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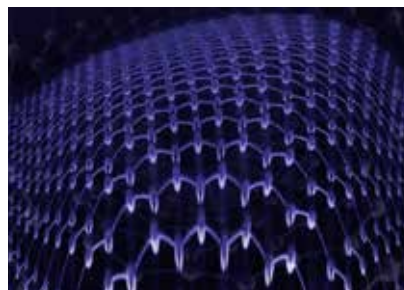
WIPO Re:Search: WIPO's global health initiative

p. 2



Spurring innovation in Africa: an interview with the President of Mauritius

p. 12



Innovation and economic growth: the bottom line

p. 16

## Skoda's perspective on IP

p. 24





# Table of Contents

2	WIPO Re:Search: WIPO's global health initiative
6	Time for a single global copyright framework for libraries and archives
12	Spurring innovation in Africa: an interview with the President of Mauritius
16	Innovation and economic growth: the bottom line
22	Supporting entrepreneurship and innovation in Australia
24	Skoda's perspective on IP
30	Coca-Cola: thinking outside the bottle
33	India's IP ecosystem 2.0

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# WIPO Re:Search: WIPO's global health initiative

By **Richard T. Mahoney**,  
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Neglected tropical diseases (NTDs), malaria and tuberculosis (TB) afflict millions in the developing world. Attracting the levels of investment needed to treat them is a huge challenge. The absence of traditional market mechanisms – patients with these diseases have little or no purchasing power – has led to chronic underinvestment in this area. In 2011, WIPO responded by launching its pioneering WIPO Re:Search initiative.

WIPO Re:Search seeks to catalyze research into NTDs, malaria and TB and to put dormant IP assets to good use. The pharmaceutical industry allocates large resources to research and development (R&D) in order to generate product leads. Some of these leads are relevant to the diseases prioritized by a given company and others may be of potential use against other diseases, such as NTDs, which may not be on that company's radar screen. As a matter of routine practice, pharmaceutical companies seek patent protection for almost all product leads but will not pursue those of low priority. These drug "candidates," together with associated know-how and technical data, are typically "put on the shelf" and most of the time no further research is undertaken. WIPO Re:Search seeks to take these underutilized IP assets off the shelf to help find new, safer and more effective drugs to treat NTDs, malaria and TB. As the initiative approaches its fifth anniversary, it is timely to consider how WIPO Re:Search emerged, what it has achieved and what needs to be done to sustain it.

## **IS INTELLECTUAL PROPERTY A BARRIER OR AN ENABLER?**

Over the past 20 years, there has been vigorous debate about the role of intellectual property (IP) rights in promoting innovative health-related technologies. Some argue that patents allow companies to develop

monopolies that result in high prices, making much needed therapies unaffordable, especially to patients living in developing countries. According to this view, IP is seen as a barrier to improving health in these countries.

Others, however, argue that patents provide an essential foundation and make possible the costly investment required to develop new, safe and effective technologies. A product that is not developed, it is argued, cannot be provided to the poor irrespective of the role played by IP. According to this view, IP is a facilitator of product development, and the issue of access in developing countries is a (largely) separate matter.

## **WIPO ENTERS THE GLOBAL HEALTH ARENA**

In 2007, partly in response to this debate, WIPO adopted a Development Agenda which includes 45 recommendations ([www.wipo.int/ip-development/en/agenda/recommendations.html](http://www.wipo.int/ip-development/en/agenda/recommendations.html)), many of which underline the need to address the needs of developing countries and, in particular, least developed countries (LDCs).

In reviewing possible actions to implement health-related Development Agenda recommendations, WIPO established WIPO Re:Search. Its aim was to bring patent protected products with potential application in tackling diseases to the world's poorest patients. This program would test whether or not patents are a barrier to addressing health needs in developing countries.

## **ABOUT WIPO RE:SEARCH**

Since its launch in 2011 by WIPO in collaboration with BIO Ventures for Global Health (BVGH), WIPO Re:Search has enjoyed over four years of progress and success.

Photo: Esther Havens on behalf of the Sabin Vaccine Institute



WIPO Re:Search seeks to use underutilized IP assets to help find new, safer and more effective drugs to treat NTDs, malaria and tuberculosis.

It offers its members access to an extensive range of knowledge assets, compounds, technology and expertise provided by private and public sector members. These valuable IP resources and know-how accelerate research into NTDs, malaria and TB, generating valuable savings in terms of resources and time.

The WIPO Re:Search Partnership Hub, led by BVGH, proactively identifies opportunities for collaboration and knowledge sharing between members. By facilitating access to compound libraries held by private companies, WIPO Re:Search is creating opportunities to repurpose drugs. It also acts as a gateway to a range of development-related WIPO services, including training in IP management.

### **A VALUABLE PLAYER IN THE GLOBAL HEALTH ARENA**

In 2014, WIPO commissioned me to undertake a review of WIPO Re:Search, drawing on my decades of experience in health technologies for developing countries and IP. From that review, it became clear that all stakeholders agree that WIPO Re:Search is a valuable addition to the global endeavor to reduce the impact of NTDs, malaria, and TB and should be sustained.

While much progress has been made in recent years in controlling HIV, malaria and other diseases, many significant health challenges remain. The review showed that, as the global policy forum for IP, WIPO is a welcome new player in the global health arena.

WIPO holds significant convening power and can attract the critical players needed to develop effective policies to tackle the many important IP and health-related issues that remain unresolved, and to help support health product innovation and access in developing countries.

### **INTELLECTUAL PROPERTY IS NOT A BARRIER TO HEALTH**

WIPO Re:Search has effectively demonstrated that IP is not a barrier to research on NTDs, malaria and TB for products needed to treat patients in LDCs.

It has successfully attracted the support of most of the world's leading pharmaceutical companies, assembled a large database of technology assets, fostered (through the efforts of BVGH) the formation of nearly 100 research partnerships, and thanks to financial support from the Government of Australia has supported capacity building in developing countries.





Photo: Naveen Pun on behalf of the Sabin Vaccine Institute

WIPO Re:Search is making an important contribution to global health through its active formation of a global network of companies, academia, research centers and government agencies and by facilitating the exchange of valuable technologies and research that could help accelerate progress in developing new therapies for NTDs such as lymphatic filariasis (above) and trachoma (right).



Photo: © iStock/ranplett

WIPO Re:Search, however, should not be judged in the near term on progress in product development, but rather on its ability to catalyze the discovery of new product leads for exploitation by others.

It is making an important contribution through the active formation of a global network of companies, academia, research centers and government agencies, and by facilitating the exchange of valuable assets (in the form of technologies and research) that could be a potent means of accelerating progress in the field. In sum, WIPO Re:Search is creating a new marketplace for underutilized pharmaceutical assets.

WIPO Re:Search is the only international mechanism operating under the aegis of a specialized UN agency, in which pharmaceutical companies working together provide leadership, technology and financial resources to accelerate early-stage research for disease control in poor countries.

It has a proven mechanism for managing IP associated with early-stage technologies, enabling laboratories to pursue research on technologies in direct collaboration with the IP owners and ensuring that IP is not a barrier to further product development by, for example, product development partnerships (PDPs) such as the Drugs for Neglected Diseases *initiative* (DNDi) or developing country drug manufacturers.

The initiative's continued success, and indeed its expansion, hinges on establishing the widest possible institutional support. This will involve giving consideration to implementation of a more sophisticated membership structure whereby companies that contribute financial and technological resources (those that currently qualify for membership) participate in a new Advisory Committee, and a second tier of other companies which may be unable to contribute in the same way, but which are sympathetic to the goals of WIPO Re:Search, can also

support it. Forming such an Advisory Committee with membership from developing countries, participating companies, scientists and IP experts that can help build on the program's success and guide it into the future will be a key determinant of its long-term success.

In the context of the larger global effort to improve health, WIPO Re:Search is also actively engaging with the many non-profit product development partnerships. These entities are responsible for driving new products from the laboratory to the clinic and ultimately to patients in poor countries. By bringing together a broad range of stakeholders – leading PDPs, industry groups, research institutions in developing countries, IP offices and academia – for example, on the sidelines of its annual meeting at WIPO's headquarters in Geneva in October 2015 – WIPO Re:Search has sought to broaden appreciation of its key role in “feeding the pipeline” of research and development for products needed to treat NTDs.

With WIPO Re:Search, WIPO has clearly demonstrated its potential to contribute to global health.

The Strategic Review of WIPO Re:Search is available at: [www.wipo.int/export/sites/www/research/en/docs/wipo\\_research\\_external\\_review.pdf](http://www.wipo.int/export/sites/www/research/en/docs/wipo_research_external_review.pdf).

# Time for a single global copyright framework for libraries and archives

By **Teresa Hackett**, Copyright and Libraries  
Program Manager, Electronic Information for  
Libraries (EIFL), Vilnius, Lithuania.

Digital technologies have transformed libraries, archives and access to information. They have revolutionized the information landscape.

