ETM

The European Technology Transfer Manager

WP3 – TTM Profile Development

D.3.3. The TTM Competence Profile

Lifelong Learning Programme

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1. Introduction

The current study is aimed to develop a Technology Transfer Manager profile.

The Technology Transfer Manager (TTM) is a quite unrecognized professional figure which helps the interested parties (universities and research centers on one side, and firms of the other one) to turn a research result or prototype into a commercial product.

He/She researches, identifies, assesses possibilities of transfer, starting from existing known research results or from a need from a firm, and then help the interested parties to liaise and to reach an agreement. This emerging occupation is crucial to secure public and private money spent on research doesn't go wasted and firms stay competitive.

The ETM project intends to support the development of the qualification of the European Technology transfer Manager (TTM) and to promote the use of the ECVET system by applying it to the occupation of the Technology Transfer Manager TTM.

In order to reach this goal, the first step was to define a competence profile of the European TTM, structured according to ECVET guidelines.

This report, together with an analysis of the current situation of the Technology Transfer in all countries of the consortium, illustrates the results of a big survey conducted in all partner countries through approximately 320 questionnaires, 40 in-depth interviews with TTMs and 8 focus group involving the representatives of national technology transfer organizations, aimed to identify the most relevant theoretical knowledge and practical skills of the Technology Transfer Manager.

The profile described into this report comes therefore from the elaboration of the results obtained from the different national studies, describing the key activities (units of competence) of TTM and identifying, for each activity, the main skills and knowledge needed.

2. Overview on the Technology Transfer process in partners' countries.

The objective of this section is to present the state of Technology Transfer in all countries of the consortium (Italy, Romania, Bulgaria, Greek, Poland, Portugal and Spain).

ITALY

The Italian productive system is mainly characterized by SMEs with a strong specialization on industrial areas with low or medium level of technology, and therefore less inclined to invest in research and innovation.

For theses intrinsic characteristics, it requires specific accessible and qualified external service, in order to covert the research's outputs into technological innovation of its products, processes and methodologies for competitiveness.

The technology transfer process in Italy is carried out by Centers for innovation and Technology transfer (CITT), which main role is to assist companies to innovate their products and production processes and so, promoting the socio-economic growth of the territory, become an important connecting point between the university research and the productive system.

The 68% of the CITT has a mixed capital (public-private).

Possible Technology Transfer operators are:

- Experimental stations for industry
- Scientific and technological Parks
- Business Innovation Centers
- Liaison offices
- Development agencies
- Chambers of commerce
- Thematic or sectorial service centers

A key role on technology transfer in Italy is covered by public research organizations (PRO) and universities. Universities usually dispose of internal Technology Transfer Offices (TTO), whose main activities are:

- IPR management (92.3% of the total interviewed)
- Creation of spin-offs (88.5%)
- Licensing activities (75%)
- Contract management of research and collaboration with industry (48.1%)
- Research and consulting agreements (36.4%)

ROMANIA

In Romania Technology Transfer is identified as a systematic and independent examination of technologies to determine the characteristics, benefits, and most importantly how to apply it on the market, in order to find a partner interested in commercializing the technology.

Reports show that innovative culture in the Romanian enterprise sector, but also in the academic environment is still undeveloped. The main cause seems to be the lack of a clear strategy for development of the companies and the lack of cooperation between the academic environment and economic environment.

There are big companies that are investing in research and development successfully motivated for the lower cost of research and in some cases for the available Romanian European funds.

These big companies have created regional innovation poles. An important fact is that these multinational companies work with a lot of Romanian SME's, as their suppliers. Thru this contact of collaboration and cooperation, the SME's have managed to successfully implement modern management practices and develop an innovative culture inside their organizations. This led to the development of new technologies, new services and new processes.

Some of the identified treats are the "brain drain" process and the low investment in education and research.

Romania has the lowest level in Europe regarding the investment in education student / GDP. Also the government expenses with research in 2012 were about .48% of the GDP. But by 2020 the research will have about 25% of GDP.

But in general, the Technology transfer is developing in some regions. The automotive and IT sector has had a big growth and other sectors are following.

The most important actor in Romanian Technology Transfer process is the National Authority for Scientific Research with the mission to formulate, apply, coordinate, monitor and evaluate R&D and innovation policies, in accordance with the Government Strategy and Programmes.

Types of entities:

- National Network for Innovation and Technological Transfer (ReNITT)
- The office for inventions and trademarks
- Romanian Copyright Office (ORDA)
- Larger companies
- Universities
- Professional and trade association

The National Plan for Research, Development and Innovation (2007-2013) guide the National and regional policies for Technology transfer. The strategic objectives are:

1. Promoting the creation and development of S&T knowledge
2. Increasing the competitiveness of the Romanian economy
3. Increasing the quality of life

The priorities areas of public investment in research and development are:

a. Information society technologies
b. Energy
c. Environment
d. Health
e. Agriculture, food security and safety
f. Biotechnologies
g. Innovative materials, processes and goods
h. Space and security
i. Socio-economic and humanities

BULGARIA

Bulgaria is a country with a small domestic market dominated by small businesses with insufficient financial resources to be invested in research and development.

Lately there has been a reduction of investment in science and innovation at national level (0.4% of GDP), despite this reduction of national investment the process of technology transfer is carried out in the private sector by innovative companies interested in new technologies, which buy new technological solutions or invest resources in research and development.

The main evidences of technology transfer in Bulgaria are the patents granted in the country.

Technology transfer in Bulgaria is carried out mainly through 2 channels: granting licenses of technologies form inventors and researchers to third parties when transferring formal "codified" knowledge or "tacit" knowledge (or usually both) or through spin-off companies in which the inventors from the scientific community have a stake in developing the technology and obtain financial benefits.

The most common form of technology transfer in Bulgaria is carried out through granting the rights to use the technology to companies and other stakeholders by the researchers and innovators in scientific structures (Universities, research laboratories, research institutes of the Bulgarian Academy of Sciences, etc).

The main reason for using this channel is that the whole system of technology transfer offices is not well developed on the territory of Bulgaria, which restricts the market of new technologies both at the domestic and international technology markets.

The Bulgarian National Reform Programme 2014-2020 emphasizes that innovation policy is a key area for raising the competitiveness of Bulgarian economy and developing the potential for growth in the post-crisis period. The main objectives are:

- To increase investment in R&D to 1.5% of GDP by 2020
- To Broad the access to funding for SMEs
- To conduct a more purposeful state policy to support innovation (a Law on innovation, a new strategy, amendments to the Law on Investment Promotion)

- More efficient use of the Operational Programme "Competitiveness"
- To promote measures aimed at improving the quality of research, strengthening its applied orientation, improving science-business relationship.

The main objective of the strategy framework of the National Development Programme "Bulgaria 2020" is to promote the concentration of public-private resources and investment in the priority areas of development.

The priority areas for development are:

- Energy efficiency and transport
- Development of green and eco technologies
- Health and quality of life, biothechnology and organic foods
- New materials and technologies
- Cultural heritage
- Information and communication technologies.

POLAND

Polish innovation policy for the years 2007-2013 has the aim " to increase company innovation for the maintenance of an economy of a path of rapid development and to increase financing of R&D results by business". A condition for the effective implementation of innovation policy is the creation of an efficient institutional system and the development of mechanisms to coordinate activity of central and local levels.

The problems with commercialization result from such as: the minimal cooperation between small and medium businesses and the research sector, low awareness of the opportunities to make use of academic and developmental institution resources for company development, the domination of the purchase of new machines and equipment and low effectiveness of patents. The dominating model for knowledge transfer in Poland is personnel development, consulting service system, access to information and knowledge transfer system organization,. This allows for increased scale of the transfers of technical and experimental achievements to national and global circulation.

The development of new technologies in Poland is becoming more and more dynamic.

In recent years centers supporting transfer and commercialization of research results and technologies are: technological parks, technology transfer centers, technology incubators.

PORTUGAL

In Portugal the Technology Transfer Manager is not a recognized profession. People who work in this field usually do not have an academic background on Technology Transfer Management and accumulate other tasks of their daily jobs. The Technology Transfer process is not regulated on a national level and the institutions working in the area have to create their own procedures.

Portugal has intermediary institutions of knowledge transfer process, where the Portuguese Government has an important role in creating an institutional facilitator.

Between a knowledge base and strong companies able to absorb innovative ideas is necessary to adapt the technologies to industry needs, create an infrastructure of human resources with skills to produce additional technical development, facilitate the existence of capital to fund these developments and know-how concerning the protection of intellectual property.

Portugal has developed efforts that have produced two initiatives directly related with Technology transfer, GAPI and OTIC.

- **GAPI**- Units for Industrial Property Promotion, that are small offices designed to provide information and encourage activity that promotes industrial property. They aim to increase the competitiveness of Portuguese companies and universities by providing both protection and a stimulus for differentiation in the marketplace.
- **OTIC**- Technology Transfer and Knowledge Offices is a program of the Innovation Agency for the creation of mediating entities, in order to identify and promote the transfer of new ideas and concepts for innovative and entrepreneurial contributing to a growing economic, social and enterprise of Portugal. They are part of the main Universities and Polytechnic Institutes.

GREECE

Greece has the 21st place in 33 European countries concerning innovation.

Greece is characterized as a moderate innovator with the performance below average. Relative strengths are in Human resources, Linkages and entrepreneurship and Innovators. Relative weaknesses are in Finance and support, Firm investments and Intellectual assets.

Main institutions for Technology transfer in Greece:

- Universities: The majority R&D spending in Greece is public, and the Universities provide the most research and scientific output.

  Higher Education Institutions promote technology transfer through Entrepreneurship and Innovation Units (EIU), Research Centres (RC) and Liaison offices (LO).

- On the other hand the main organizational units in charge of Knowledge Transfer activities in Greek Universities, according to legislation introduced in 1996 are HEI's Research Committees.

There are several types of institutions of the public sector (some of them directly connected with HEIs, some with Chambers of Industry and some with various Ministries) that are involved in the Technology Transfer.

- Laboratories specialized in a sector or activity.
- Chambers of Commerce
- Industries
- Local Development Agencies
- Centers for Research and Technological Development
- Technological, Scientific and Technological and Technological and cultural parks
- Centers for Technology transfer.

Private sector: 99.86% of Greek companies are small and medium sized, in fact around 86% of them are micro companies, employing up to 10 workers.

Main source of financing technology generation and transfer through are EC co-funded or State funded research programs of projects.

The crisis seems to have a dichotomy effect on the expenses of the private sector in R&D. Many companies have reduced money spent on research, because of financial difficulties but some seem to invest more.

SPAIN (CATALONIA AND REST OF SPAIN)

In the last decade the Spanish government has focused the changes in R&D and innovation policies on the commercialization of the scientific results fostering public private cooperation, the creation of clusters and important support to the creation and expansion of science and technology parks and technology centers and the promotion of spin-offs. The recently approved Law of Science and Innovation underpins the importance of the SIREs. The EU Cohesion Funds play a very important and growing role in the regional R&D policies.

Several measures financed by these funds promote public-private cooperation as in the case of the support for:

(1) the creation of Science and Technology Parks
(2) cooperative R&D projects in SMES
(3) the creation and maintenance of large infrastructural facilities
(4) the creation of new technology based firms
(5) technology platforms

Also the Spanish National R&D&i Plan boasts a specific program to promote technological cooperation between SMEs and universities or public R&D centers.

An important barrier is the almost non-existent integration of research and innovation policies on the one hand and the education policies on the other hand.

Spain has no specific legal regulation of the ownership of Intellectual Property Right (IPR).

The agents of the Science and Technology System:

Public Administration:

- *Foundations*: The Spanish Science and Technology Foundations (FECYT) and the Foundation for the Development of Genome and Proteome Research

- *University- Enterprise Foundations:* organizations created jointly by the Universities and Chambers of Commerce, there are thirty-three FUEs around Spain.
- *Public Research Organizations (PROs):*
- *Industrial Liaison Offices (ILOs):* are intermediaries in the science-technology-business system whose fundamental mission is to strengthen relations among the stakeholders.
- *Bodies and Agencies fomenting Innovation:* Spanish Patents and Trademarks Office at State level and Tefi9onal and Local Development Agencies.

The *Centre for the Development of Industrial Technology* (CDTI), which mission is to enhance the competitiveness of Spanish companies, increasing their level of technology, with a model based on demand from companies and with a horizontal technological approach with criteria of technical excellence.

3. Profile of respondents

Most of the respondents to the on-line questionnaire were, middle age **men (61%),** usually managers of innovative companies or universities, with more than 10 years of experience. Only in Portugal the respondents of the survey were mostly women, with a percentage of 62,5%.

Considering the relative innovativeness of the field most of the staff working into the technology transfer sector are **pretty young** (63% under 45 years old) and, in any case, not older than 60 years old.

Despite of their age, they demonstrate to have quite a lot of experience in the field of innovation management first, and technology transfer later. The great majority of them **(65%)** declare to have **more than 10 years of professional experience**. Most of technology transfer offices in fact are born since year 2000, but some of their staff was probably previously occupied in the same sector but with different profiles.

As for the area of studies, most of the respondents dispose of a **technical scientific background** (37% Engineers, 19% Physics and Chemists, 30% Economic area). Italy (with a 30%) and Poland (with a 54%) are the two countries with most economists between the respondents, in other countries the respondents have been mainly engineers

They are mainly coming from **universities (28%)** and **companies (22%)** belonging to different industrial sectors. The sectors indicated in the questionnaire are: textile, biotech, telecommunication, pharmaceutics, manufacturing, chemistry, diagnostic systems, stone, tourism, training and consultancy. Only a few percentage of the companies although are represented by **spin offs or start ups** (6%) and the 3% is constituted by aggregations of companies into **innovation poles**.

Another important part come from the **academic and research area**, in all their different forms: universities 28%, research centers 18%, Technology Park 5% and Laboratories 2%. The last group is formed by all **service providers** particularly devoted to technology transfer that all together represent the 31% of the respondents (Technology transfer offices, development agencies, business incubators, chambers of commerce).

The interviewees appear to cover leading positions inside their organizations. The large majority (48%) are **directors** and **managers** or main responsible of an area. Another relevant part (18%) are **scientists or researchers** while the residual part are in the **commercial area** or other. The 12% of the respondents qualified themselves as **Technology Transfer operator**.

In particular this last point is very significant because it indicates that the process of technology transfer in all countries is mostly conducted by non-specialized personnel, often the same general managers of the enterprises. It is therefore strongly needed a specific training on the argument.

One of the most significant common point between the surveys conducted in the partner countries, in fact, is that, although all the respondent effectively work as Technology Transfer Managers, almost nobody as an official recognition or certification. This is partly due to the fact

that the training courses for TTMs are generally not so easy to find and often very expensive. Another possible reason of this lack of certificated professional is that in many countries doesn't exist an official recognition or a common profile of the Technology Transfer manger yet.

Since this role is still covered by people with different competences and experience, it seems very important to **define a shared TTM profile**.

The 80% of the interviewed target, in fact, never attended a training course on Technology transfer management. Among those who attended at least a course, two of them report 1 or 2 days seminars organized by local chamber of commerce or enterprises' associations.

Some other managers, instead, prefer to attend more articulated course organized by the universities or public research organizations.

The indications on the daily work activities reflect a situation of TTM tasks' fragmentation. The main activities carried out during their typical working appear to be the following:

1) General management and administration (coordination of the projects, finance etc) **29%**
2) Developing a commercial process for technology (analyze the market, competitors, commercial potential of an invention, working with scientist on the market assessment of their ideas, find a commercial partner, find financial resources etc.) **14%**
3) Gathering and analyse information (patent databases, looking for information sources) **13%**
4) Communicating and creating a network with the stakeholders (researchers, companies, public and private entities) **12%**
5) Negotiating and intermediating the requests/needs of your stakeholders (through phone calls, meetings, workshops, presentations etc) **12%**
6) Helping the development of new businesses, start-up/spin-off companies (planning, commercial analysis, funding etc.) **11%**
7) Managing IPR and licensing issues (assess and design IP strategies, apply for patents, licences, write IPR agreements) **9%**

Of course, there are different levels of these competences' possession. In general we can identify:

Junior profile: less than 5 years of experience, brief knowledge of all or a part of the topics.

Experts: between 5 and 10 years of experience, good knowledge of the issue and significant experience in the field

Senior profile: more than 10 years of experience, deep knowledge of all the presented topics and long experience in the innovation field.

4. The Technology Transfer Manager Profile.

The technology transfer manager's profile described into this study is based on the feedback received from 326 TTMs through the compilation of an on-line questionnaire. In particular, we received: 40 answers in Italy, 32 in Portugal, 33 in Greece, 46 in Bulgaria, 41 in Romania, 45 in Asturias, 42 in Catalonia and 47 in Poland.

The type of respondent is a man between 35 and 45 years old, manager, director ,scientist or researcher with a proven professional experience in the sector of innovation and an educational background on the scientific field (engineering, natural sciences, economics and business).

The types of organization that showed more interest for the topic are Universities and companies investing in R&D.

4.1. Units of Competence:

During our study, we identified 7 different competence areas for the professional TTM.

3.1.1 IPR AND LICENSING

Theoretical Knowledge

The most important theoretical knowledge considered in this unit of competence are:

- **IPR Legislation at** national and international level (57,86%),
- **Patenting process** (51,51%)
- **Types of IPR Agreements** (43,81%).

In Italy, the most relevant knowledge in this field are considered to be an excellent knowledge of IPR Legislation, a good knowledge of the patenting process and a proficient knowledge of all types of IPR Agreements.

ITALY	%
IPR Legislation	61,8%
Patenting process	61,8%
Types of IPR Agreements	41,2%
ICT and patent databases	35,3%
IPR financial management	26,5%
Other protection methods	23,5%
Patent offices worldwide	11,8%
Licensing process	11,8%
Sector specific legal issues	8,8%

In Portugal the same knowledge has been considered important, but with different order and percentages.

