IP 4 SMEs

from SMALL and MEDIUM to SMART and MINDFUL

Ecosystems to Support SME Innovation and Smart Growth

Avv. Michele Elio De Tullio

INSME 13th Annual Meeting 2016, Doha
INNOVATION & KNOWLEDGE MANAGEMENT are the engines of a long-run economic growth as they help to increase economic activity by creating new products and markets.
we live in a **KNOWLEDGE-BASED ECONOMY** where

Knowledge is the input to economic processes

Business based on the trading of products/services coming from knowledge
Knowledge is the source of the **Intellectual Capital**, based on:

1. **Human Capital**
   employees' knowledge, skills, and experience

2. **Relational Capital**
   the Companies' ability to co-operate with stakeholders and to join in networks

3. **Structural Capital**
   the Companies' material assets
The importance of KNOWLEDGE MANAGEMENT

Management of individual and organizational knowledge

Entrepreneurship in SMEs turns ideas into actions that stimulate business growth and development
The 3 pillars of INNOVATION:

1. SPEED
2. R&D
3. TECHNOLOGY
SPEED

- Awareness of new-born consumer trends
- First-mover advantages
- Access to a wider market share
R&D

Allows a competitive advantage with initial efforts in time, planning, in-house expertise and open innovation
EU SMEs innovating In-House in 2015

Average of SMEs with in-house innovation activities among the total n. of SMEs:

- EU average: 28.7%
- Switzerland: 45.2%
- Italy 36.6%
- Germany 38.6%
TECHNOLOGY

• Reduce costs and time (i.e. in manufacturing)

• Business transformation (allocation of budget and resources to technology)

• Creation of new products/services
EU Member States' Innovation performance

- **INNOVATION LEADERS**: Denmark, Finland, Germany and Sweden
- **INNOVATION FOLLOWERS**: Austria, Belgium, France, Ireland, Luxembourg, Netherlands, Slovenia and the UK
- **MODERATE INNOVATORS**: Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Italy, Lithuania, Malta, Poland, Portugal, Slovakia and Spain
- **MODEST INNOVATORS**: Bulgaria, Latvia and Romania
EU Innovation performance compared to non-EU countries

Average performance ranges from a lowest possible performance of 0 to a maximum possible performance of 1.
Factors of SMEs' success:

1. EXPLOITATION OF INTELLECTUAL ASSETS
2. ACTIVE INVOLVEMENT IN NETWORKS
3. ACCESS TO FINANCE
Nowadays, when we speak about a successful business, it is necessary to refer to an economic entity that has placed **INNOVATION** and **PROTECTION** of **INTANGIBLES** through **IPRs** at the heart of its business strategy.

**IP offers many opportunities to SMEs:**

Right holders are able to **protect and safeguard their innovative products** (technological and non-technological) in foreign markets, **develop new markets**, **participate in collective entities** (clusters, associations, standardization bodies), **make financial extraordinary transactions**, **attract venture capital** and **become attractive for merger or acquisition operations**.
Top 50 Multi-Billion Dollar Technologies and Innovations in 2014

Health & Wellness
- Nanomedicine
- Biosimilars
- Cancer Immunotherapy
- Synthetic Biology
- Stem Cell Therapeutics
- Metabolomics

Information & Communication Technology
- Augmented Reality
- XaaS Platform
- Dark Data
- Cognitive Analytics
- Context-Aware Computing
- Predictive Data Analysis
- Neuromorphic Computing
- Virtual Reality

Medical Device & Imaging Technology
- Digital Tomosynthesis
- BioNEMS/Nanofluidics
- Health Informatics
- Neuromodulation Techniques

Sustainable Energy
- Big Wind Power
- Floating LNG
- Hydraulic Fracturing
- Heat Pumps
- Li-based Batteries

Clean & Green Environment
- Solid Waste Upcycling
- Desalination
- Advanced Filtration
- Air Filtration
- Smart Metering

Advanced Manufacturing & Automation
- 3D Printing
- Atomic Layer Deposition
- Multi-Material Joining Technologies
- Composites Manufacturing

Global Top 50 Technologies

Materials & Coatings
- Polymer Chameleons
- Self-healing Materials
- Superhydrophobic Coatings
- Antimicrobial Coatings
- Carbon Fibers
- Lightweight Composites

Microelectronics
- Wearable Electronics
- Wireless Charging
- Printed/Flexible Electronics
- Smart Haptics & Touch
- OLED Displays

Sensors & Controls
- Quantified Self
- Touchless Sensing
- Energy Harvesting
- Sensor Fusion
- M2M Communications

Techvision Program - Frost & Sullivan
Total Invention Patent applications in 2014

- China: 928,177
- U.S.A.: 578,802
- Europe: 346,200
- Japan: 325,989
- India: 42,854
- Canada: 35,481
- Australia: 25,956

Source: WIPO statistics database. Last updated: December 2015
Non-technological innovation

Innovation does not only include technological innovation, but also refers to new markets, new ways to apply existing tools and financial innovations.

