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GIVING INNOVATION WINGS p.17

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Front cover:
Boeing has had a hand in every technological leap in the aerospace industry since it began in the early 20th Century. The company continues to play a leading role in this global industry.
Photo: Copyright © Boeing

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WIPO GREEN: The place to go for green tech

*By **Philip Stevens**, Global Challenges Division, WIPO*

As a contribution to global efforts to address climate change, WIPO recently rolled out the new WIPO GREEN on-line marketplace for green technology. WIPO GREEN, which launched as a pilot in 2012 (see *www.wipo.int/wipo_magazine/en/2012/03/article_0006.html*), seeks to accelerate the development and deployment of green technologies around the world by connecting technology and service providers with those seeking innovative solutions to the environmental challenges they face.

"Our objective is for WIPO GREEN to become a go-to platform for green technologies," said WIPO Director General Francis Gurry at the platform's launch in November 2013. "Innovative green technologies have an important role to play in addressing climate change," he said, explaining that WIPO GREEN's main aim is "to create a technology exchange for environmentally sustainable technologies that leverages the enormous power of the Internet to create a global audience of consumers and a potential marketplace for suppliers."

Our ability to address climate change and achieve sustainable development hinges on economic growth that works with, rather than against, the environment. Innovative green technology solutions can help, by allowing us to do more with less, for example, by developing and using alternative means of energy production, energy-saving technology and new forms of transport or employing more sustainable agriculture and forestry practices.

BOOSTING INNOVATION AND ENABLING DIFFUSION

The challenge is to boost innovation, while enabling speedier diffusion of new environmentally sustainable technologies to all parts of the world, including to developing countries where the need is greatest.

"WIPO GREEN is part of an effort to make technology, technology transfer and innovation part of the promise of an international agreement on climate change," noted Achim Steiner, Executive Director of the United Nations Environment Programme (UNEP). "The transition towards a green, low-carbon economy, is premised on the ability of developing nations having access to state of the art technology, being able also to leverage the investments that are commensurate with the needs for transformation," Mr. Steiner said. "It is our hope that this sustainable technology marketplace will be another opportunity for making technology part of the equation, enabling and creating opportunities for transition."

WIPO GREEN offers a practical, market-based contribution to the daunting challenges presented by climate change. It "encourages technology deployment into the developing world that allows countries to leapfrog carbon-intense development and move to clean, efficient energy and growth. This is done by connecting technology leaders with national leaders looking for technology solutions and supporting the

Photo: www.sunlite-solar.com

JS-30 MOB Sunlite portable solar LED lantern with mobile phone charging facility eliminates the use of kerosene. Each lamp replaces 30 hazardous kerosene lamps and over 6 tonnes of harmful carbon emissions over its 5 year life span. This technology is available through WIPO GREEN.

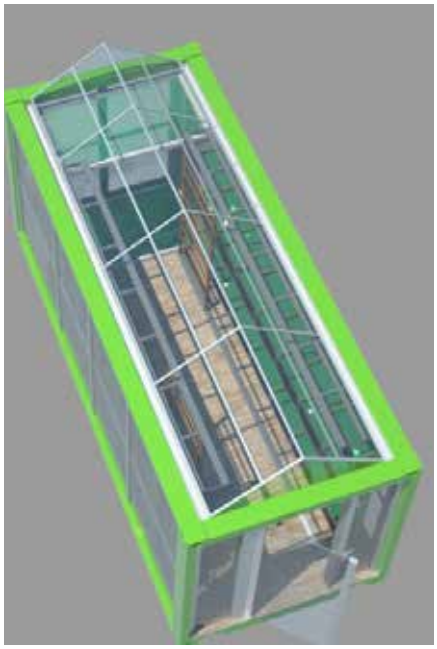

Photo: ecaVert Sàrl

Photo: University of Geneva

Aquaponic mobile greenhouse made from recycled standard shipping containers, designed for maximum efficiency to create semi-closed-loop aquaponic growth systems for urban agriculture (*www.greentowersusa.com/*). This technology is available through WIPO GREEN.

Vertical green biobed developed by the University of Geneva, Switzerland allows for efficient degradation of pesticide effluent and is available through WIPO GREEN.

transactions that take technology solutions from proposal to practical application," said Ms. Christiana Figueres, Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC).

BRIDGING THE GAP BETWEEN NEEDS AND SOLUTIONS

WIPO GREEN consists of an online database and a network of players operating across the green technology innovation value chain. It connects owners of environmentally-friendly technologies with individuals or companies who are looking to commercialize, license or otherwise distribute a technology.

The WIPO GREEN database offers a broad listing of green technology products, services and IP assets. The platform has so far attracted around 1,000 uploads covering a broad range of technologies from partners including the Association of University Technology Managers (AUTM) and the East Africa Climate Innovation Network (EACIN).

So far 35 partners spanning a range of sectors, including international organizations, multinational companies, small and medium-sized enterprises and non-governmental organizations from across the globe have joined the WIPO GREEN network.

OVERCOMING BARRIERS TO DIFFUSION

WIPO GREEN seeks to overcome some of the complex challenges that often hamper rapid and broad diffusion and uptake of much needed green technologies. By injecting greater transparency into the green technology market, it seeks to encourage more active exchange creating opportunities for solutions that work in one part of the world to be applied elsewhere. "The platform allows both the providers and the seekers of technology to communicate, to understand and know which technologies are available and how they can be accessed," notes Zitouni Ould-Dada, Head of Technology Unit at UNEP.

By registering online at *www.wipo.int/green* users can upload their technologies and browse the catalogue of available assets. Individuals, companies or other organizations can also advertise their unmet needs, and thereby increase their chances of connecting with someone who can help.

Registration gives access to information about listed technologies, including conditions of use, intellectual property arrangements and detailed drawings and specifications (where available). Use of the platform – whether to upload a technology or advertise a need – is free of charge. All technologies loaded onto the WIPO GREEN database remain the property of the rights holders, who negotiate appropriate licensing terms with those seeking to use their technology.

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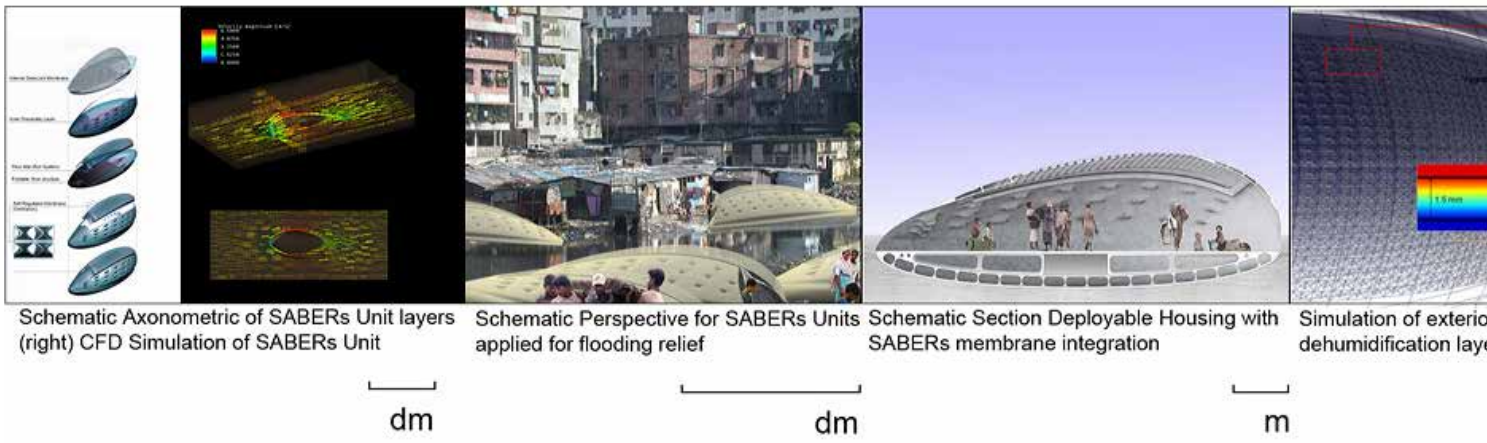


Photo: University of California, Berkeley

Schematic Axonometric of SABERs Unit layers (right) CFD Simulation of SABERs Unit

Schematic Perspective for SABERs Units applied for flooding relief

Schematic Section Deployable Housing with SABERs membrane integration

Simulation of exterio dehumidification laye

BUSINESSES CAN BENEFIT

Membership of WIPO GREEN offers multiple advantages. For green technology entrepreneurs, companies and providers, being listed on the database offers global visibility for their products, helping to attract partners and finance. Paul Needham, President and co-founder of SIMPA Energy India which sells solar power as a service to energy-poor communities in rural India notes, "the greatest strength and opportunity for us within WIPO GREEN is access to a network of global players. The technology that we've developed has global application but we don't have the resources to take it globally ourselves. The WIPO GREEN network will give us access both to business partners, potential licensees and also potential funders to help scale our innovation globally."

For technology providers, the opportunities for breaking into new markets, and improving their green credentials are significant. "Japan is a leading innovator of green technologies, and WIPO GREEN provides a vital opportunity for Japanese companies to be at the forefront of global efforts to address climate change," noted Mr. Takeshi Ueno, President of the Japan Intellectual Property Association (JIPA), representing over 1,200 Japanese companies and a WIPO GREEN partner since the project's inception. "JIPA is working to ensure its member companies can take advantage of WIPO GREEN to further their reach," he added.