PORTUGAL	%
Types of IPR Agreements	58,1%
IPR Legislation	54,8%
Patenting process	45,2%
ICT and patent databases	38,7%
Licensing process	35,5%
IPR financial management	29,0%
Other protection methods	16,1%
Sector specific legal issues	16,1%
Patent offices worldwide	6,5%

Greece also considers these three options of theoretical knowledge as basic for a TTM in the field of IPR and licensing.

GREECE	%
IPR Legislation	61,5%
Types of IPR Agreements	50,0%
Patenting process	42,3%
ICT and patent databases	38,5%
Licensing process	38,5%
Other protection methods	26,9%
IPR financial management	26,9%
Sector specific legal issues	23,1%
Patent offices worldwide	11,5%

The three most important areas of theoretical knowledge in the field of IPR and licensing, which the surveyed experts from Bulgaria have indicated are: the process of patenting and IPR legislation at national and international level which earned equal shares of 50%, after which comes the knowledge about other protection methods with 34,8%

BULGARIA	%
IPR Legislation	50,0%
Patenting process	50,0%
Other protection methods	34,8%
Licensing process	32,6%
ICT and patent databases	32,6%
Patent offices worldwide	19,6%
Types of IPR Agreements	19,6%
Sector specific legal issues	19,6%
IPR financial management	15,2%

In Romania the respondents also consider the three same important knowledge in IPR and licensing as mentioned in the introduction of this paragraph: knowledge in IPR Legislation 65%, patenting processes 47,5% and Types of IPR Agreements 37,5%.

ROMANIA	%
IPR Legislation	65,0%
Patenting process	47,5%
Types of IPR Agreements	37,5%
ICT and patent databases	35,0%
Sector specific legal issues	32,5%
Licensing process	25,0%
IPR financial management	25,0%
Other protection methods	20,0%
Patent offices worldwide	2,5%

Interviewed people from Catalonia consider as most important theoretical knowledge to be a Technology Transfer Manager, is to know the types of IPR Agreements with a 65%. Second theoretical knowledge considered as important, is the licensing process with a 57,5% followed for the patenting licensing with a 52,5%.

These three options are the ones with a percentage over the 50%.

CATALONIA	%
Types of IPR Agreements	65,0%
Licensing process	57,5%
Patenting process	52,5%
IPR Legislation	37,5%
IPR financial management	37,5%
ICT and patent databases	35,0%
Sector specific legal issues	32,5%
Other protection methods	25,0%
Patent offices worldwide	15,0%

Interviewed people from rest of Spain consider as most important theoretical knowledge to be a Technology Transfer Manager, is to know Patenting Process with a 69%. Second theoretical knowledge considered as important, is the IPR Legislation with a 54,8% followed for ICT and patent database with a 52,4%.

These three options are the ones with a percentage over the 50%.

REST OF SPAIN	%
Patenting process	69,0%
IPR Legislation	54,8%
ICT and patent databases	52,4%
Types of IPR Agreements	38,1%
Other protection methods	35,7%
Licensing process	28,6%
IPR financial management	19,0%
Sector specific legal issues	11,9%
Patent offices worldwide	7,1%

According to the Polish interviewees, the most relevant knowledge in this field are: an excellent knowledge of IPR legislation at national and international level with a percentage of 82% of the answers, followed than to know all types of IPR Agreements (55%) and in third place a proficient knowledge of the patenting process with a percentage of 42%.

POLAND	%
IPR Legislation	81,6%
Types of IPR agreements	55,3%
Patenting process	42,1%
IPR financies management	34,2%
Other protection methods	23,7%
Licensing process	23,7%
Sector specific legal issues	23,7%
ICT, patent databases	18,4%
Patent offices worlwide and their rules	2,6%

Practical skills

The most important practical skills considered by the interviewed in all countries are:

- **Assess the best protection possibility** for a certain innovation (66,21%)
- **Design an IP strategy** within a given budget (57,93%).

The practical skills mainly required in Italy for this competence area are:

the capacity of assess the best protection possibility for a certain innovation, of designing an IPR strategy with a given budget and writing an IPR agreement.

ITALY	%
Assess the best protection possibility for a certain innovation	79,4%
Design an IP strategy	55,9%
Write an IPR Agreement	38,2%
Apply for a certification & patents	35,3%
Manage financial issues related to IPR	26,5%
Manage In /out license agreements	17,6%
Apply for a trademark	5,9%
Apply for a copyright	2,9%

The results of Portuguese survey also consider that assess the best protection possibility for an innovation and to be able to design an IP strategy are basic skills that a TTM must has.

PORTUGAL	%
Assess the best protection possibility for a certain innovation	71,0%
Design an IP strategy	71,0%
Write an IPR Agreement	51,6%
Manage In /out license agreements	51,6%
Manage financial issues related to IPR	35,5%
Apply for a certification & patents	19,4%
Apply for a trademark	9,7%
Apply for a copyright	6,5%

The main capability for a TTM in Greece according to the field of IPR and licensing is to be able to design an IP strategy within a given budget with a percentage of 63%, followed than be able to assess the best protection possibility for a certain innovation (51,9%).

GREECE	%
Design an IP strategy	63,0%
Assess the best protection possibility for a certain innovation	51,9%
Apply for a certification & patents	37,0%
Write an IPR Agreement	37,0%
Apply for a copyright	25,9%
Manage financial issues related to IPR	25,9%
Apply for a trademark	14,8%
Manage In /out license agreements	14,8%

The three most important practical skills that must be mastered according to the Bulgaria survey are: Assessment of the best protection possibilities of a particular innovation, which was

cited by 52,2% of all respondents; with equal shares of 32,6% come the skills needed when applying for a trademark, for copyright and for patents and certification.

BULGARIA	%
Assess the best protection possibility for a certain innovation	52,2%
Apply for a certification & patents	32,6%
Apply for a copyright	32,6%
Apply for a trademark	32,6%
Manage financial issues related to IPR	28,3%
Write an IPR Agreement	26,1%
Manage In /out license agreements	21,7%
Design an IP strategy, within a given budget	21,7%

The Romanian experts consider important practical skills in this field the following ones: to be able to design an IP strategy with a given budget (63,2%), to be able to assess the best protection possibility for a certain innovation (50%) and in the third place to be to apply for a certification and patent.

ROMANIA	%
Design an IP strategy, within a given budget	63,2%
Assess the best protection possibility for a certain innovation	50,0%
Apply for a certification & patents	44,7%
Write an IPR Agreement	42,1%
Manage financial issues related to IPR	26,3%
Apply for a copyright	23,7%
Manage In /out license agreements	15,8%
Apply for a trademark	10,5%

On the hand of the practical skills in Catalonia, the one considered the most important is to design an IP strategy, within a given budget, obtained a 83,3% of the answers.

The second skill with a 77,8% of the answers is to assess the protection possibility for a certain innovation.

In the third place there are two skills with the same percentage, 55,6% and are, to be able of: writing an IPR agreement and managing In/out license agreements.

CATALONIA	%
Design an IP strategy, within a given budget	83,3%
Assess the est protection possibility for a certain innovation	77,8%
Write an IPR Agreement	55,6%
Manage In /out license agreements	55,6%
Apply for a certification & patents	19,4%
Manage financial issues related to IPR	16,7%
Apply for a copyright	8,3%
Apply for a trademark	5,6%

On the hand of practical skills, the one considered the most important by spanish people is to Assess the best protection possibility for a certain innovation, obtained a 75% of the answers.

The second skill with a 60% of the answers is to Design an IP strategy, within a given budget.

In the third with a 40% is to be able to Manage In /out license agreements. The rest of the skills have less than 35%.

REST OF SPAIN	%
Assess the best protection possibility for a certain innovation	75,0%
Design an IP strategy, within a given budget	60,0%
Manage In /out license agreements	40,0%
Apply for a certification & patents	35,0%
Write an IPR Agreement	30,0%
Apply for a trademark	20,0%
Manage financial issues related to IPR	20,0%
Apply for a copyright	2,5%

The practical skills mainly required by Polish in relation to this competence area are: to have the capacity to assess the best protection method for a certain innovation (71%), to be able to develop an IP strategy within a given budget (55%) and in third place to be able to prepare an IPR Agreement with a 42% of answers.

POLAND	%
Assessing best innovation protection method	71,1%
Develoingp IP strategy within budget	55,3%
Preparing IPR agreements	42,1%
IPR financial issues management	39,5%
In and out licensing	34,2%
Applying for certificates and patents	18,2%
Applying for copyrights	5,3%
Applying for trademark	2,6%

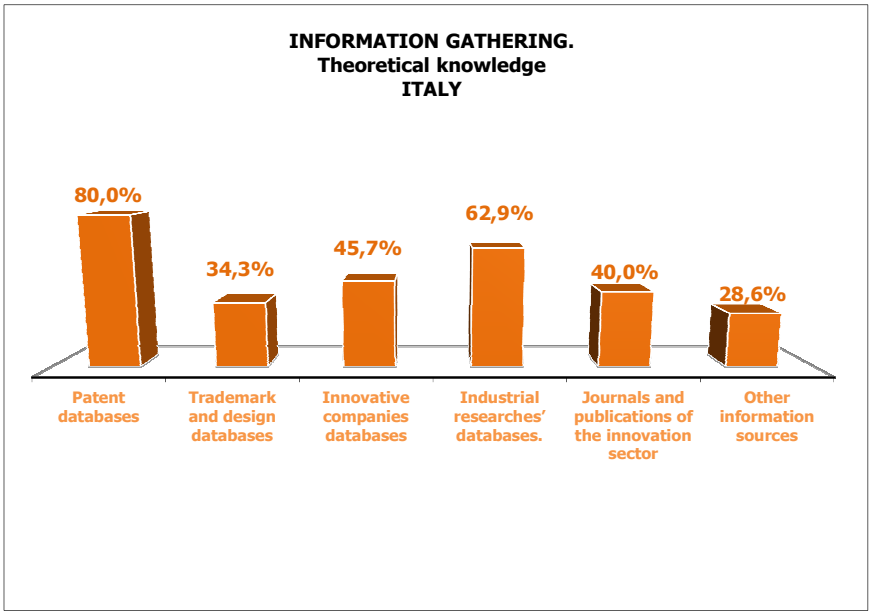
3.1.2 INFORMATION GATHERING

Theoretical Knowledge

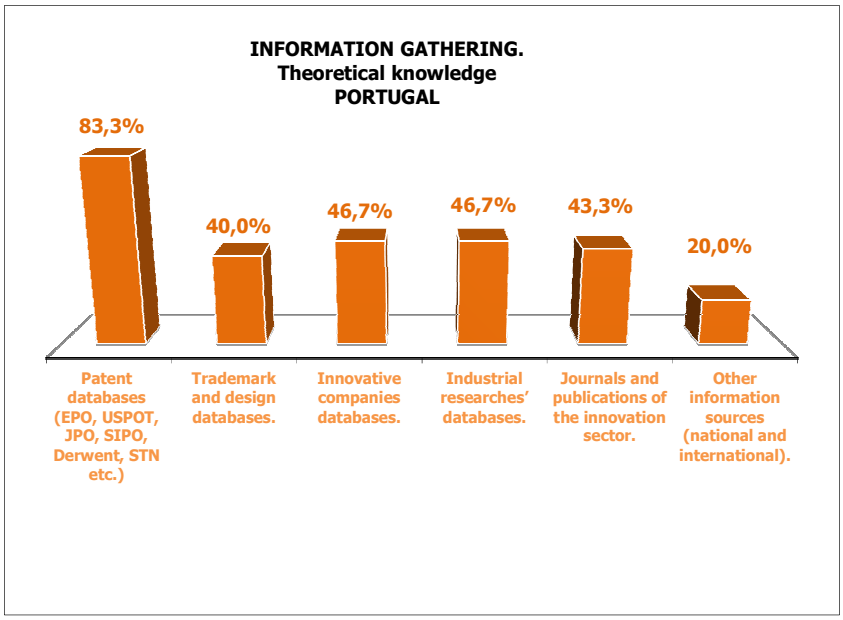
Concerning information gathering, the most important knowledge identified in all countries of the consortium are:

- knowledge of **patent databases (69,54%**)
- knowledge of most important **journals and publications** on the **innovation sector (53,31%)**
- **knowledge of innovative companies databases (42,05%)**.

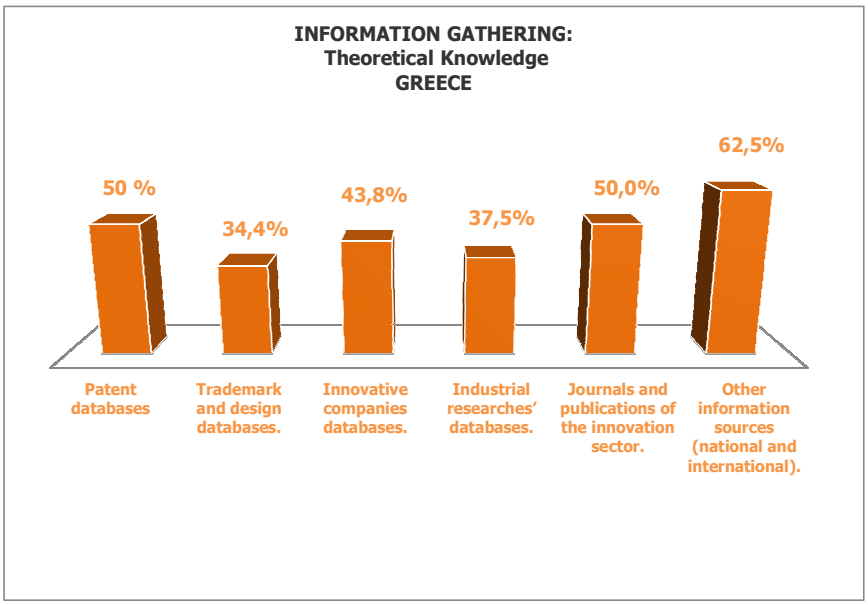
According to the Italian survey, a good TTM must have a complete knowledge of Patent databases, industrial researchers' databases and about innovative companies' databases.



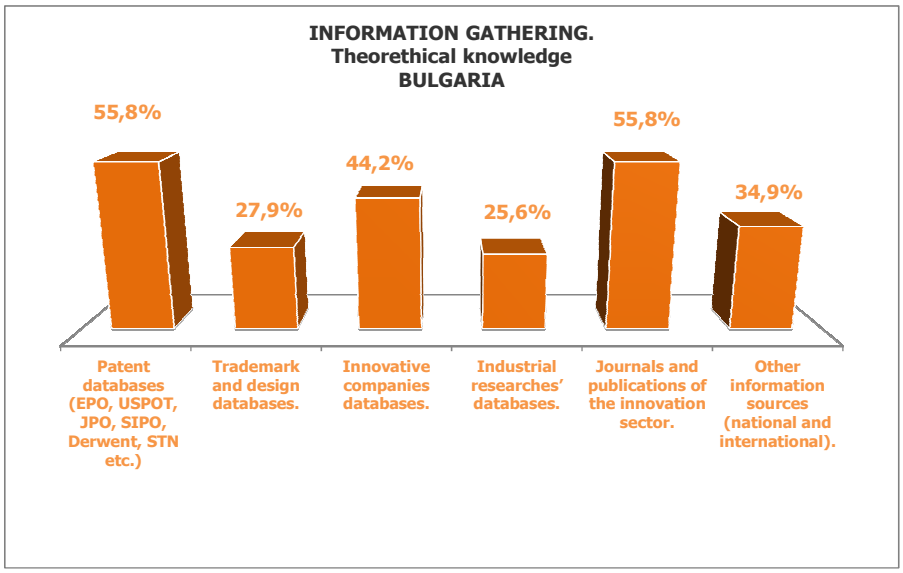
In the field of Information Gathering the Portuguese consider a basic knowledge, with a percentage of 83,3%, know about Patent databases. The two following knowledge, but with percentages lower than 50% are, to know about innovative companies databases and industrial researchers databases, with the 46,7% each one.



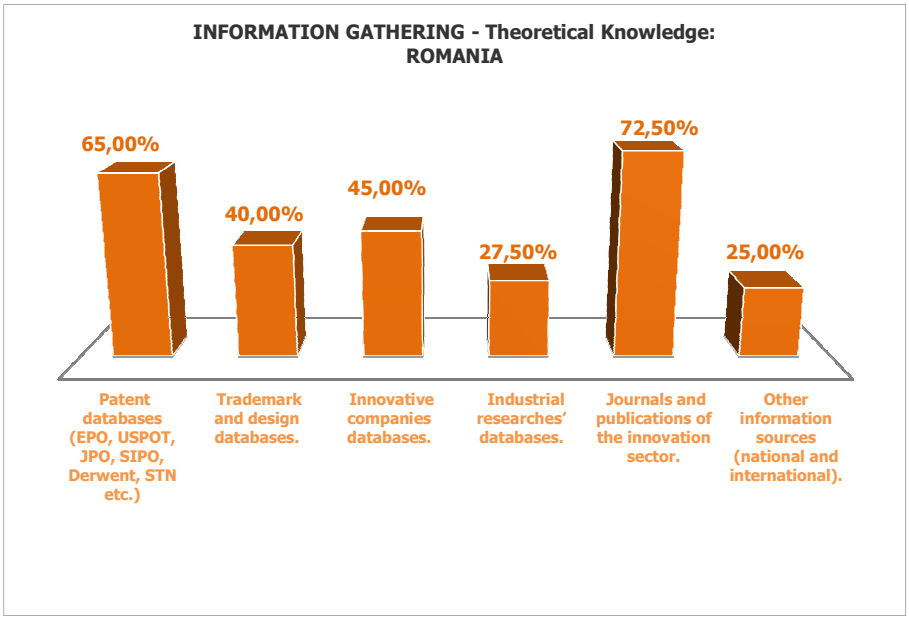
Results of Greece survey for this question show as most theoretical knowledge to cognize different sources of information with a 62,5% of the answers.