Let’s think about the added value of design

Design rights (along with other IP rights such as 3d marks and copyright) is a tool for protecting the aesthetic features of products, as well as for the obtaining of funding (such as public funding and private venture capital) with a view to expand the SMEs commercial activities.
Design: an advantage for one...

The competitive advantage of the designer is that of showing the uniqueness of its work, consisting in a combination of creativity and skills allowing him to become recognizable and popular to potential customers.

The advantage of businesses involved in the manufacturing (and often distribution) thereof is that of creating a competitive gap vis-à-vis their competitors in the short-medium term period, so as to allow them to differentiate their products. This allows to increase sales turnover and to conquer new market slices.
... an advantage for all

The competitive advantage of the end-consumer is that of being able to benefit from a product which has unique features that skillfully combines functionality, creativity and aesthetic pleasantness.

Such product is not only an advantage for the end-consumer in terms of an increase in his well-being but, above all, allows him to benefit from a social recognition vis-à-vis those consumers who don’t have the desired object as a result of not having enough information or purchasing power.
The Italian fashion designer Salvatore Ferragamo registered his shoes designs since 1929.
The cardboard box, that allows contents inside to be visible, was registered as design by BARILLA in 1956.
The Italian company «FIAM ITALIA» registered as design in 1989 an armchair made from a single piece of toughened 12 millimetres thick glass, called GHOST ARMCHAIR.
The Italian company «PIAGGIO & C. S.p.A» registered as design in 1946 a motorcycle that became one of the top-selling scooters of all times: the VESPA motor scooter.
Protection strategies

Non-technological and technological innovations, in order to be used as a tool by SMEs, require:

1. verification, aimed at excluding the pre-existence of other innovations in the market that may be already known;

2. protection, activated through the filing of applications for registration and, subsequently, through the granting by the competent local administrative body of the related registration;

3. surveillance, constantly monitoring the market in order to verify that there is nobody (in particular competitors) who wants to reap the benefits in the marketplace of producing copies of the protected innovation

4. defence, in the event of counterfeiting, it will be possible to act before the Specialized Intellectual Property Sections of the Courts having jurisdiction, in order to obtain an injunction against infringements and an award of damages.
The Italian footwear company GEOX S.p.A., having developed over 60 technology and material patent, shows how to protect multiple IPRs simultaneously.

- US Patent n. 20080209769 for a "Waterproof and breathable sole for shoes, and shoe manufactured with such sole"
- EU Design n. 001221642 for "Soles for footwear (-part of)"

- US Design Patent n. D657119 for "Part of soles"
The name of the technology "NET BREATHING SYSTEM" is protected as a trademark, with the Italian trademark registration n. 1437952, the US trademark registration n. 4460324 and the International registration n. 1091868.
US Patent n. 5,255,452 "Method and means for creating anti-gravity illusion"

Abstract:
A system for allowing a shoe wearer to lean forwardly beyond his center of gravity by virtue of wearing a specially designed pair of shoes which will engage with a hitch member movably projectable through a stage surface. The shoes have a specially designed heel slot which can be detachably engaged with the hitch member by simply sliding the shoe wearer's foot forward, thereby engaging with the hitch member.
The present invention relates to apparatus which utilizes centrifugal force to facilitate the birth of a child at less stress to the mother. There is provided rotatable apparatus capable of subjecting the mother and the fetus to a centrifugal force directed to assist and supplement the efforts of the mother so that such centrifugal force and her efforts act in concert to overcome the action of resisting forces and facilitate the delivery of the child.
The Pure and Germless Kiss

A KISS, says Webster's Dictionary, is a sweetmeat made of the beaten whites of eggs and sugar, baked; a drop of sealing wax; or pressure with the lips (compressed on contact and then separated) as a mark of affection, greeting, reverence, forgiveness.

Scientists warn us that kisses are unhygienic—transmitting all sorts of dangerous disease germs. Most of us are willing to run this risk, but there are always a few careful ones who strive after the pure and perfect kiss. One of them has invented this kissing screen, which might easily be used as a ping-pong racket in its idle moments. The netting is covered with an antiseptic guaranteed to kill all germs en route.

For a pure and hygienic kiss, use this small racket—after washing it in an antiseptic

The hygienic kiss
KISSING SCREEN
Netting covered with an antiseptic guaranteed to kill all germs en route
Interdependence of IPRs

The secret of the producers of the most successful industrial product have already understood is having afforded their goods, at the same time, the protection granted by trademarks, patents and industrial design.