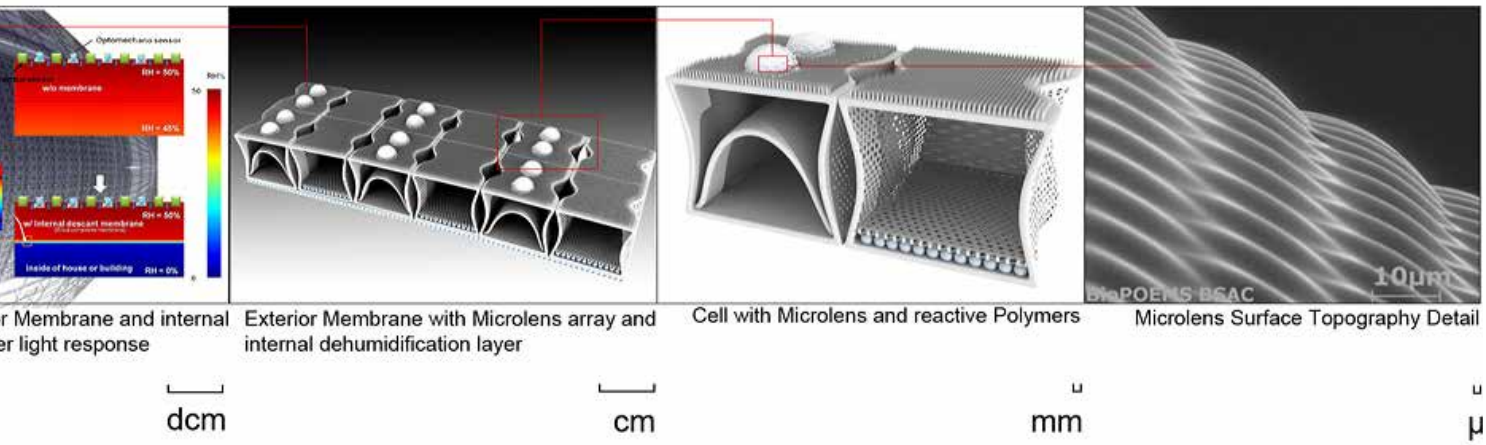
UNIVERSITY RESEARCHERS STAND TO GAIN

University researchers also stand to gain from participating in WIPO GREEN. "Through the work of WIPO GREEN and the AUTM Global Technology Portal, I am confident that thousands of green technologies originating at universities will become available for license, development or sharing and will make a significant contribution to the economies of developing countries and to global climate change efforts alike," said Mr. Sean Flanigan, President of AUTM.

ADVANTAGES FOR GREEN TECH ENTREPRENEURS IN DEVELOPING AND EMERGING COUNTRIES

WIPO GREEN is also supporting green tech entrepreneurs in developing countries. For Bernice Dapaah, Executive Director of the Ghana Bamboo Bikes Initiative, which manufactures high quality, environmentally-friendly bicycles made from bamboo, membership of WIPO GREEN promises better access to global markets, support in acquiring relevant IP protection and assistance in accessing and securing the technology her initiative needs to be able to meet the huge demand for bamboo bicycles.

Similarly, those who have an unmet green technology need and are seeking solutions, can use the database to advertise their requirements and significantly increase the chances that those needs will be met. The database's listing of innovative green



technologies, IP assets and experts is also a useful resource for investors looking to construct and execute deals in the green technology space. Omer Hiziroglu, General Manager of Turkey's first technology accelerator, Inovent, said, "We can certainly foresee using WIPO GREEN when we have a technology that we have not been able to perfect and need additional support, know-how or patents to create an attractive package that we can sell and thereby support diffusion."

The Self-Activated Building Envelope Regulation (SABER) technology is a response to the growing need for energy efficient housing solutions across the globe. Through a pioneering interdisciplinary collaboration between bioengineering and architecture, researchers at UC Berkeley have developed a new sensor technology for external building membranes that can actively respond to environmental changes, and provide automated control of moisture and temperature. This technology is available through WIPO GREEN.

WIDE RANGE OF SUPPORT SERVICES AVAILABLE

In addition to showcasing specific green technologies, WIPO GREEN also helps members tap into available sources of funding, training and other professional services including WIPO's global IP services and capacity-building programs. For example, WIPO's Arbitration and Mediation Center offers a reduced fee to WIPO GREEN users.

On top of WIPO's own services, the platform also hosts an online roster of service providers from licensing professionals to finance advisers which can help green tech providers more rapidly commercialize their products and take them to new markets.

AUGMENTING INTERNATIONAL CLIMATE CHANGE MECHANISMS

WIPO GREEN complements and augments other similar international mechanisms, such as the Climate Technology Center and Network (CTCN) born out of the UNFCCC negotiations in December 2010, at COP 16 in Cancun, Mexico. "WIPO GREEN needs the CTCN and the CTCN needs WIPO GREEN," said Mr. Ould-Dada, "together they can identify synergies and areas of collaboration, so countries can actually benefit from the technical assistance and advisory services provided by the two initiatives," he said. "WIPO GREEN is a good opportunity to help countries to improve their innovative capacity, to have access to technical assistance, training, particularly in the important areas of patents and intellectual property."

There is broad agreement that the development and broad diffusion of innovative green technologies are central to international efforts to mitigate and adapt to climate change. WIPO GREEN is an important catalyst for innovation and diffusion of green technologies in that it assembles in one place technologies at all stages of development – from upstream research to marketable products (and everything in between) – and makes them available for license, collaboration, joint ventures and sale. By adopting a bottom-up approach, built around partnerships and networks, the aim is to help ensure that all countries can benefit from the exciting innovations that are taking place in green technology. ◆

Photo: Nokero

GREEN TECHNOLOGY DIFFUSION: Insights from industry

*By **Jennifer Brant**,*
Director, Innovation Insights

Thanks to Nokero's solar light bulb, school children can study at night without being exposed to unhealthy, dirty and costly energy sources such as kerosene.

Every government wants to attract and support the development of cutting-edge technologies. The deployment of new technologies can raise living standards, create jobs, give rise to centers of excellence, stimulate growth and investment, and facilitate the delivery of important services like electricity and healthcare. New technology solutions will also be critical to improving our use of natural resources and helping governments manage the rising costs of delivering services and addressing pressing challenges, such as climate change, mitigation of which will require massive resources. The Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) has estimated that through 2030, it will cost as much as US$200 billion per year to keep the world at current global greenhouse gas (GHG) levels. We will not be able to afford this enormous price tag without technological advancement. By some estimates, innovation in clean technologies would reduce the cost of mitigation by as much as 50 percent.

INCENTIVIZING INNOVATION

How can policy-makers channel the flow of technology to their own countries? One approach would be to adopt policies that influence and motivate those currently engaged in technology development and dissemination. In so far as the private sector accounts for two-thirds of global research and development (R&D), and even more – some 80 percent – in relation to green technologies, industry is a strategic partner for any government looking to expand their country's existing knowledge base. Companies can help by providing crucial know-how, funding and experience that can speed up and sustain technology dissemination.

Advancing the development of green technologies is a win-win, enabling governments to reduce GHG levels and preserve precious resources, while at the same time tackling energy poverty. At least 1.5 billion people worldwide lack access to energy. Another 1 billion lack reliable access to the energy they need. Developing countries are facing significant pressure to expand energy capacity. Bangladesh, for example, will need to more than triple its electricity production capacity in the coming decade to keep pace with growing demand. These countries need energy solutions that will enable them to meet demand in an affordable, green way.

But where does technology come from, and what incentives encourage the private sector in particular to innovate? It is complex. Identifying a large market can help. WIPO GREEN and the technology needs assessment (TNA) process that is part of the UNFCCC provide opportunities to identify common needs making it possible to identify opportunities to boost the purchasing power of a given region. With a big enough market and an enabling environment, it can make commercial sense for foreign companies investing in a particular region to hire a local workforce to install and service their technology or even to manufacture it locally. Over time, such arrangements generate local expertise, industry and can spur follow-on innovation.

While the market does not reward innovations that increase cost even if they reduce pollution, market incentives do play an important role in encouraging the development of new green solutions that are more cost-effective in the long-run. There are significant and growing investments in clean technology because governments and other customers are demanding such solutions with interest tending to spike in the presence of market signals such as rising fossil fuel prices.

TECHNOLOGY FLOWS BOOST DEVELOPMENT

Clean technologies are developed and diffused globally on an ongoing basis. Technology transactions take place around the world, every day, in developed, developing, and least developed country markets, through: product sales; collaboration and sharing of know-how; joint development and commercialization of new products and services; patent licensing; equipment maintenance; and outsourcing production of components of end products. All these processes strengthen local capacity.

Even the simple sale of an innovative product, which transfers technology to its user through the product itself, can generate a positive development impact. For example, an electricity generating solution that is deployed in a place without electricity, even if fully developed and maintained by outside experts, provides energy to the local population. This provides a platform for increased productivity as well as improved living conditions. Simply securing access to a new technology can inspire new innovation.

OPTIMIZING TECHNOLOGY DIFFUSION

A range of local conditions can enhance technology diffusion, particularly the capacity of the recipient community to absorb the technology. This is fundamental. The skill and knowledge of the local workforce is an important determinant of the types of solutions that will be deployed in a given jurisdiction, as well as the type of collaborative relationship that will evolve between local and outside partners. Enabling regulatory policies and a sound investment environment can support technology transactions: and partnership, which accelerates the sharing of know-how, enhances the sustainability of technology deployment.

Effective protection of intellectual property (IP) rights is one component of a sound environment for deploying green technology. The contribution of IP rights to green technology diffusion is context-specific, and IP rights are not the main driver in all cases, especially in lower-income countries where factors such as markets, access to financing, and absorptive capacity are considerably more influential.

Photos: General Electric

The Jenbacher is part of General Electric's portfolio of innovative technologies that offer businesses and communities around the world the ability to generate reliable and efficient power at or near the point of use at any time using a variety of waste materials.

Turning waste into energy

The Jenbacher from General Electric (GE) is a technology that can convert waste materials into energy. Organic waste materials are anaerobically "digested" by microorganisms that break them down, ultimately producing biogas composed of methane and carbon dioxide. This can be burned just like natural gas, to generate energy.

