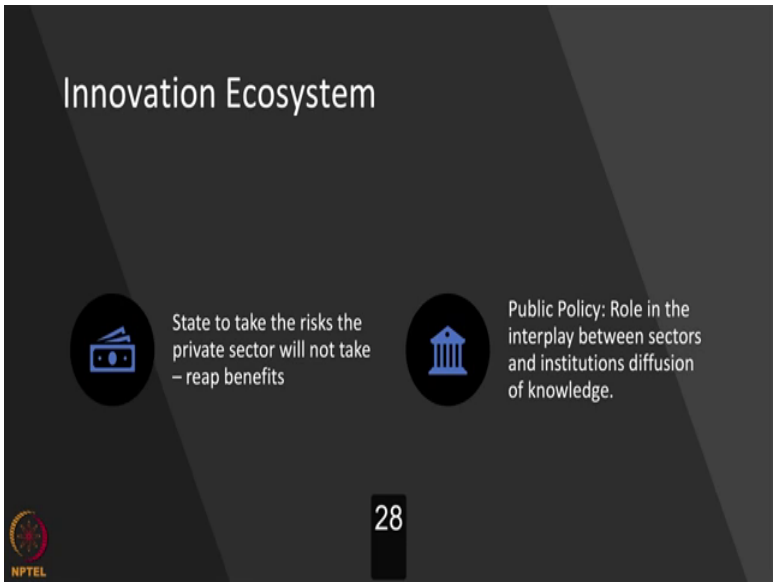
Now, we have one in cochin university it is called the IUCIPRS which is in centre it is an inter university centre. So, if the IP centre sits in an inter university centre that could also bring down the cost of establishing a IP centre. And, you could also have government-funded IP centres like if all the CSIR labs have a common IP centre that could also facilitate for other government research organizations.

(Refer Slide Time: 28:54)

Now, we just saw how intellectual property rights are connected to the research output and how the research output is connected to what gets into research. So, when we are looking at this we have to have a broader view of the innovation ecosystem. Now, innovation ecosystem means many things to many people, but largely we are looking at some kind of a cooperation between the public sector and the private sector.

And, innovation by definition has a collective character so, that there are open innovation models. The most important part in innovation or in an innovation ecosystem is diffusion of knowledge. So, in whatever way it is set up it should be set up in a way in which there is diffusion of new knowledge throughout the economy and there it is not just R and D spending that is important, but this dissemination of knowledge across horizontal barriers.

(Refer Slide Time: 29:55)



The state does take some risk.

(Refer Slide Time: 29:57)

Now, how is an IP centre connected to an innovation ecosystem? You can use the IP centre can monitor and measure the research and development it can promote innovation and as we said IPR is a shorthand for innovation because the world intellectual property organization actually pushes IPR and expects innovation to happen because IPR is considered as a short form for understanding innovation and they can be timely activities that the IP centre can do to boost the innovation ecosystem and we could also have goal

oriented research for instant research that is targeted towards societal needs and market needs.