Libraries and archives support the work of scientists and scholars, which is increasingly collaborative, interdisciplinary and global in nature. In tandem with the expanding opportunities for search and resource discovery enabled by digital technologies, there is growing demand to access materials held in libraries and archives around the world. Global library spending on print and digital content runs into billions of dollars every year – much of it taxpayer funded. In 2014 this amounted to an estimated USD25.4 billion. But faced with a maze of different copyright laws and licensing conditions, libraries and archives are finding it increasingly difficult to respond to the information needs of the public they serve.

Preserving our documentary heritage, “our memory of the world,” is expensive. To lower these costs, reduce duplication of effort and maximize reach, libraries and archives are exploring ways of using digital technologies to create shared preservation infrastructures both nationally and internationally. This is imperative within the borderless digital arena. As noted by European Commission Vice-President Andrus Ansip, responsible for the Digital Single Market, “the borderless nature of digital technologies means it no longer makes sense for each EU country to have its own rules for telecommunications services, copyright, data protection, or the management of radio spectrum.”

## **GLOBAL RESOURCES, NATIONAL LAWS**

While the operations of libraries and archives are increasingly global, they are bound by national copyright laws. These laws govern many of the core responsibilities of libraries and archives, for example, the preservation of cultural and scientific heritage, providing access to resources in support of education and research, and lending books and other materials.

In many countries, libraries and archives enjoy exceptions under copyright law enabling them to reproduce copyright-protected works under certain circumstances. Examples include private research and study, preservation and replacement of materials, and interlibrary document supply. But these laws can vary considerably from one country to another, as demonstrated in a recent *WIPO Study on*





Photo: Courtesy of the British Library



Photo: Courtesy of the British Library

Faced with a maze of different copyright laws and licensing conditions, libraries and archives are finding it increasingly difficult to respond to the information needs of the public they serve.

*Copyright Limitations and Exceptions for Libraries and Archives* ([www.wipo.int/meetings/en/doc\\_details.jsp?doc\\_id=306216](http://www.wipo.int/meetings/en/doc_details.jsp?doc_id=306216)).

The WIPO study reveals that the majority of member states of the World Intellectual Property Organization (WIPO) – 156 of the 188 countries surveyed (83 percent of them) – have at least one statutory library exception. This is good news. Less good, however, is the fact that 32 countries (17 percent) of those surveyed still have no provision for libraries or archives within their domestic copyright law.

Nearly half of WIPO's member states – 90 of them (48 percent of the total) – do not explicitly allow libraries to make copies for research or study. The situation is even worse for archives, with two-thirds – 126 countries or 67 percent of them – not permitting archives to make copies for research or study purposes. Moreover, 89 countries (47 percent of the total surveyed) do not explicitly allow libraries to make copies for preservation

purposes; and 85 of them (45 percent of the total) do not allow archives to make such copies.

It is possible that this situation will improve as national laws are updated, but the trend regarding digital services suggests otherwise. Where countries have amended their copyright laws in the last five years, digital copying, in some cases even for preservation activities, is expressly barred in over one third of them.

In countries where new anti-circumvention protections (technologies designed to restrict unauthorized access to protected works) have been introduced, while 52 countries have exempted libraries, around half of them have not. In practice, this means that where a technological protection measure is applied to digital content, libraries cannot circumvent it even to make use of an exception under copyright law, and therefore cannot copy the work concerned. In effect, the law is giving with one hand, and taking away with the other.

Who may copy?	What may be copied?	Under what conditions?	How?
Libraries that receive public funding	Published or unpublished works	Library needs	Electronic copies
Publicly accessible libraries	Extracts, articles or full works	Research or study only	On any media
Public libraries	Extracts, articles or full works	Proof of user's purpose	Reprographic reproduction
All libraries		Commercial availability	Reproduction by photographic or analogous processes
Documentation centres		Making available on the premises	Photocopying or with the aid of other technical means other than publishing
Record houses		After expiration of economic rights	

Table 1: The WIPO Study reveals the maze of variations in the application of existing exceptions to copyright law across jurisdictions.

The WIPO Study also reveals a further layer of complexity across all statutes, which vary significantly with regard to who may copy, what may be copied, and the purpose and the format of copies. Table 1 (above) illustrates the maze of variations in the application of existing exceptions.

#### **REGULATING ACCESS TO INFORMATION: COPYRIGHT OR LICENSING?**

Licenses establishing terms of access and use of digital information have become part of the modern information infrastructure. Libraries support open-access licenses, and see value in arrangements that allow uses beyond those permitted under copyright law. But license restrictions can override copyright exceptions and limitations where they exist and can prevent access to information by the public and scholars. Such restrictions fail libraries and also undermine copyright law.

“Not licensed to fill” is a phrase encountered every day by librarians around the world. It means that a request for a document that is not available in the user's home library is denied by the supply library because of licensing restrictions.

Interlibrary document supply is a managed system of resource-sharing between libraries. It enables end-users to access specific resources that are not otherwise locally available to them. Interlibrary document supply is vital in meeting the particular information needs of individual researchers, students and scholars. Requests are made on a non-commercial basis taking into account any copyright or licensing conditions.

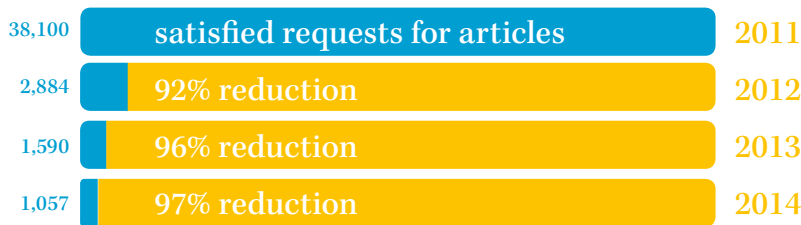
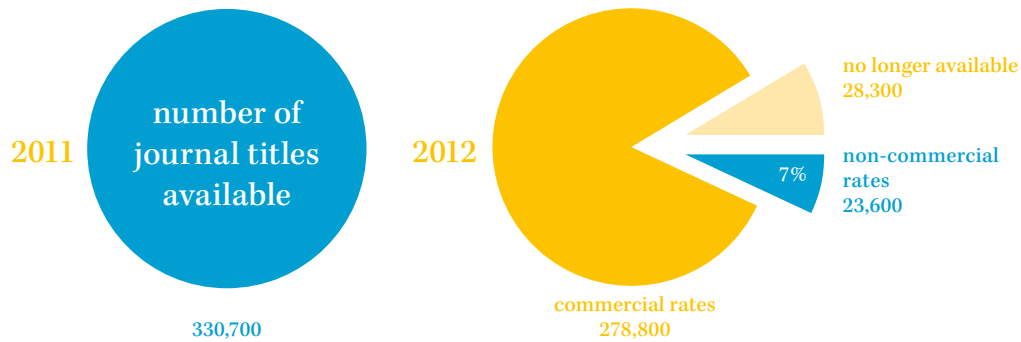
#### **THE CASE OF THE BRITISH LIBRARY**

In January 2012, the British Library, one of the world's largest research libraries, ceased its international document supply service, the Overseas Library Privilege Service, which was supported by a copyright exception. The aim in so doing was to protect the library from claims of copyright infringement. The service was replaced by a publisher-approval licensing arrangement known as the International Non-Commercial Document Supply (INCD) service. These new licensing arrangements have dramatically reduced access to information.

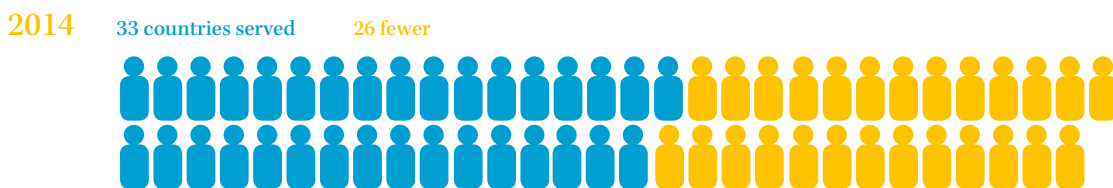
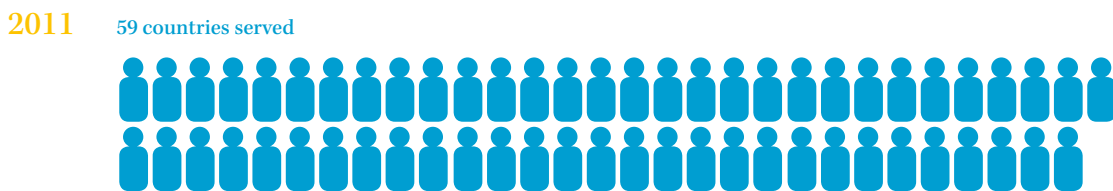
Data obtained from the British Library under a Freedom of Information request show that the number of journal titles available under the INCD service fell by 93 percent, from 330,700 titles in 2011 to 23,600 in 2012. More titles “disappeared” than are available under the non-commercial licenses, and some 28,300 titles are no longer available either at commercial or non-commercial rates.

With its rich, multilingual collections covering a wide range of subjects, the British Library is often used as the “library of last resort”. It is the “go-to” library when an item cannot be found anywhere else. In 2011, the Library provided information to libraries in 59 countries under the copyright-based service. By 2014 under the licensed service, the number of countries served had fallen to 33.