By using local waste "resources", countries can produce power and also get rid of unwanted waste and sometimes lower carbon dioxide and methane emissions. The Jenbacher gas engines are particularly suited to establishing energy supplies in remote areas. More than 5,100 engines with a total energy generating capacity of 4,300 megawatts have been installed in waste-to-energy applications across the world.

GE works with its customers to adapt the gas engines to break down and treat a wide variety of local waste materials – manure, landfill, and even rice hulls. For instance, one Jenbacher biogas engine is successfully powering a cattle manure-methane cogeneration plant at a large dairy complex in the Indian state of Punjab. In Chile, three engines are being used by the water utility, Aguas Andinas, for wastewater treatment at a plant near Santiago; the engines can produce up to 60 percent of the plant's power requirements with renewable energy (while reducing greenhouse gas emissions), by using the sewage sludge collected at the treatment plant. And in Brazil and the Philippines, GE's Jenbacher gas engines are being used in Clean Development Mechanism (CDM) projects to reduce methane emissions from landfill gas.

THE ROLE OF IP IN SUPPORTING TECHNOLOGY TRANSFER DEALS

At the same time, the patent system facilitates green technology development and diffusion in a number of ways, including by supporting partnerships. A predictable IP system underpins technology transfer deals and the exchange of know-how. IP rights help define what each company brings to a partnership, which can be critical especially for small and medium-sized enterprises (SMEs) partnering with larger technology companies. IP rights can also be used to determine ownership and management of joint inventions. Overall, we can think of IP rights as an important enabler for innovation.

DRIVING KNOWLEDGE TRANSFER THROUGH PARTNERSHIP

No single company, individual, country, or sector has all the answers. Innovators need to work together and build on each other's work. Partnership – putting our collective knowledge and creativity to work – will be critical in finding innovative solutions to overcome the most pressing global challenges. A collaborative approach is especially vital where climate change is concerned, since local circumstances are an integral part of the process of identifying the most effective tools to mitigate and adapt to it.

Partnership is also critical to getting know-how where technology needs to go. Greener technologies must not only be developed, they must also be deployed where they will have the most impact. The complex, multi-dimensional process by which technologies are disseminated to different places is often referred to as

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Photo: Nokero

Nokero develops proprietary solar-based technologies, such as lights and phone chargers that are safe, environmentally-friendly and affordable.

"technology diffusion". It results in the sustainable deployment of appropriate and/or adapted technology solutions across countries, over time. It is not something that can happen overnight, but is a process that requires an adequate knowledge base. In the absence of local capacity to use and maintain it, a technology solution may not be used correctly – or at all. Diffusion happens gradually, organically; it can be accelerated by the right policies and conditions, but it cannot be forced.

Partnership works best when partners feel comfortable sharing their knowledge, for instance in environments where there is sound protection for IP rights including patents and trade secrets. Policy-makers should not focus on merely gaining access to a technology or investment, but rather on attracting technology partners that will invest and share what they know over the long-term. Efforts by governments to force knowledge transfer are generally counter-productive, since they make it less likely that technology providers will collaborate and share knowledge with local entities. Sometimes such policies can even discourage new technology development.

ATTRACTING TECHNOLOGY FLOWS

Governments have a key role to play in supporting green technology dissemination and can influence the flow of technology to their own countries. They can implement sound climate change policies to incentivize the deployment of clean technologies. They can foster a favorable investment climate, to help attract technology partners. In addition, governments can increase fair competition by removing local content and procurement restrictions, which tend to raise the price of deployment. And they can eliminate tariffs and other customs barriers that make clean technology solutions more expensive, including at the regional level, as the Asia-Pacific Economic Cooperation region (APEC) did in 2012.

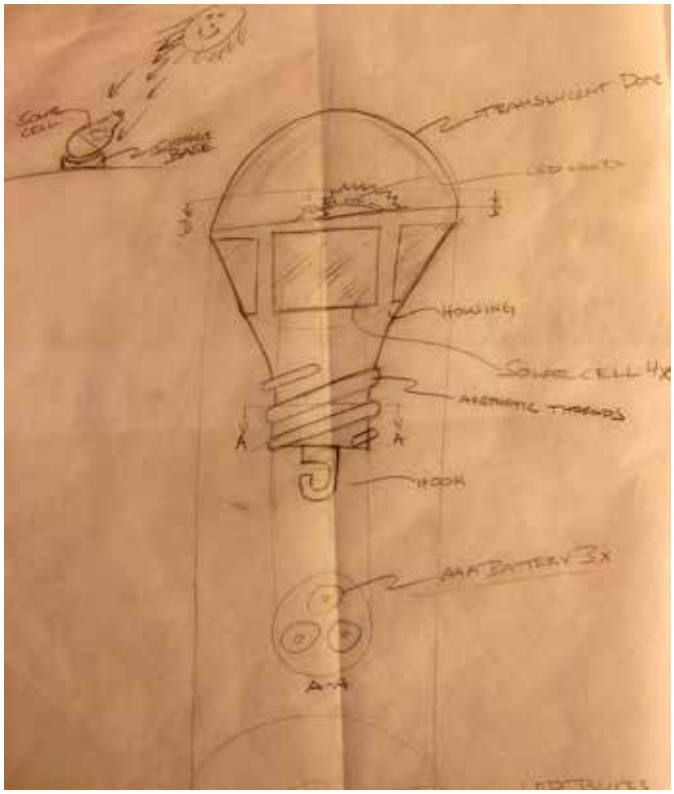

Photo: Steve Katsaros

Original drawing of the first version of Nokero's solar light bulb.

We face daunting climate change-related challenges, but we are also witnessing remarkable advances in cleaner technologies. Such advances will have a tremendous impact on our ability to effectively address climate change as well as other global challenges. The development and broad diffusion of technology solutions can be accelerated by:

- **Working together.** Partnership among innovators and collaboration between industry and government will be crucial to addressing emerging needs.

- **Putting the right policies in place.** Government investments in domestic absorptive capacity and appropriate policy frameworks, including effective IP systems, can complement market incentives. Enabling policy frameworks play an important role in supporting the broad deployment of innovative technologies.

- **Building local knowledge.** Partnership accelerates the transfer of know-how, enhancing the sustainability of technology deployment. Collaboration over time contributes to the building of local skills, knowledge, and capacity for follow-on innovation. ◆

Nokero's solar light bulb

Nokero, a company founded by inventor and patent attorney Stephen Katsaros, develops proprietary, solar-based technologies, such as lights and phone chargers that are safe, environmentally-friendly and affordable. By providing accessible, affordable and high-quality solar energy, the company aims to improve access to energy and eliminate the need for unhealthy, dirty and costly energy sources such as kerosene, which is widely used in low and middle-income countries. Nokero was a 2013 winner of the Patents for Humanity competition run by the United States Patent and Trademark Office (USPTO), which recognizes patent owners and licensees for their efforts in addressing development challenges.

Partnership is integral to Nokero's success. The company partners with entities, including non-governmental organizations (NGOs), who know their local markets and can ensure the technologies are adapted for, get to, and are used by, the communities that really need them. The partners provide valuable knowledge of local conditions and help the company improve its offerings in response to testing and customer feedback. Nokero, which is short for "no kerosene", refers to its activities as "impact inventing", a form of social entrepreneurship. The company's leadership considers that ensuring technology solutions meet actual needs in different markets and can be sustainably deployed is at the heart of commercial success. (See *www.nokero.com*)

SUPPORTING INDIGENOUS COMMUNITIES at the grassroots

*By **Brigitte Vézina**, Traditional Knowledge Division, WIPO and **George Nicholas**, Project Director, Intellectual Property Issues in Cultural Heritage (IPinCH), Simon Fraser University, Canada*

Photo: Brigitte Vezina, 2010

Traditional handicraft, Sultanate of Oman

Countless innovative and creative businesses draw inspiration from the world's rich and diverse traditional cultures. Innovations and creations rooted in traditional knowledge (TK) and traditional cultural expressions (TCEs) enrich the creative economy, foster community enterprise development and boost job creation, skills development and tourism. Revenues from the sale of handicrafts made using traditional methods, skills and knowledge transmitted across the generations are often central to the livelihood of many communities.

Indigenous peoples and local communities are, in general, aware of the commercial value of their TK and TCEs and their potential to promote economic development. But many of the TK and TCE based products appearing on the market, ranging from clothing designs to pharmaceutical products are created by third parties without the permission of the communities that hold the TK and TCEs. Many of the objects, images or symbols commercialized in this way hold great significance for indigenous communities and their unauthorized use can cause them economic, spiritual or cultural harm.

Many communities feel that they alone have the right to decide who may or who may not exploit their TK and TCEs, and the terms for doing so. They argue that they should enjoy the benefits accruing from the commercial exploitation of, or research into, their TK and TCEs, and insist that these assets be recognized as protectable under intellectual property (IP) law.

INTERNATIONAL RECOGNITION OF INDIGENOUS CONCERNS

Such claims have not gone unheard and are reflected in the *United Nations Declaration on the Rights of Indigenous Peoples* (2007) which states that indigenous peoples "have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge and traditional cultural expressions" (Article 31).

As a rule, TK and TCEs do not fully qualify for protection under the IP system as it exists today. The "traditional" character of these cultural assets – which usually indicates they have been

transmitted across generations – sits uneasily with the requirements of "originality" or "novelty" that lie at the heart of the IP system. In spite of its shortcomings, however, the prevailing international IP framework does form an important part of any strategy seeking to protect TK and TCEs. For example, the Berne Convention for the Protection of Literary and Artistic Works (1886), the WIPO Performances and Phonograms Treaty (1996) and the Beijing Treaty on Audiovisual Performances (2012) recognize and provide protection for performers of expressions of folklore. Laws relating to the protection of confidential information (trade secrets) and unfair competition may also be useful in protecting the interests of indigenous communities with respect to their TK and TCEs.

