



WBCInno

***Methodology for
Innovation Management***



Methodology for Innovation Management



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List of Abbreviations

BASMP	Institute of Standards, Metrology and Intellectual Property of Bosnia and Herzegovina	PCT	Patent Cooperation Treaty
BI	Business Incubator	R&D	Research and Innovation
BIH	Bosnia and Herzegovina	ROI	Return on investment
CAD	Computer Aided Design	RTDI	Research, Technology Development and Innovation
CAM	Computer-aided manufacturing	SaaS	Software-as-a-Service
DNA	Deoxyribonucleic acid	SCAMPER	Substitution, Combination, Adaptation, Modification, Putting to other uses, Elimination, Reversing
EP	European Patent	SME	Small and medium enterprise
EPO	European Patent Office	STP	Science and Technology Park
EU	European Union	SWOT	Strengths, weaknesses, opportunities and threats
GIS	Geographical Information System	TRIPS	Trade Related Aspects of Intellectual Property Rights
IMT	Innovation management techniques	TRIZ	Theory of Inventive Problem Solving
IP	Intellectual property	UIP	University Innovation Platform
IPOM	Intellectual Property Office of Montenegro	WB	Western Balkans
IPR	Intellectual property rights	WBC	Western Balkan Countries
ISO	International Standard Organization	WIPO	World Intellectual Property Organization
OHIM	The Office of Harmonization for the Internal Market		

Executive Summary

The Methodology for Innovation Management deals with the different aspects of the innovation management process starting from definition of ten recommended innovation management techniques, across the intellectual property aspects, review of innovation cycle phases with financial aspects to the software innovation management support. All of these aspects are elaborated in the separate chapters. The introduction presents the general idea about the innovation management as a process. It gives the brief description of the WBCInno project and explains the background that led to the development of such publication and actors included in its elaboration.

The second chapter is focused on the innovation management techniques. Based on the *Innovation Management and the Knowledge-Driven Economy* [1], which deals with the overview of the trends and relevant actors in the innovation management process, the Methodology gives the list of ten recommended innovation management techniques that are most relevant for the development of knowledge-based economy in the WBC region. Innovation management techniques are presented as the set of tools and mechanisms which support the innovation process, helping individuals and organizations/companies to deal with the market challenges in a systematic way. Those techniques are:

1. Knowledge management techniques

Knowledge audits, Knowledge mapping, Document management, IP management

2. Market intelligence techniques

Technology watch, Patents analysis, Customer relationship management, Geo-marketing, Business intelligence

3. Cooperative and networking techniques

Team building, Groupware technologies, Supply chain management, Industrial clustering

4. Human resources management techniques

Online recruitment, Management, Corporate intranet, Tele-working techniques, E-learning, Groupware tools

5. Interface management techniques

Concurrent engineering, R&D marketing interface

6. Creativity development techniques

Brainstorming, Lateral thinking, Theory of Inventive Problem Solving – TRIZ, SCAMPER method, Mind mapping

7. Process improvement techniques

Workflow management, Business process re-engineering, Just-in-time, Total quality management, Lean process technology

8. Innovative project management techniques

Pre-project management phase, Development project management phase, Post-project management phase, project portfolio

9. Design management techniques

Computer Aided Design (CAD) Systems, Rapid prototyping, Usability, Value analysis

10. Business creation techniques

Virtual incubator, Spin-off, Entrepreneurship, Business plan

The Chapter *Intellectual Property Aspects* deals with the general IPR aspects in three countries of the WB region: Serbia, Bosnia and Herzegovina, and Montenegro. This chapter also gives a preview of all types of intellectual property rights and the list of steps and procedures that need to be followed in order to protect those rights.

Innovation Cycle with Financial Aspect describes in details the innovation cycle, with its five stages as well as short preview of innovation financing issues:

1. Market research
2. Analytic design and technical feasibility
3. Detailed design and test
4. Redesign and production
5. Distribution and marketing

In the last chapter of this publication, the software support to innovation management is described in terms of the special innovation management techniques used and their benefits for end-users of such software platform. This chapter also gives the detailed definition and description of Idea and Project Management workflows, along with the roles and responsibilities assigned within each of them. These workflows will be applied in the software platform that will be developed in accordance with this Methodology. A brief preview of the platform features is also provided at the end of the chapter, in order to get this idea closer to its end-users.





1 Introduction

Innovation management is the process that encompasses the whole range of decisions, activities and measures in order to facilitate the transfer of an idea into the business value. This process can be applied for all kind of ideas, whether it is about a product, process or a service. The focus of the Innovation Management is to provide the set of measures and tools which will facilitate the inventors to respond to the challenges in the whole innovation cycle and to turn their ideas into successful innovations on the market.

As stated in the *European Planning Studies* [2], the innovation system includes three main elements: the knowledge generation sub-system, the knowledge application sub-system and the linkages between these two sub-systems. The first sub-system includes the institutions whose main mission is to generate and transfer the knowledge, such as research institutions, universities, technology transfer organizations, etc. On the other side, the knowledge application sub-system is related to the business sector where this knowledge is applied and exploited in order to solve everyday challenges. What seems to be insufficiently developed in the Western Balkans region is the link that connects those two sub-systems. This challenge was recognized by the WBCInno project which tends to contribute to the modernization of WBC universities through the strengthening of their management structures/services for cooperation with the world of business in the areas of knowledge transfer, research and innovation, as well as to the creation of strong entrepreneurial universities and innovative regions.

For that reason, one the main goals of WBCInno project is to develop the University Innovation Platform (UIP) that will define the priority research areas for WBC universities and present the potential for research and knowledge capitalization. As it has been already defined within the UIP, one of the priorities for WBC region is to develop the collaborative software platform as an efficient online tool for innovation management. This Stage-Gate-based platform will gather new ideas from university staff, researchers and students, in order to boost knowledge transfer and commercialization of R&D results. As the first step in its development, WBCInno project found necessary to develop this Methodology to describe the innovation management as a process, give a preview of the techniques successfully used in practice and chose the most effective ones that can be successfully applied through the platform, taking into consideration the specificities of the WBC region. Besides, the Methodology offers the IPR background of an innovation cycle, specially focused and aligned with the relevant legislation in Serbia, Bosnia and Herzegovina and Montenegro, as well as with EU practice. In its final chapter, it provides the detailed overview of the platform's structure, roles and responsibilities assigned, and available features.

The Methodology for Innovation Management gathered the most relevant actors in its elaboration: representatives of knowledge-generating institutions (University of Kragujevac, University of Montenegro, University of Zenica) and the company Intraneta Solutions, as one of WBCInno project partner, whose main expertise is implementation of the collaborative software platforms for innovation management. Intraneta has provided its expertise for the elaboration of effective innovation management methodology in describing the workflows, data structure, people involvement, action plan which are tailor made to project's needs and specifics, according to global best practices in the field. The company also supports this methodology technically by establishing DataStation Innovation Cloud as a software platform to facilitate and implement the methodology piloting at five WBC universities (University of Kragujevac, University of Novi Sad, University of Banja Luka, University of Zenica, University of Montenegro).

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2 Innovation Management Techniques

Innovation does not always mean to use advanced technologies. On the contrary, it is rather a way of thinking and creativity expressed through development of new product, process or service. In this context, innovation management techniques (IMT) can be understood as the whole set of various measures and methods, whose application can help companies adjust more easily to the current market terms and requirements.

The impact of each of these techniques on the enterprises competitiveness development in the knowledge based economy where the knowledge is appropriately exploited is increasingly important. European Commission and Directorate-general for Enterprise developed the publication *Innovation Management and the Knowledge-Driven Economy* [1]. The aim of this publication was to provide an overview of the trends and most relevant actors in the development and application of the methods for innovation management in knowledge-based economy. For that purpose, Innovation Management Techniques are presented as the set of tools, techniques and methodologies supporting the innovation process in enterprises and helping them to deal with the market challenges in a systematic way.

For the purpose of this Study elaboration, 433 questionnaires were collected and accordingly 32 categories are defined and grouped in accordance with their concept, objectives, application model and the impact they have. By further selection, this list was narrowed down to eight categories the most convenient for raising the corporate competitiveness:

- Emphasis on knowledge
- Strategic influence
- Availability
- Documentation level
- Practical use
- Technique age
- Resources necessary for implementation
- Measurability

Based on the defined categories, the selection of 10 categories most relevant for innovation management was carried out:

- Knowledge management techniques
- Market intelligence techniques
- Cooperative and networking techniques
- Human resources management techniques
- Interface management techniques
- Creativity development techniques
- Process improvement techniques
- Innovative project management techniques
- Design management techniques
- Business creation techniques

Out of these ten, the most frequently used are those for project management (82%), business plan development techniques (67%), corporate intranet (66%) and benchmarking techniques (60%).

2.1 Knowledge Management Techniques

Knowledge management is the process whose main objective is to generate, collect and exploit the knowledge inside the organization in a continuous and systematic manner, and in this way improve its creative and innovative potential as a whole. With the proper combination of human resources, process and technologies management, this process is realized at two levels: management of the existing knowledge that is available inside the organization, and promotion of organization's capacity to use new knowledge, regardless of its source (from outside or inside the organization).

Although this technique is suitable for implementation in all types of enterprises, it is still most commonly used in those with large number of employees, which naturally leads to the increased need to exchange the relevant information among employees in a controlled and systematic way. In those environments, the knowledge management technique is usually implemented through technology platform for information and knowledge exchange, which can significantly improve the innovative potential, through:

Knowledge audits as a process of evaluation and auditing of innovation capacity, gives an insight into current knowledge base in an enterprise. In this way, the enterprise can take advantage of being able to identify shortages, information overloads, information duplication and barriers for the active data exchange;

Knowledge mapping gives the preview of the sources, flows, limitations or halts in the process of knowledge transfer and exchange inside the organization. In order to map knowledge, it is extremely important to recognize it in all segments: processes, relations, communications, users and in various forms (as explicit knowledge, hidden, knowledge from outside and from inside the organization, etc.).

Document management is the source of knowledge and innovations, whether we talk about manuals, reports, methodologies or other forms of documents. This is why it is of utmost importance to develop tools for their classification, search, archiving and using in order to facilitate the management of those documents through unique system based on information technologies.

IP management is the ground of general corporate strategy. It includes protection of products, corporate intellectual property and results derived from an organization's innovation activities.



2.2 Market Intelligence Techniques

Market intelligence refers to detailed competition research and analysis which enables the enterprise to collect, filter, analyse and distribute relevant reliable and timely information on information on competition and end users, transforming thus information into knowledge as the ground for decision making process. Due to this, many of these techniques depend on information technologies, internet particularly, which enable systematic processing and classification of information. They are most usually realized through:

Technology watch as soon as some technological advance appears on the market in order to identify potential innovation that can influence enterprise competitiveness and analyse possible changes in behaviour of end users;

Patents analysis enables assessment of results competitiveness before the enterprise undergo an expensive research and development, applying for patent, etc;

Customer relationship management is about recognizing, establishing and improving the relationships with users in order to build their loyalty and trust;

Geo-marketing or thematic market monitoring for innovative sales and marketing planning. One of the forms of this technique is Geographical Information System (GIS), a computer tool for generating the map that can provide all information on users, target groups and market that can be easily filtered;

Business intelligence integrates all methods for collecting, filtering, analysing and distributing the information needed for business.



2.3 Cooperative and Networking Techniques

Knowledge based economy requires team work of people from different departments and organizations as well as connections among them which is most often realized through information technologies. However, the real challenge is to make a transition from communication to team coordination.

In order to successfully realize such coordination and to produce expected results, various initiatives have been developed lately to provide collaborative environment where knowledge, information and service exchange among relevant actors is encouraged.

In this way, organization can take advantages on various levels:

- Increase of creativity and easier problem solving inside the group
- Improved, faster and clearer communication
- Developed corporate spirit
- Collection of various expertise and experiences in one place
- Forming of the group of people with common interests regardless of their current location
- Reduction of travel costs for realization of joint activities
- Savings in coordination time and costs

There are many approaches to this technique. Some of them are as follows:

Team building, which improves the corporate culture inside the organization by fostering the collective obligation among members, encourages their active participation in the decision-making process, facilitates the delegation of responsibilities and provides complementarity, i.e. adequate structure of experiences and knowledge;

Groupware technologies as a kind of corporate software relying on three principles: communication (dissemination and collection of information), collaboration (information exchange and building the mutual understanding) and coordination (delegation of tasks inside the network);

Supply chain management, deals with suppliers, sub-contractors and users through active and controlled system that integrates the whole chain into one entity;

Industrial clustering groups the organization's capacities with the same activities and interest on regional and local level in order to support their innovation process. The cluster members have strong support through network and infrastructure provided by universities, research institutes, financial institutions, incubators, etc. In this way, cluster members can additionally increase their competitiveness and reduce the time-to-market for their products, services and processes.

2.4 Human Resources Management Techniques

Human resources management is an extremely significant aspect of business. Having in mind that information technologies are increasingly developing as the support in this area, this technique is widely accepted as technological revolution, whether we are talking about employment, trainings, mobilities, internal communication or assessment of the work results, team building and employees productivity monitoring. Its application leads to improved innovative potential of an organization, because it facilitates the access to the outside specialized knowledge (through participation in the e-learning programmes), knowledge and experience exchange through corporate intranet and access to the most prominent experts regardless of their current location. On the other side, it allows at the same time the automation of the employment process (through internet), more efficient system of productivity and work quality monitoring, as well as improvement of internal communication.