The reduction in journal titles available to non-commercial users appears to be linked to the fact that the majority of titles are now only available at commercial



More requests for information were refused by the British Library in 2012 than were accepted due to licensing restrictions under its new licensing service.



Data obtained from the British Library show that the number of journals available under the new International Non-Commercial Document Supply (INCD) licensing service) fell by 93 percent in 2014. While increasingly common, license restrictions can override copyright exceptions and limitations and can prevent access to information.



rates. One library told me that an article they sought cost USD80. Commercial rates are typically beyond the reach of academic and research library budgets. “We did try the new British Library service a couple of times when nobody else on earth had what we needed, but because of the enormous increase in prices, we dare not even look at the website anymore,” explains the Library of the Lithuanian University of Education Sciences.

In equally dramatic fashion, the number of requests the British Library was able to satisfy under its new scheme, in the first year of its service, fell by 92 percent, from 38,100 to 2,884. Whereas in 2011 the Library would have anticipated fulfilling over 100,000 requests for information during the period 2012-2104, by the end of 2014 the number had fallen to just 1,057, representing a year-on-year reduction of 97 percent. While the Library still has the documents, in many cases it is no longer able to provide them under the new licensing arrangement. In fact, in 2012 more requests for information were refused due to licensing restrictions (2,942) than were satisfied under the new licensing service (2,884).

When the collection of a major library such as the British Library is put beyond the reach of libraries elsewhere, the loss to the global library and research communities is significant. When information for science and scholarship is difficult to obtain due to licensing or copyright restrictions, it sends a strong message that copyright is a barrier to research and learning, when in fact it can be a powerful enabler.

The example from the British Library illustrates the negative consequences associated with replacing a copyright-based library service with one regulated by a license.

#### **HOW CAN THE LAW BECOME WORKABLE FOR LIBRARIANS AND ARCHIVISTS?**

Libraries and archives need basic global standards set out in copyright law that cannot be overridden by technological protection measures or licensing terms.

Quality research requires access to a broad range of research materials and an information infrastructure that supports easy access to international research results. Lack of such access means missed opportunities and delayed discoveries.

This is why libraries and archives are asking WIPO’s member states at the Standing Committee on Copyright

and Related Rights for an international treaty to establish basic global standards to ensure equal treatment of digital resources, to protect the ability of libraries and archives to acquire and lend digital collections, and to safeguard our cultural and scientific heritage in the digital environment.

Countries will still have the ability to craft copyright provisions that exceed the basic standards. Licenses will still have an important role to play. But a new international agreement would create a common global understanding that protects access to information as a public good through libraries and archives for the benefit of education, innovation and development. It would take into account the way technology is changing the way people seek information, and libraries and archives respond to those needs. It will enable libraries to negotiate fair terms for public and institutional needs – based on copyright law – to ensure equal access for all.





Photo: Courtesy of the British Library

Libraries and archives need basic global standards set out in copyright law to protect their ability to acquire and lend digital collections.



# Spurring innovation in Africa: an interview with the President of Mauritius



Photo: © WIPO 2015. Cheikh Sava Diop

President Ameenah Gurib-Fakim of the Republic of Mauritius (above) has a vision for Africa – leveraging the benefits of science, technology and innovation (STI) to build sustainable knowledge economies. How? Through effective use of intellectual property (IP).

In a keynote speech to the African Ministerial Conference 2015: Intellectual Property for an Emerging Africa, which met in Dakar from November 3 to 5, 2015, President Gurib-Fakim said the tools of the IP system should be used to unlock and promote the value of assets that are unique to Africa, such as local medicinal plants and traditional knowledge. Mauritius's first woman president said, "those nations that go all-in on innovation today will own the global economy tomorrow."

President Gurib-Fakim shares her vision of an Africa that prioritizes STI.

## ***What was the significance of the African Ministerial Conference 2015?***

The African Ministerial Conference 2015 was an excellent platform for African leaders to explore the relevance of IP to an emerging Africa, and to drive home the message that IP matters.

Africa is on the move. It is set to become the second fastest growing market over the next 10 to 12 years, with anticipated annual growth rates of 4.7 percent. Globalization, the integration of global markets and the advent of new technologies, particularly biotechnology and informatics, have brought about fundamental changes in national development strategies and international trade exchanges in Africa. These changes have revolutionized the way we do business, science and research and development.

If we are to maintain this growth momentum, we need to rethink our approach to innovation and take steps to create a supportive policy environment that makes it possible for Africa's wealth of inventors and creators to add value to their work. This involves promoting effective use of IP across Africa.

### ***What are the main challenges facing African economies in the area of IP?***

Africa has an underwhelming record in creating and protecting IP. Global IP statistics paint a rather bleak picture. For example, in 2013 not one African nation appeared among the top 20 countries filing international patent applications using WIPO's Patent Cooperation Treaty.

Not enough importance has been given to the protecting the ideas and data generated by Africans and African institutions. Protecting these valuable resources is an essential step towards creating wealth and securing opportunities for Africa's youth. The key question now is how we can best use the IP system to bring about lasting economic, social and cultural benefits for all Africans.

In the global knowledge-based economy, intangible assets are central to any country's productivity and competitive advantage. The creation, management and protection of knowledge are central to global economic integration and wealth creation. A strong IP regime provides incentives for producers or researchers to develop new products and technologies. We need an urgent public debate involving all stakeholders to frame new ways of promoting innovation and creativity and capturing their economic value in Africa.

### ***What is required to improve Africa's IP landscape?***

While some progress has been made, there is plenty of room for improvement. In Africa, we need to implement policies that build and strengthen our national capacity to use and benefit from IP. We need to raise awareness and understanding about how IP can be used to add value to our innovative and creative resources. We need to support start-ups and facilitate access to the capital they

need for business growth. A fund that supports African innovators and enables them to test the prototypes they develop could be one way of doing this.

Innovation happens by construction, not instruction. By that I mean you cannot innovate to order. An innovative breakthrough in research, for example, is often more a result of serendipity than purpose. In our education systems and in our entrepreneurial sectors, we need to give innovators the space to tinker with things and to find new ways to tackle technical challenges. The creativity that takes place in this space leads to new ideas that spark innovation. Those sparks will drive the continent's innovation agenda.

Our Asian neighbors have focused on strategic use of the IP system to promote economic growth. Fifty years ago, the GDP of the Republic of Korea was on a par with the average African economy today. By investing in technology, building capacity and prioritizing the strategic use of IP, the Republic of Korea has transformed itself into an economic powerhouse. There is no reason why African economies cannot do the same. IP could be a major game-changer for Africa. By focusing on its effective use to bridge gaps in science and technology and to create opportunities for wealth creation and employment, we can transform the socio-economic prospects of the continent.

Today Africa continues to lag behind industrial countries. The paradox is that Africa spends on average around USD2.2 billion on IP for its businesses, but the revenue it generates from IP amounts to just USD266 million. In industrialized countries, IP-related proceeds amounted to around USD297 billion in 2013. We need to narrow this gap. African businesses and African universities and research institutes need to protect their IP rights. That is the only way that we are going to be able to leverage the benefits of our investments in STI and build sustainable knowledge economies.

### ***Why should African economies focus on STI?***

The role of STI and knowledge as key drivers of economic growth is now widely documented. Only by focusing on STI will we be able to address Africa's many development challenges. Investment in STI will enable us to boost agricultural productivity, enhance the competitiveness of African businesses, create opportunities for wealth creation and strengthen the resilience and sustainability of our economies. It will enable African economies to catch up with high-income countries.

For Africa to sustain its growth momentum and for its peoples to enjoy improved living standards, we need to create an environment that supports the protection and

value of the intellectual assets that are unique to Africa, for example, by protecting them with geographical indications. We also need to prioritize opportunities unleashed by the digital revolution in the areas of STI and creativity which offer significant opportunities for economic growth and social progress through the easy dissemination of knowledge.

### ***Is international cooperation important?***

Yes, work at both national and international levels is crucial. In Mauritius, we are investing in the development of our national IP ecosystem to foster innovation. But while well-designed IP systems can benefit national economies, poorly designed ones can harm them. National IP policymakers therefore need to be sure that they design and implement an IP system that is tailored to national circumstances. This entails a national policy-making process that involves all stakeholders and economic actors. IP is a cross-cutting issue that touches on all areas of economic activity, including sectors in which developing countries have a comparative advantage, most notably cultural heritage and traditional knowledge. I am convinced that IP rights are the key to enabling emerging countries in Africa to realize their innovative and creative potential and to generate wealth. But of course we cannot work in isolation. We are part of Africa and ultimately our success will depend on input from and cooperation with other countries.

### ***Why do decision-makers need to invest in research and development?***

While politicians are bound by their electoral promises, they are also responsible for improving the livelihoods of their people and creating opportunities for the young. As a continent, Africa is young. Eleven million graduates come out of African universities every year. The only way to make this talent work for our economies is to provide an enabling environment in which entrepreneurship can thrive. Government has a key role to play in developing such an environment through the implementation of effective policies.