BRIDGING THE GAPS IN IP LAW: AN ONGOING ENDEAVOR

Concerns about gaps in conventional IP law in relation to TK and TCEs have gained traction within the international community and have found expression in WIPO's work. Guided by consultations with representatives of indigenous peoples and local communities and ongoing cooperation with the United Nations Permanent Forum on Indigenous Issues, WIPO is exploring two parallel avenues to address the needs and aspirations of holders of TK and TCEs.

On the one hand, within the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC), WIPO's member states are working towards international agreement on how to protect TK and TCEs against misappropriation and misuse by third parties.

On the other hand, together with its partners, WIPO is working directly at the grassroots-level to ensure that indigenous communities have the practical tools and know-how necessary to use the existing IP system to best advantage.

FINDING COMMON GROUND IN A COMPLEX LANDSCAPE

There are, nevertheless, huge challenges associated with establishing and applying more respectful, ethical, and effective policies to protect indigenous cultural heritage, especially where fundamental differences exist in terms of how heritage is perceived and defined. Experience in rolling out the award-winning Intellectual Property Issues in Cultural Heritage (IPinCH) Project in Canada highlights the importance of working with individual communities at the grassroots level to understand what their priorities are and to identify common ground to achieve global understanding about how their rights and interests may best be protected.

IP TOOLS AND SERVICES FOR INDIGENOUS PEOPLES

The needs and interests of indigenous peoples are diverse and specific to each community, but understanding and providing for these discrete needs is central to developing long-term workable solutions. Recognizing this complexity, WIPO has developed a package of practical IP tools and services for use by these communities in managing their TK and TCEs. They include:

- The WIPO Creative Heritage Project

The Project is one of WIPO's most comprehensive capacity-building initiatives in relation to TCEs and offers IP management advice on documenting, recording, digitizing and disseminating TCEs.

Under this Project, WIPO supports cultural institutions, such as museums, libraries and archives, in better understanding the IP issues associated with hosting collections of TCEs (see *Intellectual Property and the Safeguarding of Traditional Cultures—Legal Issues and Practical Options for Museums, Libraries and Archives*, WIPO Pub. No 1023).

- WIPO's Creative Heritage Training Program on Cultural Documentation and IP Management

The program, designed specifically to enhance IP knowledge and skills at the community level, is run in collaboration with the American Folklife Center and Duke University (US) (see *http://tinyurl.com/mhyc789)*. Under this program, WIPO has been working with the Maasai community in Kenya and the Rastafarian and Maroon communities in Jamaica to support them in documenting their cultural heritage and managing associated IP interests. The WIPO Traditional Knowledge Documentation Toolkit (available at *http://tinyurl.com/nr9syb9*) has been developed alongside these programs as a practical reference for communities eager to learn about the IP questions that arise during the course of the documentation of their TK.

- Practical licensing tools

The *Local Contexts* project, developed by Kim Christen and Jane Anderson, co-funded by IPinCH (see box) and WIPO, is developing practical licensing and educational tools to provide indigenous peoples and local communities, and their external collaborators, with the means to apply tailored copyright licenses to TCE-derived creative material. The project is also creating a labeling system to educate users about the appropriate use of various TCEs not protected by copyright. These licensing and labeling options cater to the specific needs of holders of TCEs in terms of access and control and make it possible for indigenous communities to incorporate customary rules, protocols, guidelines and models into licensing agreements.

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Photo: R. Giblin, courtesy of the Hokotehi Moriori Trust.

Moriori descendent, Nicole Whaitiri, with a rakau momori (living tree carving) on Rekohu (Chatham Islands). IPinCH has funded a cultural database project with the Moriori peoples of New Zealand.

Photo: W. Wendland, 2009

Maasai participants in the WIPO Training Program on Cultural Documentation and Intellectual Property Management, Kenya, 2009.

BUILDING NETWORKS; BUILDING UNDERSTANDING

To improve understanding of the interlocking issues relating to IP and the protection of traditional assets, WIPO hosted a practical workshop in Geneva in December 2013 (see *http://tinyurl.com/mzcqdvz*). The event, led in part by the WIPO Indigenous Fellow, brought together 13 participants, all well-versed in indigenous issues, from the seven geo-cultural regions recognized by the UN Permanent Forum on Indigenous Issues. Participants learned about the range of IP tools available to protect TK and TCEs and were able to gain a better understanding of how people in different regions are approaching these issues.

Rebecca Tsosie who teaches at the Sandra Day O'Connor College of Law, Arizona State University (US) welcomed this opportunity, noting that while the *UN Declaration on the Rights of Indigenous Peoples* has created a certain global consistency around the aspirations of indigenous peoples, "when you actually pull people together within different regions you see that they have a very different outlook toward things… We are working on global initiatives which require a certain level of intercultural knowledge and expertise… but when you have an intercultural discussion, you learn to think and relate in a different way around universal values," she explained.

Professor Tsosie applauded WIPO's inclusive approach to the TK debate and its willingness to listen to the views of indigenous peoples about how the current IP framework might be improved.

For Kanyinke Sena, Chair of the UN Permanent Forum on Indigenous Issues, who also took part in the event, the workshop clarified how issues confronting indigenous communities are interrelated. "We are demarcating clearly where the problems are. Activists like to talk about looking at things holistically, but we must also be able to divide the whole into pieces and understand how each piece fits," he said.

Mr. Sena called on WIPO to "strengthen indigenous people's understanding of how TK can fit into the market economy, and how they can use it as the basis for their development with cultural identity." In so doing, he said, "WIPO will be playing an instrumental role in safeguarding the environment through which this knowledge is practiced."

TAKING THE DRIVER'S SEAT

Developing practical solutions that are attuned to the everyday concerns, identities and aspirations of indigenous communities can only be achieved if the communities

Photo: K. Hennessy

Elder Albert Elias tries on ancestral snow goggles during a visit to the Smithsonian Institution in Washington, D.C., part of an IPinCH-supported initiative that saw Inuvialuit Elders, traditional experts, and educators from Canada's Northwest Territories reconnect with a collection of Inuvialuit material culture.

The WIPO Indigenous Intellectual Property Law Fellowship

The Fellowship builds on a series of initiatives to ensure that indigenous peoples are effectively involved in the work of WIPO on issues that matter to them. It recognizes the strong legal expertise that exists within indigenous communities, and offers an opportunity for individuals to gain professional experience and play a practical role in WIPO's work, including the IGC and related activities. The Fellowship is a response to the need to strengthen the IP law expertise and policy-making capacity of indigenous lawyers and policy advisers. Since its launch in 2009, five fellows have benefitted from the program. Further information is available at *www.wipo.int/tk/en/indigenous/fellowship/*.

About IPinCH

IPinCH is a seven-year international research initiative by researchers at Simon Fraser University in Canada that explores the rights, values and responsibilities associated with material culture (i.e. physical expressions of a culture), cultural knowledge, and the practice of heritage research. The project supports 15 community-based initiatives, working with groups such as the Inuvialuit (Canada), the Penobscot Nation (US), the Ainu (Japan), the Hopi Tribe (US), and the Moriori (New Zealand). In 2013, IPinCH received the first ever Partnership Award, granted by the Social Sciences and Humanities Research Council (SSHRC) of Canada. This achievement highlights the growing recognition of the value of community-based participatory research as a primary methodology for working with indigenous communities. For more information about the project, see: *www.sfu.ca/ipinch*.

themselves are actively involved in the process. Recognizing the importance of participatory community-level research, WIPO is partnering with the IPinCH project, run by the Simon Fraser University (Canada). Through a range of community-based initiatives, the project is working to develop tailored responses to the issues confronting each community. For example, community members provide input on how to establish protocols to direct outsiders working with culturally sensitive information; how to collect and pass on knowledge about the land and ways of life to guide future development policies and decisions; and how to assure the protection and inclusion of the cultural principles and ways of knowing of each community to ensure they are taken into account in government consultations affecting their heritage.

For IPinCH, WIPO, as an international organization, is an ideal partner, enabling it to link into a global network of actors and making it easier for all those seeking to safeguard the interests of indigenous communities to identify opportunities for fruitful dialogue and cooperation. For its part, WIPO is keen to expand and leverage its network of partners to ensure a timely and effective community-led response that will allow indigenous peoples to effectively control and benefit directly from their TK and TCEs, where they so wish. ◆

Further details of WIPO's activities in the area of IP and genetic resources, traditional knowledge and folklore are available at: *www.wipo.int/tk/en/igc/*.

GIVING INNOVATION WINGS:

How Boeing uses its IP

*By **Catherine Jewell**, Communications Division, WIPO*

Boeing has had a hand in every technological leap in the aerospace industry since it began in the early 20th Century. The company continues to play a leading role in this global industry.

When it comes to giants of technology few stand taller than Boeing. For almost a century, the pioneering companies that make-up Boeing have been at the forefront of innovation in aviation. With a hand in bringing about every major technological leap in the field throughout the 20th century – from jet aviation to space travel – Boeing continues to shape the global aerospace industry in its search to develop new technologies that improve the way we live, communicate and travel. **Peter Hoffman**, Boeing's Vice President of Intellectual Property Management, talks about the company's approach to IP and shares his views on the future of flight.

Why is IP important to Boeing?

The aerospace and defense industries in which Boeing operates are technology-focused and our competitive advantage is built around our ability to innovate better than our competitors. Protecting our innovations enables us to have profitable business results and to continue to develop market-leading products.

How do you determine what you are going to patent?