The most commonly used tools for human resources management:

Online recruitment via internet, whether it is simple advertising of vacancies or establishing the complete system for career development;

Management of employees competencies and skills;

Corporate intranet which through internet protocol and applications allows better availability of data, their facilitated monitoring and transfer within an organization. In this way, the decision making process is encouraged and improved with active participation of relevant actors;

Tele-working techniques which combine telecommunication and computer technologies, where employees can work from remote locations, from home, etc.;

E-learning consists of trainings organized through the network (intranet or internet), facilitating in this way interactive, personalized learning with large savings in time and money;

Groupware tools which enable groups to organize their activities within the network, offering various options from appointment of meetings and sending the post to protection of the documents in the network.



2.5 Interface Management Techniques

Decision-making process is based on information coming from different departments within the organization (marketing, R&D department, production, financial or human resources department, etc.). This is why it is very important to connect all these units and facilitate their interaction, in order to provide the quality operations of the organization and the decision-making process with it. If this kind of management is adequately exploited and applied not only to individuals but their knowledge as well, it can improve the organization's innovation potential and thus significantly facilitate the successful realization of certain tasks or projects. Due to this, today we have several approaches in this area:

Concurrent engineering is a systematic approach to an integrated, concurrent development of products and accompanying processes, including production and support system. This approach held development departments to analyse all elements of the life cycle of a product, from the concept to production and disposal. Using the programming elements, knowledge based systems, CAD/CAM techniques, etc., reduces the product development time 30-70%, number of engineering changes 65-90%, time-to-market 20-90%. At the same time, their application increases the product quality 200-600% and administrative productivity for 20-110%.

R&D marketing interface as a form of interconnection between development and marketing department is of great importance for the organization business. It depends on the fact if the certain product is based on technology research or on specific market requirements. If the organization can provide the quality link between these two departments, good structure and decision-making process, this approach can be very beneficial for the organization.

2.6 Creativity Development Techniques

Development of creativity is the key element in the innovation process. It refers to creation of new ideas or combination of existing ones in order to innovatively improve the everyday problem solving. These techniques not only decrease the negative filtering of ideas and early giving up the concepts, they also facilitate developing different solutions to one problem, connecting elements that usually cannot be connected.

One of the widely spread and used techniques for developing of creativity is **brainstorming**. This is a method where a number of people simultaneously generate different ideas or solutions for defined problems. In this process, there are no good and bad ideas. The success of brainstorming depends on the number of ideas (the more the better), which through combination can produce expected results.

Lateral thinking implies non-traditional methods which in logical thinking are dismissed as inadequate. These nonconventional techniques increase the creativity and produce alternative solutions.

Theory of Inventive Problem Solving – TRIZ is creative approach based on existing solutions and available information for solving new problems, for example in order to determine application for already developed technology.

SCAMPER method is the model of transforming one idea into several ideas. Its name is actually the acronym Substitution, Combination, Adaptation, Modification, Putting to other uses, Elimination and Reversing, which tells us about the main elements of the method itself.

Mind mapping could be defined as individual brainstorming, with the aim to investigate the ideas by graphically connecting of the term (which represents the problem) with ideas for its solution.

2.7 Process Improvement Techniques

The process of improvement allows the breakdown of tasks to the set of measures and steps in order to find the most efficient way to exceed the expectations and pre-defined requirements of the process. The success of this technique is based on its continuity and constant adaptation to the business and technology requirements. Using different shapes and methods facilitates discovering and testing of the problems cause, easier planning of activities for the business process improvements, their realization and application in controlled environment, achieving of higher efficiency, etc. some of those techniques are:

Workflow management is the process of automation of organization's internal activities and tasks, which leads to simpler and channelled business processes and procedures. In other words, the document, information and tasks inside the organization "flow" in clearly defined way following the internal rules and procedures.

Business process re-engineering is the way to restructure and transform business processes and procedures, both industrial and administrative, in order to achieve essential improvements in the price and quality of the product or service, but also of the organization itself. This method eliminates activities that lead to efficiency reduction, simplification of procedures and introduction of alternative processes, through series of steps from isolating the business process itself and its definition, through identification of measures necessary for its improvement to the control of those measures' application results;

The process known as **just-in-time** is today the most widely spread in industry, especially in production and logistics sectors. It means that certain activities are realized or parts are delivered exactly when needed – not before (to avoiding piling up), and not later (to avoid being late). In this way, the maximum can be achieved in every segment of production or logistics, increasing the enterprises' capacity to respond to dynamic requirements of their end users.

Total quality management is the process where all activities and processes values are improved to the highest possible level. The main objectives of this technique are to provide internal and external users with products and services that permanently satisfy their demands. Also, this eliminates the procedures that lead to losses in money, time or reliability of a product or a service. This type of management is based on internal control within every system unit, where employees on all levels are expected to participate in the decision making process relevant for their activities.

Lean process technology is the concept based on removing all traditional activities that do not have added value (changes, waiting period, postponing, etc.) in order to prevent unnecessary resources spending. This concept was developed from the production system of Toyota, and it can be implemented in almost every production environment.

2.8 Innovative Project Management Techniques

There is substantial tendency today that all innovation should be realized through projects, regardless of the area they are in or the size and structure of the organization. Through projects, this type of management is directed to research and development, production and marketing, with an experienced leader team whose main role is to secure the quality of technical and financial realization in each of these segments.

Successful management of innovation projects means pre-defined action plan, deadlines for completion of tasks (milestones), resources planning, etc. However, organizations often come across some unexpected barriers and problems in their projects, risking in this way the achievement of the set goals. In order to prevent and mitigate those risks, the best solution is to break down the whole process into three phases: pre-project management, project development management and post-project development.

Pre-project management phase refers to the selection and assessment of the project idea and the very beginning of the process realization. However, sometimes, there is insufficient information and knowledge, so the project idea can be poorly assessed, organizations are not able or do not have enough capacities to realize the idea, etc. The most efficient way to avoid this risk is to develop a strategic approach to this process.

Development project management phase refers to integration of the different capacities and resources. The greatest challenge in that process, especially for organizations still developing, is to find the competent team that can develop an adequate approach to the management process and to professionally and efficiently respond to project realization requirements.

Post-project management phase is not related to the project development, but to long-term sustainability and further improvement after the project completion. What appears to be extremely important is to learn from experience and to know the organization very well. This is important because even the most successful development projects can face the problems when they come to the point where the sustainability of the project needs to be ensured: there is a large number of complex interactions that need to be analysed, sometimes it is difficult to foresee the nature of results before they are achieved, lack of time or too great pressures to start the next project, etc. This is why the project leaders are the ones who must identify the need to improve and expand this kind of knowledge and to shape their experience into systems, tools and procedures that others in the organization can apply.

Very important segment in innovation project management is **project portfolio**. It is used to define the areas and segments in which some organization can successfully realize innovative processes, through generation of new and combination of existing ideas in order to respond to market demands. The aim of project portfolio is to make a selection and combination of innovative projects, where organization can take the best advantage of available resources, to expand or create new markets for the application of new technologies.



2.9 Design Management Techniques

Today, the design of new products goes beyond simple optimization of design or development process. Besides these, it has to satisfy simultaneously many external factors that need to be considered in early product development phase (buyers' requirements, quality, production costs, impact on environment, recyclability, etc.). All these lead to the point when the design can no longer be considered as isolated activity, but as in interaction with other segment of product development. Using design management techniques allows the product to respond to the market requirements, to reduce development costs and time necessary for its commercialization, and provides efficient coordination of all activities related to design and development. However, only integration of mentioned objectives into one development strategy in accordance with the organization's capacities, can produce substantial results.

Computer Aided Design (CAD) Systems use powerful computer tools for advanced product design. They include simulation and modelling with the aim to test functionality of a design and provide incomparably more possibilities than traditional design.

Rapid prototyping is technique which is used to directly transform the CAD models into physical models, without using tools or other conventional methods. In this way, the productivity is improved, especially in production industry, because costs of product development from concept to market are drastically reduced.

According to the International Standard Organization (ISO), **usability** of a product depends on the simplicity, efficiency and functionality of its application in order to solve problems and tasks in certain environment. This is why usability is considered to be the measure of potential of a product on the market and can be applied on all types of products.

Value analysis is systematic review of a product's existing design with the aim to test and analyse those specific features and functions defined by the users, as well as to answer to those requirements without great expenses, at the same time keeping the functionality and reliability of the product. This is why the main objective of this technique is to reach the highest degrees of efficiency through improvement of products and processes, eliminating all unnecessary costs.

2.10 Business Creation Techniques

The most critical phase in the development of an enterprise is the early development phase. Decisions made in this phase can significantly influence the enterprise in long term. However, when business process is considered, the main part of the research is directed towards already developed enterprises. Very little attention is paid to the process of creation and establishment of the enterprises, especially technological ones. In order to develop successfully from the beginning, the enterprise must undertake certain steps:

- Formulation of business idea and definition of commercial direction
- Development from idea to final product
- Definition of market
- Development of operative organization
- Setting up of key expertise
- Dedication of group of key people and motivation of each of them individually
- Building relations with users
- Establishing the links with other enterprises

For development of enterprises, business environment within a country is crucial and has direct impact to the enterprises' internationalization process, availability of facilities and infrastructures, but also entrepreneurial climate (available financing and subvention mechanisms), education and training, knowledge and technology transfer, etc.). The role of universities and research institutions in this process is increasingly important, especially if we have in mind that lately they tend to promote their entrepreneurial capacities through engagement of students, professors and researchers into the commercialization of research results. Following examples illustrate the techniques of business creation successfully applicable in the practice.

Virtual incubator is internet based system with the aim not to provide only offices and laboratory space like traditional incubators, but also to provide other services necessary for entrepreneurs such as support on the process of development from idea to the business plan, application of the business plan and the first activities on the market, support in the financing, institutionalization, restructuring, management, etc.

Spin-off is very efficient modality for improvement of innovative application of research results. It presents the strong link between two worlds: science and research on one side and industry on the other side. Its success depends on the level of entrepreneurial structure development, available seed and venture capital, network opportunities, etc.

Entrepreneurship is the process to initiate, organize and innovate in business process, with the main aim to create new markets and produce profit. Lately, entrepreneurship has become the key segment of economic development in the whole world and increasingly more attention is paid to the establishment and development of culture rich with knowledge, skills and capacities, but also with creativity and entrepreneurial spirit.

Business plan, according to the traditional definition, is a document whose aim is to define development process of an enterprise, to provide innovation description and validation, to define action plan and project implementation. At the same time, through clearly defined aspects such as investment return time, founder's qualifications, market opportunities and technology, the enterprise can create strong negotiation arguments in the process of selling its project to investors.

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3 Intellectual Property Aspects

3.1 State in the Region

The Republic of Serbia, in its legal continuity through the Kingdom of Serbia, was one of the 11 founder countries of Paris union for intellectual property rights in 1893, although the Office for industrial property was founded in 1920. The Republic of Serbia is the signatory of all international conventions from the area of intellectual property and is a member of the most important international intellectual property organizations, such as World Intellectual Property Organization (WIPO) and European Patent Office (EPO). The membership in The Office of Harmonization for the Internal Market (OHIM) is conditioned by the accession of Serbia to the European Union. All laws that regulate the terms and procedures of acceptance of intellectual property rights as well as the rights holders, are in line with the European legislation and the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS).

All data related to the intellectual property in **Bosnia and Herzegovina** were taken from the web-site of the Institute for intellectual property of Bosnia and Herzegovina [3] (<http://www.ipr.gov.ba/bs/>).

This Institute is legal successor of the Institute of Standards, Metrology and Intellectual Property of Bosnia and Herzegovina (BASMP) which was founded on October 1st, 1992. Since then, three laws have regulated the Institute status. In September 2004, the Law on Establishment of Institute for Intellectual Property of Bosnia and Herzegovina was brought defining it as independent state organisation ("Official Gazette BH", number 43/04).

The process of dividing of the Institute predecessor (BASMP) into three separate state institutions lasted until the end of 2006. By Decision from 29th December 2006, the Institute took over the activities from the area of intellectual property that were previously carried out at the Institute of Standards, Metrology and Intellectual Property of Bosnia and Herzegovina (BASMP), and since 1st January 2006 it performs its activities as independent institution.