Africa is a very rich continent and needs to move from being a net exporter of its raw materials to a creator of higher-value products. Only then will we succeed in expanding our manufacturing capacity, and in creating added value and economic opportunity for our young people.

### ***Amid pressing frontline challenges, why make innovation a priority?***

African countries are facing many frontline challenges, in particular in the area of health, but we are not alone in this. Strengthening our capabilities in the areas of science, technology and innovation offers the best hope of overcoming these ordeals. Initiatives like WIPO Re:Search – which seeks to catalyze research into neglected tropical diseases, malaria and tuberculosis, which are widely prevalent in Africa – are supporting this goal and are a fantastic complement to the work of others that are seeking to tackle Africa's



Photo: © WIPO

Ahead of the Conference, young African innovators, creators and entrepreneurs attended a workshop on IP, innovation and creativity for entrepreneurship and job creation.



Photo: © WIPO

“We need to rethink our approach to innovation and take steps to create a supportive policy environment that makes it possible for Africa’s wealth of inventors and creators to add value to their work,” says President Ameenah Gurib-Fakim.

heavy disease burden. Political leadership in this area is critical if we are to bring about any meaningful change in Africa’s innovation performance.

***Is the brain drain a barrier to Africa’s economic development prospects?***

In an average hospital in Chicago, most of the doctors are of African origin. How many of these brilliant minds could be brought back to Africa? Imagine what a difference that would make. But these people will only return if they are able to come back to an enabling environment in which they can perform effectively. It falls to governments to establish such an environment. Financial incentives alone are not enough. This has happened in China and in India, so why can’t it happen in Africa?

***What made you become a scientist?***

Before I moved into politics I was a scientist. My teachers infected me with the science virus. They taught me that science is beautiful and has the answers to many of the questions we have. As a girl, I was discouraged from a career in science, but did it anyway. That is why I am a strong advocate for science and for girls in science.

***What do you like most about politics?***

If you do politics properly, you can really have an impact on people’s livelihoods. At the end of the day, that is what politicians are mandated to do. If, for example, I can improve transparency in government, the quality of education and training, especially in the area of science, engineering and technology, and strengthen the IP landscape in my country – and Africa – that would be a great achievement.

***What message do you have for girls with career ambitions and policymakers dealing with gender issues?***

My message for girls: if you want to succeed, quality knows no gender. Focus on quality, quality and quality. That is the winning formula.

My message for policymakers: over 50 percent of Africa’s population is female. The challenge is how to harness this female talent. It starts with education and it starts with encouraging girls to study science and to work in the sciences.



# Innovation and economic growth: the bottom line



By **Tobias Boyd**, Communications  
Division, WIPO

WIPO recently published the *World Intellectual Property Report 2015 – Breakthrough Innovation and Economic Growth*, an in-depth study of the links between innovation, intellectual property (IP) and economic output. Chief Economist Carsten Fink explains what makes some innovations amount to breakthroughs and why the age of rapidly rising living standards may be over.

***What do you mean by “breakthrough innovation”?  
Isn’t every innovation by definition a breakthrough?***

Every innovation is new, but some innovations are far more important than others – they entail much greater change. By breakthrough innovations we mean those that have a really transformative impact on the economy and society and in particular those that lead to significant economic growth.

Growth is a fascinating subject. In developed countries, we tend to think of it as the normal state of affairs. Sometimes there are recessions, but most years see an increase in total economic output. We expect that GDP will rise most of the time, because that has been the case for the best part of our lifetime.

But if you take a longer view and look at economic growth data over several centuries, the picture is very different. For most people in most societies throughout human history, growth has been flat or at best very gradual. That only really changed with the first industrial revolution in the eighteenth century. With industrialization, the most developed economies started to see average annual growth rates of more than one percent, and that increased to more than two percent per year after the Second World War.

***Was this unusually high growth caused  
by breakthrough innovations?***

They were definitely an essential part of it. Many innovations were associated with the process of industrialization. For example, improvements in agriculture made it more productive and freed up people to work in industry, while the development of rail transport revolutionized supply chains, opened up new markets and stimulated demand. There have been many more transformations since then, of course.

That said, from an economic perspective, causation is complicated. The relationship between innovation and growth is intricate and multifaceted. It is reciprocal: innovation enables growth, but growth is also necessary for the investment and demand that lead to innovation.

The *World Intellectual Property Report 2015* explores some of the complexities in that relationship. It looks at the types of conditions that might support breakthrough innovations and how they feed through into growth. And – very importantly for WIPO – it examines the role



Photo: © iStock/Alex

*The World IP Report 2015* explores some of the complexities of the relationship between innovation and economic growth and, in particular, the role of the IP system in the development of breakthrough innovations.

of the IP system in the development and spread of breakthrough innovations.

***These must have been difficult issues to study.  
How did you go about that?***

With this type of research, you know you are not going to come up with a definitive answer. The issues are too profound, too broad and much too diverse. The best you can do is to formulate questions, concepts and ideas as rigorously as possible to encourage informed debate.

With that aim in mind, we decided to base our analysis on case studies. While case studies do not allow us to make generalizations, they make it possible to really dig into details, including interrogating some very rich and robust data on patents from the WIPO Statistics Database and other sources.

We chose three innovations that are generally agreed to have been breakthroughs in the past – aviation,

antibiotics and semiconductors – plus three developing technologies that are often cited as potential breakthrough innovations: 3D printing, nanotechnology and robotics. We established a profile of the “ecosystem” underpinning the development of each technology, assessed its past or potential contribution to economic growth and examined the role played by the IP system.

***And what did you find?***

While we were not aiming to develop a grand theory, we came up with many interesting insights. There are some striking parallels among the cases. One thing that stands out is the importance of government in driving investment in a lot of breakthrough innovations. Aviation, antibiotics and semiconductors all benefited from government spending on research and government action to encourage their early roll-out. More recently, governments have been pivotal in enabling research into 3D printing, nanotechnology and robotics, among others.

Also critical are links between scientific research organizations and business. For example, Germany led the world in the early decades of aviation because its industry had a strong science base – a lot of early flight enthusiasts in Germany were actually trained physicists. And all the indications suggest that scientific expertise is even more crucial in contemporary innovation. Universities and research institutes account for an impressive proportion of the patents relating to 3D printing, nanotechnology and robotics, the three potential breakthrough innovations that we studied.

***Are there any standout findings relating to IP?***

Overall, we found evidence that the IP system has supported innovation. In addition, we did not see any indication that the large number of patent filings in 3D printing, nanotechnology, and robotics has resulted in increased litigation over patents or other friction over IP rights.

The studies also document the importance of knowledge-sharing for innovations to flourish. Sometimes this involves free sharing; for example, there are significant open-source communities in 3D printing and robotics. But proprietary approaches are also important, as illustrated by the frequent cross-licensing of semiconductor patents. The IP system generally enables knowledge-sharing by providing a flexible tool for innovators to decide which technologies to share, with whom, and on what terms.

***Given the parallels between past and present, are you reasonably confident that the three potential breakthroughs you looked at will generate economic growth?***

That, unfortunately, is where things get difficult. Logically, the answer should be yes. There ought to be plenty of scope for growth in the global economy. There has been a huge fall in poverty globally over the past few decades, thanks largely to rapid development in China and India, but obviously many countries have not yet developed economically and many, many people remain very poor. So there is room for development. And it is clear that some of the innovations now underway – including the three we studied – have astonishing potential.

However, we really cannot take growth for granted. As I said earlier: the growth enjoyed after the Second World War was both spectacular and exceptional. It may prove to have been an historical anomaly.

Growth has been consistently disappointing since the global financial crisis in 2007-08, and some economists now argue that low or no growth is “the new normal”. This is what Larry Summers, the former US Secretary of the Treasury, meant when he famously warned of “secular stagnation”.