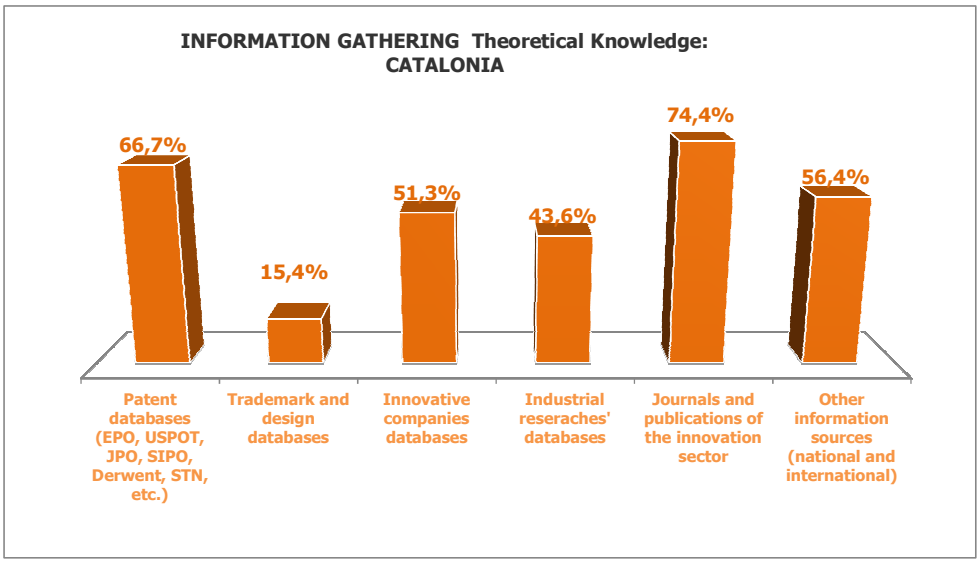
Regarding information gathering, the three most important areas of theoretical knowledge according to Bulgarian respondents are: patent databases and gathering information from journals and publications in the innovation sector with the same share 55,8%. The third most important theoretical knowledge is connected with innovative companies' databases (44,2%).



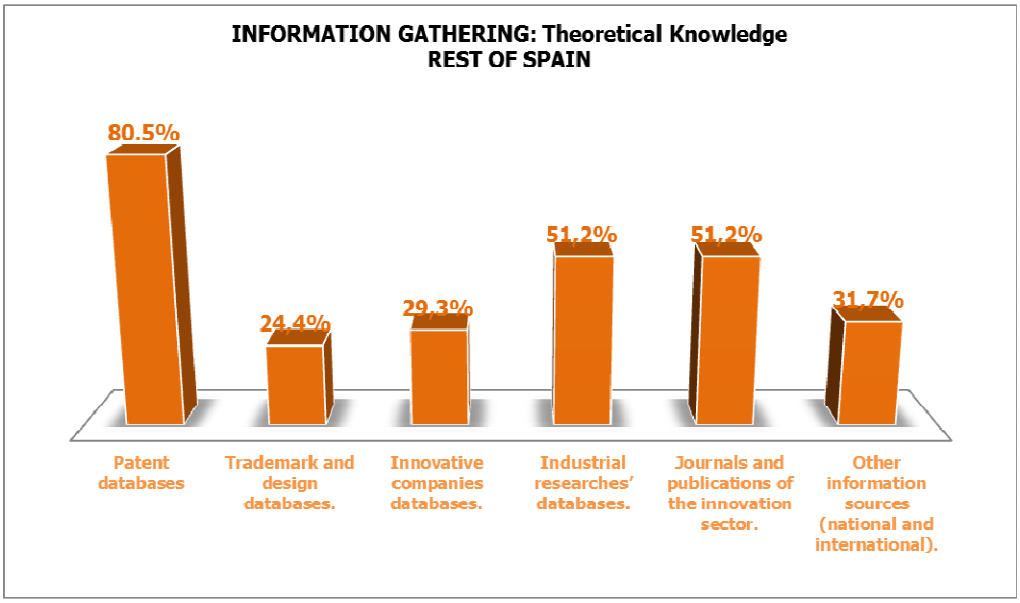
The most important theoretical knowledge considered by Romanian respondents in relation with this field are: knowledge about journals and publications of the innovation sector, knowledge about patent databases and in third place knowledge about innovative companies databases.



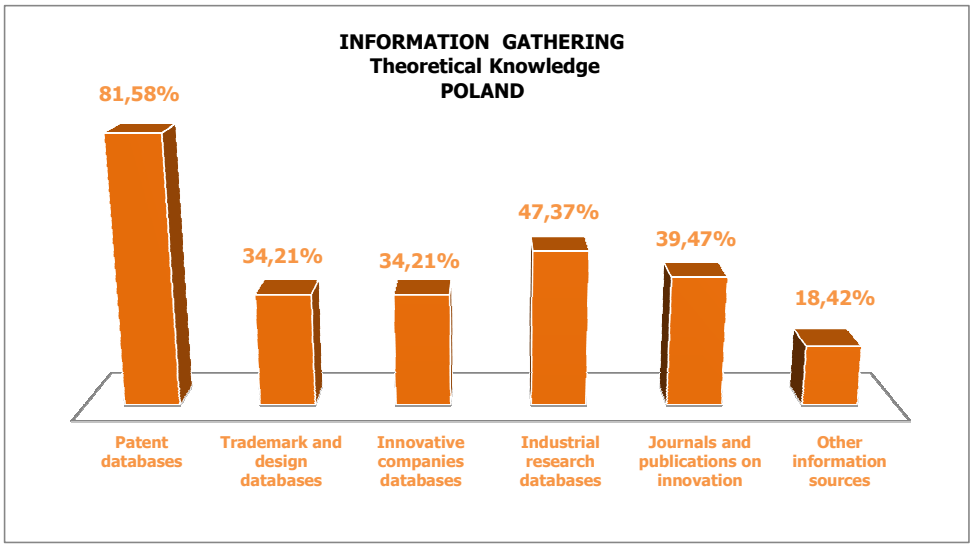
According to the results from Catalonia, the most important theoretical knowledge relating to the information gathering is to know the journals and publications of the innovation sector with a 74,4% followed than to know the most important patent databases with the 66,7% of the answers.



The most important theoretical knowledge according to the information gathering in rest of Spain survey is to use patent database with a 80.5% followed than Industrial researches' databases as well as journals and publications of the innovation sector, both with 51.2 %.



As result of Polish survey, a good TTM must have a comprehensive knowledge of patent databases with a 81,58%, knowledge about industrial research databases (47%) and to know the journals and publications on innovation with a 39% of the answers.

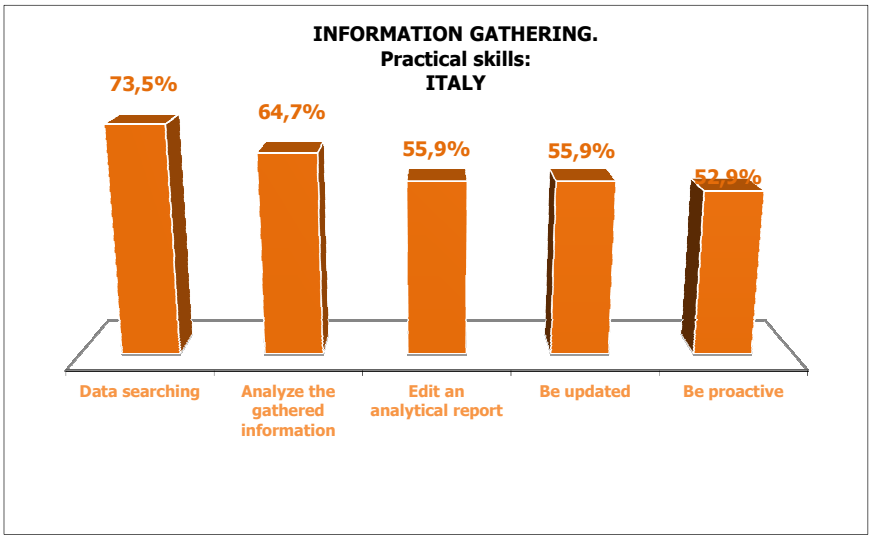


Practical skills

In addition to the theoretical knowledge, also is important to have the following practical skills related to the information gathering:

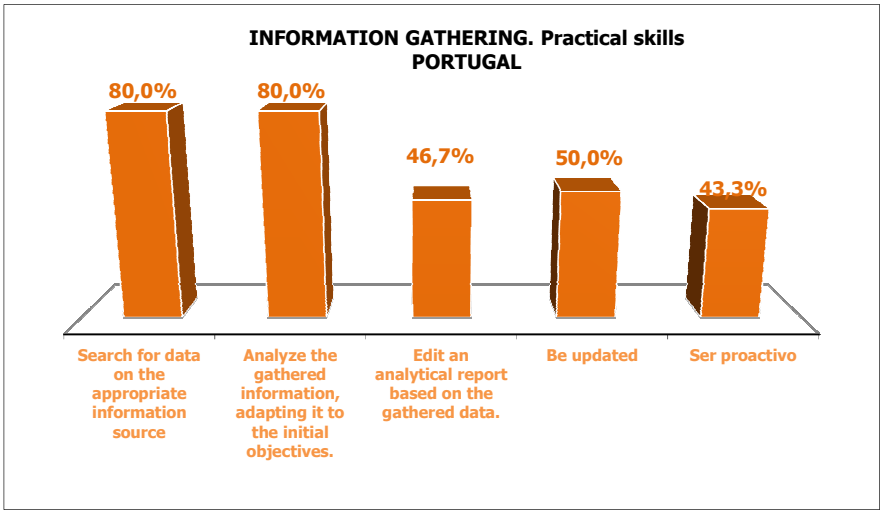
- **search for data using the appropriate information source (71,24%)**,
- **analyze the gathered information (63,55%)**,
- **adapt the obtained information to the initial objectives (51,84%)**.

The Italian TTM should be able to: search for data on the appropriate information source, analyze the gathered information, adapting it to the initial objectives, and be able to edit an analytical report based on the gathered data.

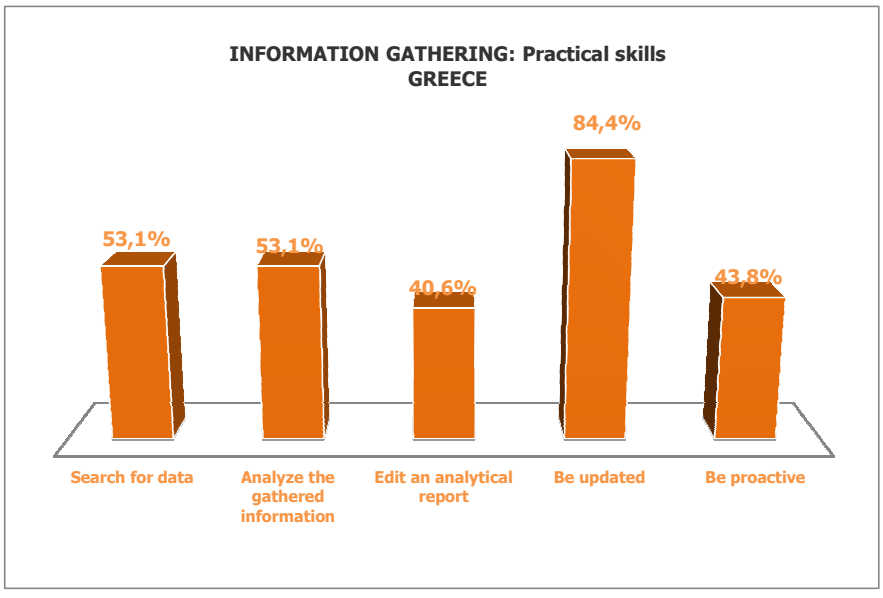


The practical skills mainly required for a TTM in Portugal, related to Information Gathering are: to be able to search for data on the appropriate information source and to be able to analyze

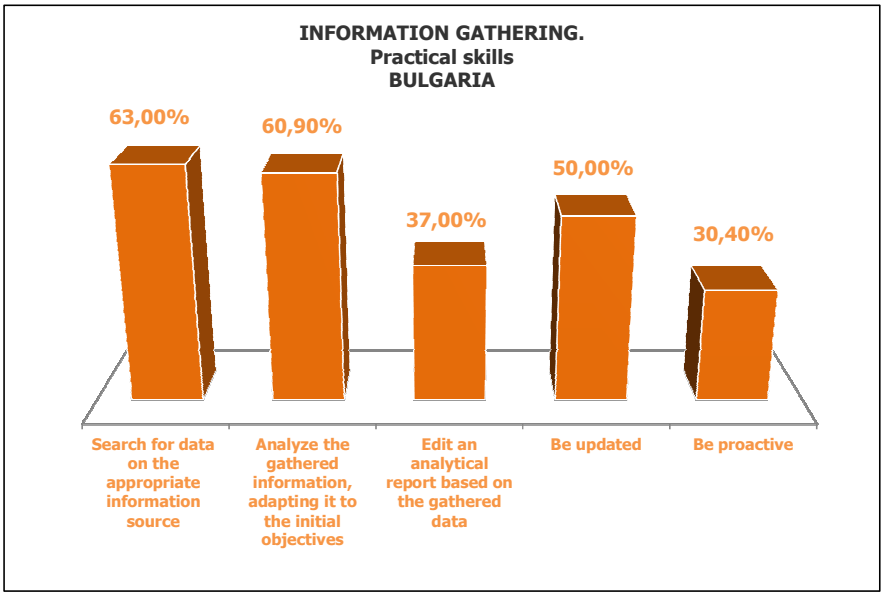
the gathered information, both with 80% of the answers. Also is considered important to be update, with the half of the answers.



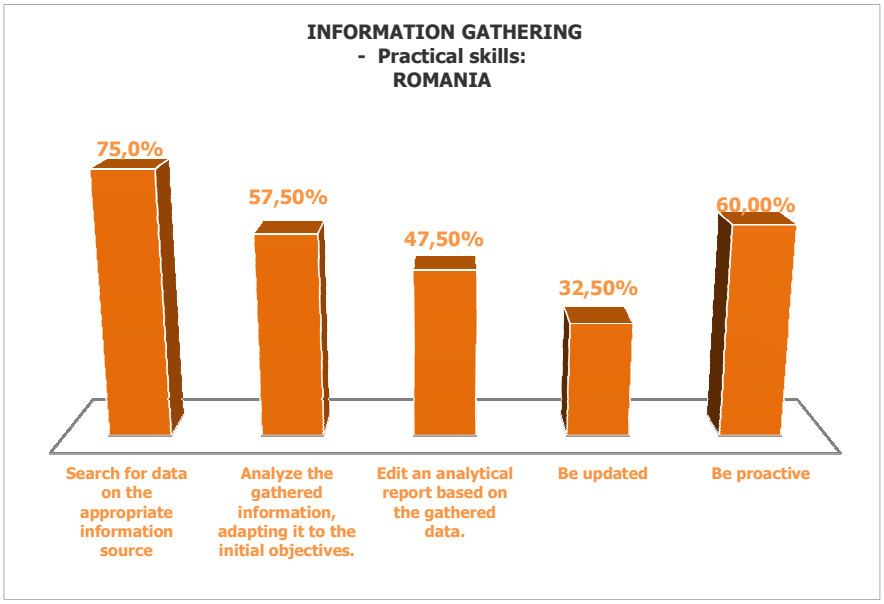
The first option of Greeks of practical skill for this section is the capability of being updated with a 84,4% of answers. The two other valuable skills considered by Greeks in this paragraph are: to be able to search for data and to be able to analyze the gathered information, both with 53,1% of the answers.



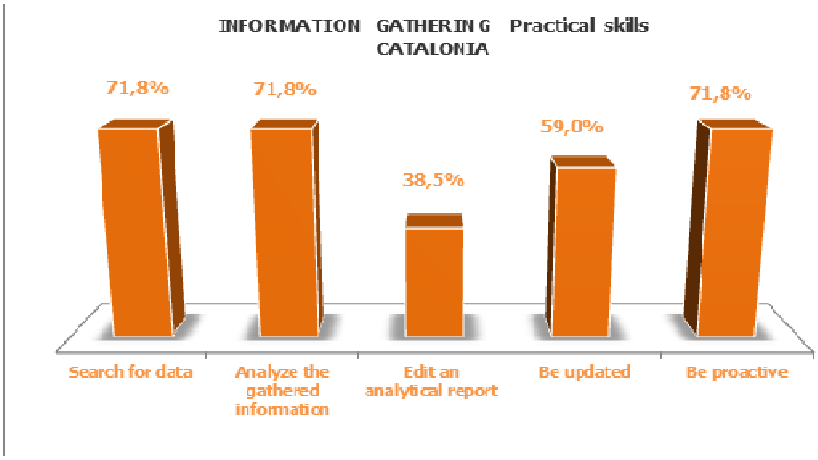
The three most important practical skills about information gathering, according to the respondents from Bulgaria are: to be able to search for data on the appropriate information source (63%), the skill to analyze the collected information and bring it in line with the initial objectives comes second with 60,9%; and the third one, with 50% is the skill to keep up with the latest news.