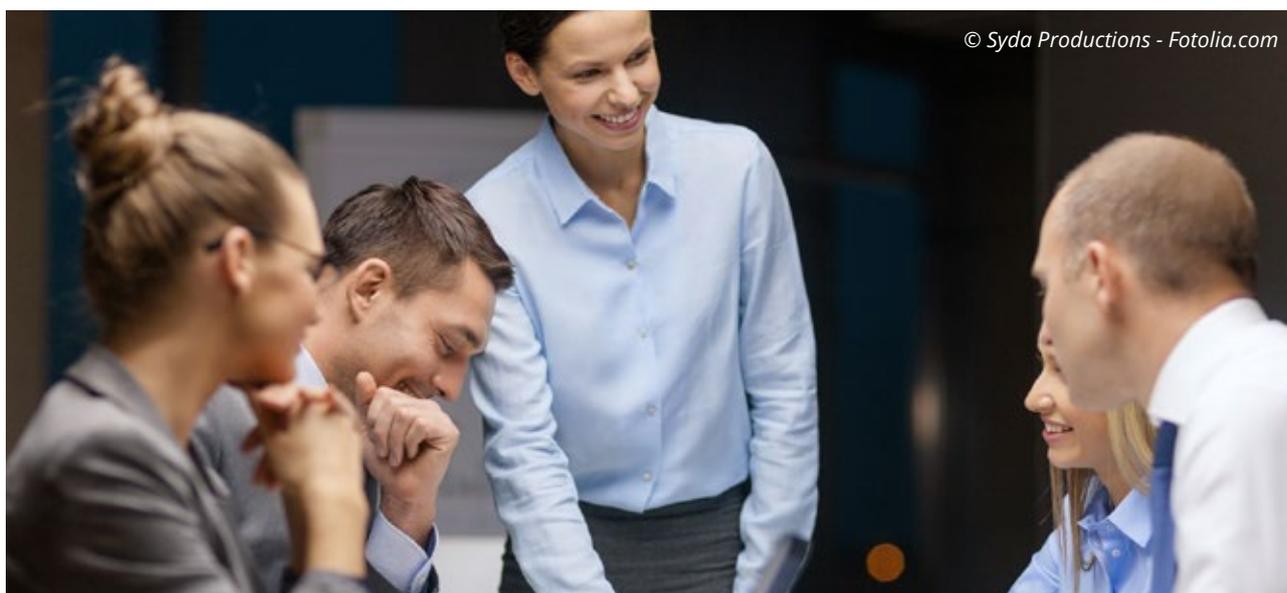
Bosnia and Herzegovina signed all international conventions and contracts which define the area of intellectual property rights with international and European organisations. The complete list of these decisions on ratification of contracts, protocols and conventions can be found at the web-site <http://www.ipr.gov.ba/bs/>.

It should be also noted that the Agreement between the Council of Ministers of Bosnia and Herzegovina and European Patent Organisation on Cooperation in the Field of Patents, The Regulation on ratification of Contract on Cooperation in the Field of Patents(PCT) and Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement).

Montenegro is the member of WIPO since 2006 (same year the country established independence), but we can safely say that it was the establishment of Intellectual Property Office of Montenegro [4] (May 2008) that boosted the process of the respective legislative framework and bylaws development (<http://www.ziscg.me/index.php/en>). The Office is operating under the umbrella of the Ministry of Economy, focusing its activities on coordination of the process of establishing a sustainable IPR protection system in the country.

Several laws have been adopted over the last years, facilitated by the rapid EU integration process, with next positive boost coming from the ongoing EU membership negotiation process. *Chapter 7 – Intellectual Property Law* is the *acquis* chapter where IP is negotiated. So far, within the process of screening it has been concluded that *“Overall, Montenegro has reached a high level of alignment with the *acquis* in the area of IPR. Montenegro has also demonstrated that it has the basic administrative capacity to enforce IPR effectively. Montenegro has to maintain an effective and operational monitoring system of the implementation of its IPR strategy. It has to demonstrate efficient coordination between different bodies involved in IPR protection, including adequate IT infrastructure.”*

Speaking of RTDI institutions, there are still no internal IP management, protection and support system in place. However, the issue is seen to be of utmost importance, and to be tackled on the institutional level in the period to come, starting with defining IP ownership, through providing strategic and structural support to the researchers.



3.2 The Role of Intellectual Property Rights

Intellectual property is a result of people’s activity when innovating some product or process through new and original ideas. The creators of intellectual property want to protect their efforts and investment from unauthorized use and competition, which is guaranteed by the intellectual property rights. Intellectual property rights (IPR) is a term that includes all rights concerning industrial property and copyrights and related rights. The industrial property rights include: patent/small patent, trademark, industrial design, geographical indications, topographies of semiconductor products and plant varieties.

In the **Republic of Serbia** all industrial property rights, copyright and related rights have separate law to determine the conditions and procedure of protection and holders rights. What makes significant difference in the process of obtaining those two types of rights is that for getting exclusive rights for industrial property a legal procedure has to be initiated at the Intellectual Property Office [5] (<http://www.zis.gov.rs/home.59.html>), while copyright and related rights are protected per se if they have been recorded on any data-bearing media or presented in some particular form.

In **Bosnia and Herzegovina**, the system of intellectual property includes the whole series of elements that can be grouped into three components whose establishment and harmonised functioning allow the system to operate as a whole: legislation, institutions and users. Applied legislation relates to international conventions and contracts, national laws defining industrial property and copyrights and related rights,

as well as we the set of by-laws and Methodology of the Institute's practice in relevant administrative procedures in the matters concerning intellectual property rights. The principle that copyright is acquired without forma procedures is applicable in most countries worldwide, including BIH.

In **Montenegro**, as mentioned, IPR is regulated through a set of laws that are supported by the overarching strategic framework of the *National Strategy on Intellectual Property Rights (2012 - 2015)*, adopted in December 2011.

The Strategy objectives are focusing on the improvement the IPR implementation, increasing economic growth through efficient use of the IP, improving methods on managing IP, raising awareness about value of IP and importance of the IPR implementation and last, but not least, improving and modernizing ICT systems related to IP. The Strategy also deals with the institutional framework for IP issues, identifying main actors: Ministry of Economy, IPOM, Customs Directorate, Directorate for Development of SMEs, ministries in charge of science and education, as well as other relevant stakeholders.

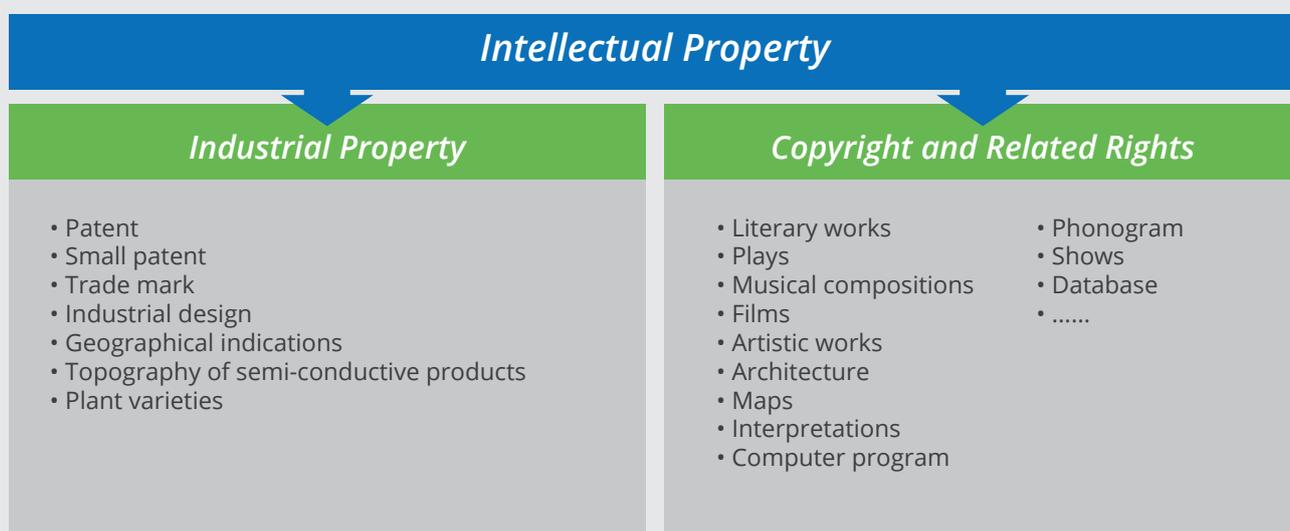


Figure 1: Graphical preview of types of intellectual property

• **Intellectual property rights give their holders the legal remedy to exclude others, usually competitors, from commercial exploitation of the protected product.** More precisely, they can prevent: production, use, selling, marketing and advertising of protected product, process or service without the consent of the rights holder.

• **Intellectual property rights transform innovations and creations into market values and goods of an enterprise/rights holder.** IP right can be sold, licenced, pledged or transferred to a third party.

• **Intellectual property is a valuable source of information for enterprises, scientific researchers and those who work on product development.** Since for some IP, the publishing of relevant information is mandatory in exchange for monopoly on certain rights, inexistence of information on certain technical solutions, trademarks and design in the IP registers provide the possibility of their free use.

• **Intellectual property rights have the role in marketing of product or services and promote their reputation.** With the strong brand or superior product, it is easier to return the investments in development and launching the product, because better perception on quality of products and services can be achieved in customers.

• ***For optimal protection of products or services in terms of time and resources, a certain strategy should be developed and following questions should be considered.***

- Is the protection necessary? Is there a chance that it will be misused by others?
- What kind of protection is the most appropriate? Besides formal ones, already stated above, protection of business secret or know-how through contracts with employees within an enterprise or with third parties could be more efficient. Even publishing the papers and articles can be a way to break the novelty condition so that third parties cannot protect the same product (patent, design)?
- Which IP right to choose so that it covers all aspects of a product? Patent for an invention, trademark or industrial design for the new product look?
- In which countries do you want to launch your product? Would it be under your name or your partner's name for that country? Are you ready to protect you product from rights infringements in the countries where the product has been launched? What is the balance of costs and profits?
- Also, the others' rights should be taken into consideration. Is others' rights are infringed? Do you follow activities in innovations and creativity of competitors?



Table 1: Review of the basic information on the intellectual property rights

Type of rights	Protection subject	Protection conditions	Claiming the rights	Duration
Patent	Invention which represents technical solution of a certain technical problem	<ul style="list-style-type: none"> • Novelty • Inventiveness level • Industrial applicability 	Through registration in the process of patent approval at relevant IPR office in the country / region where the protection will be applied	Maximum up to 20 years with maintenance of those rights at yearly level ¹⁾
Trademark	A mark that can label the goods or services in the market Mark can be a company's name, sign in a word, logo, combination of words and colours, etc.	<ul style="list-style-type: none"> • Suitableness • Distinctiveness • It is not similar with existing, previously protected trademark or a trademark in the procedure of protections on the territory where protection is to be applied 	Through registration in the procedure for trademark protection in the corresponding IPR office	Duration of a trademark is 10 years with possibility of unlimited prolongation by paying a tax for following 10 years
Design	External appearance of a product or some of its parts that can be two or three dimensional	<ul style="list-style-type: none"> • Novelty • Individual character of a design 	Through registration in the procedure for design protection in corresponding IPR office	Duration of design protection is maximum 25 years with maintenance of rights on yearly level after first five years
Topographies of semiconductor products	3-D configuration of semiconductor products	Semiconductor product is not generally known at the time of its development	Through registration in corresponding IPR office within two years from first commercial use	10 years
Geographical indications	Natural, agricultural, industrial and trade products and services	Product coming from certain geographical area whose quality, special properties, reputation and other characteristic are conditioned by the geographical area or can be assigned essentially to that area	Through establishment of geographical indication at corresponding IPR office	Geographical indications has unlimited duration. Authorized users of geographical indications renew their rights every three years
Copyright	Original work expressed in certain forms (literature, musical composition, art works, computer programs, etc.)	<ul style="list-style-type: none"> • It has to be a work of a man • It has to be recorded, the idea is not sufficient • It has to be original 	Copyright is active from the moment of creation without any additional procedures of protection ²⁾ .	Author's ownership rights last during his/her life plus 70 years after his/her death ³⁾ .

1) Additional 5 years of protection can be provided for patents for certain human or veterinary medicaments and plant protection products. It is called **Supplementary Protection Certificate**.

2) Optionally, in Intellectual Property Office copyright can be deposited as a way of providing proof in possible dispute and a certificate on depositing in the IPR Office, but it cannot be considered as proof of authorship

3) There are some exceptions in duration of copyrights and related rights such as rights of interpreter, phonogram producers, and data base creators, etc.

3.3 Invention Protection – PATENTS

3.3.1 Basic Information

What is a patent?

- Patent protects the invention from any technical area which presents **new** technical solution of a certain problem, with certain **inventiveness level** and **industrial application**
- Patent is territorial right and is valid in the countries where it is granted. It is valid for 20 years from the date of imitating the procedure of protection that is from the date of delivery of application. Patent gives right to its holder to prevent third parties from commercial exploitation of protected invention without his/her approval

What cannot be patented due to lack of “technical character”?