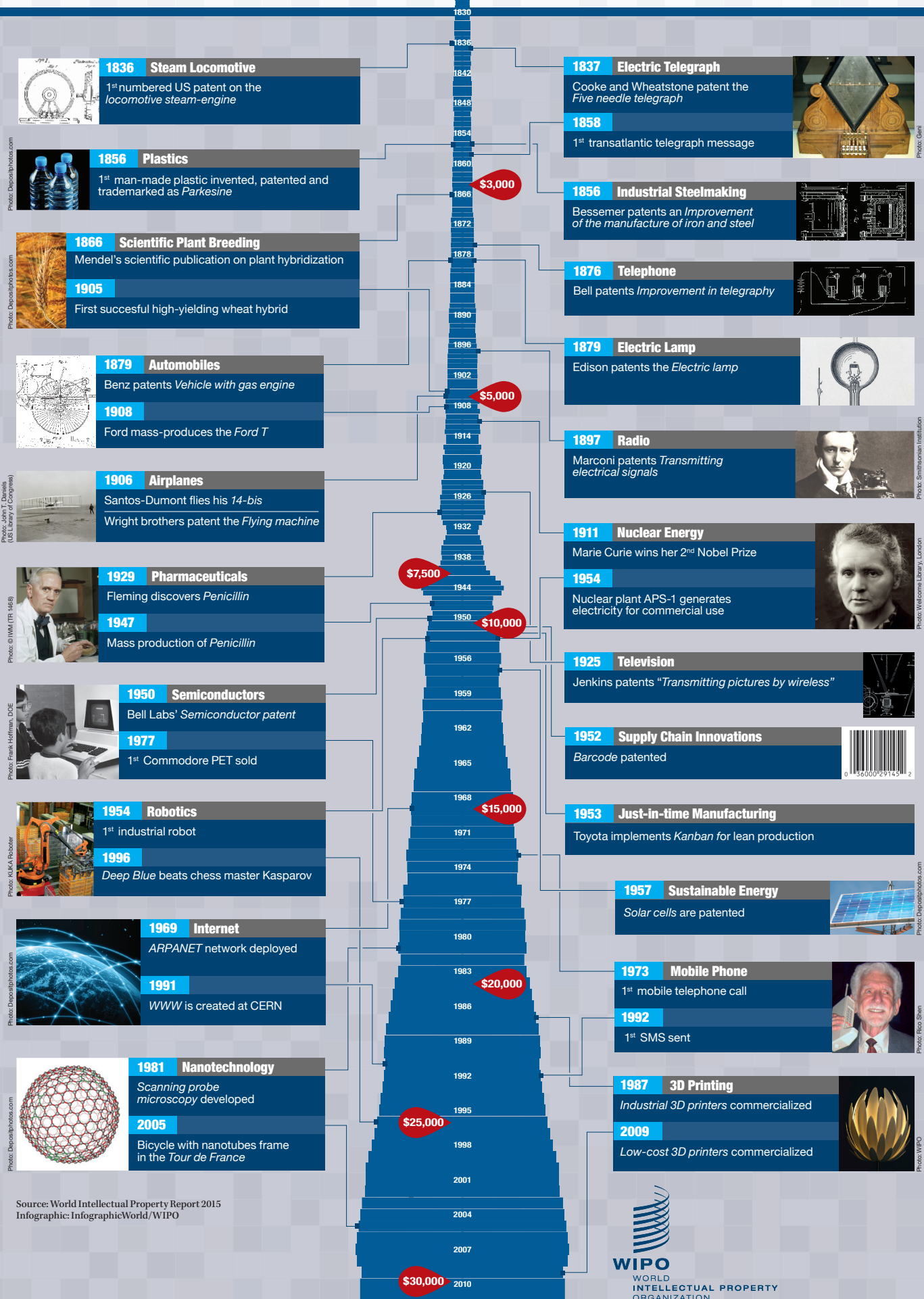
For me, the bottom line is this: even if we invest in innovation, we cannot be sure that we will return the growth rates of the past 50 years. But if governments and businesses stop investing, those days are definitely over.

*The World Intellectual Property Report 2015: Breakthrough Innovation and Economic Growth* is available at: [www.wipo.int/econ\\_stat/en/economics/wipr](http://www.wipo.int/econ_stat/en/economics/wipr).

# 200 Years of Innovation and Growth

Mankind's pursuit of innovative solutions has powered human progress and transformed our world. Two centuries of breakthrough innovations have seen a 15-fold growth in per capita incomes in frontier economies. WIPO's 2015 **World Intellectual Property Report** looks at six transformative technologies, and explores the role of intellectual property in innovation.

\$2,000  
GDP per person  
(in 1990 US\$)



**1836 Steam Locomotive**  
1<sup>st</sup> numbered US patent on the locomotive steam-engine

**1856 Plastics**  
1<sup>st</sup> man-made plastic invented, patented and trademarked as Parkesine

**1866 Scientific Plant Breeding**  
Mendel's scientific publication on plant hybridization

**1905**  
First successful high-yielding wheat hybrid

**1879 Automobiles**  
Benz patents *Vehicle with gas engine*

**1908**  
Ford mass-produces the *Ford T*

**1906 Airplanes**  
Santos-Dumont flies his *14-bis*  
Wright brothers patent the *Flying machine*

**1929 Pharmaceuticals**  
Fleming discovers *Penicillin*

**1947**  
Mass production of *Penicillin*

**1950 Semiconductors**  
Bell Labs' *Semiconductor patent*

**1977**  
1<sup>st</sup> Commodore PET sold

**1954 Robotics**  
1<sup>st</sup> industrial robot

**1996**  
*Deep Blue* beats chess master Kasparov

**1969 Internet**  
ARPANET network deployed

**1991**  
WWW is created at CERN

**1981 Nanotechnology**  
Scanning probe microscopy developed

**2005**  
Bicycle with nanotubes frame in the *Tour de France*

**1837 Electric Telegraph**  
Cooke and Wheatstone patent the *Five needle telegraph*

**1858**  
1<sup>st</sup> transatlantic telegraph message

**1856 Industrial Steelmaking**  
Bessemer patents an *Improvement of the manufacture of iron and steel*

**1876 Telephone**  
Bell patents *Improvement in telegraphy*

**1879 Electric Lamp**  
Edison patents the *Electric lamp*

**1897 Radio**  
Marconi patents *Transmitting electrical signals*

**1911 Nuclear Energy**  
Marie Curie wins her 2<sup>nd</sup> Nobel Prize

**1954**  
Nuclear plant APS-1 generates electricity for commercial use

**1925 Television**  
Jenkins patents "*Transmitting pictures by wireless*"

**1952 Supply Chain Innovations**  
*Barcode* patented

**1953 Just-in-time Manufacturing**  
Toyota implements *Kanban* for lean production

**1957 Sustainable Energy**  
*Solar cells* are patented

**1973 Mobile Phone**  
1<sup>st</sup> mobile telephone call

**1992**  
1<sup>st</sup> SMS sent

**1987 3D Printing**  
*Industrial 3D printers* commercialized

**2009**  
*Low-cost 3D printers* commercialized

Source: World Intellectual Property Report 2015  
Infographic: InfographicWorld/WIPO

# Supporting entrepreneurship and innovation in Australia

By **Matthew Fenech**,  
Director, Continuous Improvement  
& Innovation Business Improvement  
and Support Centre, IP Australia

In today's global world, generating new knowledge and turning it into new products and services is a crucial part of maintaining and enhancing economic competitiveness. To engage with that process, IP Australia has launched a new IP toolkit and a new platform for IP rights which connects to all trading platforms making it easier for research companies and universities to commercialize their ideas. This is part of the Australian Government's effort to boost commercial outcomes from research.

The Australian economy – along with many other developed economies – is undergoing a transition. Manufacturing as a contributor to Gross Domestic Product and employment creation is in decline (*Australian Bureau of Statistics (ABS), Australian national accounts: national income expenditure and product, cat. no. 5206.0*). While in recent years Australia has enjoyed a resources boom that has brought significant prosperity, this is now losing strength. In future, the services sector and knowledge-intensive industries will need to make a bigger contribution to economic growth and job creation if Australia's economy is to maintain prosperity. Innovation is central to successfully making this transition.

Public sector investment in research is relatively strong in Australia, especially in the university sector. Translating this investment into innovation in business and the broader economy is central to promoting growth and job creation.

The *2014 Global Innovation Index* however, reveals low levels of collaboration between research and industry in Australia. Paradoxically, Australia's AUD9.7 billion annual public spending on research yields a research output that ranks in the top eight in the world, according to the 2015 World Economic Forum (WEF) competitiveness rankings. Yet Australia ranks a poor 25<sup>th</sup> in its capacity for innovation – commercializing ideas – according to the WEF, and ranks at the bottom out of 34 Organisation for Economic Co-operation and Development (OECD) countries for collaboration between publicly funded researchers and industry.

To increase Australia's global competitiveness and productivity, the Australian Government developed the *Boosting Commercial Returns from Research* strategy to promote greater collaboration between industry and researchers. IP plays an important role in this agenda with the development of initiatives including the IP Toolkit and *Source IP*, both aimed at enhancing collaboration.



Photo: IP Australia

"*Source IP* is just one way in which our agency is working to support improved collaboration between researchers and industry," says, Patricia Kelly, Director General of IP Australia.



## IP TOOLKIT

The IP Toolkit seeks to remove barriers to collaboration between businesses, researchers and research organizations by simplifying and demystifying management of IP. It provides:

- Guides – to provide information for getting started and designing a collaboration.
- Model tools – to help maximize the outputs of each collaboration (including checklists, a model confidentiality agreement, and model term sheet).
- Model contracts – a long form version for higher value and more complex collaborations (e.g. joint IP ownership) and a short form version for lower value, less complex arrangements.

It also provides the basic information and a neutral starting point for collaborations. It seeks to minimize problems through modelling better sequencing of project activities and prompting early consideration of common issues. The underlying principle is that issues are minimized if resolved upfront.

The IP Toolkit is designed to improve IP use and management. IP is often the most valuable collaboration output because ownership of the IP and the right to use it can confer a competitive advantage. IP is therefore a key element of any research collaboration agreement.

Negotiations over IP are often cited as taking too long and costing too much money. This can be a major deterrent for business in entering research collaborations, particularly with universities.