IPRs are not mutually exclusive, but they may complement each other. The simultaneous enforcement of the rights relating to the same product turns to be the more effective way to manage and enhance them.

Thus, the principle of interdependence of IPRs allows to ensure the defense of marketed products by protecting each and every one of their new and distinctive element, especially in foreign Countries at a high counterfeiting potential risk.
IPRs' impact on SMEs

2013: the “IP Contribution Study” carried out by the European Observatory on Infringements of Intellectual Property Rights, has compared the European industry, in particular the intensive IPR industries which consist of at least 50% of European companies, with the North American industry. The study has shown that companies "with intensive exploitation of Intellectual Property" were directly responsible for 26% of all jobs in the EU: they further supported 20 million indirect jobs, meaning that 1 in 3 of all jobs rely on IPR intensive industries. Furthermore, IPR intensive industries paid higher wages - up to 40% more - than non-IPR intensive ones.
IPRs' impact on SMEs

2015: a follow-up study* has shown that the ownership of IPRs (patents, trademarks and designs) is strongly associated with improved economic performance at SMEs level.

<table>
<thead>
<tr>
<th>IPR or combination</th>
<th>SMEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPR owner ~</td>
<td>32%</td>
</tr>
<tr>
<td>Patents only ~</td>
<td>16%</td>
</tr>
<tr>
<td>Trade marks only ~</td>
<td>33%</td>
</tr>
<tr>
<td>Designs only ~</td>
<td>17%</td>
</tr>
<tr>
<td>Patents and trade marks ~</td>
<td>21%</td>
</tr>
<tr>
<td>Patents and designs ~</td>
<td>20%</td>
</tr>
<tr>
<td>Trade marks and designs ~</td>
<td>48%</td>
</tr>
<tr>
<td>Patents, trade marks and designs ~</td>
<td>34%</td>
</tr>
</tbody>
</table>

- SMEs owning IPRs (patent, trademark, design) have **32% higher revenue per employee** than SMEs that do not.

- SMEs that only own trademarks have a **30% "performance premium"** in respect of SMEs without trademarks.

- SMEs that own trademarks + designs enjoy a **premium of 48%**.
IPRs = Money

IP owners, while commercially exploiting their IP, do not necessarily use it in the traditional sense of the word.

Technology-based SME’s have sometimes valuable IP assets that can be monetized through access to equity or bank loans.
IPRs = Money

Intellectual Property can in fact be monetized by using it as collateral for bank loans.

Companies can use their IP assets as guarantee provided that they are able to prove their value, durability and marketable power.

In order to use IP as collateral it is therefore important to obtain an objective valuation of the identified IP asset. As stressed by the EC, the valuation of intellectual property is crucial because little knowledge about IP, and even less experience in valuing and understanding the nature of IP, can be seen as key obstacles in access to finance.
IPRs and access to credit

The traditional credit assessment, based on examinations of the historical quantitative elements (financial statements and other financial and economic documents) is not sufficient to ensure a careful credit management and is mostly object of an automatic evaluation carried out by the credit process and risk management systems.

Therefore, the assessment of the qualitative aspects and of the intangible assets that characterize a company of the 21st century is essential, since the value of the shed and of the machinery are becoming relatively less important than the same company’s ability to continually develop high tech innovative solutions in increasingly short time.

Such ability is crucial in order to grow or to remain competitive in relevant the market.
IPRs: the importance of (knowing) their value

The strength of an IP portfolio can also play an important role in helping investors decide whether to inject funds into a company.

- Active entrepreneurs are often looking for interesting opportunities to successfully use, directly or indirectly, IP rights on the market;

- Investors are also interested in the potential of IP assets as a way to secure financing, particularly if supported by reliable and innovative valuation methodologies.

The need for IP valuation becomes particularly relevant when they are exploited through specific contracts or used as financial tools by IP holders, or as investment assets by financial institutions.
Other forms of INNOVATION
FRUGAL INNOVATION

What does "frugal innovation" mean?

It's the ability of firms and producers of emerging markets to answer the consumers' needs of high-quality products which are affordable and sustainable at the same time, despite limited resources (financial, material or institutional).

The term "frugal engineering" was created in 2006 by Carlos Ghosn, the CEO of the Renault-Nissan Alliance, surprised by Indian engineers' ability to innovate cost-effectively and quickly despite severe resource constraints.
FRUGAL INNOVATION

Frugal innovation represents a mindset, a new approach that perceives resource constraints as a growth opportunity, instead of an obstacle.