Boeing is fervently protective of its inventions, so we follow a multi-staged and fairly detailed process. Because patents are public documents, we regularly consider whether the disclosure of a specific invention through a published patent application is in Boeing's long-term best interest. Innovations that are visible on our products and services, as well as innovations that can be easily reverse-engineered are prime candidates for patent protection.

On the other hand, we often decide not to patent many military-specific innovations or innovations that can effectively be kept out of the public domain as trade secrets. Inventions that fall in between are further evaluated for the scope of potential patent claims, likely use on products or in services, licensing potential and other factors.

How would you characterize Boeing's approach to IP?

Boeing's portfolio of IP assets – our trademarks, copyrighted material, patents and trade secrets – is a corporate asset that we use to ensure we remain competitive. If we develop something new in network systems, for example, that has an application in a non-competing business, such as the auto industry, we are very interested in sharing that IP through licensing arrangements. It's a win-win scenario; the auto industry gets a new technology and avoids the costs of developing such a system and we generate additional licensing revenues. Currently our licensing activities, which are substantial and expanding, are primarily focused on the companies in our supply chain and the partners with whom we produce aircraft. But we are keen to license-out our capabilities to other industries.

IP really runs throughout our business. When it comes to international defense contracts, industrial engagement commitments are very common. Countries spending billions of dollars on our products recognize that we, and companies like us, have a wealth of IP and know-how that can help drive their economy forward. They capture these benefits by requiring us to satisfy additional industrial engagement commitments. To be competitive in the defense industry, a company has to be able to offer a high performance product at the right price and an attractive industrial package. In this context, we use our IP-protected technology as currency. We are very good at packaging and delivering our technology in this way and this is one of the key discriminators for us in the market.

IP Management at Boeing: Key facts

- As of January 2014, Boeing held more than 7,000 active US patents and more than 13,500 active patents worldwide; it also has 8,500 pending patent applications worldwide (including several hundred PCT and European Patent (EP) applications which will multiply upon entry into the national/validation stages).
- In 2012, Boeing filed 145 international patent applications under the PCT.
- Boeing filed some 1,000 patent applications on the 787 (Dreamliner) program alone.
- Patent filings include technologies in areas relating to avionics, structures, computing, satellites, energy, simulation technologies and manufacturing.
- Each year Boeing rewards its top innovators for creating new IP.

Photo: Copyright © Boeing

Boeing filed some 1,000 patent applications on the 787 (Dreamliner) program alone. The Dreamliner includes a series of technologies to enhance the passenger flight experience: from sensors that instantly adjust to turbulence to larger windows that dim at the touch of a button to vaulted ceilings and a cabin that has more oxygen and less dry air.

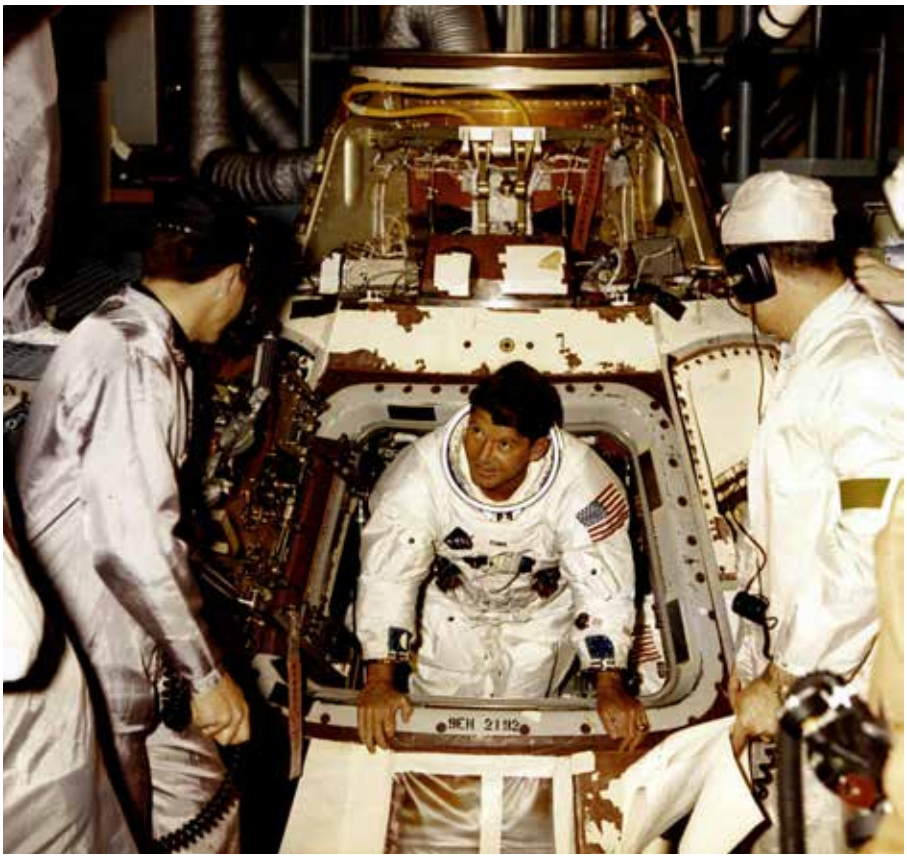

Photo: Copyright © Boeing

Boeing has played a central role in the US space program since the late 1950s. It built the Orbiter 1, the first US spacecraft to orbit the moon in 1966, and went on to design, develop, build and operate human and robotic space vehicles and hardware for the Mercury, Gemini, Apollo, Skylab and Shuttle programs. Boeing's Space Exploration division continues to collaborate with NASA and its international partners to optimize the potential of the International Space Station as a groundbreaking scientific research facility.

Photo: Copyright © Boeing

Peter Hoffman notes that sales "growth in Asia and the Middle East is very strong. We can't build airplanes fast enough. This is a major challenge."

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Does transferring your IP in this way threaten your long-term interests?

There is a balance to strike here. Technology has a shelf life and we sometimes have the opportunity to share technologies that help less developed aerospace industries develop while we continue to invest in pushing the technology envelop on our new products. As long as we keep investing in the future, and keep a lead on our competition, we can remain competitive.

Are all of your IP operations based in the United States?

Our IP team is based in the United States but we service a global business. Our US-based IP management team is responsible for evaluating all the technology developed in our R&D centers around the world. They work with a large global network of IP lawyers who provide real-time guidance on local laws and practices.

Our business is rapidly growing internationally. To remain competitive we have to become more global. We have been on this path for some time and have seen some real success in this area. It is a matter of time before we start expanding our IP management team internationally to look after our affairs locally.

Is IP infringement a big issue for you?

Historically, the aerospace sector is not as litigious as other industrial sectors. While Boeing has not engaged in much IP litigation that doesn't mean we don't enforce our IP rights. We do so through contractual compliance and licensing, and we are usually able to resolve any differences before they develop into fully-fledged lawsuits.

One area that is proving a big challenge is tracking the misuse of Boeing's trademark portfolio, especially in the online environment. We have a dedicated team handling this. We conduct online searches proactively, and thoroughly evaluate reports of suspected misuse of our trademarks before sending a cease and desist demand letter.

What are the key issues facing the aerospace industry today?

The economic downturn and the tightening of defense budgets have really been difficult for certain parts of the industry. That said, our defense business is doing well and on the commercial aviation side, although sales are relatively flat in North America and Europe, growth in Asia and the Middle East is very strong. We can't build airplanes fast enough, which is a major challenge.

What are the main IP challenges?

The continued cyber threat is a big challenge. At Boeing we run a highly networked business operation and therefore need to make sure our data is protected against hackers.

Dramatic changes in the competitive landscape, on the commercial side of our business, are also a significant challenge. For example, single-aisle aircraft are now being produced by many new entrants. Whereas in the past we only had to keep an eye on one major competitor – Airbus – now there are many more players. We invest billions of dollars in research and development to maintain our market position, so we need to make sure our competitors are making similar investments and aren't simply riding to success on our backs.

How does Boeing manage to stay at the cutting-edge of innovation?

This is something we really focus on as a company. Our organizational structure helps and we offer various initiatives to motivate our staff. For example, every year we confer a special invention award, recognizing individuals and/or teams that have come up with new inventions or found new applications for existing technologies. We also run a technical fellowship program offering our first-rate scientists and engineers a separate path to advancement. But the main innovation engine for the corporation is Boeing Research and Technology, which undertakes research that benefits the company as a whole. Boeing also invests in further-out technologies in anticipation of our future business needs. For example, although it is only now becoming mainstream, we have been researching the use of 3D printing or additive manufacturing (AM) technologies in aircraft production for decades.

Do you think 3D printing has a future in the aerospace business?

Absolutely, but the biggest challenge we face today is how to scale-up the technology. It was first used for rapid prototyping, but now we need bigger, faster, production capable machines that can run 24/7. Some of the parts we need tend to be really

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For over 50 years Boeing has supported NASA's spaceflight endeavors and has been a driving force in the development of satellite communications technology.

big and you can't build these with the powder currently used in 3D printing, so we have to figure out ways to do this (see *3-D Printing and the Future of Stuff*, *www.wipo.int/wipo_magazine/en/2013/02/article_0004.html*). We are working with researchers, and major AM machine builders to develop the higher duty cycle machines we need.

Is it conceivable that we have a 3D printed plane by 2050?

That would be neat but there is a lot more involved than just designing a plane, pressing a button and printing it. There are a lot of parts flying in formation on an airplane. Additive manufacting will certainly have an impact in the future in terms of making it possible to design and build aircraft anywhere, and to produce parts on demand, but it will remain a capability that will have its place along with the many other techniques required to produce an aircraft.

Although today's 3D printing machines are highly capable, we lack a design community that understands the process. Designers typically design something that is easy to build but with AM you can throw that approach out the window because you can basically build anything you can imagine. With this technology you can create complex multifunctional components in one shot instead of using many different components. These parts are stronger and lighter than traditionally machined components and this translates into savings on maintenance and fuel. Around 30 components of the 787, which is 20 percent more fuel efficient than the 767 it replaces, are 3-D printed.