While the IP Toolkit does not negate the need for professional advice, it can minimize the issues for which legal advice is needed and the associated costs of such advice. The Toolkit and associated resources are available at [www.business.gov.au/IPToolkit](http://www.business.gov.au/IPToolkit).

## SOURCE IP

On November 23, IP Australia launched *Source IP*, a web platform which will serve as a single portal for information sharing, licensing preferences and facilitating contact in relation to IP rights generated by Australia's public research sector.

*Source IP* seeks to:

- facilitate innovation and commercialization by providing a means for public sector IP rights holders to signal their patent holdings and licensing intent;
- increase understanding of potential collaboration opportunities by providing universities and research

companies with a platform to promote their research expertise and technology specializations;

- provide a single source of key information and contacts to businesses seeking to work with a public sector research partner.

"*Source IP* is just one way in which our agency is working to support improved collaboration between researchers and industry," says, Patricia Kelly, Director General of IP Australia." We know, as noted by the *OECD Science, Technology and Innovation Scoreboard, 2013* and the *Innovation in Australian Business, 2012-2013*, report, that less than 10 percent of innovative Australian firms currently collaborate with the higher education sector, where 60 percent of Australian researchers work. The Australian government currently invests over AUD9 billion annually in supporting public sector research and naturally is keen to improve the economic dividends of this investment."

Companies, especially small businesses, report difficulties in accessing information about available public sector IP and in making appropriate contacts with research agencies. The impetus for IP Australia in creating *Source IP* is to remove these barriers and unlock the commercial potential of public patent holdings.

*Source IP* has been informed by commercial platforms already operating in the market place. Mr. Robert Bollard, who oversees the project, believes the key difference with *Source IP* in comparison with other platforms is that it is not for profit. "The greatest opportunity we have is that *Source IP* is free to users and does not need to make a profit to sustain itself" said Mr. Bollard. "Unlike other sites that need to generate revenue to maintain their operations, IP Australia is funding this work to support a broader growth agenda".

IP Australia does not see *Source IP* as a competitor to commercially available services. As Mr. Bollard points out "the core design principles for *Source IP* are set so that everything we collect and publish can be re-used by anyone else". By adopting this approach, IP Australia will leave it to market forces to determine which platform a potential user may find of most value, while giving patent owners a platform to organize their portfolio. IP Australia will continue to enhance *Source IP* and make more data available. Ultimately, *Source IP* has the potential to add value to services offered by the private sector.

The IP Toolkit and *Source IP* are part of a suite of initiatives being undertaken in Australia to create an environment that better supports entrepreneurship and innovation.

# ŠKODA's perspective on IP protection

By **Miroslav Cerný**, **Martin Bali-Jencík**,  
**Katerina Fuková**, Intellectual Property  
Department, ŠKODA AUTO, Mladá Boleslav,  
Czech Republic







IP rights have and continue to play an important role in ŠKODA AUTO's drive to launch reliable high-performance vehicles that continue to excite and capture the imagination of consumers.

Since its beginnings in the late 19<sup>th</sup> century, the auto industry has been a driving force of innovation, continuously pushing the boundaries of technological development. The vehicles we drive today are among the most sophisticated technologies we own.

Auto manufacturing is a high-tech business, from the materials used to the manufacturing processes employed. Every new model is packed with the latest high-performance technologies. The aim? To seduce customers and expand market share. Cars are a signal of technological progress and play a central role in our everyday lives, enabling us to move around with ease. As such, they are rarely far from the public spotlight.

At ŠKODA AUTO, innovation, and its protection through the use of intellectual property (IP) rights, is as old as the company itself. Innovation and IP continue to play a pivotal role in the company's commercial success as well as its environmental credentials.

In the uncompromising competition to win customers, innovation is the key. It is not enough for a company to simply maintain production and sales. Long-term success hinges on a readiness and an ability to introduce and develop new and improved technologies. The need to invent something new and special, something that amazes and inspires customers, is a constant challenge. And we depend on IP rights to protect these high-value assets.

The cars of today are made from high-tech materials and produced using high-tech processes. A commitment to innovation makes it possible to come up with increasingly high-performance drivetrains, such as hybrid or electric engines, new materials, driver-assistance systems, electronics and communication management systems. Commercial success also hinges on attractive product design, effective use of distinctive trademarks and the implementation of carefully crafted and competitive services.

At ŠKODA AUTO, responsibility for protecting and managing the company's innovative assets lies with the Intellectual Property Department, but effective protection of our extensive portfolio of IP assets involves working with patent and trademark offices across the globe.

ŠKODA AUTO's IP Department's activities are wide-ranging. They include evaluating and assessing the most appropriate IP strategy for a given innovation, product or service, preparing and filing applications for patents, trademarks and designs, and managing associated procedures.

The IP Department manages the company's licensing activities both in relation to technology licensing and for promotional purposes. It also plays an active role in terms of monitoring and tracking any misuse of the company's IP assets through a comprehensive product and brand protection program.

In recent years, a vast number of counterfeits (or imitations) have entered the global market. Their number and range continue to expand, and as producers of these illegal goods become more sophisticated, and the outward appearance of these products is almost identical to the real thing, it is becoming increasingly difficult for legitimate right owners to identify them.

These illegal activities in all sectors, including the automotive sector, mean lost profits. They can seriously damage a company's reputation and brand value and may result in job losses. Counterfeit goods also pose a serious threat to public safety. Unlike legitimate products, poor-quality fakes are not subject to rigorous testing or safety standards. To guard against the infiltration of these illegal products into official supply chains, ŠKODA AUTO continues to work with entities specializing in the enforcement of IP rights. Our brand protection program is built around three pillars: cooperation with investigators, cooperation with customs authorities and Internet monitoring.

#### **PROTECTING ŠKODA'S BRAND**

ŠKODA AUTO owns an extensive portfolio of trademarks. These are used to brand our different model series and include historical brands such as Popular, Felicia and Favorit as well as current models like Octavia, Fabia, Superb, Yeti, Rapid, Spaceback and Citigo. These words, each with its own distinctive graphical form, are registered as word marks and used in particular for promotional purposes. The company's trademarks help us stand out in the very crowded auto market and enable us to build our reputation as a producer of reliable high-quality and high-performance vehicles. A great deal of time and effort is invested in coming up with attractive trademarks that are memorable, aesthetically pleasing and easy to pronounce (in many different languages).

We also register trademarks for certain distinctive product descriptions. For example, our system for opening the boot of the Superb model is known as Twindoor® – a registered trademark. Similarly, Varioflex® has been registered in relation to our solution to increasing the versatility of a car's interior.



Photos: ŠKODA AUTO



At ŠKODA AUTO, innovation, and its protection through the use of IP rights, is as old as the company itself.



Design is hugely important to the commercial success of the models produced by ŠKODA AUTO. An international design team is responsible for designing attractive vehicles that ensure an exciting, sleek and smooth driving experience.



In the uncompromising competition to win customers, innovation is the key. Long-term success hinges on a readiness and an ability to introduce and develop new and improved technologies.



Photos: ŠKODA AUTO

ŠKODA AUTO also owns a series of service marks, such as ŠKODA Service, ŠKODA originální díly, ŠKODA Original Teile, ŠKODA Genuine Parts, ŠKODA Accessoires d'origine, ŠKODA Accessori Originali. Service marks also distinguish sports variants of different models, types of engines and interior trim. They include, for example, GreenLine, HTP, L&K, Octavia Scout and Fabia Scout.

Other trademarks that are widely associated with ŠKODA AUTO include Simply Clever, GreenFuture, ŠKODA Plus, Human Touch, Fit for Fleet and Czech Coast Customs. The company's extensive trademark portfolio is a central pillar of our marketing strategy and plays a pivotal role in building brand recognition and consumer confidence in our products.

#### **PROTECTING INNOVATIVE SOLUTIONS**

The success of every company depends on its ability to launch products that are able to stand up to the competition in terms of both quality and technology. The creativity and technical prowess of company employees makes it possible, through a creative and iterative process, to both update existing products and develop new high-performance technologies.

The main technological challenges in the automobile industry today are associated with optimizing conventional drivetrains, designing new types of engines, developing e-mobility, infotainment, connected cars, driverless cars and new comfort functions.

Professional teams of designers, engineers and other experts marry a deep tradition of technical know-how with cutting-edge manufacturing processes to develop new and improved technical and design elements for our model series, whether under the bonnet, in undercarriage design, or in the boot. This is how our engineers came up with the Twindoor® system, a two-part folding door used in the second-generation ŠKODA Superb, produced between 2008 and 2015.

ŠKODA AUTO owns a wide range of patents. In line with our Simply Clever strategy, we not only seek patent protection for what lives under the bonnet, we also seek to protect improvements to the interiors of our cars which enhance the user experience of drivers and passengers alike.

To keep pace with these and other new technologies as they come on-stream, the IP department is constantly reviewing and adapting the company's IP strategy.