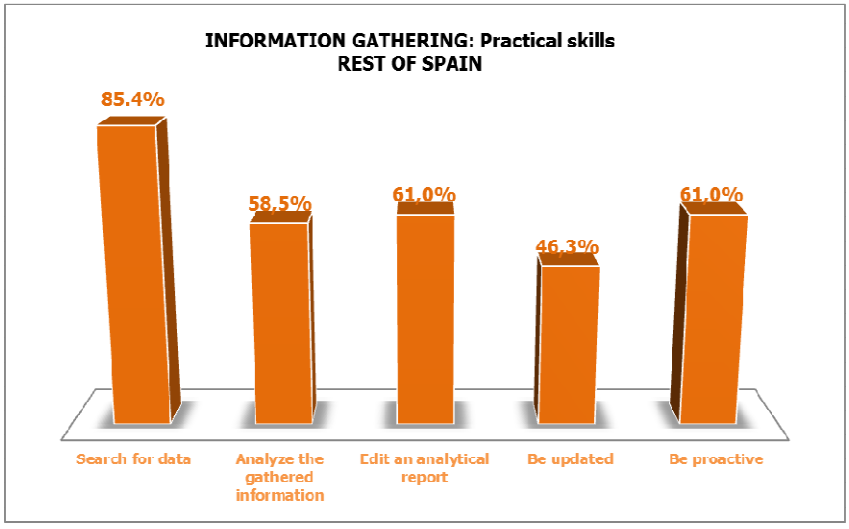
The Romanian responders considers a TTM must be able to search for data on the appropriate information source, must be proactive and must be capable to analyze the gathered information, adapting it to the initial objectives.



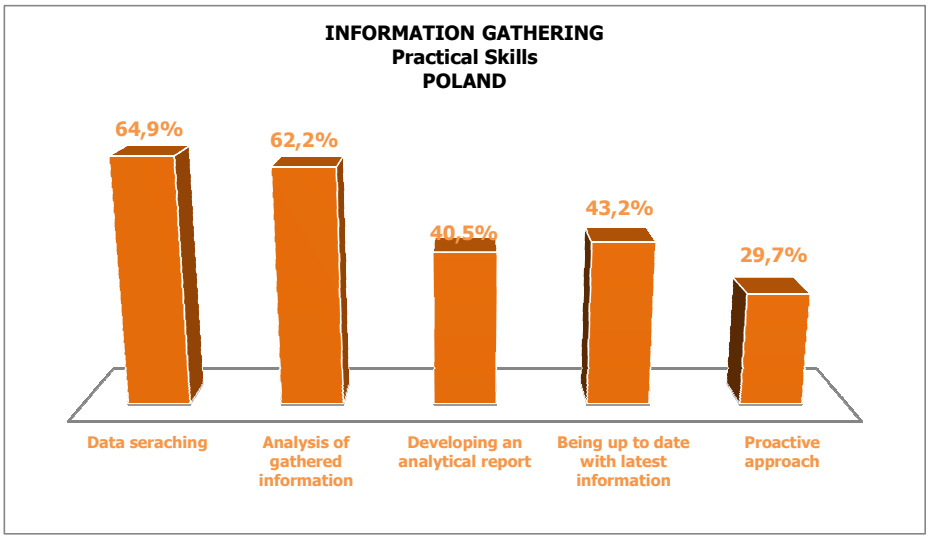
Relating to the practical skills of information gathering in Catalonia there are three answers with the same percentage 71,1% and are: to be proactive, to search for data on the appropriate information source and to analyze the gathered information.



Relating to the practical skills of information gathering in rest of Spain the most important area for the people interview is searching for data on the appropriate information source (Patent, trademark, companies' database, industrial researches, journals and publications of the innovation sector, other information sources); followed by to skills with the same punctuation 61%: Edit an analytical report and be proactive.



As far as the practical skills in the area of information gathering are concerned, the polish respondents consider a TTM should be able to: search for data on the appropriate information source (65%), be able to analyze the gathered information, adapting it to the initial objectives (62%), and must be up-to-date with the latest information (43%).



3.1.3 TECHNOLOGY COMMERCIALIZATION

Theoretical Knowledge

The most important theoretical knowledge related to the Technology commercialization are

- **commercialization approaches and sales strategies for innovation (69,36%)**,
- **market assessment methodologies(69,02%)**
- **technology marketing theories (55,56%)**.

The most important knowledge in technology commercialization in Italians' opinion are: market assessment (70%), technology marketing and commercialization approaches and sales strategies for innovation, both with a 62%.

ITALY	%
Market Assessment	70,3%
Technology marketing	62,2%
Commercialization approaches and sales strategies for innovation	62,2%
Knowledge of the main players of the specific industrial sector	56,8%
Legal aspects of technology commercialization	48,6%

The survey's results in Portugal show the same three theoretical knowledge as most important, but with different order of and percentages: knowledge about technology marketing (73,3%), to know about market assessment (56,7%) and to know about legal aspects of technology commercialization.

PORTUGAL	%
Market Assessment	71,0%
Commercialization approaches and sales strategies for innovation	71,0%
Technology marketing	61,3%
Legal aspect of technology commercialization	58,1%
Knowledge about the main players of the specific industrial sector	29,0%

In Greece, the interviewed people have considered basic for a TTM to know about technology marketing (73,3%), about market assessment (56,7%) and to have notions of the legal aspects of technology commercialization (50%).

GREECE	%
Technology marketing	73,3%
Market Assessment	56,7%
Legal aspect of technology commercialization	50,0%
Commercialization approaches and sales strategies for innovation	40,0%
Knowledge about the main players of the specific industrial sector	36,7%

Technology marketing, market assessment and commercialization approaches and sales strategies for innovations have been identified as the most important theoretical knowledge regarding technology commercialization in Bulgarian's survey.

BULGARIA	%
Technology marketing.	63,6%
Market Assessment	52,3%
Commercialization approaches and sales strategies for innovation	50,0%
Knowledge about the main players of the specific industrial sector	36,4%
Legal aspect of technology commercialization	29,5%

In the process of technology commercialization the Romanian responders also consider as most important knowledge the following ones: commercialization approaches and sales strategies for innovation (79,5%), to know about market assessment (76,9%) and to have notions of technology marketing (51,3%).

ROMANIA	%
Commercialization approaches and sales strategies for innovation.	79,5%
Market Assessment.	76,9%
Technology marketing.	51,3%
Knowledge about the main players of the specific industrial sector.	41,0%
Legal aspect of technology commercialization.	33,3%

According to Catalan results, the most important theoretical knowledge in this area is the commercialization approaches and sales strategies for innovation with the 81,6% of answers.
The second knowledge in importance is the market assessment with a 76,3% of the answers.
In the third place there are two options with the same number of answers: the technology marketing and the wide knowledge about the main players of the specific industrial sector.

CATALONIA	%
Commercialization approaches and sales strategies for innovation	81,6%
Market Assessment	76,3%
Technology marketing	57,9%
Knowledge about the main players of the specific industrial sector	57,9%
Legal aspect of technology commercialitzation	47,4%

In the survey made in rest of Spain the most important theoretical knowledge in this area is the market assessment with 78.6% of answers.
The second knowledge in importance is the commercialization approaches and sales strategies for innovation with a 69% of the answers.
In the third place we can found the technology marketing, with 66.7%.

REST OF SPAIN	%
Market Assessment.	78,6%
Commercialization approaches and sales strategies for innovation.	69,0%
Technology marketing.	66,7%
Knowledge about the main players of the specific industrial sector.	40,5%
Legal aspect of technology commercialization.	26,2%

In the crucial area of commercialization process for a technological product or an innovation, polish respondents consider as mainly knowledge to have notions in commercialization methods and sales strategies for innovation (69%), to know about market assessment (67%) and to know about legal aspects of technology commercialization (50%).

POLAND	%
Market assesment	66,7%
Technology marketing	38,9%
Commercialization methods and sales strategies for innovation	69,4%
Legal aspects of technology commercialization	50,0%
In-depth knowledge of main players in given industry sector	30,6%

Practical skills

The most valuable practical skills in the process of technology commercialization are:

- **analyze the market** and the most competitive technologies in order to determine the invention's commercial potential and viability (59,93%)
- **elaborate a business plan** for an existing or emerging company (39,09%)
- **understand potential markets and possible ways of commercialize an innovation (33,55%)**.

In this area, the most valuable skills in Italy are: to be able to analyze the market and competitive technologies in order to determine the invention's commercial potential and viability (69% of answers), followed of being able to elaborate a business plan (59%) and the capability of understand potential markets and possible ways of commercialize an innovation.

ITALY	%
Determine the invention's commercial potential and viability	69,2%
Elaborate a business plan	59,0%
Able to understand potential markets	46,2%
Edit a sale strategy	38,5%
Orient and stimulate the researchers	38,5%
Look for financial resources	28,2%
Look for potential commercial partners	28,2%
Communication skills	28,2%
Find third parts interested in commercialization	15,4%
Creativity	15,4%
Able to involve potential buyer, partners, investors	15,4%
Look for sponsors	12,8%
Analytical skills	12,8%
Write a license's plan	10,3%
Financial analysis	7,7%

Half of the answers of Portugal survey affirm that the most important skill is to be able to understand potential markets and ways of commercialization of an innovation, followed that the capabilities of edit a sale strategy (46,7%) and analyzing the market and competitive technologies to determine the invention's commercial potential and viability (43,3%).

PORTUGAL	%
Able to understand potential markets	50,0%
Edit a sale strategy	46,7%
Determine the invention's commercial potential and viability	43,3%
Orient and stimulate the researchers	33,3%
Elaborate a business plan	30,0%
Able to involve potential buyer, partners, investors	30,0%
Analytical skills	23,3%
Communication skills	23,3%
Find third parts interested in commercialization.	16,7%
Financial analysis.	16,7%
Write a license's plan	13,3%
Look for potential commercial partners.	13,3%
Creativity	10,0%
Look for financial resources.	6,7%
Look for potential sponsors	3,3%

The practical skills in Greece for a TTM in the field of Technology commercialization are: to be able to analyze the market and competitive technologies to determine the invention's commercial potential and viability (53,1%), to be able to communicate (50%) and to be able to involve in the process to potential buyers, partners and investors (43,8%).

GREECE	%
Analyze the market and competitive technologies, to determine the invention's commercial potential and viability	53,1%
Communication skills	50,0%
Able to involve potential buyer, partners, investors.	43,8%
Conduct a financial analysis.	40,6%
Orient and stimulate the researchers towards certain fields, which are requested from the market	37,5%
Analytical skills	34,4%
Edit a sale strategy	31,3%
Look for potential sponsors	28,1%
Write a license's plan for commercialization.	25,0%
Able to understand potential markets and ways of commercialization of an innovation.	21,9%
Creativity	21,9%
Elaborate a business plan	21,9%
Look for financial resources.	21,9%
Encourage and find third parts interested in commercialization.	18,8%
Look for potential commercial partners.	9,4%

The three most important practical skills regarding technology commercialization according to Bulgarian's answers are: the skill to analyze the market and the competitive technologies and to determine the commercial potential of the invention and its viability, which comes first with 53,4%; the second skill that the respondents valued most is ability to develop a business plan (40%) and the third place is for the communication skills and the ability to look for financial resources with 31,1%.

BULGARIA	%
Analyze the market and competitive technologies, to determine the invention's commercial potential and viability	53,3%
Elaborate a business plan	40,0%
Look for financial resources	31,1%
Communication skills	31,1%
Look for potential commercial partners	28,9%
Orient and stimulate the researchers towards certain fields, which are requested from the market	24,4%
Able to involve potential buyer, partners, investors	20,0%
Analytical skills	17,8%
Creativity	17,8%
Encourage and find third parts interested in commercialization	15,6%
Conduct a financial analysis	15,6%
Edit a sale strategy	11,1%
Look for potential sponsors	8,9%
Write a license's plan for commercialization	6,7%
Able to understand potential markets and ways of commercialization of an innovation	6,7%

The practical skills in this field according to the Romanian survey are: skill to analyze the market and competitive technologies to determine the invention's commercial potential and viability in the first place and a share of 64,1% of answers, followed than be able to look for potential commercial partners with a percentage of 51,3%, and in the third place to be capable to elaborate a business plan (41%).

ROMANIA	%
Analyze the market and competitive technologies, to determine the invention's commercial potential and viability	64,1%
Look for potential commercial partners.	51,3%
Elaborate a business plan	41,0%
Edit a sale strategy	33,3%
Orient and stimulate the researchers towards certain fields, which are requested from the market	33,3%
Creativity	25,6%
Look for financial resources.	23,1%
Communication skills	23,1%
Able to involve potential buyer, partners, investors.	17,9%
Look for potential sponsors	15,4%
Able to understand potential markets and ways of commercialization of an innovation.	15,4%
Analytical skills	12,8%
Write a license's plan for commercialization.	10,3%
Encourage and find third parts interested in commercialization.	7,7%
Conduct a financial analysis.	5,1%

Taking into account the skills, the practical skills with a percentage over 50% of the answers in Catalonia are: to analyze the market and competitive technologies to determine the invention's

commercial potential and viability (61,9%), the creativity (52,4%) and to be able to look for financial resources (52,4%).

CATALONIA	%
Analyze the market and competitive technologies, to determine the invention's commercial potential and viability	61,9%
Look for financial resources	52,4%
Creativity	52,4%
Orient and stimulate the researchers towards certain fields, which are requested from the market	50,0%
Communication Skills	50,0%
Elaborate a business plan	47,6%
Analytical skills	38,1%
Able to understand potential markets and ways of commercialitzation of an innovation	38,1%
look for potential commercial partners	33,3%
Able to involve potential buyer, partners, investors	28,6%
Encourage and find third parts interested in commercialization	26,2%
Edit a sale strategy	23,8%
Look for potential sponsors	19,0%
Write a license's plan for commercialization	11,9%

Taking into account the skills, the practical skills with a higher percentage of the answers in rest of Spain are: to analyze the market and competitive technologies to determine the invention's commercial potential and viability (65.1%). Orient and stimulate the researchers towards certain fields, which are requested from the market as well as Able to understand potential markets and ways of commercialization of an innovation, were both an score of 41.9%

REST OF SPAIN	%
Analyze the market and competitive technologies, to determine the invention's commercial potential and viability	65,1%
Orient and stimulate the researchers towards certain fields, which are requested from the market	41,9%
Able to understand potential markets and ways of commercialization of an innovation.	41,9%
Communication skills	39,5%
Creativity	39,5%
Look for potential commercial partners.	37,2%
Elaborate a business plan	34,9%
Able to involve potential buyer, partners, investors.	30,2%
Encourage and find third parts interested in commercialization.	25,6%
Look for financial resources.	25,6%
Edit a sale strategy	20,9%
Analytical skills	20,9%
Look for potential sponsors	16,3%
Conduct a financial analysis.	9,3%
Write a license's plan for commercialization.	7,0%

The practical skills are concerned in this area by Polish are: to be able to determine innovation's commercialization potential (64%), to have the capability to understand potential markets and possible methods for innovation commercializing (37%), it is also considered important to be able to elaborate a business plan (36%).

POLAND	%
Determine innovation's commercialization potential	64%
Understand potential commercialization markets	37%
Elaborate a business plan	36%
Carry out financial analysis	28%
Analytical skills	25%
Develop sales strategy	22%
Find third parties interested in commercialization	19%
Search for financing sources	19%
Guide and motivate researchers	17%
Ability to involve potential partners, buyers etc.	17%
Scouting potential commercial partners	14%
Communication skills	14%
Creativity	14%
Develop licensing plan	6%
Acquire sponsors	6%

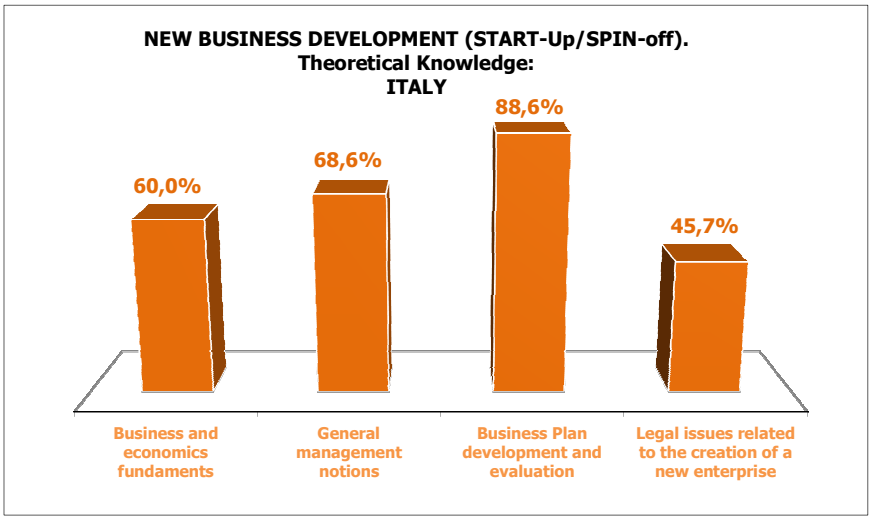
3.1.4 NEW BUSINESS DEVELOPMENT

Theoretical Knowledge

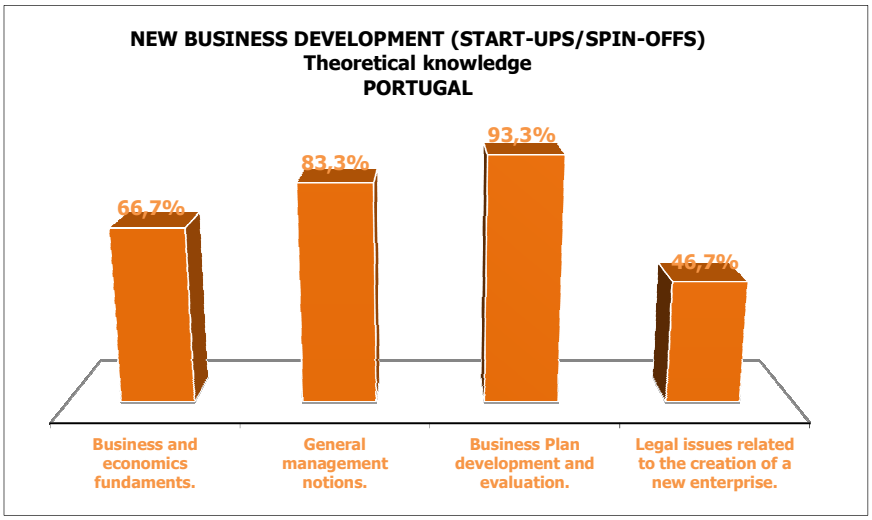
In the process of start a new business the knowledge a Technology Transfer Manager must know are:

- **develop a business plan** and evaluation methodologies (81,76%),
- have **notions of general management** (68,24%)
- have **business and economics fundamentals (65,54%)**.