- Discoveries, scientific theories and mathematic methods
- Aesthetical creations
- Plans, rules and procedures for performing intellectual activities, for game playing or work performance
- Computer programs per se (but inventions applied via computers are patentable)
- Information preview

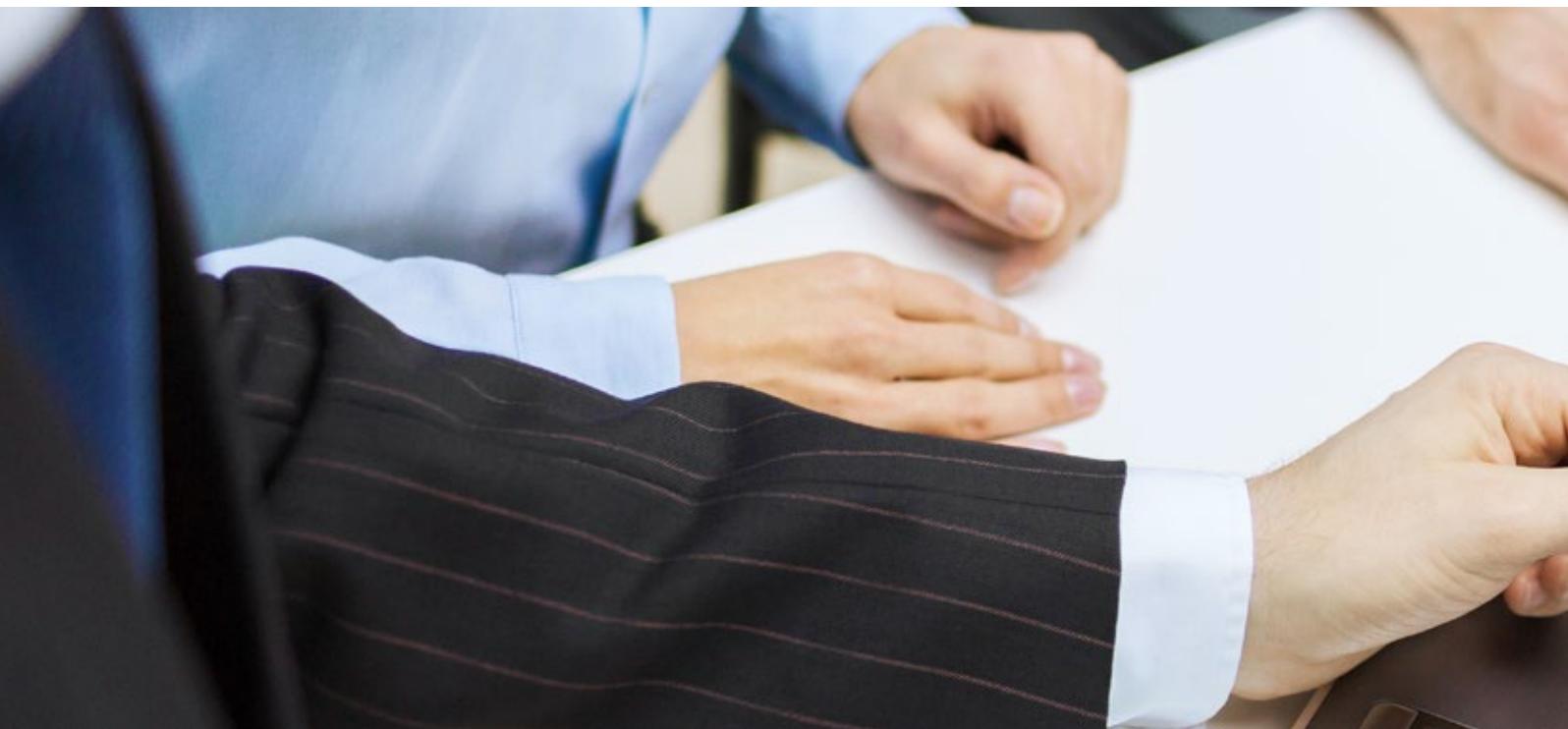
What is not patentable from other reasons?

- Inventions whose commercial use would be against public order and ethics
- Surgical and diagnostic procedures or medical procedures on people and animals
- Plant and animal species

What should not be done if you are to file a patent application?

- **Do not publish** information on invention before filing the patent application, for example in the form of articles in newspapers, conference presentations, fair exhibitions, blog information, etc.
- **Do not sell the product** with incorporated invention before filing the application
- **Do not give lectures** or presentations before filing an application unless the Non-Disclosure Agreement is signed

... because it **“annuls” the novelty** as the basic condition for granting the patent.



3.3.2 Filing the Patent Application

Where to file application to protect the invention?

*National Patent Office
Intellectual Property Office*

European Patent Office

*Using the PCT route
WIPO*

**There is no international patent applicable for the whole world!*

**Country in which the invention was created often is not the most significant for commercialization of the invention! That is why the international protection should be taken into consideration on time.*

National patent office:

- National patent is valid only in the country which issued the patent
- Non-residents can also file an application in any national office
- The “priority year” is provided (12 months) for filing and application in other national/regional offices

European Patent Office – EPO:

- One patent procedure with the possibility to extend it on 38+2 European countries
- In all EPO member countries (Serbia is one of them) or countries that are members of expanded list, European patent gives to its holder the same rights as the national patent in his/her own country

Using the PCT route:

- With one international PCT route filed through national office to WIPO, the procedure for patenting in 148 countries is initiated
- After PCT application initial phase, international application leads to multiple national procedures for reviewing patent applications
- Decision on the selection of the territory of the countries/regional offices for further procedures is postponed, as well as implications of the costs until 30-31 months after the first application submission – the date of priority





3.3.2.1 National Route: the Republic of Serbia

Intellectual property office of the Republic of Serbia is a national institution for protection of industrial property rights (patents, petty patents, trademarks, industrial design, geographical indications, and topographies of semiconductor products).

Who can file an application for the patent/petty patent?

- The right for protecting the invention belongs to the inventor or his/her legal successor or the heir, as well as his/her employer or his/her legal successor
- If more inventors made an invention by their joint work, they have a joint right to protect intellectual property
- Employer has the right to protect the invention made by an employee within his/her regular work activities or within specific activities at his/her workplace

What does patent application need to have?

- A request for a patent
- A description of the invention
- One or more patent requests
- Drawings
- Abstract

Which forms of protection are there in Serbia?

Patent and petty patent. Patent can protect the product, process and application of product and process. The patenting procedure itself has several phases, out of which the most important is report on search within 8 months from the application date, so that applicant could decide whether to move on with the protection procedure or to start international protection procedure, which should be done in order to keep the application date before the expiry of priority year (12 months from the date of filing the national application). The application is published within 18 months or sooner at the applicant's request and substantive examination has to be done, after which the patent is either granted or refused. A granted patent has maximum duration of 20 years with the yearly fee for its maintenance. There is also a useful model or petty patent as a form of IPR in some countries such as Austria, Germany, Spain, Russia, Australia, Croatia and others. In the Republic of Serbia, petty patent can protect only the product in terms of construction and configuration of its elements. Opposite to a patent, petty patent has maximum duration of 10 years, and during the application procedure there is no substantive examination. The procedure is completed by granting the unexamined petty patent.

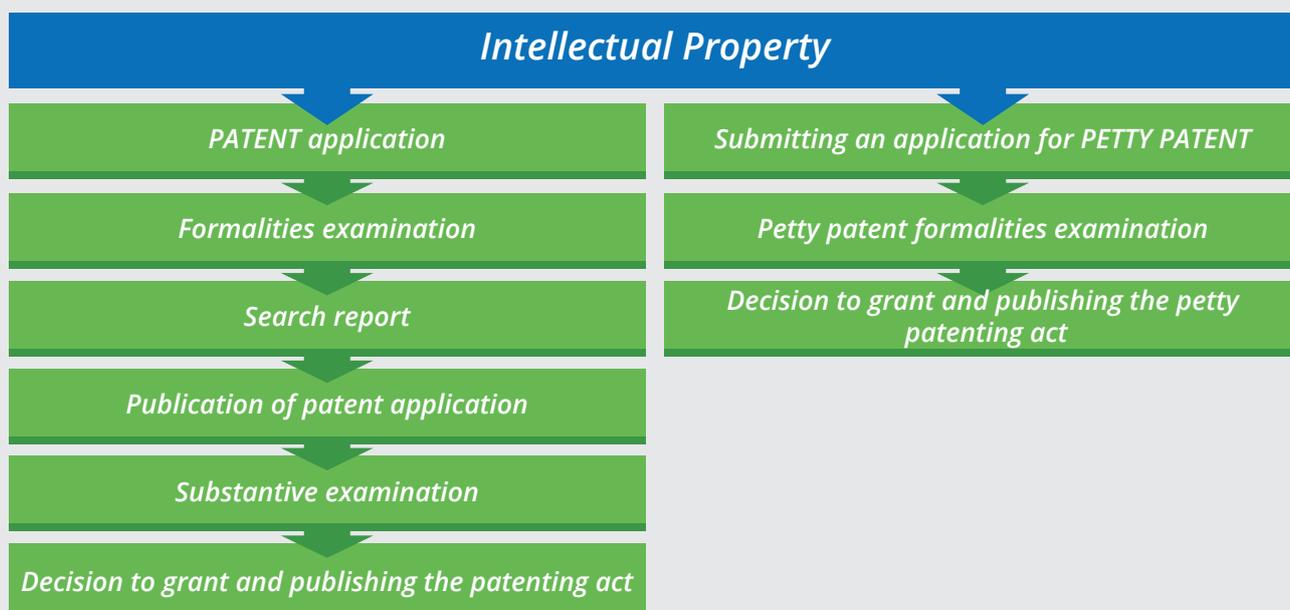


Figure 2: Scheme of the procedure for granting a patent and petty patent

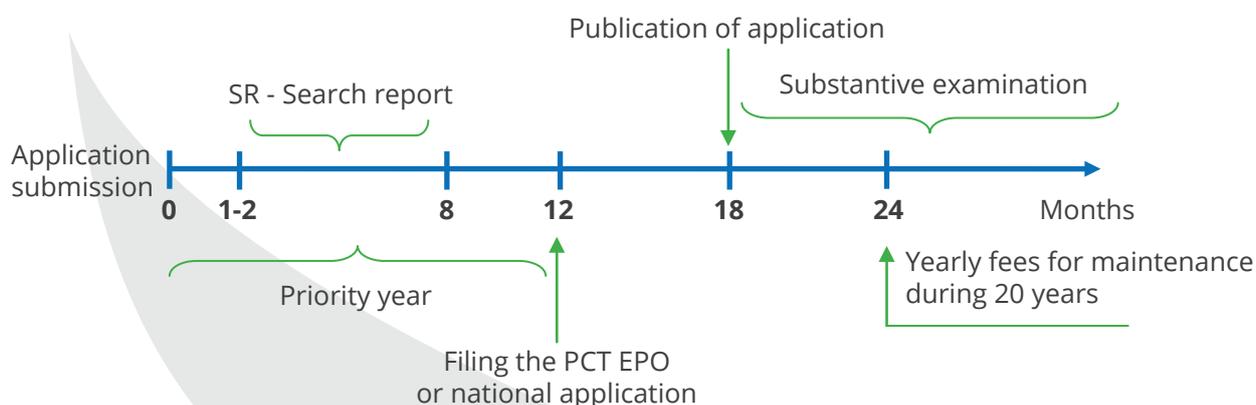


Figure 3: Timeline with important deadlines in the patent granting procedure

When filing the patent application or petty patent application, a fee has to be paid. The fees for filing the application, maintenance of patent and other costs that have to be paid in the granting procedure in the Intellectual Property Office can be seen on the website of the Intellectual Property Office. Additionally, if applicants decide to ask for assistance in the procedure clarification and composing the patent application, they can come to the IPR Office or Institute and seek assistance of the authorized counsellors whose lists and contacts can be found on the websites.

Intellectual property office of Serbia

Kneginje Ljubice 5

11 000 Belgrade

www.zis.gov.rs

Working hours: 08:30 – 15:00



3.3.2.2 National Route: Bosnia and Herzegovina

The procedure for acquiring, maintaining, ending and recording of patents and consensual patents is led by the Institute for Intellectual Property of Bosnia and Herzegovina (the Institute). It maintains the Register of Patent Applications and the Register of Patents.

The phases of the patent grant procedure:

1. Filing an application with the Institute
2. Formal examination of the application in the Institute
3. Publishing the patent application in the Official Gazette of the Institute, available in paper and electronic forms on the Institute's web-site www.ipr.gov.ba
4. The applicant's request to the Institute related to the type of examination of the patent application. Within six months from the publication date of the patent application in the Official Gazette, the applicant files the request for:
 - the grant of a patent based on the substantive examination of the patent application in the Institute, or
 - the grant of a patent based on accepted submitted results of substantive examination of the patent application carried out by some other authority, or
 - delay of substantive examination of the patent application and the grant of a consensual patent
5. Examination of the patent application in the Institute
6. Issuing of a decision to grant a patent by the Institute
7. Publication of the patent in the Institute's Official Gazette

Filing the patent application

The procedure is initiated by filing the application for granting the patent with the Institute. It is required to file the filled in application for grant of a patent, supporting documentation and the evidence on payment of necessary costs. The application is filed in written form, directly or by post, telefax or to official email of the Institute, provided that the written form is filed to the Institute within 15 days after its electronic submission. The separate application is filed for each invention.

Patent application consists of:

- **request for the grant of a patent (P1 Form)** with notification that granting of the patent is required, as well as with title of the invention reflecting its essence, information about the applicant and inventor. The Request is available at the Institute's web site: www.ipr.gov.ba
- **invention description** that needs to be clear and detailed
- **one or more patent** requests that need to be clear, concise and fully supported by the invention description and drawings (if any)
- **drawings** that invention description and patent requests refer to
- **summary** of the invention essence that serves exclusively for the purpose of providing technical information

The form should be filled in on computer or type writer. It is applied in one of the official languages in Bosnia and Herzegovina, in two copies, and other accompanying application documents should be submitted in one copy. Institute keeps one copy, and the other with the number of patent application, incoming correspondence serial number, date and official seal is delivered to the applicant and serves as proof in determining the patent application date.

The following accompanying documents should be submitted with the application:

- The proof (original money order) of the payment of administrative fee and the prosecution costs
- Inventor's statement in case he/she does not want to be mentioned in the application

Duration of patent protection

Patent can be protected only for a limited period. The patent lasts 20 years, while consensual patent lasts 10 years from the application submission date.

Difference between the patent and consensual patent

Patent and consensual patent differ:

- According to the protection duration – patent lasts 20 years, and consensual patent lasts 10 years from the application submission date;
- According to the application procedure – during the application of consensual design, the procedure of substantive examination* of grant condition.

** Procedure without substantive examination simplifies the procedure of granting the patent and reduces the accompanying costs. But, every natural and legal entity can file an opposition against the grant of consensual within the period of six months from the date of publication of patent request to the Institute. After that, the applicant needs to file an application for substantive examination of the patent. More information on the patent protection can be found in Patent Law.*

The patent granted in BH is valid only for BH.