What insights have you drawn from producing the 787 (Dreamliner)?

In the early days of aviation, the Wright brothers used composites – wood and cloth. This was the standard until the introduction of aluminum, which brought major challenges. There were mis-steps and do-overs, but eventually the new technology settled down and in turn became the standard. Then fiber-reinforced composites started to be introduced in small ways, first in defense and then in commercial aircraft. Our first major commercial use of carbon composites was on the vertical and horizontal fins of the 777 aircraft. In the 787 (Dreamliner), composites are used for the fuselage, the wings and the tail. This was definitely a technological stretch. Someone had to do it and I am proud to say we were the first to do so.

Designing the aircraft so it could be produced affordably and in commercial quantities was the biggest challenge we faced. We learned a lot in the process and are continuing to improve the aircraft every day, but learning can be painful at times. Innovation can get messy and we certainly took a hit for being the first out there but that's the role of innovation leaders in industry.

What is your perspective on open innovation?

While not the end all, open innovation is a very useful tool. There are a lot of innovative companies and individuals in the world. Although we have many highly skilled engineers and advanced technologies at Boeing, we recognize we don't corner the market on smart people, so we actively seek out the best minds and the best technology wherever they exist.

Staying at the cutting edge of technology is very expensive. At Boeing we try to mitigate these costs by striking up business relationships with companies and researchers trying to solve the same problems we face. We co-invest in this research and share the results, which makes it more affordable for both parties.

How do you use the Patent Cooperation Treaty (PCT)?

We utilize the PCT, for international patent filings. The PCT allows us to delay many of the costs associated with filing patent applications broadly in multiple regions and the international search report obtained through the PCT can be very helpful to our understanding of the relevant prior art pertaining to particular technologies.

What is the future of flight?

We will continue to focus on finding ways to produce more affordable, eco-friendly and efficient airplanes. We are already pushing the envelope on speed and breaking hypersonic speed records. People always want to reach their destination more quickly, but we have to figure out how to do that affordably, with minimal environmental impact. ◆

A MARKET-BASED ALTERNATIVE to patent system challenges

*By **Ian McClure**, Director, Intellectual Property Exchange International, Inc. (IPXI®)*

On June 4, 2013, the US White House outlined an initiative that takes aim at numerous issues which many people believe are problematic for the intellectual property (IP) market and innovation. Among the issues highlighted were the lack of transparency, the need to create a level playing field between all innovators, and excessive or frivolous litigation. Gene Sperling, Director of the National Economic Council and Assistant to the President for Economic Policy, wrote in a recent post on the official White House Blog: "It's clear that the abuse of the patent system is stifling innovation and putting a drag on our economy… it's time to act." However, legislative patent reform of the type being proposed today in the United States could have sweeping, unintended consequences. When the intended subject of legislative action, for example, is categorized and defined by such vague and fast-changing terms as "non-practising entity" or "patent assertion entity", and when those categories have different meaning depending on perspective and disposition, it can be difficult to tailor the effect of such reform.

Photo: IPXI

IPXI, the world's first financial exchange for IP licensing and trading offers a market alternative to litigation and private bilateral licensing," says Ian McClure.

FLOURISHING MARKET FOR PATENTS

Over the last decade, the market for patents has flourished. Patent intermediaries, brokers and other agents have developed a liquidity pool for patents and patent rights, including license rights, covenants not to sue and other hybrids. These products are marketed, sold, purchased, bartered, exchanged, traded, consorted, leased and disposed of just like other assets, goods or properties.

However, unlike many other markets, the nascent market for patent rights is composed solely of private, bilateral dealings. In many respects, the market as it exists today operates in a rogue environment. There is little or no transparency of market information or means of identifying market behavior. The only mechanism for regulating this emerging market is through the courts, where predictability is difficult and barriers to entry – high legal costs – create the conditions for certain parties to exploit such uncertainty. For example, the American Intellectual Property Law Association (AIPLA) estimates that on average, when between US$1 million and US$25 million is at risk, patent litigation costs reach US$2.5 million, and when more than US$25 million is at risk these costs reach US$5 million. Knowing that the only referee available entails an investment of this size and that patent litigation outcomes are rarely predictable, certain patent holders push for quick cash settlements.

In a recent letter to the United States Congress, 60 US patent law professors stated that "high litigation costs and a widespread lack of transparency in the patent system together make abusive patent enforcement a common occurrence both in and outside the technology sector. As a result, billions of dollars that might otherwise be used to hire and retain employees, to improve existing products, and to launch new products are, instead, diverted to socially

wasteful litigation." (See *www.patentlyo.com/files/professorsletterontrolls.pdf*). But what can be done to diminish such exploitative behavior? A financial exchange for licensing and trading IP rights, such as the recently launched Intellectual Property Exchange International, Inc. (IPXI®) could help create the information standards and pricing mechanisms required and could also reduce the need for legislative reform.

IPXI: THE WORLD'S FIRST FINANCIAL EXCHANGE FOR IP LICENSING AND TRADING

IPXI, established in 2007, is the world's first financial exchange for licensing and trading IP rights. It offers a market alternative to litigation and private bilateral patent licensing. Many of IPXI's members, which include over 60 of the world's leading corporations, universities, research laboratories and financial institutions, have helped develop the Exchange and are committed to listing their IP in it.

On June 5, 2013, IPXI unveiled its first product offering covering a portfolio of 600+ patent assets – including 225 granted patents – relating to organic light-emitting diode (OLED) technologies for display screen applications developed by Koninklijke Philips N.V. (Philips).

IMPROVING MARKET TRANSPARENCY

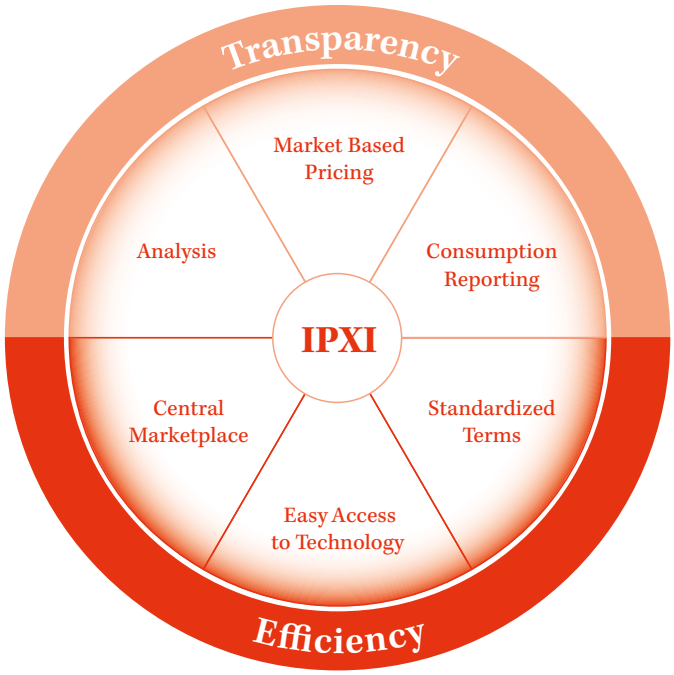
One of IPXI's core objectives is to improve market transparency in relation to the commercial exchange of patent rights and to help level the playing field for innovators. First, IPXI makes publicly available all critical information related to the owner of the rights and the direct beneficiary of their transfer through the Exchange, including the terms of any rights transfer. IPXI provides price as well as other relevant information – including an analysis of the quality of the assets and aggregate purchasing and trading data – and standard terms to all potential licensees for each portfolio offering. "We strongly believe that IPXI will increase the transparency of the IP market place with fair market prices for the IP being exchanged. We are one of the first companies to have listed some of our IP on the exchange and expect more companies to follow shortly," stated Ruud Peters, Chief IP Officer of Royal Philips Electronics, a Founding Member of IPXI.

As the economist Friedrich Hayek argued in *The Pure Theory of Capital*, the goal of a market is the preservation and use of the unique information contained in the price of a good. However, in a patent market without benchmarks and with skewed outcomes resulting from the cost of litigation and subjective intangibles such as bargaining position and expected probabilities of success in litigation, the usable information contained in a price is muddied. This creates perfect conditions for "patent assertion entities", popularly referred to as patent trolls, to capitalize on situations where assets with questionable validity or claim scope are attributed some value simply because there is uncertainty about their ultimate value.

RULES-BASED PROCEDURES

IPXI implements rules-based procedures and operates a process of committee review to objectively evaluate the assets it offers and to inform the market about the quality of the portfolios listed on the exchange. This includes an exhaustive quality evaluation by IPXI using independent third-party research. Information relating to patent validity

IPXI Business Model



and evidence relating to the use of or prospective demand for the technology, including market forecasts, is publicly available on IPXI's Trading Platform. With respect to the Philips offering for OLED technology, over 1,100 supporting documents relating to the offering are available to interested parties on the IPXI website.

Before launching its first offering, IPXI released its Market Rulebook, which is designed to guide the behavior of those participating in the IPXI market and contains rules regarding the creation, issuance, enforcement and auditing of the Exchange's primary product, a commoditized non-exclusive license right called a Unit License Right™ (ULR™) contract. Importantly, the IPXI Market Rulebook was developed with the support and insights of many of its members who participate on the Rules Committee. Any member of the Exchange may submit proposed rule changes to this Committee.

Until the patent-owning community wholly adopts a central marketplace, such as IPXI, with reliable market behavior standards and benchmarks, the chances of eliminating the sophisticated and lucrative "patent assertion entity" business model are slim.