Given the international reach of the company's activities – we have manufacturing facilities in China, the Czech Republic, India, Kazakhstan, the Russian Federation, Slovakia and Ukraine, and export to over 100 countries – we take full advantage of WIPO's Patent Cooperation Treaty (PCT). The PCT offers us a cost-effective means of protecting our inventions around the world, but it also gives us an opportunity to test the market where necessary before deciding whether or not



to go forward with a given patent application. We also take advantage of the European Patent Convention and are eagerly awaiting the implementation of the unitary patent system in Europe, which will be a very useful complement to our patenting strategy.

The bulk of ŠKODA AUTO's patent applications are filed with the national IP office in Prague. These are then extended as necessary using the PCT and/or the European Patent Convention. In so far as it is responsible for managing the company's patenting strategy, the IP Department undertakes patent searches, and drafts and follows through with all patent applications and related procedures. As our long-term goal is to expand ŠKODA AUTO's patent portfolio, much of this work, in particular in relation to patent searches and drafting, will be farmed out to external partners. This will allow our own patent specialists to spend more time with the company's inventors and designers, which is a very important part of the IP Department's work.

The company also protects certain aesthetic features of our cars, including studies, concepts, visual chassis parts and lights. Design is hugely important to the commercial success of our models, making for an exciting, sleek and smooth driving experience. Again, we take advantage of WIPO's Hague System for the International Registration of Industrial Designs, which offers a cost-effective and simplified means of protecting our designs internationally. We also file applications directly with national offices and at the European level through the Office for Harmonization in the Internal Market in Alicante. Acquiring legal rights over these designs is an important part of our drive to clamp down on the production and sale of counterfeit and fake products.

## LICENSES

The IP Department is also responsible for managing ŠKODA AUTO's licensing agreements. These types of agreement are becoming an increasingly popular means of leveraging IP assets in the automotive industry to boost competitiveness. Establishing a licensing deal with a competitor that wants to use a particular technology brings with it significantly more benefits than

initiating expensive legal proceedings against unlawful use when such proceedings are likely to end with an injunctive order requiring a license to be issued. The basic distinction here is that we either decide to provide a third party with an active license to use the technology in question or we decide to acquire IP rights ourselves.

ŠKODA AUTO has entered into a wide range of licensing agreements. These cover technical solutions protected by patents and utility models as well as licenses for trademarks, industrial designs and know-how. These licenses are used in a variety of ways, including for:

- merchandising (model cars, clothes, playing cards, video games);
- financial services;
- cooperation with importers, allowing them to use some of our IP rights;
- car production (China, Russia, Ukraine);
- patents and utility models (active and passive licenses, common-use agreements);
- partial assignments of trademarks (ŠKODA in class 12 for passenger cars and lorries from ŠKODA INVESTMENT a.s. – formerly ŠKODA Pilsen a.s. – which formerly held these trademarks rights).

A commitment to innovation has been a hallmark of ŠKODA AUTO throughout its history. IP rights have and continue to play an important role in our drive to launch reliable high-performance vehicles that continue to excite and capture the imagination of consumers. Throughout the whole development process, we make every effort to minimize the impact of our activities on the environment. The cars we make are becoming ever smarter, and inevitably the management of our IP assets is becoming ever more sophisticated. Our long-term sustainability depends on it.

# Coca-Cola: thinking outside the bottle

By **Tom Benner**  
*Future Ready Singapore*

*This article, edited by Claire Slattery and Goh Wei Ting, was first published on Future Ready Singapore in September 2015 (www.futurereadysingapore.com).*

When you are the most famous soft drink in the world and you are selling the exact same product made with the same secret formula for 128 years, you have what may be called the Coca-Cola Challenge: how to make an old and familiar brand seem new and exciting.

It's a tall order. There is more than USD1 billion in retail sales annually across 207 countries (that's all but two countries in the world). How do you keep the brand experience fresh, every day?

Today we tend to think that innovation is about finding new ideas – discovering ground breaking solutions and launching new products that drive incremental business value.

However, the history of Coca-Cola has shown us how to drive business and innovate with exactly the same product solution across time, generations and markets. Coca-Cola calls this approach – *Constant Reinvention*: it's about refreshing and constantly reinventing the assets you already have.

While the product inside a Coke bottle has not changed since its invention in 1886, marketing the product has been evolving with the times and keeping up with consumers ever since.

## **CALL IT THINKING OUTSIDE THE BOTTLE**

“What we have been doing is innovating around the magic formula,” explains Cristina Bondolowski, Coca-Cola's head of marketing for Southeast Asia. “As you can imagine, it is a huge challenge for us every day, the pressure that we have in terms of how do we keep

it going, how do we ensure that people have that real moment of happiness at least once a day.”

The formula for what's inside the bottle remains a fiercely guarded secret, but Ms. Bondolowski discusses the four major ingredients for what is outside the bottle.

### **INGREDIENT ONE: UNDERSTANDING PEOPLE**

Understanding consumers and finding insights into their likes and preferences was easy in Coca-Cola's earliest days, but made harder when distribution grew to world-wide proportions, Ms. Bondolowski says.

While this led to research to capture consumer insights, a direct connection with consumers was still needed.

“There were a lot of intermediates in the middle and obviously it was difficult to capture that point of view,” she notes.

Of course, technology and social media have changed all that and will continue to make it easier for companies, big and small, to interact directly with consumers.

“The biggest revolution we are experiencing today that is making us compete in a democratic way with smaller and bigger players is technology. Technology is impacting innovation, marketing and how we understand consumers,” says Ms. Bondolowski.

Technology is enabling Coca-Cola to close the communication loop with its consumers. She adds: “Suddenly we have direct interaction with our consumers and we know what they are thinking. We can even co-create the





Photo: © iStock/Dimitar Peterchev

The 128-year old history of Coca-Cola offers interesting lessons on how to drive business and innovate with exactly the same product solution across time, generations and markets.

next innovation through communication. It's opening up a whole new world."

#### **INGREDIENT TWO: KEEP A DIFFERENTIATED OFFER**

Iconic brands, such as Coke or the Volkswagen Beetle, have to reinvent their images and show relevance to the times, Ms. Bondolowski says.

Coca-Cola's selling point is that the product delivers refreshment – a message that goes back to Coke's beginnings. Its expression of optimism and association with good times has remained relevant through the highs and lows of its 128-year history.

In the 1930s, Coke was marketed as a tonic to help you get through tough economic times; in the post-World War II years, as a symbol of happy times; and in the culturally divisive 1960s, as a beloved soft drink that brings different people together.

Ms. Bondolowski says the one thing that has really kept the brand alive and maintained its connection with consumers over time is how the company talks about itself. "It's not just about what's inside the bottle; it's about what the brand stands for, what makes it connect with consumers. This cuts across genders, it cuts across cultural differences, it cuts across geographies."

"If you do this messaging well, it's one of the biggest pieces of innovation you can have to keep that message alive," she adds.

#### **INGREDIENT THREE: PUSHING THE BOUNDARIES TO DELIVER THE MESSAGE**

Only about 10 percent of Coke's buzz on social media is generated by the company. The rest is generated by consumers. Coke's job is to communicate its contact points and contribute to conversations in ways that are creative and inventive.

An example is its commercial called *Security Cameras*, which is made up of actual footage highlighting everyday small, under-celebrated good deeds that take place around the world.

The *Security Camera* ad is in keeping with Coke's positive and life-affirming message. Security cameras around the world capture some of the lowest moments

in human behavior – but they also capture some of the most beautiful. It's a feel-good reminder that kindness, bravery and love are everywhere.

"Anyone could have come up with that idea and pulled the information together, you don't need a big budget. We did it because we are being forced to rethink how we do marketing. You don't need money, you don't need scale. It is really democratic to compete in today's market," she says.

#### **INGREDIENT FOUR: SCALING FAST**

Coming up with new ideas is only half the battle – the other half is getting them out the door and into the market before a competitor comes up with something similar.

"One of the biggest challenges for us internally is not about coming up with the idea, it's how do we scale it fast. Because we know we have a lot of people competing with similar ideas."

One motto the company looks to for innovation is – *Remain Constructively Discontent*.

This kind of thinking leads to new ideas, such as the PlantBottle, the first ever fully recyclable PET plastic beverage bottle made from plants. Or the world-famous *Share a Coke* customize and personalize campaign, which allowed consumers to share a virtual Coke with a loved one far away.

"When you are able to scale it fast, it has a multiplier business effect," Ms. Bondolowski says. "If Innovation = Ideas X Execution, we need Ideas for constant adaptation and excellence in Execution to drive scale."

And so the recipe for what's outside the bottle:

- Understanding people.
- A brand that means something to consumers.
- Delivering the message in new and effective ways.
- Delivering [the above points] fast.

These four ingredients are what help keep an iconic brand new, every day; borrowing on its tradition, its history, its reputation, and driving innovation with new experiences, new brand extensions, and acquisitions. That's how Coke plans to remain relevant to new generations – as it has always tried to do.