Institute for intellectual property of Bosnia and Herzegovina

Institute

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Fax: + 387 36 318 420

Tel: + 387 36 334 382

E-mail: mostar@ipr.gov.ba

Institute subsidiary

71000 Sarajevo, H. Ćemerlića 2/IX

Tel: + 387 33 652 765

Fax: + 387 33 652 757

Tel: + 387 33 652 798

(for national/international trademark)

Tel: + 387 33 618 095 (for patents)

Tel: + 387 33 521 848

E-mail: sarajevo@ipr.gov.ba

Institute subsidiary (PATLIB centre)

78000 Banja Luka,

Kralja Petra I Karađorđevića 83A

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Fax: + 387 51 226 841

E-mail: banjaluka@ipr.gov.ba



3.3.2.3 National Route: Montenegro

Intellectual Property Office of Montenegro is the authority responsible for intellectual property affairs in the country.

The procedure for filing for patents is clearly defined, with detailed procedure described in the *Patent law* (http://www.ziscg.me/doc/IP_legislativa/Patent.pdf) and on the web-page of IPOM (<http://www.ziscg.me/index.php/en/patent>) starting with the application package which must contain following:

1. a request for the grant of a patent
2. a description of the invention
3. one or more claims for the protection of an invention by a patent (hereinafter: patent claims)
4. a drawing referred to in the description or claims, when appropriate
5. an abstract

In order to be eligible for initiating the granting procedure, the application must also meet a set of formal criteria, based on which the responsible authority then initiates the procedure starting with filing date and entering into the Register of Patent Applications.

Once the application has been recognized a filing date, the responsible authority commences examination if the application meets all the requirements for publication.

If during this process it is determined that the application is not in line with the requirements, the applicant is invited to correct the deficiencies within an appropriate timeframe - no less than 60 days, but not more than 90 days. If duly justified, time can be extended, but no longer than 90 days.

When all of the requirements are met, and the patent is granted, it is then published in the Montenegrin IP Gazette. This is done as soon as possible upon the expiry of eighteen months from the filing date of the application or from the claimed date of priority. At the request of the applicant, the patent application may be published earlier, but not before the expiry of three months from the filing date.

Information on the granted patent is entered in the Register of Patents and the patent holder is issued a certificate and the specification for the granted patent.

Only if all the conditions prescribed by law are fulfilled, the patent is granted. The patent is issued for the period of 20 years. The patent is only valid for Montenegro.

Intellectual property office of Montenegro

Rimski trg 46, Podgorica, Montenegro 81000

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+382 20 234 591

+382 20 234 592



3.3.3 International Patent Protection

If an applicant (from Republic of Serbia, Montenegro and Bosnia and Herzegovina) wants to apply for international IP protection, this can be done within 12 months after filing the national patent application in order to keep the priority date, i.e. the date of national application, as the date of international application by submitting it to PCT or EPO. In both cases the IP offices from Serbia and Montenegro and the Institute from Bosnia and Herzegovina act as recipient office which forwards the application either to the World Intellectual Property Office in Genève in case of PCT application or to European Patent Office in case of EP application. Later communication of an applicant runs directly with PCT/EPO recipient offices. More information on international IPR procedures can be found on the websites of offices and institutes in every of the countries.

3.4 Trade Marks

3.4.1 Basic Information

Trademark is the right that protects a mark used in the course of trade to distinguish goods and/or services of one natural or legal person from identical or similar goods and/or services of another natural or legal person. It can be individual, collective or certification trademark.

3.4.2 Why to Use Trade Mark

Registration of the trademark identifying the products or services is not a legal obligation; this decision is made by the person/entity that uses it. Legal entity using the trade mark in its business will not have any legal constraints because it has not been legally protected. However, the legal protection is always welcome, because it offers many benefits for the owner. Some of them are as follows:

- Exclusive right of the trademark holder to identify his/her products or services on the market in the territory of the country where the trade mark has been registered
- Exclusive right of the trade mark holder to prohibit unauthorized use of the same or similar mark for identifying the similar goods and services in the country where the trade mark has been protected
- The ownership is easy to prove in the Court of Law or other national body (based on the decision on trademark registration/trademark registration certificate issued by the IP Office)
- Trademark is significant tools to provide exclusivity of use for the trademark user, safe investment in visibility i.e. product/service branding, financial gain from licence, franchising and transfer of rights, etc.

Do export companies have to register their trademark in the countries they export goods to?

Trademark is a territorial right and is applicable only in the country where the registration procedure has started and where this right was registered. Export companies should register their trademark in countries they export their goods to in order to protect their investment and avoid any problems with already existing or later registered similar or identical trademarks in those countries.

3.4.3 Terms of Trademark Protection

What can be protected with trademark?

The subject of trademark protection is a distinctive sign that is not similar or identical with other already registered trademarks or filed applications that are in the procedure in the country where the trademark is to be protected. The trademark can be in the form of words, slogans, letters, numbers, pictures, colour combinations, three-dimensional shapes, and combinations of signs as well as musical phrases presented in the musical notes.

What signs are excluded from trademark protection?

Signs that cannot be protected as a trademark are: signs against the public order and ethics; signs not suitable for differentiating products/services; signs that present only the product shape; signs presenting the type or use of products; signs usually used for identifying the product type; fraudulent signs; signs containing official signs for quality control and assurance; signs identical or similar to earlier trademark/sign for the same or similar products and services; similar with some well-known trademark regardless of the product and services that is to be protected; infringes copyrights or other intellectual property rights; signs that have the country's name, coat of arms, religion symbol, character or name of famous or historical person (previous authorization of relevant institution or person is required).

Can the trademark refer to any product or service?

No. In the application for trademark protection, the types of products and services for which the protection is applied for must be stated and their list has to be provided.

How long does the trademark last?

When all conditions for trademark registration are fulfilled, the registration fee has to be paid for the first 10 years. Trademark registration can be renewed every 10 years, if the trademark holder wants to.

3.4.4 Filing the Application for Trademark Protection

Where to file an application for trademark protection?

National IPR/Institute
IPR Office/Institute

Madrid system
WIPO

Community trademark (EU)
OHIM



Trademark®

3.4.4.1 Procedure for Registration of the Trademark in the Republic of Serbia

Procedure for registration of the trademark in the Republic of Serbia is carried out in the Intellectual property office and begins with the submission of the complete application, consisting of:

- request for trademark registration
- mark for which protection is requested
- list of products and services the trademark refers to
- proof of payment of the fee for trademark application

The valid trademark in the Republic of Serbia is also the trademark with international registration for the territory of the Republic of Serbia, based on the Madrid arrangement on international trademark registration (in further text: Madrid arrangement), that is the Protocol Relating to the Madrid Agreement on international trademark registration (in further text: Madrid protocol).

Applying for trademark registration

Formal examination of application

Substantive examination of trademark

Registration and publishing

Figure 4: Scheme of procedure for trademark registration

Unlike some national IPR offices where registration is based on fulfilment of formalities and applicability of trademark registration, in the Republic of Serbia the similarity examination is carried out during the substantive examination in order to compare the trademark to existing protected trademarks or previously submitted applications that are still in the procedure in the Republic of Serbia.

3.4.4.2 Procedure for Registration of the Trademark in Bosnia and Herzegovina

The procedure for registration of trademarks is initiated by filing an application for grant of a trademark to Institute. It is necessary to submit the **request for grant of a trademark, accompanying documentation and proof of payments**. The application is to be filed in written form, personally or via post, telefax or to the official Institute's email, provided that within eight days after submission it is also delivered in the written form to the Institute.

The application for a grant of an individual trademark consists of:

- The request for grant of only one trademark related to one or more types of goods/services (form Z-01).
- Sign that applicant wants to protect with a trademark.
- The list of goods/services related to the sign needs to be made according to the International Classification of Goods and Services, defined by the Nice Agreement Concerning the International Classification of Goods and Services for the Purposes of the Registration of Marks.

Application for granting the **collective trademark**, besides already mentioned document, consists of General Act on collective trademark with the information on applicant/authorised representative, provisions on the sign appearance and goods/services related to it, provisions on who has the right to use the collective trademark and under which conditions, provisions on rights and obligations of the users of collective trademark in case of trademark infringement and provisions on measures and consequences in case of noncompliance with the General Act.

In addition, the application for grant of guarantee trademark consist of the General Act on guarantee trademark that includes the provision on common characteristics of goods/services guaranteed by the guarantee trademark, supervision of the use of guarantee trademark by its holder.

Further information can be found in Regulations Concerning Procedure for the Grant of a Trademark at <http://www.ipr.gov.ba/bs/>

3.4.4.3 Procedure for Registration of the Trademark in Montenegro

The trademark application (defined by the Trademark Law: http://www.ziscg.me/doc/IP_legislativa/Trademark.pdf), submitted to the Intellectual Protection Office needs to comprise:

1. Request for trademark registration
2. Information about the applicant
3. Representation of the mark for which trademark protection is sought
4. List of goods and/or services for which the registration is sought
5. Proof of payment of administrative fees
6. Power of attorney, if the application has been filed through a representative

The application examination procedure consists of examination if the requirements of the application are met, and also of determining if there are any grounds for refusing the registration.

Trademark is valid from the moment when the granted right is enlisted into the Register of trademarks, and it lasts ten years from the moment when enlisted, and it can be prolonged in indefinite number of times.

3.4.4.4 International Trademark Registration

Trademark can be internationally registered by filing the registration application directly to the IPR office in the country where the trademark is to be registered. Other easier way is through Madrid system for international registration of trademarks (in further text: Madrid system).

Madrid system

Madrid system provides the unique trademark registration procedure in several countries/regional organizations. It is regulated by the international contracts: Madrid Arrangement and Madrid Protocol, governed by the World Organization for Intellectual Property (WIPO) in Genève.

Through Madrid system, an applicant can request the trademark registration in more than 90 countries all around the world by filing single application in one language and paying one fee instead of filing separate applications to the IPR Offices in different countries. The trademark registered through the Madrid system has the same protection as if it were registered directly to the IPR office of any of those countries. The office in the country for which the registration is requested is obliged to notify the applicant on the decision on the trademark registration within the defined timeframe (12-18 months) starting after trademark registration and its addition to the International Register of trademarks, Romarin.

Communication trademarks – OHIM

Community trademark is trademark valid on the territory of European Union and is registered at the Office of Harmonization for the Internal Market (OHIM) in Alicante in accordance with legal regulative for its registration. Registration of community trademark can be initiated through direct application to the OHIM or OHIM can be chosen for registering the trademark on the territory of EU through Madrid system. Community trademark provides one registration system for all EU members consisting of: an application, registration procedure in one language to one administrative center. Any natural or legal person from any country can file an application for registration of community trademark.

3.4.4.5 Information on Trademark Registration

Information on trademark registration and fees paid, as well as some basic information and supporting links related to international registration of trademarks can be found on IPR offices' websites in any of the countries.

3.5 Industrial Design Protection

3.5.1 Basic Information

Industrial design is three-dimensional or two-dimensional appearance of the whole product or some of its elements, determined by its visual characteristic, lines, outlines, shape, texture or material it is made of or decorated as well as the combination of those.

The product appearance is the complete visual impression that a product leaves on informed customers and users. Informed customer or user is an individual who is in regular contact with the product in question.

Industrial design cannot be protected for the appearance of the product that is exclusively determined by its technical function; which has state, national, religious and other symbols; that infringes copyright or industrial property rights of other person; which is against the ethic and public order principles.

3.5.2 How to Protect Industrial Design

By protecting the industrial design, the right holder ensures the exclusive right against unauthorized copy or imitation by the third parties. Since industrial design presents the product's aspect which makes it aesthetically attractive, it is not only artistic or creative element, but also contributes to the commercial product value and facilitates its marketing and commercialization.

The protection of industrial design contributes to the market development of products and enables the return of investments. It promotes creativity in industrial and trade sector, contributing to the expansion of industrial activities and increasing export potential of national products.

3.5.3 Terms for Protection of Industrial Design

The term of novelty and individual character should be fulfilled so that industrial design can be protected. Industrial design is considered new if the identical design does not exist and is not available to the public before the day of application, or if there is no previous application for protection of the same design.

Industrial design has individual character if the entire impression left on informed user is different from the entire impression left on the same user by some other industrial design, which was available to the public before application date or the date of granted priority right of the opposed industrial design.

3.5.4 Procedure of Protection of Industrial design

Where to apply for the protection of industrial design?

*National IPR Office
IPR Offices*

*Hague System
WIPO*

*Community Design (EU)
OHIM*

3.5.4.1 Procedure of Protection of Industrial Design in the Republic of Serbia

Procedure for granting the right to protect industrial design in the Republic of Serbia is carried out at the Intellectual property office and is initiated by applying the complete application consisting of:

- Request for granting the right for industrial design
- Description of industrial design
- Presentation of industrial design
- Proof of payment of fee



Figure 5: Scheme of procedure for granting the right for industrial design

After the receipt of the industrial design application and after the formalities are completed, the IPR Office examines the novelty and individual character in comparison with the earlier industrial designs that were publicly available or for which the application were already submitted. If all requirements are met and corresponding fees are paid for the first 5 years, industrial designed is then registered at the Office. Maximum duration of this kind of protection is 25 years if the yearly fees are paid regularly after first five years.