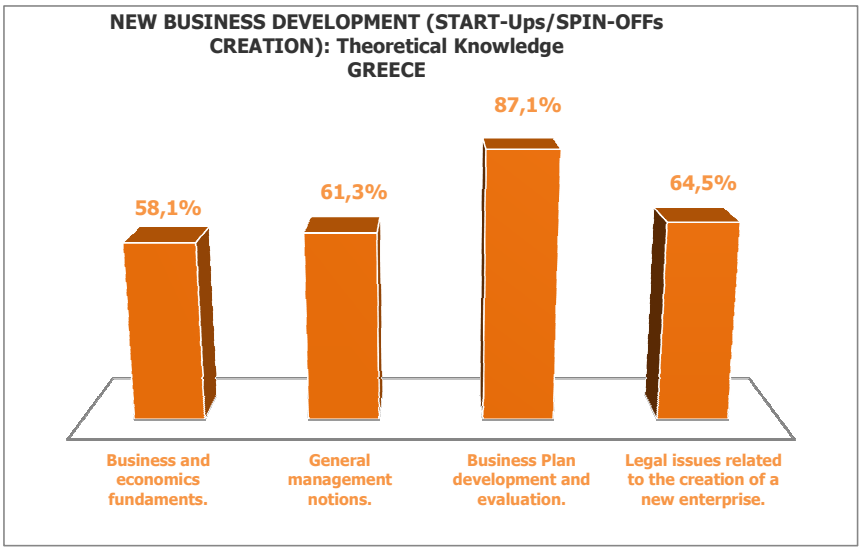
In this field, the most relevant theoretical knowledge considered by the Italians are the same three mentioned before.



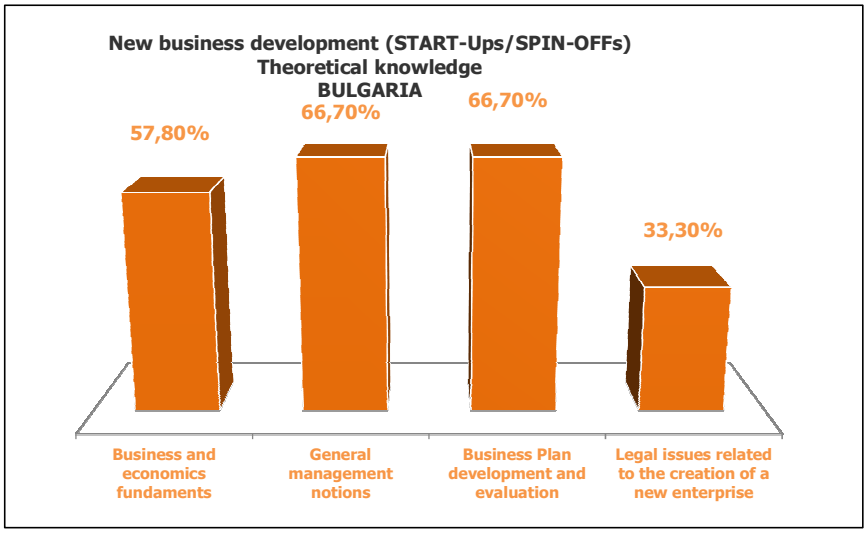
Also the Portuguese survey has obtained the same three theoretical knowledge as most important, but the first one, knowledge about a business plan development and evaluation with a very high percentage 93,3%, the highest of all countries .



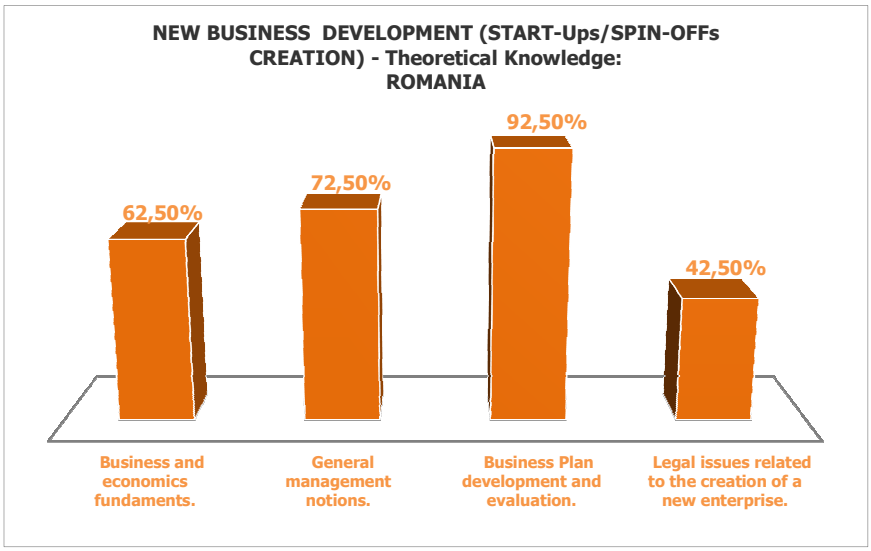
In new business development area Greeks consider important for a TTM to know how to develop and evaluate a business plan, to have notions of the legal issues related to the creation of a new enterprise (64,5%) and to know about general management (61,3%).



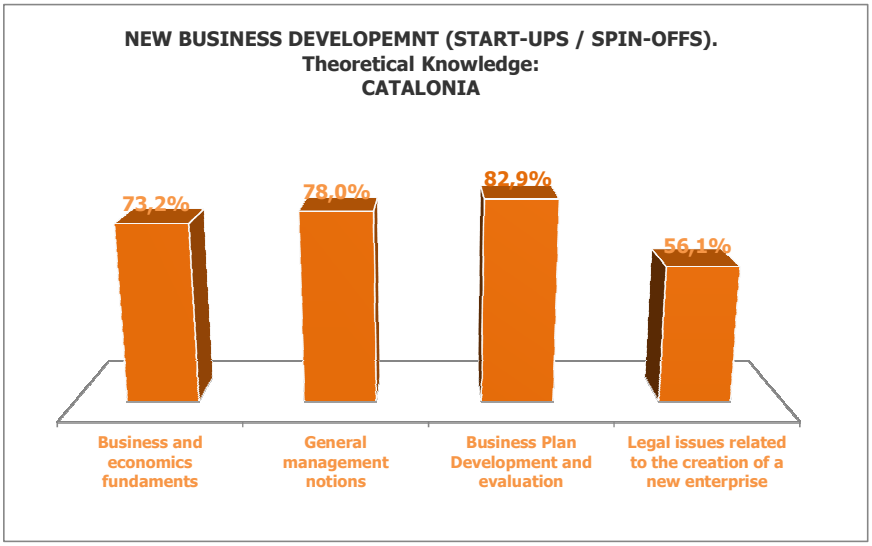
The interviewed experts from Bulgaria have identified the three most important areas of theoretical knowledge about new business development, with equal shares of 66,7% are general management notion and business plan development and evaluation, followed, in third place, by business and economics fundamentals with 57,8%.



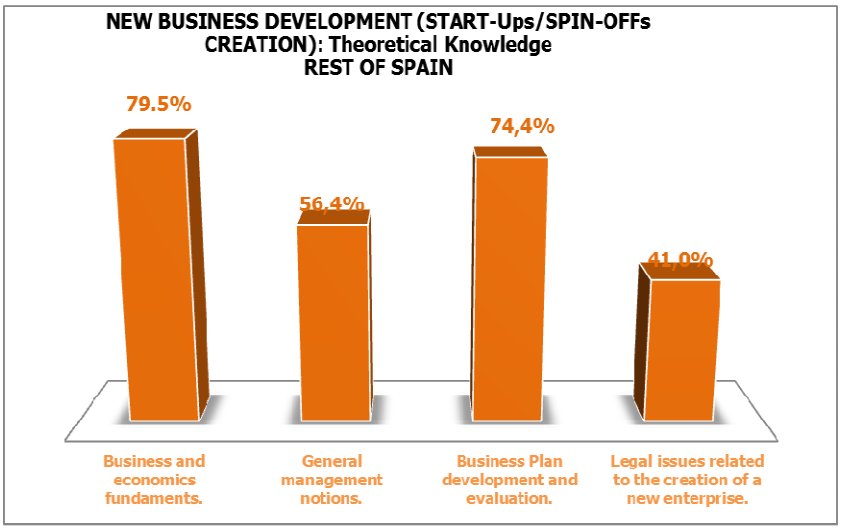
In the process of starting a new business, Romanian experts consider it is essential to know develop and evaluate a business plan (92,5%), to have general management notions (72,5%) and to know about business and economics fundaments with a 62,5% of the answers.



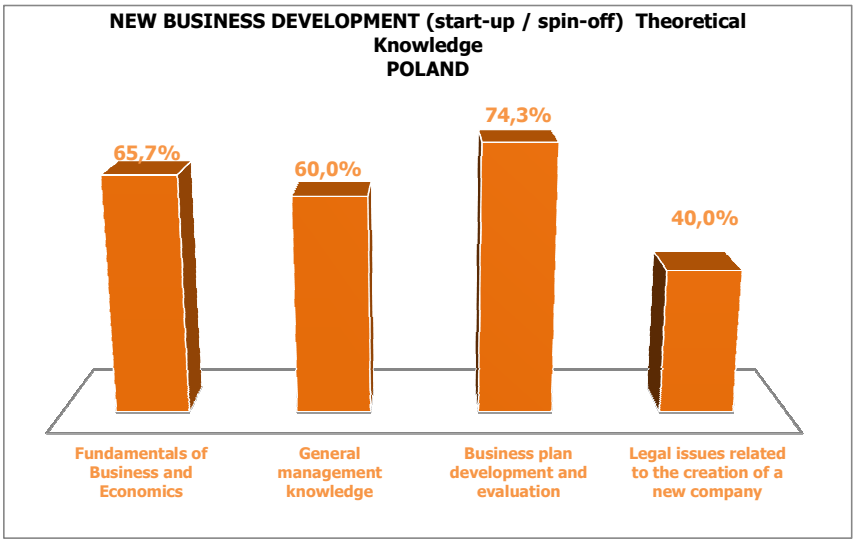
The knowledge considered the most important by Catalans is to be able to develop and evaluate a business plan with a 82,9% of answers, followed by to have notions in general management (77,5%) and the third option for interviewed people has been to know about business and economics fundaments (73,2%).



The knowledge considered the most important by respondents from rest of Spain is to be able have knowledge of business and economics fundamentals 79.5% of answers, followed by to develop business plan and evaluation (74.4%) and the third option for interviewed people has been to know general management and notions (56.4%).



In this area, Polish respondents consider as most three important knowledge the following: to know how to develop and elaborate a business plan with a 74% of the answers, followed than knowledge in fundamentals of business and economics with a 66% and in third place to know about general management with a percentage of 60%.

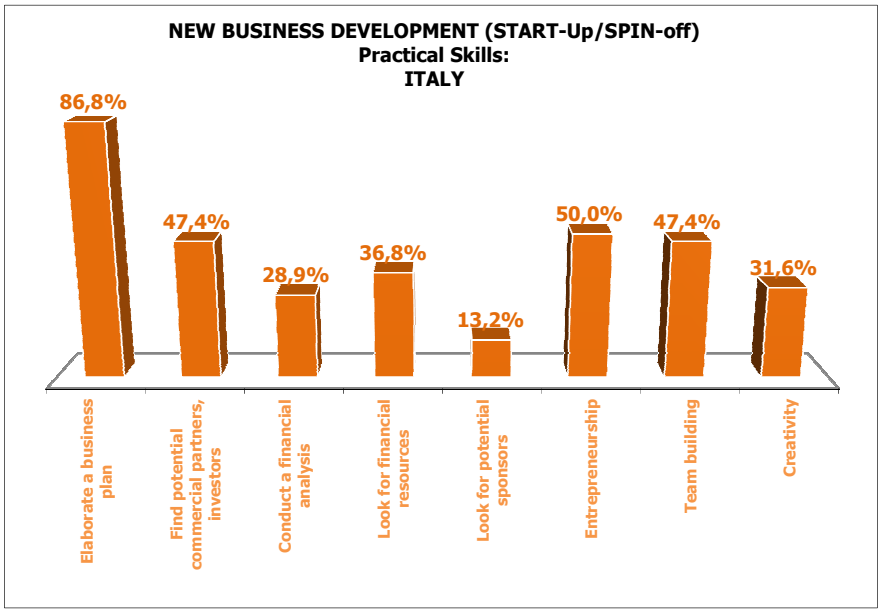


Practical skills

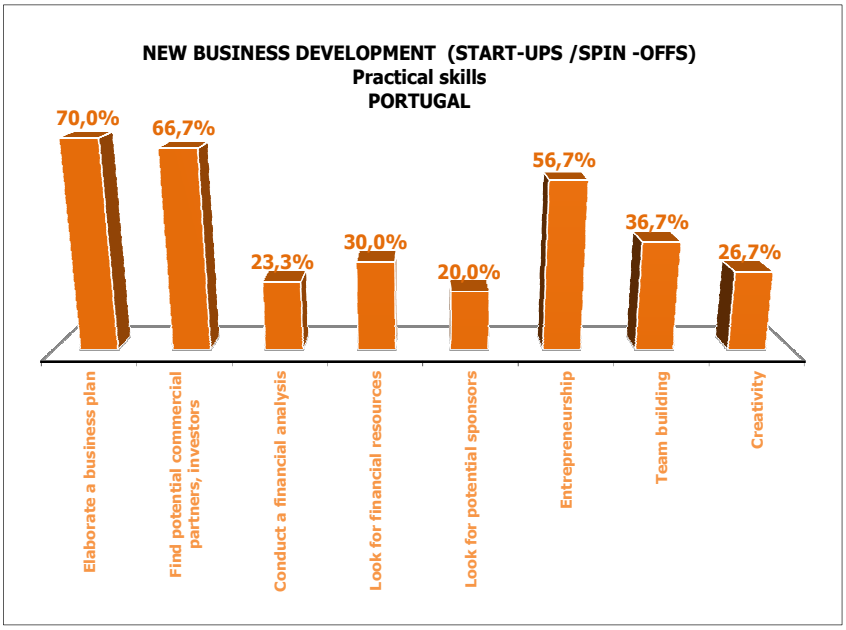
On the other hand, the most important skills a TTM must develop for new business development are:

- **elaborate a business plan** for a new company (68,67%),
- **find potential commercial partners and investors (47,67%)**
- **entrepreneurship (46,33%)**.

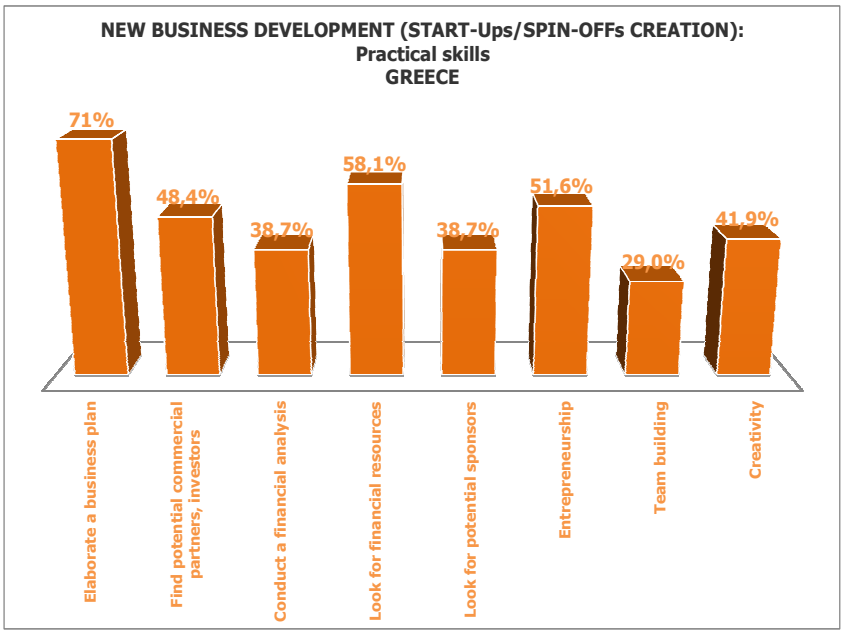
The Italian answers identify the most valuable skills as the same mentioned before.