TAMING CURRENT IP MARKETPLACE CONDITIONS

"In the last two years, the number of lawsuits brought by patent trolls has nearly tripled, and account for 62% of all patent lawsuits in America," noted Gene Sperling in the aforementioned White House communication. While some caution needs to be exercised in categorizing those who qualify as "patent trolls" and those who do not, this litigation phenomenon is having a clear impact on the way business is done. Money and time spent worrying about "abusive patent litigation" saps resources that could be better spent creating new products. According to the White House report, spending on patent litigation in several leading corporations now outstrips spending on research and development. Similarly, among smaller companies, 40 percent of technology startups targeted by "patent trolls" reported litigation or the threat of litigation had a detrimental impact on their business operations. There may be a place for non-practicing entities to operate through IPXI, but their success will depend on the qualification of their assets and their commitment to operate under the same rules and levels of transparency as the rest of the market. If these elements are met, their success cannot be deemed "abuse" of the patent system. In other words, the problem is not "patent trolls" as such, but the current characteristics of the patent market which provide perfect conditions for their business model to succeed.

While the America Invents Act (AIA) adopted in September 2011 goes some way in updating the legal patent landscape in the United States, the issues of abusive litigation and a lack of transparency in the patent marketplace require further consideration. By adding to the mix market dynamics similar to those that have resolved market inefficiencies in many industries for hundreds of years, IPXI presents an alternative to more legislation. Before asking government to set standards and control market behavior, market participants may first consider doing what other efficient markets have done in the past, that is, develop and adopt a central marketplace and market behavior standards. ◆

RUSSIA'S NEW IP COURT

*By **Mrs. Lyudmila Novoselova**,*
President of the Intellectual Property Court,
Russian Federation

Photos: Intellectual Property Court of the Russian Federation

The idea of establishing a specialized intellectual property (IP) court in the Russian Federation has been actively debated since the late 1980s. A strong commitment to fostering a more favorable environment for innovation, business and foreign investment and to improving the country's IP protection system, culminated in the establishment of such a court in December 2011 when Federal Constitutional Law No. 4-FKZ was adopted. Russia's new Intellectual Property Court (the IP Court) opened its doors for operation on July 3, 2013 – a significant milestone in the history of IP protection in the Russian Federation.

The new IP Court will enable more efficient handling of the growing number of lawsuits related to IP. These cases are typically more complex than standard commercial disputes and their resolution generally requires not only legal but also specialist technical knowledge to ensure timely, accurate and consistent outcomes. A specialized IP court dedicated to handling such cases will also help minimize judicial errors, lower litigation costs and boost business confidence.

An initiative of the Supreme Commercial Court of the Russian Federation, the new IP Court was established under Federal Constitutional Law No. 4-FKZ adopted on December 6, 2011 which amended Federal Constitutional Law No. 1-FKZ of December 31, 1996 on *the Judicial System of the Russian Federation* and Federal Constitutional Law No. 1-FKZ of April 28, 1995 on *Commercial Courts of the Russian Federation*.

The IP Court will act as both a court of first instance and as a court of cassation with respect to IP-related matters.

A COURT OF FIRST INSTANCE

In its role as a court of first instance, the IP Court is mandated to adjudicate cases arising from:

- Legislative acts of federal executive authorities (such as the Federal Service for Intellectual Property (Rospatent)) that affect an applicant's legitimate IP rights and interests in relation to patents, plant variety rights, the layout designs of integrated circuits, trade secrets and trademarks;
- The grant or invalidation of IP rights (with the exception of copyright and related rights and layout design of integrated circuits), including cases that contest non-regulatory legal acts, decisions and action or inaction of federal executive authorities (for example Rospatent and its officials, as the federal authority responsible for IP);
- Decisions of the federal antimonopoly authority (the Federal Antimonopoly Service) in relation to unfair competition and the improper use of trademarks and other identifiers related to goods, services, and enterprises;

- Determination of a patent holder;
- Invalidation of rights relating to inventions, utility models, industrial designs, plant varieties, trademarks and appellations of origin where the federal law does not provide for a different invalidation procedure; and
- Cancellation of a trademark on the grounds of non-use.

All such cases fall within the competence of the IP Court irrespective of whether the parties to a dispute are organizations, individual entrepreneurs, or citizens.

A COURT OF CASSATION

The IP court is also mandated to act as a court of cassation and as such plays a key role in ensuring consistent and transparent interpretation of the law as it relates to IP. In this capacity, it will review IP infringement cases decided upon by all state commercial courts of first and appeal instance within the Russian Federation. These courts are responsible for adjudicating disputes involving organizations, enterprises and individual entrepreneurs.

It is further mandated to review the judgments it has adopted and which have acquired the force of law, in light of new or newly discovered facts.

The IP Court may also apply to the Constitutional Court of the Russian Federation with a request to verify the constitutionality of a law applied or to be applied in a case pending before it. In this capacity, the Court examines and fine-tunes judicial practice; prepares proposals for improving existing laws and associated regulations; and is well placed to gather and analyze IP-related legal statistics.

ACCESS TO SPECIALIST KNOWLEDGE

Given the growing complexity of IP laws and the rapid evolution of the technologies and products they protect, provision has been made to ensure that the highly trained judges appointed by the Court have access to the specialist technical knowledge required to effectively adjudicate the cases before them. To date, 15 court experts, with specialist knowledge in a variety of fields have been appointed to support the Court's judges in this way. The Court may also call upon independent technical specialists to provide oral testimony during a trial to clarify specific technical case-related issues.

To date, 16 judges have been appointed to the IP Court (including the Chief Judge, the Deputy Chief Judge, and chairpersons of two panels). The Court currently has a staff of 58 legal, paralegal and administrative staff to support its day-to-day work.

NUMBER OF CASES HANDLED

In the first four months of operation – from July 3 to November 29, 2013 – in its capacity as court of first instance, the IP Court received over 350 claims and in its capacity as a court of cassation it handled 390 appeals.

While the IP Court is still in its infancy, it is already demonstrating that it is an efficient forum for handling IP-related disputes in a timely and effective manner. Its very existence is testimony to the government's commitment to strengthening the national framework for IP protection. In light of the ever increasing economic importance and sophistication of IP and IP disputes, the Court will continue to play an important role in improving the country's IP legal regime, boosting business confidence and supporting economic growth. ◆

Russia's new Intellectual Property Court opened its doors for operation in July 2013 marking a significant milestone in the history of IP protection in the Russian Federation.

Judge Serguey Ukolov, one of 16 judges to have been appointed to Russia's new IP Court.

WELSH + WHISKY = GOLD (Faraday's Law)

*By **Dan Anthony**,*
freelance writer

A version of this article first appeared in IP Insight (October 2013) published by the UK Intellectual Property Office.

The story of the creation of one of the UK's youngest and best regarded whisky brands is about the alchemy of innovation – how economic success can be created from the most dispiriting of ingredients, and how an enterprising company turned water into premium whisky.

WHISKY GALORE

The village of Penderyn is, to say the least, off the beaten track. Tucked away at the very top of the South Wales valleys, it occupies the borderland between the industrial south and the Wild West. In 1992, when the idea of brewing whisky in Wales took root, Penderyn was a sleepy hilltop hamlet where sheep and ponies roamed free. It was moonshine territory.

Here, a group of imbibers in Alun Evans' nearby pub, The Glancynon Inn, the epicenter of the Penderyn whisky legend, hatched their brain child. A century ago Wales produced its own whisky – why not do it again? What the world needed, what connoisseurs demanded, was a new, Celtic brew. Steeped in the mythology of the hilltop fortress; distilled in the most abundant natural resource the foothills of the Brecon Beacons produces – mountain water: Welsh whisky would be liquid gold.

To activate this transformation, these whisky visionaries realized they needed an alchemist, or at the very least a chemical engineer. Perhaps, as Alun Evans sipped his glass of Scotch at the end of a busy evening his eye came to rest on one of the Davy lamps hanging near the fire place. These nineteenth century life savers are common decorations around the fire places of the South Wales coalfield. Humphrey Davy, the man who invented the lamp was assisted by Michael Faraday, another scientific genius of his age, who harnessed the power of electricity and electromagnetism. Both men were familiar with eureka moments, what Welsh whisky needed was one of its own.

It arrived in time. Dr. David Faraday, a chemical engineer at Surrey University and a descendent of Michael Faraday stepped into the room. Dr. Faraday was intrigued by the possibility of building a still for the Welsh whisky team, as he says: 'the challenge was interesting enough to be worth investigating.'

THE MACHINE THAT MADE THE DIFFERENCE

Dr. Faraday began a series of research projects at Surrey University and these eventually culminated in the creation of the Welsh Whisky Company's unique 'single pot' still. The still was capable of producing different grades of alcohol, using a single fractionating column.

"The technique used in the Penderyn still's fractionating column is broadly the same as is used in the petrochemical industry,' says Dr. Faraday, 'but there are special adaptations. Nobody had ever thought about using a still like this to make whisky."

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The story of Penderyn whisky illustrates the importance of combining technical brilliance with business acumen and branding awareness to develop a successful intellectual property package.

Photo: Welsh Whisky Company

It took eight years for Dr. Faraday and his team to develop and design the unique still. It was built by MacMillans in Prestonpans, Scotland and, at 92 percent alcohol by volume, it produces whisky that has the highest strength of any malt. The Welsh Whisky Company's secret weapon was born: the Penderyn Single Pot. But as Dr. Faraday says, the precise calibration and operation of the still required a sensitive touch.

"Once we'd got into the region required, we could then say that now we're going to fractionate the thing that's going to be called Welsh whisky," says Dr. Faraday. "Then you move beyond science into an art."

Although Dr. Faraday has gone on to work on other research projects, he speaks with great fondness of his on-going association with the Penderyn whisky-makers. Their "can do" attitude motivated him and his team at Surrey University.