3.5.4.2 Procedure of Protection of Industrial Design in Bosnia and Herzegovina

The procedure is initiated by filing the application for the grant of industrial design to the Institute with the proof of payment of all related costs. The application is additionally consisted of:

- Request for the grant of industrial design (form D-01) which includes the information on applicant, design author or the author's statement confirming that he/she does not want to be mentioned in the application, notification if the application is related to one or more designs, actual and short name of the design, legal basis for filing the application.
- Two-dimensional presentation of design that applicant wants to protect. The details of appearance need to allow assessment of novelty and individual character of design.
- Design description is optional part of an application and can be maximum 150 words long. The description must refer only to the appearance of the protection subject, and not to its functional and technical characteristics.

With the application, following accompanying documents are also to be filed:

- Power of attorney if the application for the grant of industrial designed is filed through the representative,
- Statement of the design author if he/she does not want to be mentioned in the application,
- Statement on the legal basis for application,
- Statement on joint representative if there are more applicants,
- Proof of payment of fees and procedure costs.

More information can be found in Regulations Concerning Procedure for the Grant of Industrial Designs at <http://www.ipr.gov.ba/bs/>

3.5.4.3 Procedure of Protection of Industrial Design in Montenegro

The procedure is prescribed in the relevant law – Law on Protection of Industrial Design (http://www.ziscg.me/doc/IP_legislativa/Designs.pdf)

Application for granting design consists of following three elements:

1. Request for granting right to design
2. Description of design
3. Design layout

It should also contain additional documents, such as: authorization, in case the application is filed through representative; confirmation or certificate from the Chamber of Economy stating that the applicant displayed the appearance of the object at the exhibition of a fair of international level in the country, etc.

Similarly as with patents and trademarks, the application is filed by the Intellectual Property Office into the respective Register thus enabling initiation of the procedure.

Next stage is examination of meeting all of the criteria and requirements (formal and other) for granting right to design, it will decide to issue relevant document to the design holder. Such decision is final and no one is allowed to start administrative procedure / dispute at competent authority.

The right granted to design is published in the official bulletin of the competent authority.

The duration of such right is 25 years from the date when the application is filed, provided that the fees for its maintenance are duly paid, with possibility of subsequent renewal.

3.5.4.4 International Protection of Industrial Design

International protection of industrial design can be initiated by applying for the industrial design directly to the office in the country for whose territory applicant wish to register the design. The other way is much simpler and easier, through Hague system for international registration of industrial design (in further text: Hague system).

Hague system

Hague agreement is international registration system of industrial design which offers the possibility to protect industrial design in several countries and/or intergovernmental organizations. Within the Hague agreement, one international application substitutes the whole set of application that otherwise have to be submitted to offices in all the countries.

The natural persons, citizens of the Republic of Serbia and legal entities with the location or industrial enterprises in the territory of the Republic of Serbia, through Intellectual Property Office apply for the international registration of industrial design to the International Bureau of World Intellectual Property Office (WIPO). International protection of industrial design can be realized in the countries which are members of the Hague agreement.

3.8 Other Intellectual Property Rights

3.8.1 Other Intellectual Property Rights in the Republic of Serbia

In the Republic of Serbia, the Law on the legal protection of Topography of semiconductor Products regulates the protection of connected images representing three-dimensional sample of layers that semiconductor product is made of and where every image shows the sample or the same part of the semiconductor product's surface in each production phase, regardless of the way it is represented or coded. This right protect all electrical circuits, not only integrated ones, which is especially important for the area of information technologies.

Plant breeders can protect their rights in the ministry for agriculture.

The Law on Business Secret in the Republic of Serbia regulated the legal protection of the business secret from the unfair competition. Business secret is any information that has commercial value because it is not widely known or available to third parties who could gain financial benefits through using and sharing this information. Information that is protected as business secret in terms of this law can be: financial, economic, business, scientific, technical, technological, production information, studies, tests, research results including formulas, drawing, plan, project, prototype, code, model, compilation, program, method, technique, procedure, announcement or internal manual, regardless of the way it has been stored or compiled. Since the business secret presents so-called "soft intellectual property" that is not subject to various procedures for protection such as patents or trademarks. In cases when someone is obliged to keep the business secret usually the Contract on keeping the business secret is signed between the information provider and recipient.



3.8.2 Other Intellectual Property Rights in Bosnia and Herzegovina

The procedure for protection of Integrated Circuit Topography in Bosnia and Herzegovina is conducted by the Institute for Intellectual Property of Bosnia and Herzegovina. It is initiated by filing the application for protection of topography. The application needs to include the request for the grant of integrated circuit topography and accompanying documents. The request is consisted of:

- The name of topography or closer indication of the topography area
- Data on applicant
- Data on the applicant's representative, if any
- Date of the application submission
- Date of the creation of topography if it has not been commercially used, or date and time when the topography was used commercial for the first time anywhere in the world

With the request for the grant of topography, the following accompanying documents should be filed:

- Description of the topography with information that defines the electronic function performed by the integrated circuit based on the topography,
- Graphic presentation or presentation of topography in some other appropriate format identifying the topography, especially the drawings or photographs of layouts for manufacturing of the integrated circuit according to the topography that is to be protected
- The sample of integrated circuit manufactured according to the topography to be protected, if the integrated circuit has been commercially used
- The proof on commercial exploitation of topography, if the topography was commercially exploited

More detailed information can be found in Regulations Concerning Procedure for the Grant of a Topography of an Integrated Circuit at <http://www.ipr.gov.ba/bs/>

3.8.3 Other Intellectual Property Rights in Montenegro

In addition to the in detail described procedures for patents, trademarks, industrial design, and also abovementioned copyright and Indications of geographical origin, there is also **protection of topographies of integrated circuits** (http://www.ziscg.me/doc/IP_legislativa/IC.pdf), which describes the procedures, requirements for protection, registration procedure, examination and granting topography registration (procedure stages and ordering similar to those already described).

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4 Innovation Cycle With Financial Aspects

Innovations allow enterprises to deal more successfully with the market challenges, so in that sense formalization and modelling of innovative process significantly facilitates the way to transfer the invention or research results into innovation. Within publication *"Methodology Guide for Innovation"* (Methodology Guide for Innovation, I3E Consortium, 2012) [6] presents in details the innovation process through all its phases, describing at the same time the mechanisms for its successful realization.

One of the approaches presented in this publication that is very often used when defining the innovation process is Kline and Rosenberg chain-link model (Figure 6). It presents five steps that entrepreneur has to take in order to establish the links with business world and use his/her knowledge to develop the product or service from existing research results:

1. Market research
2. Analytic design and technical feasibility
3. Detailed design and test
4. Redesign and production
5. Distribution and marketing

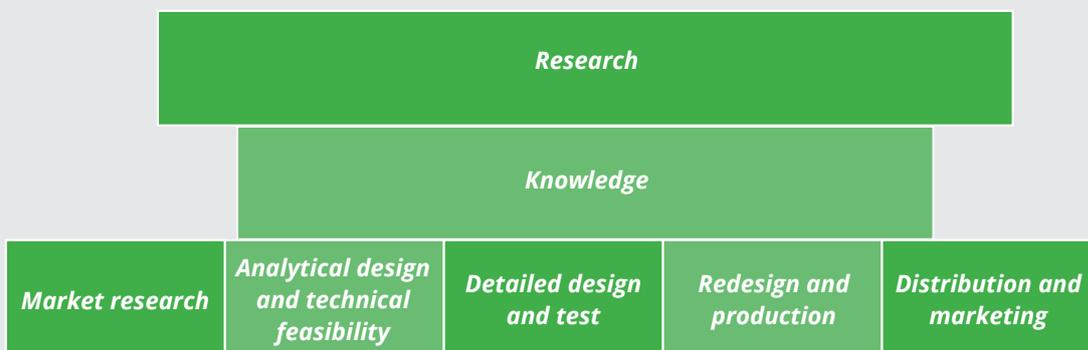


Figure 6: Five steps of innovation process [6]

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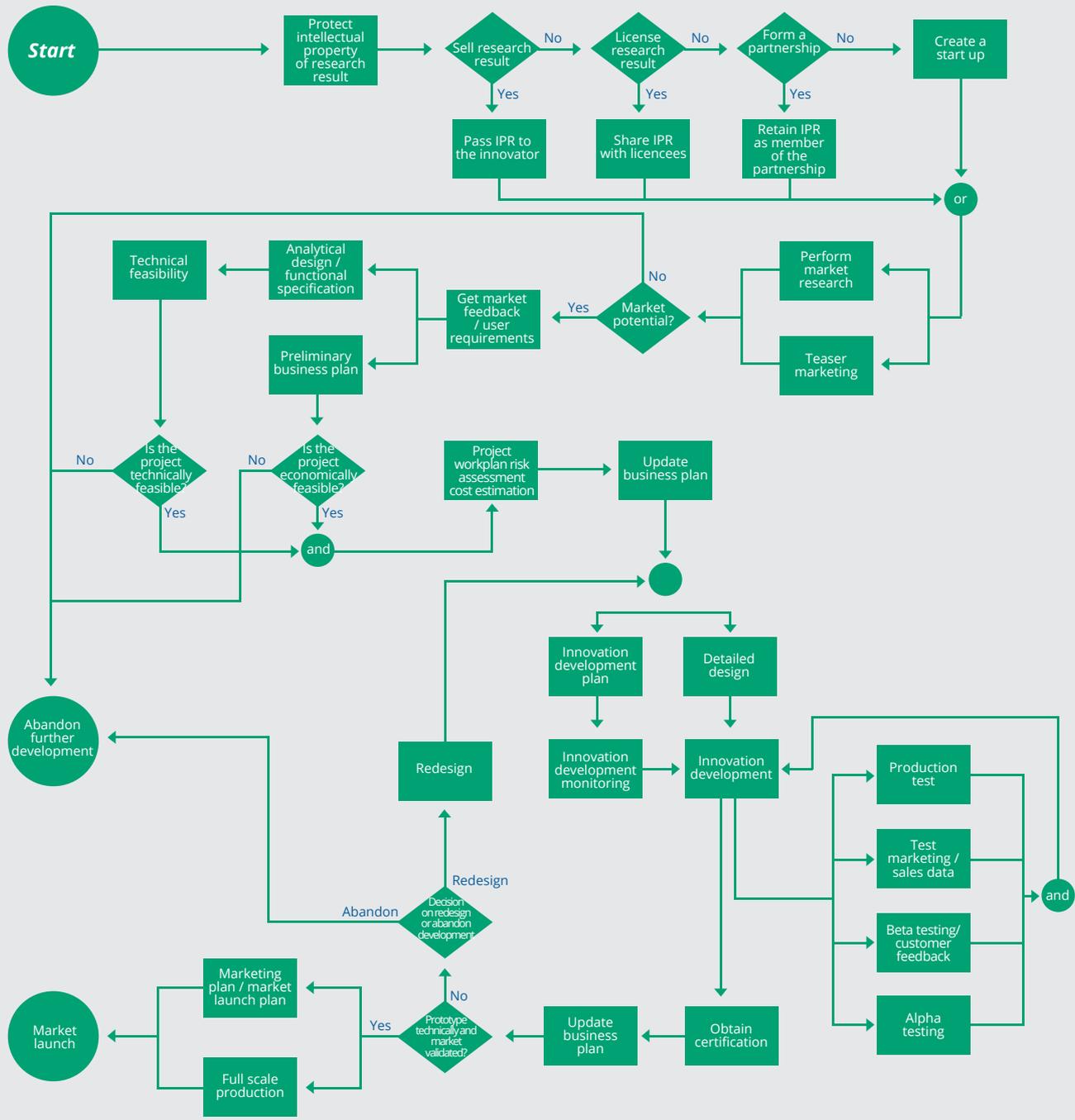


Figure 7: Analytical innovation process workflow [6]



4.1 Market Research

During the development of a product, process or service, first the market should be explored in order to see if there is a realistic need for this kind of product, process or service. In this sense, it is very important to follow the development of market and all its segments during the whole innovation process and to include the end-users in it. Accordingly, following the market includes:

- Definition of the target market and its segments as well as the special end users' requirements
- Analysis of special market demands compared to the planned innovation
- Identification of the main competition and the state on the market
- Identification of the market trends
- Risk analysis, i.e. recognizing the obstacles that can appear on the market
- Identification of the special characteristic of the research results, i.e. determining its major competitive advantage that will bring benefits on the market
- Identification of prices
- Identification of alternative application areas
- Determining of the business model

The results of such comprehensive market analysis should be incorporated into the **Market Analysis and Plan**, that is to be updated during the whole innovation process and that are part of the general Innovation Business Plan.

Since in the most cases, innovator does not have sufficiently developed marketing skills for the elaboration of the complete market analysis, the best solution is to engage an external expert and rely on the method already proven as successful, such as static model or advanced concepts of User driven innovation and *Market Pull – Technology Push* paradigm, etc.

4.2 Analytical Design and Technical Feasibility

Based on data obtained through market analysis and potential user mapping, it is necessary to realize the analytical design in order to describe in details the characteristics of the innovation. The results of analytical design will later serve as input data for elaboration of innovation feasibility study. In other words, they will give a clear answer if the research results can be transformed into innovation that will be successful on the market.

In this phase, through analytical design, we can get a clear picture on innovation structure, rough design of its elements and feedback on end users' requirements. Additionally, we can get information on which resources and expertise are necessary to realize the innovation process and if it enough to rely only on existing resources or to seek missing capacities through outsourcing (engaging external expertise).