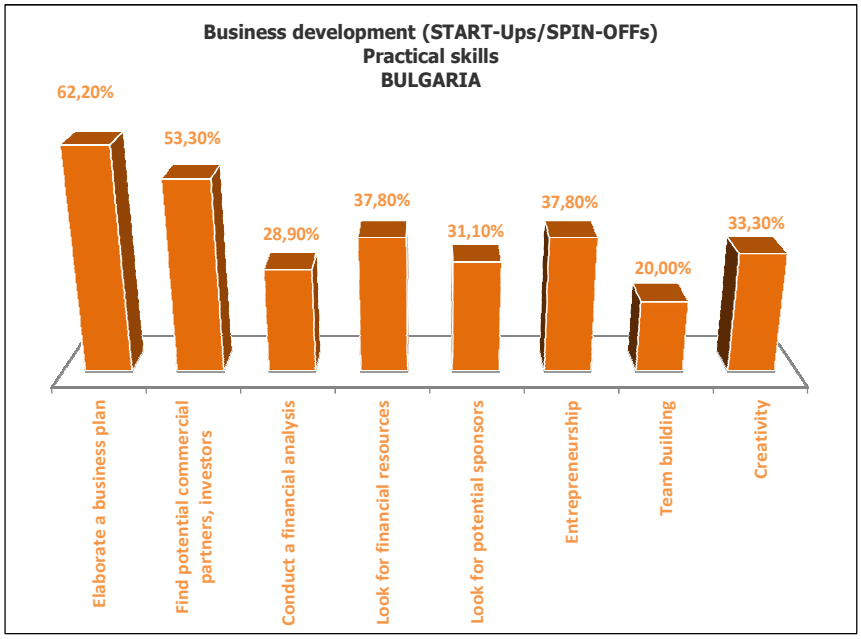
In Portugal the most valuable practical skills are the same.



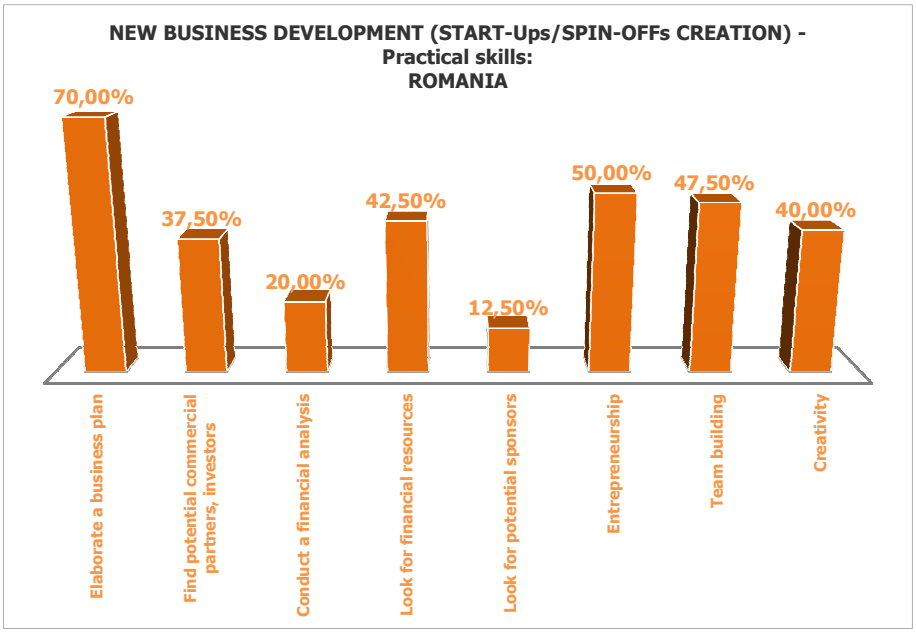
In the process of developing a new business a TTM must be able to elaborate a business plan, be capable to look for financial resources and be an entrepreneurship person.



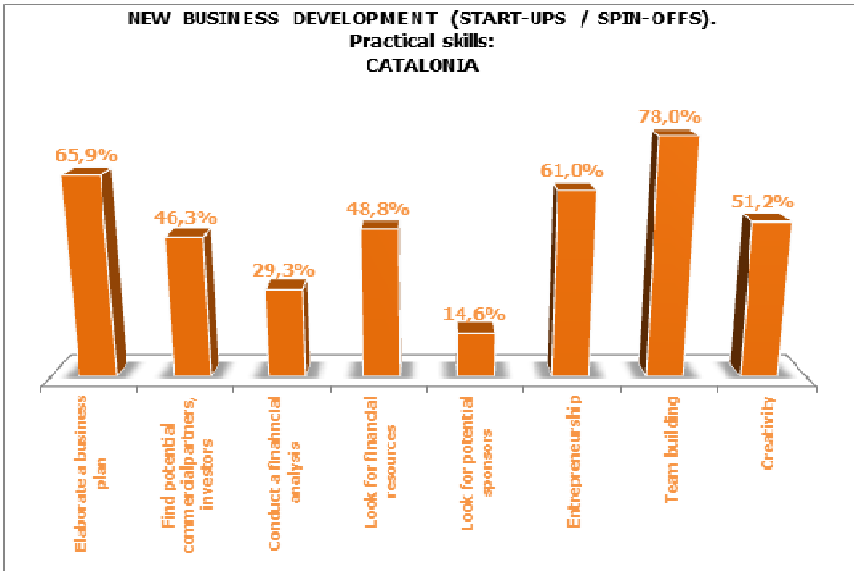
In the area of new business development, the experts working in Bulgaria in the field of technology transfer, have determined the following most important practical skills: with a share of 62,2%, in the first place, stands the development of a business plan, followed by skills related to finding potential commercial partners and investors, indicated by 53,3% of the respondents. Thirdly, with equal shares of 37,8% stand the skills of searching for financial resources and the entrepreneurial skills.



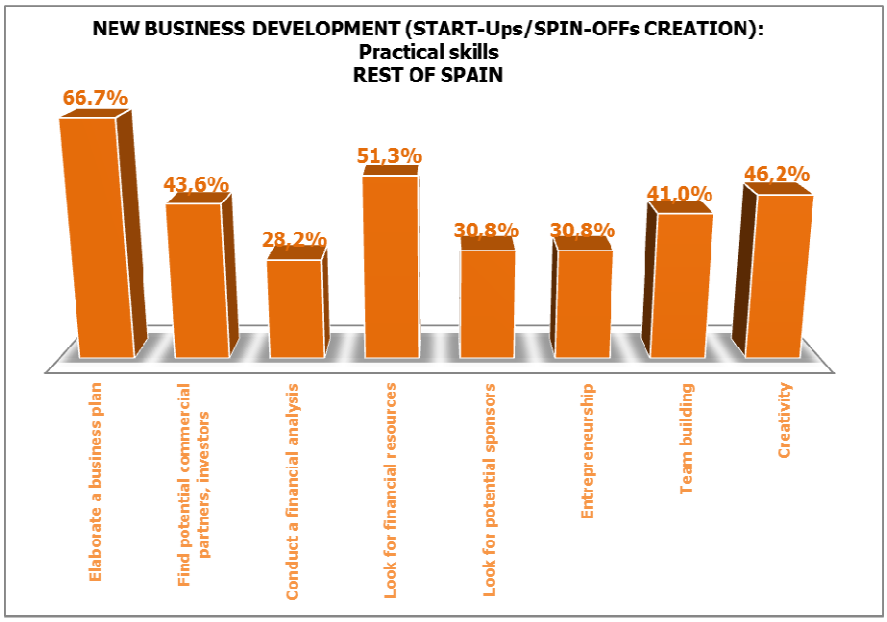
The most valuable practical skills in this field for Romanians are: the first one is to be able to evaluate a business plan, with a percentage of 70%; to be entrepreneurship (50%) and to be able to build a good team (47,5%).



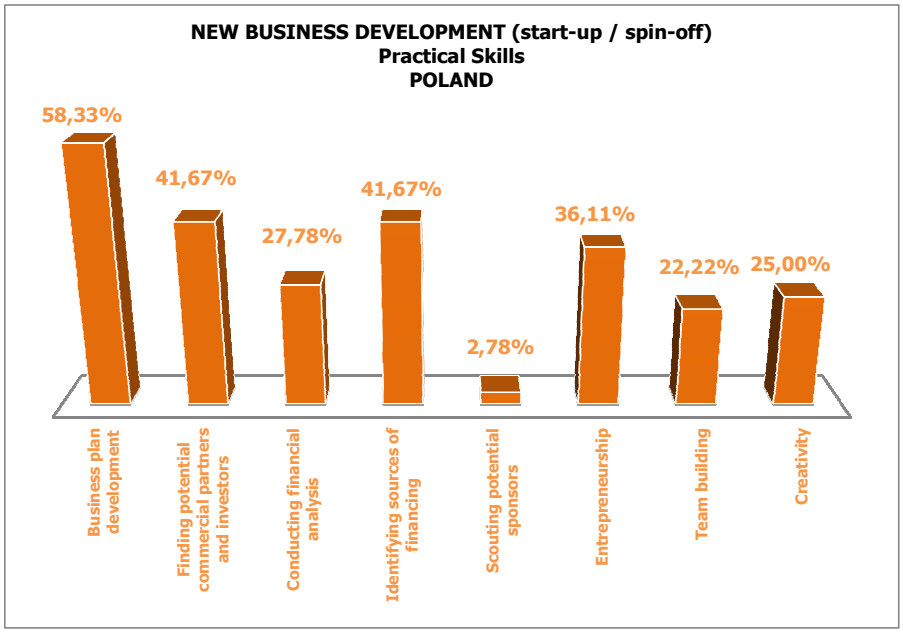
In Catalonia, the most important practical skills relating to new business development is, the team building with a 78% followed for being able to elaborate a business plan, with a percentage of 65% and in third place, the skill of entrepreneurship (61%).



According to Spanish respondents, the most important practical skills relating to new business development is, elaborate a business plan with 66.7% followed for look for financial resources, with a percentage of 51.3% and in third place, the skill of creativity (46.2%).



Polish consider as most valuable practical skills for a new business development process: to be able to develop a business plan, to be able to find potential commercial partners and investors, and to be capable to identify sources of financing.



3.1.5 PROJECT MANAGEMENT

Theoretical Knowledge

In relation to project management, the most important theoretical knowledge are:

- **Fundamentals of Project management** especially focused on Innovation management (70,59%)
- **Operational and strategic planning (56,86%)**,
- **Basic finance (40,85%).**

The peculiarity of the Italian's results is that they consider on third place the knowledge of risk management theories, with a percentage of 41% of answers.

ITALY	%
Fundamentals of Project management	85,4%
Operational & Strategic Planning	65,9%
Risk management theories	41,5%
Marketing notions	39,0%
Managerial software	29,3%
University research centers policies	29,3%
Basic finance	24,4%

The results of the Portuguese survey show as most important knowledge in project management are: knowledge in fundamentals of project management with a 90,3% of the answers, to know about operational and strategic planning (77,4%) and in the third place to know about University research centers policies and internal procedures.

PORTUGAL	%
Fundamentals of Project management	90,3%
Operational & Strategic Planning	77,4%
University research centers policies	48,4%
Project management theories	38,7%
Basic finance	35,5%
Marketing notions	22,6%
Risk management theories	16,1%
Managerial software	12,9%

For Greeks is important a TTM knows about operational and Strategic Planning, about project management theories and risk management theories.

GREECE	%
Operational & Strategic Planning	76,7%
Project management theories	76,7%
Risk management theories	63,3%
Basic finance	43,3%
Managerial software	36,7%
University research centers policies and internal procedures	36,7%
Marketing notions	33,3%

Regarding project management, the three most important areas of theoretical knowledge, according to the respondents from Bulgaria are: fundamentals of project management with a focus on innovation management, operational and strategic planning and basic knowledge in finance.

BULGARIA	%
Fundamentals of Project management	55,6%
Operational & Strategic Planning	42,2%
Basic finance	40,0%
Project management theories	37,8%
Marketing notions	33,3%
Managerial software	24,4%
Risk management theories	22,2%
University research centers policies and internal procedures	17,8%

In the field of project management the Romanian responders consider a TTM must know about fundamentals of project management (76,9%), about operational and strategic planning (53,8%) and to have notions of marketing (46,2%).

ROMANIA	%
Fundamentals of Project management	76,9%
Operational & Strategic Planning.	53,8%
Marketing notions	46,2%
Risk management theories	41,0%
Basic finance	35,9%
Project management theories	33,3%
University research centers policies and internal procedures.	17,9%
Managerial software.	10,3%

The theoretical knowledge considered as most important in this area according to Catalan survey are: The fundamentals of project management specially focused on Innovation

management with a 83,3%, in second place, the knowledge in operational and strategic planning with a 71,4%, and the third option with a 54,8%, is the knowledge with basic finance.

CATALONIA	%
Fundamentals of Project management	83,3%
Operational & Strategic Planning	71,4%
Basic finance	54,8%
Marqueting notions	50,0%
Project management theories	50,0%
University research centers policies and internal procedures	47,6%
Risk management theories	33,3%
Managerial software	35,7%

The theoretical knowledge considered as most important by rest of Spain in this area are: The fundamentals of project management specially focused on Innovation management with a 90.5%, in second place, the knowledge in operational and strategic planning with a 76.2%, and the third option with a 59.5%, is the knowledge of project management theories.

REST OF SPAIN	%
Fundamentals of Project management	90,5%
Operational & Strategic Planning.	76,2%
Project management theories	59,5%
Basic finance	35,7%
Managerial software.	35,7%
University research centers policies and internal procedures.	23,8%
Marketing notions	21,4%
Risk management theories	16,7%

According to the results of the Polish survey, a TTM must has notions in Fundamentals of Project management 69%, notions in strategic and operational planning (42%), and notions in basic finances 33%.

POLAND	%
Fundamentals of Project Management	69,4%
Strategic and operational planning	41,7%
Basic finances	33,3%
Risk Management theories	27,8%
Univ. Reasearch Centers policies and regulations	27,8%
Project Management theories	25,0%
Marketing knowledge	16,7%
Management software	11,1%

Practical skills

The main practical skills for the project management are:

- **operational and strategic planning (58,55%)**
- **coordinate a work team** (56,58%)
- **planning skills (44,74%).**

The Italian respondents consider as most important practical skills in project management to conduct an operational & strategic planning 75%, to coordinate a work team (68%) and the leadership and coaching capacities 52%.

ITALY	%
Operational & Strategic Planning	75,0%
Coordination of the work team	67,5%
Leadership, coaching	52,5%
Able to delegate the work	42,5%
Administrative office and finance	40,0%
Planning skills	35,0%
Team building ability	32,5%
General management	20,0%
Analytical skills	20,0%

The most important practical skills considered in Portugal are the capabilities in operational and strategic planning (67,7%), be able to coordinate a work team (51,6%) and to have planning skills (45,2%).

PORTUGAL	%
Operational & Strategic Planning	67,7%
Coordination of the work team	51,6%
Planning skills	45,2%
Team building ability	41,9%
Analytical skills	38,7%
Able to delegate the work	35,5%
Administrative office and finance	32,3%
General management	25,8%
Leadership, coaching	22,6%

The Greek respondents consider a TTM must be able to coordinate a work team with a percentage of 70%, must have the skills of leadership and coaching and must be able to manage the process and to be able to delegate the work and evaluate the results.

GREECE	%
Coordination of the work team	70,0%
Leadership, coaching	66,7%
General management	53,3%
Able to delegate the work and evaluate the results	53,3%
Team building ability	50,0%
Operational & Strategic Planning	46,7%
Planning skills	46,7%
Analytical skills	46,7%
Administrative office and finance	30,0%

The most important practical skills in project management, according to Bulgarian respondents, are: coordination of teamwork and planning skills which have gathered equal percentage shares 53,3%, and the third place is occupied for the analytical skills with 44,4%.

BULGARIA	%
Coordination of the work team	53,3%
Planning skills	53,3%
Analytical skills	44,4%
General management	42,2%
Operational & Strategic Planning	33,3%
Leadership, coaching	31,1%
Able to delegate the work and evaluate the results	22,2%
Administrative office and finance	11,1%
Team building ability	8,9%

Most mentioned practical skills for Romanians in this field are: be able to coordinate a work team, be able to plan at operational and strategic level (61,5%) and have the capability to delegate the work and evaluate the results (46,2%).

ROMANIA	%
Coordination of the work team	64,1%
Operational & Strategic Planning.	61,5%
Able to delegate the work and evaluate the results	46,2%
General management	38,5%
Team building ability	38,5%
Planning skills	30,8%
Leadership, coaching	25,6%
Analytical skills	15,4%
Administrative office and finance	10,3%

The main practical skill relating to the project management is, being able to coordinate a work team with a percentage of 80,5%. In second place with a 58,5% of answers are the abilities of leadership, coaching and the operational and strategic planning.

CATALONIA	%
Coordination of the work team	80,5%
Operational & Strategic Planning	58,5%
Leadership, coaching	58,5%
Team building ability	53,7%
Abe to delegate the work and evaluate the results	53,7%
Planning skills	53,7%
Analytical skills	39,0%
Adminsitrative office and finance	34,1%
General management	29,3%

According to the results of the survey made in rest of Spain, the main practical skill relating to the project management is, being able to elaborate operational and strategic plans, with 76.2%. In second place with a 69% of answers coordinate of the work team, followed by planning skills with 61.9% of the results.

REST OF SPAIN	%
Operational & Strategic Planning.	76,2%
Coordination of the work team	69,0%
Planning skills	61,9%
Able to delegate the work and evaluate the results	45,2%
Leadership, coaching	42,9%
Analytical skills	33,3%
Team building ability	33,3%
Administrative office and finance	26,2%
General management	11,9%

The most valuable practical skills regarding the project management considered by Polish are: in first place to be able to coordinate a team work (58%), followed than strategic and operational planning (50%) and thirdly are the team building skills with a 36% of the answers.

POLAND	%
Coordinating team work	58,3%
Strategic and operational planning	50,0%
Team building skills	36,1%
Leadership and coaching	27,8%
Administration and financials	22,2%
Analytical skills	22,2%
Work delegation and evaluation skills	22,2%
Planning skills	19,4%
General management	13,9%

3.1.6. COMMUNICATION AND NETWORKING

Theoretical Knowledge

For people interviewed in all countries, it is essential that a Technology Transfer Manager speaks **fluent English (76,80%)**, has a **wide contact network (77,12%)** of technology transfer stakeholders and studied **communication theories and strategies (54,90%)**.