This new approach to innovation aims at minimising (or found alternative ways to) the use of resources in development, production and delivery in order to obtain low-cost quality products/services.
An example of Frugal Innovation: INDIA

A 2012 study* has shown that India is the best scenario for high-impact frugal innovation due to many factors, among which:

- Indian culture of "creative improvisation"
- Indian market and its aspirational middle class
- Price-sensitive consumers, open to experiment
- Extreme conditions of energy/education/health service provision system
- New sources of social finance

What does "traditional knowledge" mean?

It refers to knowledge, know-how, skills and practices that are developed, sustained and passed on from generation to generation within a community, contributing to the creation of its cultural or spiritual identity.
IP Protection and Exploitation of TK

Innovations coming from TK, in general, may seek protection through patents, trademarks, collective marks or GIs, but may be also subject to trade secret or confidential information.

TK protection may vary on account of the products involved, whether they belong to the agri-food sector or to the handcraft, clothing, furniture and design sectors.

In this case, the relevant IPRs are Geographical Indications.
TK & GIs at International level

National GIs may seek direct protection abroad in case of bilateral and (occasionally) multilateral treaties that provides for the mutual recognition of GIs between the signatories.

GIs are also protected by virtue of:

- the Paris Convention for the Protection of Industrial Property of 1883
- TRIPS Agreements, which apply to all members of the World Trade Organization (WTO) and cover both agricultural and non-agricultural products, all the Member States must assure protection to GIs in order to avoid to mislead consumers about the origin of products and to prevent unfair competition.

GIs may also be protected through the filing of:

Collective Marks - those adopted by a community (i.e. an organization, association or cooperative) and used exclusively by its members in order to identify their goods and distinguish them from those of non-members.

Certification Marks - those certifying the compliance of the product with certain specific characteristics and/or production standards and may be used by anyone who can certify that the products involved meet certain established standards.

Another instrument is the Lisbon Agreement for the protection and international registration of Appellations of Origin and Geographical Indications (recently amended by the Geneva Act of May 21, 2015) which cover both agricultural and non-agricultural products. in the States which are Parties of the Lisbon System, it is possible to protect GIs, already registered in the country of origin, through the relevant registration in the register maintained by WIPO.
Agri-GIs vs Non-Agri-GIs in the EU

The EU provides for an autonomous and unitary GI protection only for agricultural products, wines and spirits and does not ensure a harmonization or unified protection for non-agricultural products GIs.

Only 15 EU Member States provide a sui generis system of protection for non-agricultural GIs, by regional or national regulations: Belgium (region of Wallonia), Bulgaria, Croatia, Czech Republic, Estonia, France, Germany, Hungary, Latvia, Poland, Portugal, Romania, Slovakia, Slovenia, Spain (region of Murcia). Other Member States, provide for a similar protection through the trademark system (certification or collective marks).

Therefore, protection for non-agricultural GIs, at EU level, is provided through EU Collective or Certification Marks.
Non-Agri-GIs outside the EU

CUBA
Habanos P.D.O. is the designation used for cigars bigger than 3 grams, elaborated in Cuba according to the quality standards of the Cuban tobacco Industry and using varieties of Cuban black tobacco grown in specific regions of Cuban territory. Currently, Habanos is a GI listed in the International System of Appellations of Origin (Lisbon system).

MEXICO
Mexican Non-agricultural GIs mostly refer to craftsmanship: the Olinalá P.D.O. protects wooden decorative objects made from the lináloe tree and manufactured in the city of Olinalá, North-West of Chilpancingo, in the Guerrero State. Its typical features are mainly colorful animals and nature elements.

INDIA
Mysore Sandal Soap, produced in Mysore City, State of Karnataka in India (South West of India), registered as a GI in India and the owner of the right is KSDL (A Govt. of Karnataka Enterprise).

CHINA
Liuyang Firework, produced in a region located in the Hunan Province (South-East of China). Protected in China by the GI sui generis system (AQSIQ), and outside China as a certification mark.
In the current Knowledge-based economy
Intellectual Capital is a resource for innovative SMEs
Innovation encompasses all sectors and comprehends products, services, technologies and traditions.
IP offers many opportunities to SMEs: competitiveness, export capacity, internationalization
IP measures SMEs' ability to produce something innovative and unique which can affect the progress and generate benefits for others.
THANKS FOR YOUR ATTENTION!

In the current Knowledge-based economy

Intellectual Capital is a resource for innovative SMEs

IP measures SMEs' ability to produce something innovative and unique which can affect the progress and generate benefits for others

IP offers many opportunities to SMEs: competitiveness, export capacity, internationalization

Innovation encompasses all sectors and comprehends products, services, technologies and traditions