The results expected at the end of this phase are:

- Description of the state-of-the-art in relevant area which defines to what extent the area has been developed and what are the latest results in this area;
- Detailed description of innovation project structure, as well as clearly defined action plan for realization of innovation
- Detailed description of the system and its elements that should be developed within the innovation process, with accompanying models, drawings, schemes, etc.;
- Elaboration of several alternative solutions or concepts and their analysis
- Production process analysis
- Definition of risks and elaboration of Risk Management Plan

- Presentation of innovation to industrial sector in order to get the feedback from them
- Clearly defined status in terms of intellectual property rights, to check whether the innovation infringes already existing IP rights or to assess the innovation parts that can be protected in terms of IPR
- Definition of technical specification and elaboration of work plan, taking into consideration the availability of capacities
- Taking into consideration the partnerships with universities or research centres in order to develop certain elements of innovation project ;
- Preliminary assessment of the project realization costs based on collected data

Based on these results, a clear picture is provided on the functional characteristic of innovation as well as the report on technical feasibility, so at the end of this phase, it can be clearly determined if the whole project is feasible in both economic and technical sense.

4.3 Detailed Design and Test

If the results of the previous phase confirm the technical feasibility of innovation process and if it is financially feasible, the innovator and enterprise are ready to initiate the following phase of innovation process – project realization.

The project realization presents the implementation of work and business plan with the aim to have functional prototype at the end which will go through the series of test and prove and confirm predefined characteristic of innovation. During the implementation, it is very important to update the business plan in accordance with the current state and changes on the market, in order to avoid potential risks. If the prototype cannot be validated, then the innovation should be redesigned or the project should be stopped.

4.3.1 Detailed Design and Innovation Development

Using the results of analytical design and technical feasibility, based in defined functional characteristic and work plan, the detailed design and innovation development plan should be elaborated. Its main objectives are:

- To define the main activities and sub-activities of the project and to elaborate the action plan
- To set all activities and sub-activities into the time framework, to define clearly the deadlines and dates for the realization of each of them
- To define results
- To select the qualified experts for realization of innovation project and possible engagement of external expertize
- To name the project leader, delegate the tasks and define responsibilities
- To define costs of innovation project
- To follow and control the project development according to the defined action plan in terms of quality and to respect with the time and financial limitations.



4.3.2 Test

Through realization of innovation development plan, the first major result is obtained – innovation prototype. The testing phase should confirm or verify the prototype before the production starts, by simulating the production conditions in order to remove in advance any possible problems before the launching on the market. It comprises of a series of activities, such as:

- Alpha test, i.e. in-house testing of the prototype is the validation in comparison to functional specification, that allows to remove all shortages before the production is initiated and before the innovation comes to the end users in the form of a product
- Beta testing refers to examining the innovation on the field in real environment, including end users who will provide a key feedback to innovation optimization
- Test production or initiating the production process is realized with the main objective to test the complete efficiency of innovation
- Test marketing refers to the innovation sale on the limited market in order to gather information on its acceptance by the market.
- Provision of necessary certificate and permissions to exit to the market.

4.4 Redesign and Production

4.4.1 Redesign

One of the results of the previous phase can be inability to validate the prototype due to various reasons:

- It is not possible to get necessary certificates
- Alpha and beta testing show that achieved innovation is not in accordance with the planned one
- Demand for achieved innovation is not on the same level as identified in the testing phase
- Problems with production requirements

If due to any of these reasons, prototype cannot be validated and technical specifications cannot be proved, the project may be cancelled or innovation can be redesigned, whether it refers to marginal or radical changes.

Information obtained so far, are sent back to the phase of Detailed design and testing, where the whole system or some of its elements are modified and adjusted so that expected characteristics can be achieved in the repeated process.

4.4.2 Production

If the prototype is validated in the testing phase, it is followed by the key moment in the innovation process – launching the production process. In this case production is not limited only to the manufacturing of products, but also refers to complete application of new process or method, depending on the type of innovation.

Starting the production process means:

- To find the space where the production process will be realized, whether it is a production hall where factory production is to be realized or institution where the new process or method will be applied;
- To decide whether to outsource, establish new partnerships or start *in-house* production
- To train the staff involved in the production process
- To elaborate and follow the plan for quality assurance

4.5 Distribution and Marketing

As it has been already mentioned, the activities concerning the marketing should last during the whole innovation process, from the initial phase to the moment when the innovation is launched on the market, even after that. Depending on the feedback and the innovation process phase, there are various forms of marketing activities: teaser marketing (developed to raise the interest for the product/service on the market), test marketing (as testing the whole innovation and its acceptance by the target group), etc. Once the innovation is available, it is necessary to start all necessary activities in order to successfully launch it on the market:

- Development of the plan for exit to the market which defines the activities related to the innovation promotion, raising awareness and creating the demand
- Development of the entire marketing plan referring to the period when the innovation has already been launched on the market, such as participation in the fairs, exhibitions, etc.
- Development of special marketing strategy that will define 4P concept: Price, Promotion, Place, Product/Service
- Gathering the feedback information from users should be continuous process in order to maintain links with the market
- Training of personnel engaged in marketing activities
- Regular monitoring of the project in case of any possible changes
- Logistics and distribution should also be considered if the innovation is related to the product

4.6 Financing of Innovation

Based on the type of innovation entity (individual researcher or company, hereinafter “innovator”) and research results, there are different financial mechanisms available. Generally speaking, there are four phases in the innovation cycle, defined by the relevant milestones:

- Seed phase, which includes initial research and development, market research, analytical design and technical feasibility
- Start-up phase, related to the detailed design and innovation development, production and launching on the market
- Early growth phase, the period from launching the product on the market until the period of growth
- Expansion phase, the real growth and success of an enterprise

The financial flow and level of necessary investments are best presented as the graphical preview in form of the curve of cumulative profit/loss which covers all four abovementioned phases. As it can be seen from the curve (Figure 8), an innovator suffers from cumulative loss during the first three phases (seed, start-up and early growth phase). This period is highly critical for the innovator, since most of them fail and never reach the expansion phase, which is why this period is called the “valley of death”.

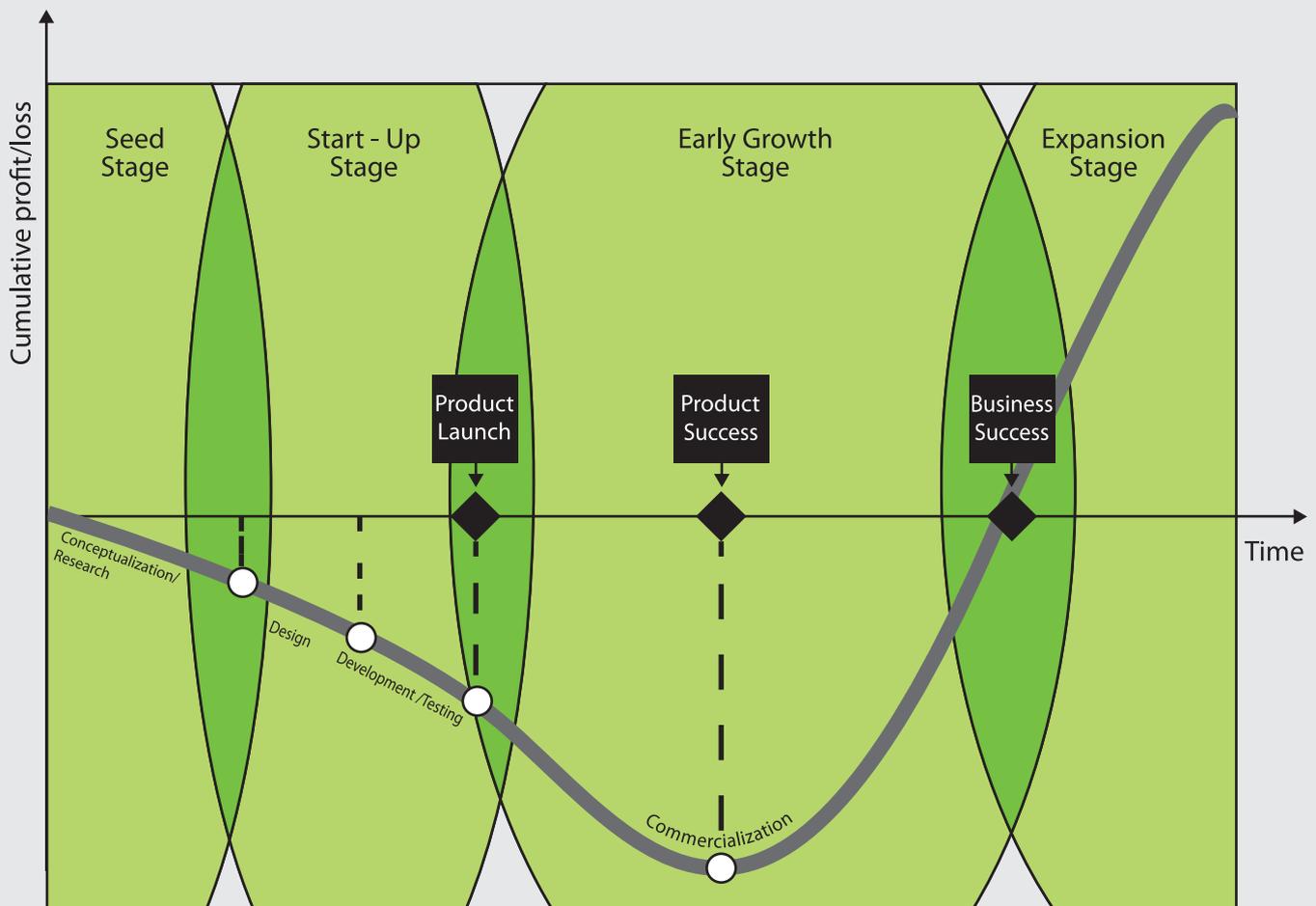


Figure 8: Curve of cumulative profit/loss [6]

The negative flow during the early phases, insecurity and limited access to financing contributes to a large extent to the increase of risks. This is one of the reasons why this period is highly unfavorable for loan financing. Hence, special financial mechanisms need to be defined for this early stage of innovative enterprises development (venture capitals, business angels, micro credits), where investors usually take higher risk than in traditional financial mechanisms because the majority of enterprises fail. However, a certain number of them can create the great profit and in that way compensate the total risk undertaken by investors. Anyway, the risk can be significantly reduced if the investors select the most promising ideas of inventors and offer them necessary expertise, because besides the necessary financing, an innovator gets the support in other segments as well, such as networking, marketing, special expertise and experience, etc.



5 Software Support to the Innovation Management

5.1 Introduction

In order to enhance innovation culture within scientific community in WBC universities and to facilitate development of ideas of students and researchers, as well as to match them with financial facilitators, within WBCInno project it was planned to develop web-based collaborative platform for innovation management. The Platform tends to provide the centralized and efficient innovation process from concept documenting, idea generation and management, through new product/service development, until market success. Additionally, it supports collaboration and networking among participants from universities and business.

The software solution for such innovation management platform was developed by Intranee Solutions, one of the partners on WBCInno project. Since 2007, this company deals with DataStation Platforms [7] specially targeted to business world, both small and large companies. Within this project, for the first time, DataStation platform will be modified and customized to fit the needs of innovation management at academic institutions (universities in Western Balkans Region) and their linking with business incubators and science and technology parks. For that reason, the cross-functional stakeholders, from education, research and business have been involved in the development of the platform.

DataStation Software platform is based as SaaS (Software-as-a-Service) and serviced online via Cloud technology. That means that all data is kept online, at all times accessible and available to each delegated user via web browser and Internet. It provides users of the platform with friendly online environment on which they can post and develop their ideas, launch projects and start a business. Due to the specific platform design, it allows the users to communicate, collaborate and coordinate efficiently all activities.

The Innovation Management Platform supports whole innovation cycle, from idea management, through project monitoring all the way to the product/service launch to market with two applications located on the single platform:

- Idea Station
- Launch Station

Idea Station is a DataStation application specially structured to collect ideas and provide their smooth flow through several phases which lead to creation of new projects, products and services. Its features allow processing of the great number of ideas, evaluation and selection of the most promising ones with realistic opportunities for commercialization.

Launch Station is a tool that facilitates the development of new products and/or services allowing its users to keep track of the innovation project portfolio, from concept to the launch on the market. It involves all relevant stakeholders in the process, such as decision makers, project leaders and managers, team members, etc. whose work is efficiently streamlined using the Launch Station.

Upon initial log in to the platform, each participant will be obliged to sign General Confidentiality Agreement and Terms and Conditions Agreement to protect the sensitivity of the data and activities performed in University online environment.



5.2 Benefits

Continuous usage of the system will encourage an innovative and entrepreneurial spirit and enable evaluation and selection of potentially viable ideas and match them with financial facilitators via BIs/ STPs. Students will gain a chance to profit from their ideas and start a new business, Business incubators and Academia will profit from potential new tenants and spin offs created as a result of collaboration on ideas.