# India's IP ecosystem 2.0

By **Chaitanya Prasad**, Former Controller General of Patents, Designs and Trade Marks, India

The Intellectual Property Office (IPO) of India, also known as the Office of the Controller General of Patents, Designs and Trademarks (CGPDTM), manages and oversees the operations of the patent office and the trademark registry at multiple locations across India: Chennai, Delhi, Kolkata and Mumbai as well as a trademark office in Ahmedabad. Chennai and Kolkata also have a geographical indications registry and a designs wing, respectively. The IPO is also responsible for managing the National Institute of Intellectual Property Management at Nagpur. It plays a key role in promoting the use and awareness of the IP system across the country.

Since Indian laws became fully compliant with the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) in 2005, IP filing rates have increased steadily. To keep pace with the growing demand for IP rights, the IPO has overhauled its operations, putting into place a robust, accessible and transparent electronic service delivery platform.

Users can now access a comprehensive suite of secure online services that make it easier for them to submit their IP applications and track their status in real time. Secure personal e-dossiers give quick access to all relevant documentation, while a comprehensive payment gateway makes fee payment easier (via debit or credit cards, e-banking or directly with over 70 banks). And those using the IPO's web-based services benefit from a 10 percent discount on all applications filed online. Within months of implementing these measures, e-filing of patent applications rose dramatically, from 30 percent to around 78 percent of all filings (in March 2014).

Small, medium and micro-enterprises (SMMEs) are highly innovative and play a key role in driving national economic growth and wealth creation. With a view to

promoting greater IP use by SMMEs, in 2014 the IPO created a new "small entity" category of users. Companies falling within this category (both domestic and foreign) enjoy a 50 percent fee discount.

## **MAKING IT EASIER TO APPLY FOR PATENTS INTERNATIONALLY**

The opportunities afforded by globalization and the digital revolution mean that many more Indian companies are aspiring to gain a foothold in global markets. WIPO's Patent Cooperation Treaty (PCT) offers them a cost-effective and efficient way to protect their cutting-edge technologies in up to 148 countries.

India became a member of the PCT in 1998. In that year, just 14 international applications were filed by Indian inventors under the PCT; in 2014 that figure stood at 1,428. To ensure that Indian companies benefit fully from India's membership of the PCT, the IPO is itself actively embracing and promoting the use of PCT-related services to expand access to a broader range of cost-effective services that simplify and streamline the process of protecting patents internationally.

## **INDIA TAKES ON INTERNATIONAL PATENT SEARCH RESPONSIBILITIES**

In October 2013, the Indian IPO became an International Searching Authority and International Preliminary Examining Authority (ISA/IPEA) under the PCT, joining 20 other countries in fulfilling that role.

After an international application is filed under the PCT, a search is performed by an ISA to identify the most relevant prior art documents relating to the claimed invention. That search results in an International Search Report and a written opinion about the patentability of

Photos: Courtesy from Office of the Controller General of Patents, Designs and Trade Marks, India.



To keep pace with the rising demand for IP rights in India, the Intellectual Property Office of India (above) has recently overhauled its operations, putting into place a robust, accessible and transparent electronic service delivery platform.

the invention. Thereafter, an applicant may optionally request that an IPEA formulates an additional opinion on patentability, perhaps on an amended version of the application.

Acquiring ISA/IPEA status highlights the fact that Indian companies now have easier access to local high-quality IP services in addition to those already available from other ISAs. With its own patent database and access to others around the globe, the IPO offers top quality patent search reports at extremely competitive prices.

#### **INDIAN TRADEMARKS GAIN INTERNATIONAL ACCESS**

With the accession of India to the Protocol Relating to the Madrid Agreement concerning the International Registration of Marks in July 2013, Indian companies also have access to a simple, cost-effective and user-friendly means of protecting their brands in global markets. With a single application in one language, and with one set of fees, applicants can register their trademarks (and thereafter manage them) online in up to 96 countries. The Madrid System is a gateway to global

markets for Indian applicants and also opens the door to foreign companies seeking to establish operations in the Indian market.

#### **TRANSPARENCY AND EASE OF ACCESS**

The IPO is developing systems in line with the evolving needs of stakeholders. Its use of innovative service delivery tools means it is now one of the most transparent IP offices in the world. These tools include:

- A “Stock and Flow” utility, accessible on the IPO website, which provides an overview of the work of the office providing information on work inputs and outputs at various critical points;
- Dynamic utilities that track the journey of an application from its submission through to the issuance of examination reports and its outcome;
- Real-time lists of patents that have lapsed or ceased in specific technology fields.

#### **CHALLENGES**

But notwithstanding the many improvements in India’s IP ecosystem in recent years, challenges remain.





The National Institute of Intellectual Property Management in Nagpur plays a central role in catering to the training needs of a broad range of stakeholders.

The main duty of a national patent office is to ensure that patent applications are processed in accordance with national patent law. The quality of the rights granted is a particularly important aspect of this work and remains a challenge for the Indian IP Office and for most other national offices around the world.

### ENSURING HIGH-QUALITY EXAMINATION OF IP TITLES

Patent examination is specialized work that requires sound scientific and technical expertise. To ensure patent (and trademark) examination in India are of high quality – that is, uniform, consistent and transparent – the IPO has taken a number of steps, as follows:

- Specialized technical groups have been established to ensure access to relevant expertise for examination. In consultation with stakeholders, guidelines have been established to address complex examination questions arising in specific technology fields, including traditional knowledge and biological material, biotechnology, pharmaceuticals and computer-related inventions. Guidelines on comprehensive search and examination are also under development.
- *The Patent Office Practice and the Manual of Patent Office Practice and Procedure*, guides for the IPO and applicants, have been published to enhance transparency, uniformity of practice, operating efficiency and accountability. *A Manual of Trade Mark Practice and Procedure* is also under development.
- Quality management teams have been established in the patent office to monitor the quality of patenting processes.
- An objective performance evaluation system based on credit points is in place in the patent office.
- The geographical indications registry in Chennai and the designs wing in Kolkata have been awarded ISO 9001 certification.
- Steps are being taken to access WIPO CASE, a platform for sharing search and examination reports issued by IPOs in other jurisdictions.
- In 2011 and 2012, over 150 patent examiners were recruited and trained by leading practitioners and international experts. Training included a three-month residential course at the National Institute of Intellectual Property Management, on-the-job training for eight months in the patent office and a one-month advanced training program.
- Training programs are also offered to examiners and controllers to improve their legal and technical capabilities and so enhance the overall quality of examination.

### **RISING DEMAND FOR IP RIGHTS**

Despite significant achievements in increasing output, India's IPO is struggling to keep pace with the volume of applications it receives. To reduce these backlogs, over 1,000 new posts are to be established within the IPO and various other measures are being implemented to further enhance digital operations within India's IP ecosystem. These include internal electronic transfer of files between local patent offices and paperless processing of patent applications. The Government's aim is to ensure that India's IP services are on a par with the best in the world.

### **DISSEMINATION OF IP INFORMATION**

Applicants are understandably keen to learn about the status of the applications they file. In the uncertain world of business, legal certainty about IP rights creates opportunities for business growth. In response to this need, the IPO has enhanced its website to ensure easy access to the information applicants require to file their IP applications. In addition to being able to check the real-time status of their IP applications and consult all related documentation around the clock, applicants can use the fully searchable IP databases. These are useful to companies seeking to clear trademark rights or to gain a better understanding of the patent landscape for a given technology. These resources are also useful to researchers and SMMEs when seeking to identify public-domain technologies which may be used without fear of infringement.

### **INCREASING IP AWARENESS**

The IPO is committed to ensuring that right holders' interests are upheld and that creators and inventors are recognized and rewarded for their ingenuity. As India becomes a knowledge-based economy, building a broader understanding of how IP can add value and improve competitiveness is critical. Building IP awareness and strengthening understanding of how IP can drive business growth, create employment and spur economic development are key priorities.

Training of different stakeholders is an important part of this effort. The National Institute of Intellectual Property Management in Nagpur plays a central role here and caters to the training needs of a broad range of stakeholders.

Through its outreach efforts, the IPO seeks to maximize industry participation by engaging with industry

associations such as the Federation of Indian Chambers of Commerce and Industry (FICCI), the Confederation of Indian Industry (CII) and the Associated Chambers of Commerce and Industry of India (ASSOCHAM). Also, through its Cluster Program, the IPO targets specific industries and sectors, for example SMMEs operating in the leather, auto and textiles industries. The aim is to promote a better understanding of how IP can support businesses and business growth. Similarly, the Academic Institutions Program targets graduates, young university professionals, researchers and government officials dealing with IP rights.

In terms of reaching out to the public, every year India actively participates in World Intellectual Property Day celebrations. Within this context, the IPO confers various National IP Awards to showcase and celebrate India's inventors and creators and to promote a culture of creativity and IP awareness across the country. IP-related debates and competitions are also promoted in schools, and national media is actively encouraged to air programs in different regional languages on a variety of IP-related questions.

India's commitment to establishing a robust, streamlined, cost-effective and transparent IP ecosystem that serves the needs of its innovative and rapidly expanding economy are beginning to pay off. While the increasing demand for IP rights continues to present logistical challenges, the radical transformations that have taken place and the development of a well-trained body of professionals mean that India is better placed to manage its workload. Within a few years, there is no doubt that the range of services and the level of service delivery available within India's IP ecosystem will match the best in the world.





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