According to the Italian survey, an innovation transfer manager firstly needs to have a wide contact network of technology transfer stakeholders (87%), needs to speak fluent English (77%) since the innovation field is international and it is often composed by multinational companies. Finally a TTM needs to have a good knowledge of the professional terminology of the innovation sector (57%).

ITALY	%
Wide contact network of technology transfer stakeholders	87,5%
Fluent English	77,5%
Knowledge of the professional terminology of the innovation sector	57,5%
Communication theories and techniques	55,0%

In Portugal the three first options of this section are the same as Italians but with higher percentages.

PORTUGAL	%
Wide contact network of technology transfer stakeholders	90,3%
Fluent English	83,9%
Knowledge of the professional terminology of the innovation sector.	67,7%
Communication theories and techniques.	48,4%

For having a good communication and be on net, the Greek respondents consider that is essential to speak a fluent English (84,4%), that is important too to have a wide contact network of technology transfer stakeholders (71,9%) and it is also helpful to know about communication theories and techniques.

GREECE	%
Fluent English	84,4%
Wide contact network of technology transfer stakeholders	71,9%
Communication theories and techniques.	65,6%
Knowledge of the professional terminology of the innovation sector.	53,1%

The Bulgarian respondents have identified as most important theoretical knowledge in relation with communication and networking, the followings and in the following order: the first place is proficiency in English; next, with a share of 60% comes a wide contact network of technology transfer stakeholders at national and international level, and in third place, with 48,9% ranks knowledge of professional terminology in the field of innovation.

BULGARIA	%
Fluent English	66,7%
Wide contact network of technology transfer stakeholders (national and international)	60,0%
Knowledge of the professional terminology of the innovation sector	48,9%
Communication theories and techniques	46,7%

For Romanian experts the TTM needs to speak fluent English (71,8%), has a wide contact network of technology transfer stakeholders as national and international level (66,7%).

ROMANIA	%
Fluent English	71,8%
Wide contact network of technology transfer stakeholders (national and international).	66,7%
Communication theories and techniques.	59,0%
Knowledge of the professional terminology of the innovation sector.	59,0%

For almost all Catalan respondents is essential as a theoretical knowledge to have a fluent english with a 97,6%

For interviewed people is very important too, the knowledge of a wide contact network of technology transfer stakeholders (78%), is also important mastering the communication theories and techniques with a percentage of 61%.The option with the less percentage is the knowledge of the professional terminology of the innovation sector.

CATALONIA	%
Fluent english	97,6%
Wide contact network of technology transfer stakeholders (national and international)	78,0%
Communication theories and techniques	61,0%
Knowledge of the professional terminology of the innovation sector	51,2%

Analysing the sixth area, Communication and network, for almost all Spanish respondents is essential as a theoretical knowledge to have a fluent English and wide contact network of technology transfer stakeholders, both with a 81.4%

It is also important mastering the communication theories and techniques with a percentage and knowledge of the professional terminology of the innovation sector, also both with 51.2%.

REST OF SPAIN	%
Fluent English	81,4%
Wide contact network of technology transfer stakeholders (national and international).	81,4%
Communication theories and techniques.	51,2%
Knowledge of the professional terminology of the innovation sector.	51,2%

For Polish respondents and innovation transfer manager should cover the following areas of knowledge: a wide contact network of technology transfer stakeholders (85%), to know about communication theories and techniques (54%), and to have a proficiency in English due to the innovation field is international and often composed by multinational companies.

POLAND	%
Wide contact network of tech. transfer stakeholders	85,2%
Communication theories and techniques	54,3%
Fluent English	51,4%
Knowledge of professional terminology of the innovation sector	48,6%

Practical skills

The knowledge mentioned before is important to be completed with some practical skills as:

- D**evelop good and stable relationships with his stakeholders (44,16%)**
- P**romote and valorize the innovations (42,21%)**
- S**peak in public** (38,31%) and have presentation skills

In Italy, the three practical skills mentioned before are considered the most important in relation with communication and networking field.

ITALY	%
Promote the innovations	60,0%
Develop good relationships with stakeholders	50,0%
Able to speak in public	42,5%
Collaborate with researchers	37,5%
Orient the research programs	37,5%
Interactive	37,5%
Support the researchers to valorize their outputs	32,5%
Emphatic	32,5%
Manage conflicts	30,0%
Reassuring/ advisory capacity	25,0%
Contact potential licensees	22,5%
Public presentations	15,0%
Elaborate a letter of intent	15,0%
Moderate meetings	12,5%

With more than 50% of answers, the Portuguese survey considers valuable practical skills in communication and networking, the development of good relationships with stakeholders, the promotion and valorization of the innovations and the support to the researchers to valorize their scientific outputs.

PORTUGAL	%
Develop good relationships with his stakeholders	58,1%
Promote and valorize the innovations.	54,8%
Support the researchers to valorize their outputs.	54,8%
Collaborate actively with researchers.	38,7%
Able to speak in public, presentation skills	35,5%
Orient the research programs	29,0%
Moderate meetings/ workshop	22,6%
Contact potential licensees for innovations.	19,4%
Manage conflicts	19,4%
Interactive, open	16,1%
Reassuring/ advisory capacity.	12,9%
Emphatic	6,5%
Public presentation of patented products.	3,2%
Elaborate a letter of intent	3,2%

The three options with more than 50% of answers in Greece have been: to be able to develop good and stable relationships with his stakeholders, the research centers and the companies (56,3%), the second is to be able to support the researchers to valorize their scientific outputs (53,1%) and the third one is to be able to promote and valorize the innovation (50,0%).

GREECE	%
Develop good and stable relationships with his stakeholders (both research centers and companies)	56,3%
Support the researchers to valorize their scientific outputs	53,1%
Promote and valorize the innovations	50,0%
Reassuring/ advisory capacity	46,9%
Collaborate actively with the inventors/ researchers	40,6%
Orient the research programs to fulfill market's needs	40,6%
Able to speak in public, presentation skills	40,6%
Moderate meetings/ workshop	37,5%
Contact potential licensees for innovations	28,1%
Manage conflicts	25,0%
Interactive, open	25,0%
Emphatic	25,0%
Public presentation of patented products	9,4%
Elaborate a letter of intent	6,3%

The three most important practical skills in this area, according to respondents from Bulgaria, are: active collaboration with inventors and researchers with a share of 45,7%, directing research programs to meet the needs of the market with a share of 39,1%, and the third place with a share of 32,6% stands the skill to develop good and stable relations with stakeholders.

BULGARIA	%
Collaborate actively with the inventors/ researchers	45,7%
Orient the research programs to fulfill market's needs	39,1%
Develop good and stable relationships with his stakeholders	32,6%
Support the researchers to valorize their scientific outputs	28,3%
Public presentation of patented products	28,3%
Moderate meetings/ workshop	23,9%
Interactive, open	23,9%
Able to speak in public, presentation skills	21,7%
Contact potential licensees for innovations	17,4%
Promote and valorize the innovations	17,4%
Manage conflicts	15,2%
Emphatic	15,2%
Reassuring/ advisory capacity	10,9%
Elaborate a letter of intent	6,5%

In practice, the skills requested in Romanian survey related to communication and networking are: be able to promote and valorize the innovations, and be able to speak in public and have presentation skills, both answers with a percentage of 48,7%.

ROMANIA	%
Promote and valorize the innovations.	48,7%
Able to speak in public, presentation skills	48,7%
Orient the research programs to fulfill market's needs.	38,5%
Manage conflicts	38,5%
Develop good and stable relationships with his stakeholders	33,3%
Collaborate actively with the inventors/ researchers.	25,6%
Support the researchers to valorize their scientific outputs.	25,6%
Interactive, open	23,1%
Contact potential licensees for innovations.	15,4%
Moderate meetings/ workshop	15,4%
Public presentation of patented products.	12,8%
Elaborate a letter of intent	12,8%
Emphatic	7,7%
Reassuring/ advisory capacity.	7,7%

In Catalonia there have been four options of practical skills that have obtained a percentage over 50% of answers; the fist has been to be able to speak in public and have presentation skills (61,9%), the second option with a 57,1% is to collaborate actively with the inventors and researchers, the third is to promote and valorize the innovations with a 52,4% , and the fourth skill is to support the researchers to valorize their scientific outputs.

CATALONIA	%
Able to speak in public, presentation skills	61,9%
Collaborate actively with the inventors/ researchers	57,1%
Promote and valorize the innovations	52,4%
Support the researchers to valorize their scientific outputs	50,0%
Orient the research programs fo tulfill market's needs	47,6%
Develop good and stable relationships withe his stakeholders (both reserach centers and companies)	47,6%
Interactive, open	47,6%
Manage conflicts	47,6%
Emphatic	45,2%
Reassuring/ advisory capacity	45,2%
Moderate meetings/ workshop	40,5%
Contact potential licensees for innovations	28,6%
Public presentation of patented products	23,8%
Elaborate a letter of intent	21,4%

Only one of the options of practical skills has obtained a percentage over 50% of answers in the survey from rest of Spain; this is to develop good and stable relationships with his stakeholders (both research centers and companies), with a 53.5% of score. Followed by two skills with

44.2% of the answers: to promote and valorize the innovations, as well as to be able to speak in public, presentation skills.

REST OF SPAIN	%
Develop good and stable relationships with his stakeholders (both research centers and companies)	53,5%
Promote and valorize the innovations.	44,2%
Able to speak in public, presentation skills	44,2%
Orient the research programs to fulfill market's needs.	41,9%
Emphatic	41,9%
Support the researchers to valorize their scientific outputs.	39,5%
Reassuring/ advisory capacity.	37,2%
Manage conflicts	34,9%
Collaborate actively with the inventors/ researchers.	30,2%
Interactive, open	27,9%
Public presentation of patented products.	25,6%
Moderate meetings/ workshop	25,6%
Contact potential licensees for innovations.	23,3%
Elaborate a letter of intent	9,3%

According to Polish results, a TTM should be able to collaborate actively with investors and researchers, to develop relations with project participants and to promote and evaluate innovations.

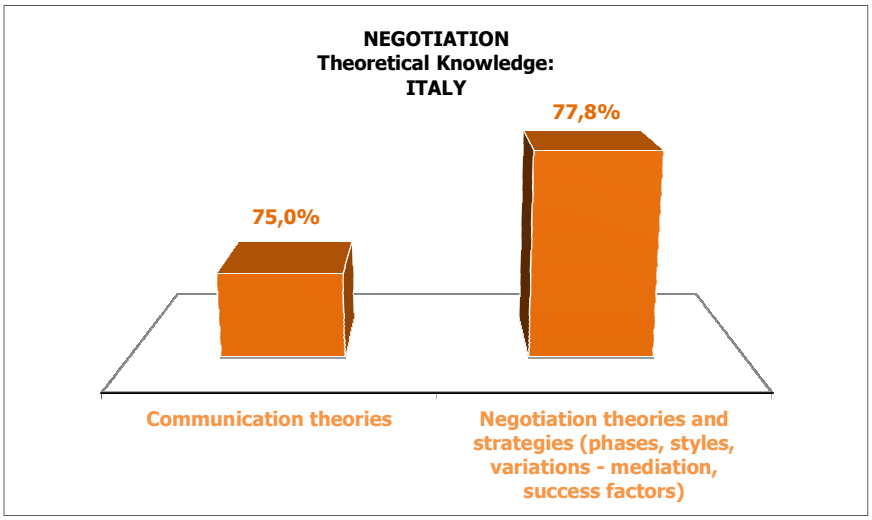
POLAND	%
Active collaboration with investors and researchers	48,6%
Develop reations with project participants	37,1%
Promote and evaluate innovations	31,4%
Planning reserach in light of market needs	28,6%
Public presentations of patented products	25,7%
Interactiveness	22,9%
Conflict management	17,1%
Suppor researchers in evaluation	14,3%
Speaking in public	14,3%
Contact potential licensees	11,4%
Moderate meetings and workshops	8,6%
Empathy	5,7%
Preparing a letter of intent	2,9%
Reassuring / advisory capacity	0,0%

3.1.7. NEGOTIATION

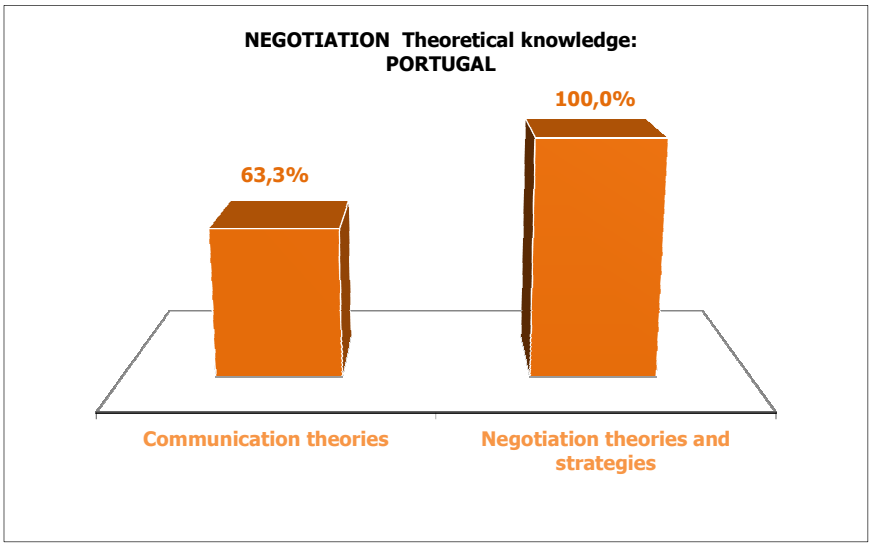
Theoretical Knowledge

The knowledge of **negotiation theories and strategies** with a percentage of 83,94% is considered a basic knowledge by all interviewed people in different countries.

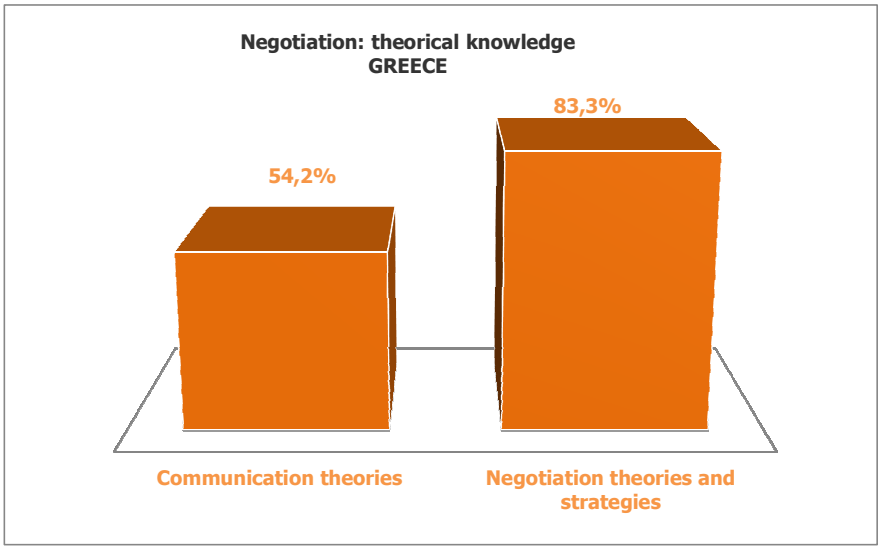
In Italy the percentage for this reply is 77,8%.



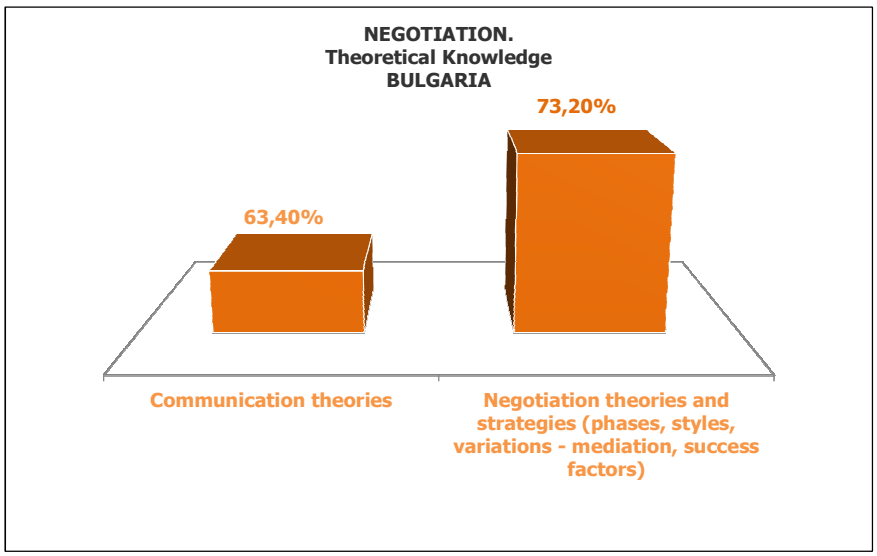
In Portugal this percentage corresponds to the 100% of answers.



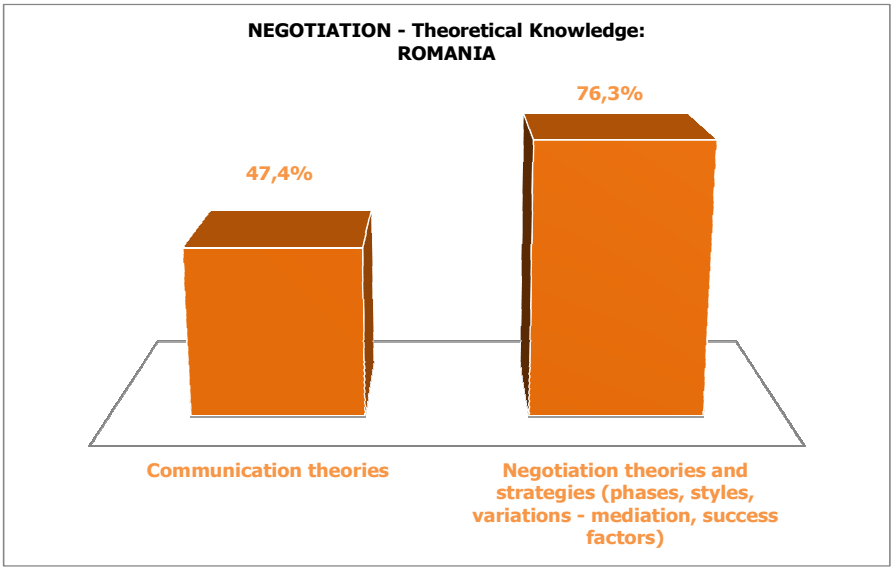
Greek's percentage for Negotiation theories is 83,3%.