Dr. Jim Swan, master blender and distiller, brought to the enterprise experience, knowledge and something that cannot be reproduced synthetically: a nose. Together with the Welsh Whisky Company's resident distiller, Dr. Swan fine-tuned the still and the maturation process, developing the unique smooth taste that Penderyn Whisky embodies.

WELSH GOLD

"Penderyn" was registered as a trade mark in the UK in 2001 (UK TM 2261484). The first bottle of Welsh whisky was sold in Penderyn in 2004, at an opening ceremony on St David's Day. The guest of honor was the Prince of Wales. After twelve years of dreaming, toiling, researching and investing, Welsh whisky was back, and it was a hit. Today, Penderyn is one of the premium brands on all UK supermarket shelves. It has taken its place with the great traditional whisky distillers because of its emphasis on quality.

Sian Whitelock, Commercial Director at the Welsh Whisky Company takes up the story: "Demand has outstripped supply,' she says. 'We're in the process of installing a second single pot still this year. This will double our output. At the moment we're only able to sell around 20 per cent of our output abroad. But the global whisky market is vibrant and we have buyers looking for the unique taste of Penderyn Welsh Whisky all over the world."

Currently, 150,000 bottles of premium Penderyn whisky are produced each year. With the addition of a third still in 2014, the Welsh Whisky Company hopes to produce upwards of 700,000 bottles in ten years' time.

"We thought long and hard about the visual impact of the Penderyn brand," said Sian Whitelock. "We developed a unique packaging and created a brand based on the idea of Welsh Gold – something rare and valuable."

The story of Penderyn whisky illustrates the importance of combining technical brilliance with business acumen and branding awareness to develop a successful intellectual property package. Scientists like Dr. David Faraday and the business team at the Welsh Whisky Company played important roles, but the University of Surrey and investors all had their part to play. Innovation as good as this requires more than one visionary, it needs teams of them. ◆

Photo: Welsh Whisky Company

A bottle of Penderyn Whisky with the gold seam logo TM 2413386

FOX TEACHES INFRINGER A COSTLY LESSON

*by **Joanna Vatavu**, Macmillan LLP, Canada*

Twentieth Century Fox has achieved a $10.5 million victory against Mr. Hernandez, the former operator of two Internet websites dedicated to streaming episodes of the Simpsons and Family Guy television shows. It was alleged that the defendant had illegally copied over 700 episodes of the programs from television broadcasts and uploaded them to the *Watch The Simpsons Online* and *Watch Family Guy Online* websites where the episodes were made available to the public for streaming.

This case is a perfect illustration that statutory damages can be a powerful tool for copyright owners in Canada. Proving actual damages in a copyright infringement case can be difficult, particularly where the defendant is uncooperative and claims not to have any sales records. Section 38.1 of the Canadian *Copyright Act* provides that copyright owners may elect to recover statutory damages instead of lost profits and damages suffered as a result of activities of infringers. Where the infringements are carried out for a commercial purpose, the Act provides for a maximum award of $20,000 in respect of all infringements relating to each individual work involved in the proceedings. In this case, the maximum statutory damages would have been more than $14 million. It was alleged that the defendant site operator profited from sales of advertising and promotional items related to the television shows, and given the extensive number of episodes uploaded and shared by him, the court awarded $10 million in statutory damages.

Generally a plaintiff can only obtain an injunction prohibiting the defendant from repeating the infringements specifically addressed in the lawsuit. However, section 39.1 of the *Copyright Act* permits the court to grant a “wide injunction” restraining infringement of not only the works in issue but any other works owned by the plaintiff. In this case, the court granted a wide injunction against the defendant prohibiting him from any further infringing dealings with the works involved in the proceedings as well as any other works in respect of which Twentieth Century Fox owns copyright, including works which come into existence after the date of the judgment.

The court also found that the defendant’s repeated, blatant and intentional misconduct merited an award of punitive damages to serve as deterrence and punishment for such illegal activities. The court ordered an award of $500,000 in this respect. This is one of the larger statutory damage awards a copyright owner has obtained in Canada and no doubt sends a strong message to those who build businesses around illegal file sharing in Canada. ◆

NIGERIAN INNOVATORS GET CONNECTED

*By **Sunday Daniel**, freelance journalist, Nigeria*

In a quiet room away from the heat and hustle of the Nigerian capital's streets, a half-dozen African innovators peer into computer screens, lost in concentration as they work on making their dreams come true.

They are using networked computer equipment to search overseas intellectual property (IP) databases, gleaning insight into the worldwide usage of patents, trademarks, industrial designs and other IP. The Technology and Innovation Support Center, or TISC, where they are working is one of many similar public-resource offices set up by governments in developing countries in collaboration with WIPO. The goal: help make the international IP system accessible to as many users as possible.

MAKING IP ACCESSIBLE TO ALL

Ididunni Annette Roberts has been using the Abuja TISC, inaugurated in December 2012, in a quest to bring to market her "IBY Nature Pride Black Soap." Ms. Roberts has submitted the soap for testing by Nigeria's food and drug-safety unit and is now "seeking to register her trademark internationally."

"I am happy to have discovered this Center, which has given me the information I needed," she said and this has given me the confidence that what I am doing is scientific and global. I am satisfied that the product I have developed using the information from TISC, is entirely mine and is not being claimed by anyone else," she said.

PROMOTING BEST PRACTICES

WIPO launched the TISC project in 2009 (see *www.wipo.int/wipo_magazine/en/2013/05/article_0001.html*). In the context of a joint engagement with national and regional industrial property authorities, WIPO supports the TISCs by facilitating access to databases and training (both of trainers and of local users, on-site and through distance learning); providing information and training materials; supporting awareness-raising activities; and disseminating best practices and experiences among TISCs.

TISCs are usually hosted within national and regional patent offices, universities and other academic institutions, science and research centers, local and regional technoparks, chambers of commerce or other similar public institutions.

The TISCs host Internet-enabled computers that access WIPO's international databases of intellectual property information, including Patentscope for patent information and the Global Brand Database for trademark-related information free of charge. TISC users can also access a range of scientific journals, technical literature and other commercial patent resources for free, where they may be fee-based for users in developed countries.

FREE ACCESS TO DATABASES FOR DEVELOPING COUNTRIES

The goal is to help people like Edwin Nicholas Uwa and Mark Ogochukwu Abia turn their ideas into products that will boost their earnings. The pair, who are researching a dual-purpose air conditioner and refrigerator, used to spend time – and hard-earned cash – at local cybercafés. But without the guidance offered by the staff of the Abuja TISC, the duo found themselves adrift in a sea of confusing information.

"Since we started using the TISC we have been able to download the kind of information we needed and this has really helped us in our research work," Mr. Uwa said. "The most exciting thing about this place is that we can access valuable strategic information and it is all free-of-charge."

"Before now, we used to go from one cybercafé to the other without really getting any value for our money. But now, we are happy to say that TISC has provided us with the kind of information we need for our research at no cost at all," said Mr. Abia.

"THE WORLD WILL ONE DAY CELEBRATE US"

"We have been provided with fresh ideas on how to go about our research and development. Because of the information we are getting from the TISC, the world will one day celebrate us," said Mr. Uwa.

Since its inauguration in December 2012 by Nigeria's Trade and Industries Minister, Dr. Olusegun Aganga, dozens of Nigerians

have made use of the facility inside the Federal Ministry of Trade and Investments. The users are normally researchers, students and potential inventors.

The Abuja TISC staffers, like Therie Essien, also communicate with the public via dedicated Twitter and Facebook pages. "I am happy that Nigerians have really shown interest in this center and used it to improve their lives," Ms. Essien said.

Staffers also organize training sessions for users, in the hope they can spread their knowledge further. One of the users already trained by the TISC, Ekwesilesi Nnam, is tutoring fellow Nigerians on how to develop their own products and become self-reliant in a country where unemployment runs high, especially among Nigeria's youth.

Photos: Gbemiga Olamikan

Ibidunni Annette Roberts has used the services of the WIPO-backed TISC in Abuja, Nigeria, to develop and market her new beauty products.

CREATE INNOVATIVE PRODUCTS, BE YOUR OWN BOSS

Users and beneficiaries can be found throughout Nigeria, Africa's most-populous nation with 160 million people.

Each week, Sunday Apeji travels to the TISC in Abuja from his home in Jos, some 200 kilometers away. He is researching food and drug development from local plants known to have medicinal properties. He says he has already created four products he hopes to patent and is researching ten others.

"The knowledge I have acquired through the TISC has broadened my perspective on research and development and changed my whole outlook to patents and intellectual property," he says.

BROADENING PERSPECTIVES

The Registrar of the Trademarks, Patents and Designs Registry in the Federal Ministry of Trade and Investments in Nigeria, Nima Salman Mann, said that the Center had helped to open the eyes of Nigerians to their rights relating to IP and patents, emboldening them to seriously develop patents.

"We have done our best to educate Nigerians to understand the importance of protecting their product patents and intellectual property. Intellectual property is wealth for life as nobody can take it away from the owner."

"INTELLECTUAL PROPERTY IS A WAY OF LIFE"

The Chairperson of the TISC Project and Head of the Patent Department in the Federal Ministry of Trade and Investment, Aisha Salihu explained that the number of users of the Center has been on the increase.

Ms. Salihu said that the TISC had made it possible for Nigerians to approach their research and development with a sense of confidence and hope in themselves. "What Nigerians never knew existed has now been brought by TISC to their doorsteps and I do know that they are very happy with the facility's existence in Nigeria," she said.

Gabriel Joseph, who hopes one day to hold a patent, says he is happy to have been linked up with WIPO through the TISC on Facebook.

He said that the Center had driven away his initial fears of developing a product only to lose it to piracy: "Now I know that once I come up with my own product, I can protect it and benefit from it. The information we get here is indeed an eye-opener and a morale booster." ◆

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