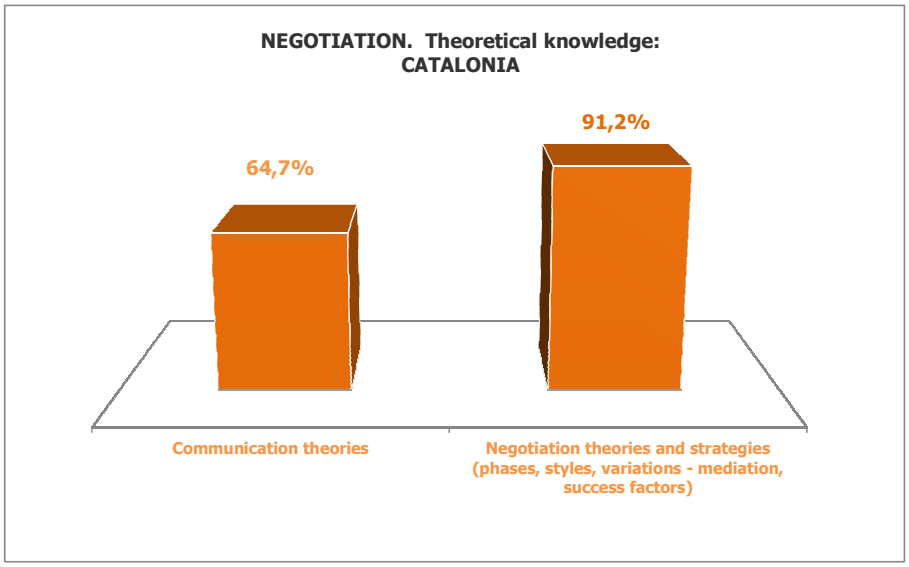
In Bulgaria, the percentage of answers to Negotiation theories and strategies is 73,20%.



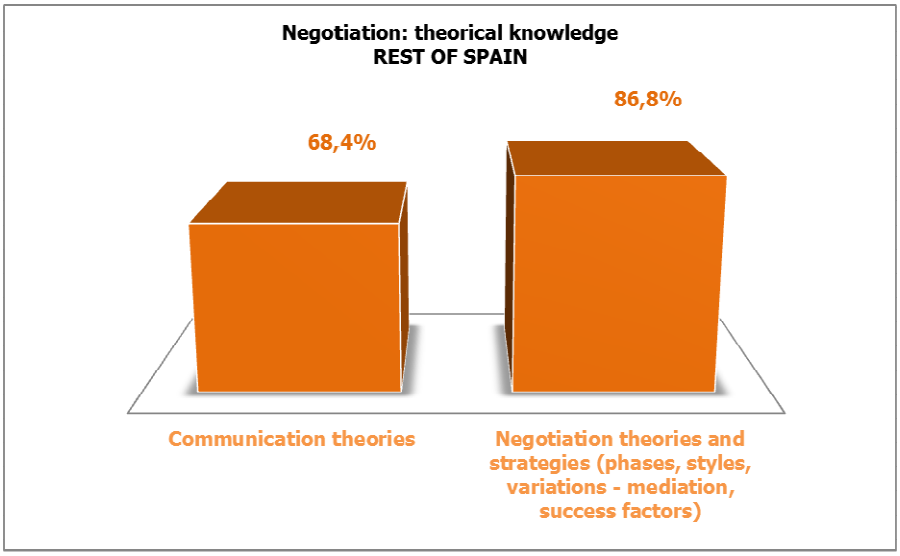
In Romania the percentage has been 76,3%.



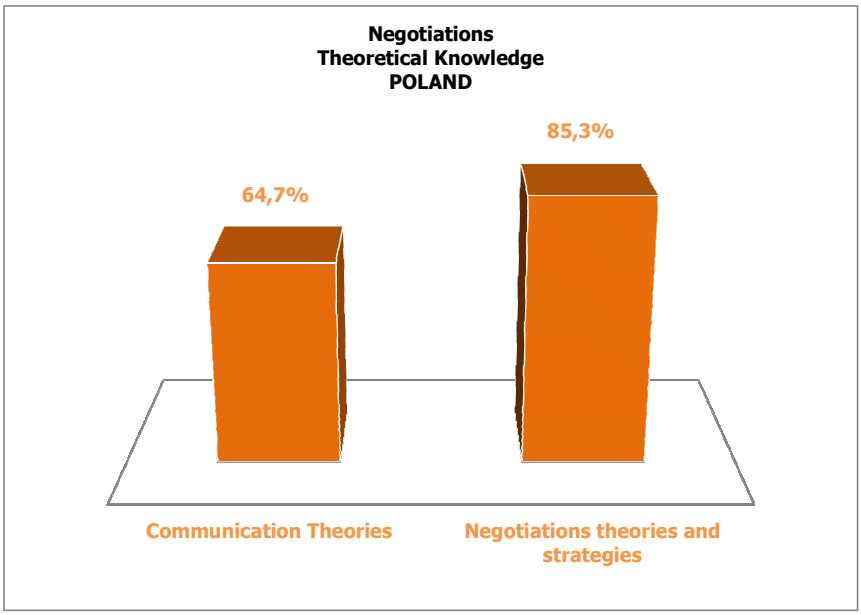
The percentage of answers in Catalonia for negotiation theories and strategies has been one of the higher with a 91,2%.



The percentage of answers to Negotiation theories and strategies in rest of Spain respondents has been 86,8%



Polish's percentage for negotiation theories and strategies is 85%.



Practical skills

The practical skills necessary to carry out a good negotiation process are:

- **understand and merge the expectations of both the researchers and companies (57,95%)**
- **analyze complex scenarios,** proposing simple solutions **(54,64%)**
- **find an agreement** acceptable and/or convenient for both parties **(40,73%).**

According to the Italian survey the basic skills in negotiation field are: analyze complex scenarios, proposing simple solutions (57,9%), be able to understand and merge the expectation of researchers and companies (55,3%) and the capacity of intermediate between two o more different exigencies (47,4%).

ITALY	%
Analyze complex scenarios and propose simple solutions	57,9%
Understand and merge the expectations	55,3%
Intermediate between two different exigencies	47,4%
Cultivate good relationship	42,1%
Wide network of personal contacts	42,1%
Patience	36,8%
Proactivity	36,8%
Find an agreement	34,2%
Empathy	31,6%
Financial negotiation	28,9%

The main practical skills of this area according to the Portuguese are: analyze complex scenarios and propose simple solutions 61,3%, understand and merge the expectations of both researchers and companies (58,1%) and in the third place to be able to find and agreement which is acceptable for researchers and for companies.

PORTUGAL	%
Analyze complex scenarios and propose simple solutions	61,3%
Understand and merge the expectations	58,1%
Find an agreement	41,9%
Intermediate between two different exigencies.	38,7%
Cultivate good relationship with all stakeholders.	35,5%
Proactivity	32,3%
Financial negotiation	25,8%
Wide network of personal contacts	16,1%
Empathy	16,1%
Patience	16,1%

For being capable of maintaining a successful negotiation, Greek respondents consider that a TTM must be able to understand and merge the expectations of both researchers and companies and to find an agreement which is acceptable or convenient for all sides. Greek respondents consider also important for negotiation to have a wide network of personal contacts.

GREECE	%
Understand and merge the expectations of both researchers and companies.	62,1%
Find an agreement which is acceptable and/or convenient for both sides	62,1%
Wide network of personal contacts	51,7%
Analyze complex scenarios and propose simple solutions	48,3%
Financial negotiation	48,3%
Cultivate good relationship with all stakeholders	48,3%
Intermediate between two different exigencies	34,5%
Proactivity	31,0%
Empathy	27,6%
Patience	27,6%

The respondents from Bulgaria have identified as three most important practical skills in negotiation: first, with 50%, comes understanding and putting together the expectations of both researchers and businesses. Then, with equal percentages of 43,5% stand the skill to analyze complex scenarios and offer simple solutions, the skill to find an agreement that is acceptable and convenient for both parties and the skill to carry out financial negotiations.

BULGARIA	%
Understand and merge the expectations of both researchers and companies	50,0%
Analyze complex scenarios and propose simple solutions	43,5%
Find an agreement which is acceptable and/or convenient for both sides	43,5%
Financial negotiation	43,5%
Wide network of personal contacts	34,8%
Patience	30,4%
Cultivate good relationship with all stakeholders	26,1%
Intermediate between two different exigencies	26,1%
Proactivity	13,0%
Empathy	4,3%

The most important skills in negotiation process for Romanians are: to be able to understand and merge the expectations of both researchers and companies with a percentage of 56,4%, followed than being able to analyze complex scenarios and propose simple solutions and being able to cultivate good relationships with stakeholders, both with a share of 43,6%.

ROMANIA	%
Understand and merge the expectations of both researchers and companies.	56,4%
Analyze complex scenarios and propose simple solutions.	43,6%
Cultivate good relationship with all stakeholders.	43,6%
Patience	30,8%
Find an agreement which is acceptable and/or convenient for both sides.	30,8%
Intermediate between two different exigencies.	25,6%
Financial negotiation	25,6%
Empathy	25,6%
Proactivity	25,6%
Wide network of personal contacts	12,8%

The most mentioned negotiation practical skills in Catalonia are: to understand and merge the expectations of both researchers and companies with a 65,9% of answers, followed by the empathy (58,5%) and the proactivity with a 56,1% of the answers.

CATALONIA	%
Understand and merge the expectations of both researchers and companies	65,9%
Empathy	58,5%
Proactivity	56,1%
Analyze complex scenarios and propose simple solutions	53,7%
Patience	53,7%
Find an agreeement which is acceptable and /or convenient for bothe sides	46,3%
Intermediate between two different exigencies	43,9%
Cultivate good relationship with all stakeholders	43,9%
Wide network of personal contacts	43,9%
Financial negotiation	24,4%

The most mentioned negotiation practical skills in rest of Spain survey are: to understand and merge the expectations of both researchers and companies with a 73.8% of answers, followed by the find an agreement which is acceptable and/or convenient for both sides (66.7%) and Cultivate good relationship with all stakeholders with a 45.2% of the answers.

REST OF SPAIN	%
Understand and merge the expectations of both researchers and companies.	73,8%
Find an agreement which is acceptable and/or convenient for both sides.	66,7%
Cultivate good relationship with all stakeholders.	45,2%
Analyze complex scenarios and propose simple solutions.	42,9%
Empathy	35,7%
Proactivity	35,7%
Intermediate between two different exigencies.	33,3%
Wide network of personal contacts	28,6%
Patience	19,0%
Financial negotiation	16,7%

The respondents from Polish have identified as three most valuable practical skills in negotiation process: to be able to analyze complex scenarios and to propose simple solutions to solve it, to be able to understand and include expectations of researchers and companies and in third place to be able to aim win-win solutions for both parties.

POLAND	%
Analyze complex scenarios - propose simple solutions	64,7%
Understand and include expectations of researchers and comapnies	41,2%
Aiming at win-win situations	41,2%
Financial negotiations	35,3%
Intermediating between the parties	23,5%
Wide network of personal contacts	14,7%
Cultivate good relations within the project	11,8%
Empathy	8,8%
Being pro-active	8,8%
Patience	2,9%

5. Common points and main differences between the countries.

The most common points and main differences between countries regarding the different units of competence are:

IPR and licensing:

The strong competences in this area are **notions on IPR Legislation**, **general knowledge in patenting process** and in different types of protection agreements in order to be able to **design an IP strategy** and to identify and assess to the best protection possibility for each innovation.

In Catalonia the Knowledge of IPR legislation (37,5%) is not considered as much important as in the other countries. On the other hand, the Bulgarians' respondents have considered the ability to design an IPR strategy as the less important skill with a 27,5%.

Information Gathering

Information gathering is one of the most important activities for a TTM professional.

The common identified competences are the **knowledge of patent and industrial researchers' databases**.

The reading of **technology and innovation journals** and publications seems also very important. All these knowledge should help the TTM to **look for data on the appropriate sources**, to **analyze and adapt the information** to the process of innovation's transfer and to the industrial/ commercial field.

Technology commercialization

The main two strong competences in the process of technology commercialization mentioned by all countries are the **knowledge of market assessment strategies** and **technology marketing approaches**.

This knowledge is perceived as fundamental to let the TTM propose an innovation to the market successfully.

New business development.

The most relevant competence in the process of new business development consists on the ability to **develop a business plan for an emerging company** (start up or spin off); this has been considered the most important knowledge from all the countries, except the respondents from Asturias.

In relation with this knowledge, the most valuable practical skill is to be able to **find potential commercial partner and investors** for the new business. Accordingly, be an **entrepreneurial** person is also considered important.

Project management

In order to be good TTM, the ability to manage a portfolio of different project is considered essential.

Since most of technology transfer processes apply for public funds, it is needed a good administrative competence: application, management, dissemination, justification of costs.

The most valuable competences for a TTM are the ability to **coordinate a team**, **planning project's activities**, **leadership and coaching** skills and notions of **basic finance**.

Communication and networking

On the consortium's opinion, the strongest competences related to communication and networking are basically two: **speak fluent English** and have a **wide contact network**.

It is also crucial to develop a stable network of relations with technology transfer stakeholders.

A good TTM should be able to speak in public, make presentations, promoting and valorizing the innovations.

Negotiation

Another important knowledge is having notions about **negotiation theories and strategies**: phases, styles, variations, mediation success factors etc..

This can helps to understand and merge the expectations of researchers and companies, in order to analyze scenarios, propose solutions and find a final agreement between the parts.

6. Recommendations for the training of TTMs.

The majority of interviewed never attended a training course on Technology Transfer Management. Only in Poland, more than a half of respondents have attended a specific training course: in Italy 8% have attended to a course, 25% of Portuguese respondents have attended to a training course in Technology Transfer, in Greece the 19%; 8,7% of Bulgarian's respondents have attended to a course, in Romania the percentage of attendants to a course is 14%, the percentage in Asturias is a 28%, in Catalonia the percentage of people who has attended to a training course is 31%, on the other hand in Poland a high percentage of interviewed people has attended course, the highest one with a 60%.

Did you ever attend a training course on Technology Transfer Management?		
Country	YES	NO
Italy	8,00%	92,00%
Portugal	25,00%	75,00%
Greece	19,00%	81,00%
Bulgaria	8,70%	91,30%
Romania	14,00%	86,00%
Rest of Spain	28,00%	72,00%
Catalonia	31,00%	69,00%
Poland	64,00%	36,00%

The TTM course attended are mainly organized by universities, companies associations, academic institutions, European institutions and last few days

Specific training in this field is not very common, and the training developed is generally focused only on specific fields of transfer of innovation while it seems to be a lack of more structured courses.

A generalist training, on the contrary could help to clearly define the competences required for the professional figure and homogenize all the different profiles now referring to the sector (engineers, economists, scientists, researches etc.) so to give them a common background for the exercise of the same profession.

in particular, all the different existing figure seem to have a high level of technical skills while they are still weak on soft and personal skills. A part from giving theoretical fundamentals and notions on all his competence areas, the training should help these profiles to develop leadership skills, empathy, negotiation skills and a special sensibility towards costumers and providers.

7. The TTM profile in brief

Job Title	Technology Transfer Manager		
Job purpose	Promote and facilitate the transfer of innovation from scientific area to the final user by identifying the potential commercial interest of the research and developing strategies to exploit it.		
Key competence areas	**av.% time spent**	**Main theoretical Knowledges**	**Main practical skills**
1. IPR AND LICENSING	**9%**	IPR legislation Patenting process Types of IPR Agreements	Assess the best protection possibility for a certain innovation Design an IP strategy, within a given budget Write an IPR Agreement
2. INFORMATION GATHERING	**13%**	Patent databases Journals and publications of the innovation sector Innovative companies databases	Search for data Analyze the gathered information Be updated
3. TECHNOLOGY COMMERCIALIZATION	**14%**	Commercialization Market Assessment Technology marketing	Analyze the market and competitive technologies, in order to determine the invention's commercial portential and viability Elaborate a business plan Be able to understand potential markets and ways of commercialization of an innovation
4. NEW BUSINESS DEVELOPMENT	**11%**	Business plan's development and evaluation methodologies General management notions Business and economics fundaments	Practical elaboration of a business plan for a new company Find potential commercial partners, inverstors Entrepreneurship
5. PROJECT MANAGEMENT	**29%**	Fundamentals of Project management (with a focus on Innovation management) Operational & strategic planning Marqueting notions	Operational & Strategic Planning Coordination of the work team Planning skills
6. COMMUNICATION AND NETWORKING	**12%**	Wide contact network of technology transfer stakeholders (national and international) Fluent english Communication theories and techniques	Develop good and stable relationships with his stakeholders (both research centers and companies) Promote and valorize the innovations Speak in public, presentation skills
7. NEGOTIATION	**12%**	Negotiation theories and strategies Communication theories	Understand and merge the expectations of both researchers and companies Analyze complex scenarios and propose simple solutions Find an agreement which is acceptable and /or conveninet for bothe sides

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