Connecting all relevant actors on one central place will introduce new ideas to right parties and can result in new business venture, spin off or start up. Having in mind the categories of the platform users (students, researchers, academics, BI/STP management and tenants) and various application areas, the following benefits stand out:

- Students will be motivated to use the platform because they have chance of starting their own business, earn money or rewards through campaigns and join tempus projects
- Academia will use platform as one central place for all people, activities and follow documentation, ensuring that no critical steps are omitted, documentation and time lost
- Business incubators will increase chances of locating tenants who have optimal chances to create successful business venture and profit from it.
- Business entities will have access to fresh, motivated workforce, feedback and knowledge
- Faster time to market with reduced risk
- Shifting ideation potential within and around the organization
- Focused management decisions
- By engaging and connecting all, new opportunities can be discovered to enhance customer experience and fulfil unmet needs.
- Embracing student feedback in such collaborative environment can deliver mutual projects
- Stay on top of emerging trends and invest in your ability to adapt and thrive
- Uncover your strengths and weaknesses and turn them to opportunities
- Give your organization a sense that every contribution counts, and that key contributors will be recognized
- Stimulate and lead to contribute again and again, embedding the innovation culture in your organization's DNA
- Increase performance by introducing discipline and empowering collaboration
- Accelerate speed to market by reducing administrative burden and introducing automation
- Reduce cost by helping redirect expenditure to winning projects
- Ensure the right information reaches the right people
- Run a complete process ensuring that no critical steps are omitted

5.3 Innovation Management Techniques Used

It is not possible to select a single innovation management technique for this whole innovation cycle, since every technique is suited for a particular moment in this cycle. However, according to previous experience in the field of collaborative innovation management, a combination of several innovation management techniques will be used in customized innovation management solution in WBCInno project and its piloting on five universities in WBC:

- **Brainstorming** - letting people exchange thoughts anywhere anytime and being able to produce a maximum number of ideas in a minimum amount of time
- **Idea management** - structured way of finding right ideas to pursue further
- **SWOT matrix** - understand different aspects of an idea and develop a decision on way forward
- **Stage-Gate® New Product/Service Development** - structured way of managing development and execution of a new idea, phase by phase, with clear accountability of activities, people and decisions
- **Knowledge Management** - capitalization and dissemination of employees/ participants' knowledge, training, introduction and use of networks internal and external to the company, segmentation of knowledge within the company, teamwork, etc.

Right mix of these techniques will ensure that users collaborate closely and that their work results in highest possible innovation value.

5.4 Work Flow

Since the platform has been structured to have two applications (Idea Station, Launch Station), workflow consists of two different phases, i.e. two levels

- Idea management (level 1) refers to Idea Station
- Project management (level 2) refers to Launch Station

Each part will have different types of the management processes, roles, functionalities and workflows that should result in one streamlined way to collect and bring ideas to market successfully.

5.4.1 Idea Management Workflow

Within separate online application called Idea Station, ideas will be led through 5 different phases (Figure 9) to govern ideas and lead them to projects:

- Idea Submission and Collaboration on ideas
- Review of ideas
- Scoring of ideas
- Approval and Prioritization of ideas
- Building Projects from Approved Ideas

This will create streamlined workflow to ensure continuous flow of fresh ideas.



Figure 9: Idea management workflow and roles

Among other platform users, students and researchers will be motivated to participate through platform feature **Idea Campaigns** (top down initiatives) that will be launched to collect their ideas and to reward winning ones. The selection of topic can be initiated by an enterprise for development of specific products or services (open innovation approach), or potential investors. They will serve as one of main motivators for students to come to the platform and submit their own ideas, initiate collaboration on the idea and get feedback on its innovation potential and feasibility. In this way they can have a chance to make a direct profit by presenting the idea to potential investors or BI/STPs management to incubate it. Moreover, it will contribute to the strengthening team spirit if the campaign is stated to reward whole teams, or to inspire constructive competition if launched for individuals.

When submitting their ideas to the platform, whether as a part of a Campaign or independently, the users will be allowed to choose the status of their ideas and post them as **public, shared or private**. Depending on their choice, two different workflows will be applied: general idea workflow and specific idea workflow.

5.4.1.1 General Ideas Workflow

General (public) ideas will be tied to general University topics and can be directed to improving education, research, working and communication conditions. They are visible for whole platform community who can collaborate, comment and vote for them. Statistical reports will be also available for all ideas so that all members can see their popularity, activity and their approval status.

Each role of the web-based tool is mapped to specific process participants. Bellow you can see **WHO** the owner of defined role is and **WHAT** their purpose and permissions are.

WHO	Idea Contributors are students, researchers, university staff, and in case that BI/STPs are provided with platform access, their tenants and employees can participate as well.
WHAT	Main job of the Idea contributor is to submit ideas, create groups, collaborate and enrich other ideas with comments, votes and files. If some idea is developed enough, its owner can send it to the Review.
WHO	Idea Reviewers are members of the Business Service Office whose task is to promote the platform and provide guidance for software platform usage, workflow and capabilities.
WHAT	The task of Reviewers within the web based tool is to perform first screen of the ideas, apply tags and categories and channel them in the right direction (towards student organizations, university staff, BIs/STPs management). In other words, they check the sense, quality and clarity of ideas and leave their Feedback Review as summary of the analysis. After positive review, they can send the idea to Scoring.
WHO	Idea Scorers are deployed to different holders. Leaders of the student organizations, University professors and BIs/STPs managers constituting the Evaluation Committee will score and rate ideas that are sent to them by Business Service Office.
WHAT	Scorers' task is to evaluate ideas using predefined list of criteria called Score card. They can post their rates and state their interest in the submitted idea. If positive, idea will be sent to Idea Approvers by scorers or automatically transferred to approval phase by the system if the score is higher than previously defined threshold.
WHO	Idea Approvers are decision makers, i.e. the representatives of the University, Student organizations, Business incubators, Science and Technology Parks and potential investors who belong to the Selection Committee .
WHAT	Every phase up to this one is in service of providing Approvers with enough information to create quality decision. Once a month or some other period, the Committee will decide the outcome of the ideas in the Approval phase. They can then send ideas to prioritization listing to order for implementation. In other words they can: Put on hold, Reject, Send to Rework, Archive or Approve and Prioritize ideas . If idea is approved and ready for implementation, a Project will be created from it.
WHO	Idea manager is administrator for platform engaged in Business Service Office who has access to all options and personnel.
WHAT	Idea Manager's role will be to maintain proper working conditions on the online tool itself.

Figure 10: Assigned roles for platform users

5.4.1.2 Specific (Confidential) Ideas Workflow

For specific ideas, whether they are **confidential** or **business oriented** or have tendency to result in a start-up/spin-off, the separate workflow will be applied. In order to address the potential uncertainty regarding confidentiality of those ideas, diverse business, research, academia and BI/STP entities will be divided into separate Groups: Student Teams, University staff, Business incubators, Science and Technology Parks, Business organizations, Investors, Business Angels, Venture Forums, etc. In this way Idea Contributor will be allowed to publish and share the idea only to particular group/s in order to receive their feedback and even co-develop them with other interested parties.

Once some Group or group member state interest in the proposed idea, Full Business Plan can be created, presented and demonstrated with all feedback and activities stored on the Idea Station. If it is approved, work can continue on Launch Station as project with all facilities to manage activities, monitor its performance and impact and store documentation.

5.4.2 Project Management Workflow

Projects can originate from Idea Station or be directly submitted in the Launch Station. Different kind of processes will be mapped on the tool and will serve as roadmap for every single project. All submitted projects will collect and store data which can be later leveraged in reports, providing full real time picture of the overall project portfolio.

Launch Station uses Stage-Gate work and decision phase methodology as a model and can host any kind of working processes. First, processes will be created. Working activities, people and documentation will be mapped in working phases called Stages. Decision activities will be mapped in decision phases called Gates. In this fashion, any kind of process during the project can be mapped and monitored through Launch Station application. It means that every project within Launch Station is managed through three phases:

- Project Submission
- Collaboration on Stage
- Review on the Gate

Members of the Business Service Office will be trained to work in Process modeler as Process managers and as administrators as well. Members of the University, Student organizations, Business incubators and Business organization will be included on specific project Gates to decide on the investment and fate of the projects in phase by phase approach.

Once project is submitted, Project leaders will be delegated to a project. They can invite their Team members to help them out in the management of the project. Assignment and Task owners will be assigned and work can begin on editing and populating working phase deliverables.

Once Stage work is done, all activities completed, Project leader will Notify Project manager to come to the project and review the working phase deliverable. If Project manager decides that work is performed well, he/she will send working phase deliverable to Gate for decisioning.

Once on Gate, Deliverables can be reviewed and voted with yes/no action and follow up comment. If votes are positive, it will move to the next working phase and consecutive Gate all the way through to the project Launch.

As in previous case for Idea Station, bellow is the preview of **WHO** is involved in project management process and **WHAT** their roles are.

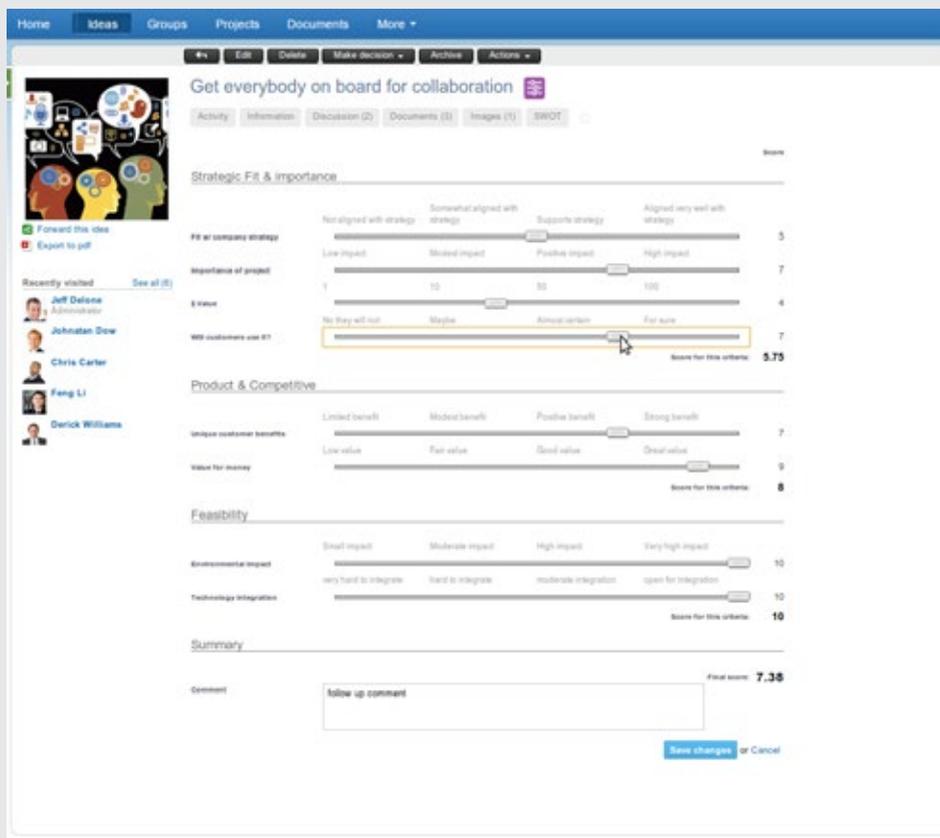
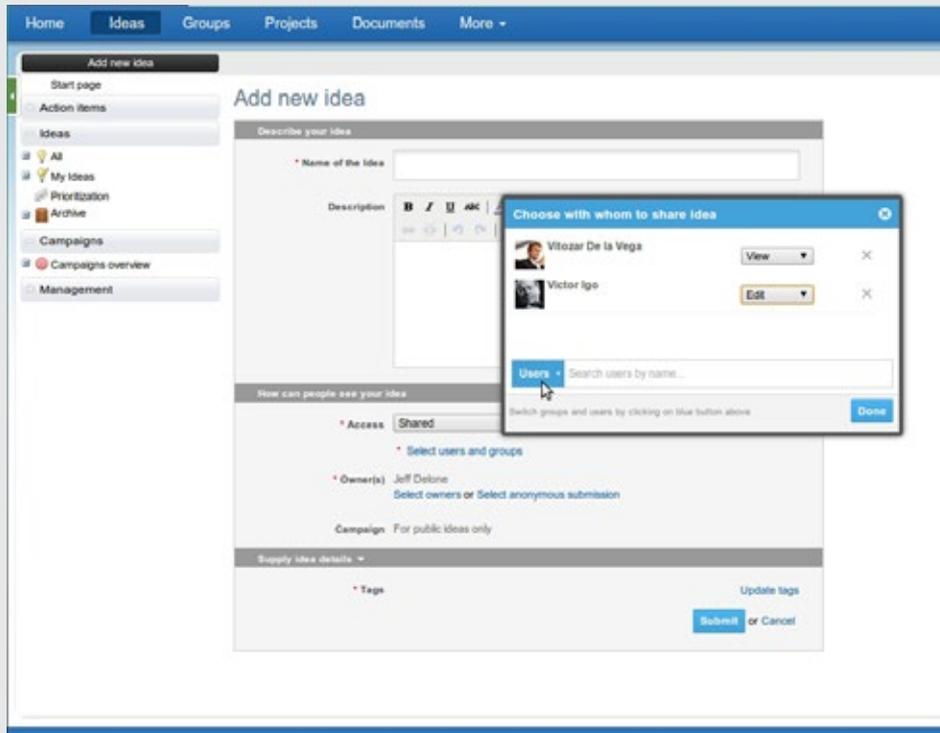
WHO	Project Manager is person responsible for the validation and overview of the whole project portfolio.
WHAT	Project Manager oversees complete project portfolio, creates projects and evaluates reports. His/her role is to validate Stage deliverables before they go to the decision Gates
WHO	Project Leader is responsible person for single project outcome and deliverables. They can be students, researchers, university staff, members of BIs/STPs, student organization. In case that BIs/STPs have the access to the platform their tenants and employees can be assigned as Project Leaders as well.
WHAT	Project Leader can add Team members, delegate work and send Gate document to Project manager for validation. He/she can see only project he/she is delegated to as a Project leader.
WHO	Team member are persons invited by the Project leader to participate in the project (students, researchers, university staff or in some cases BIs/STPs tenants).
WHAT	Team member has all access as Project leader except sending Gate document to validation. He/she can see only project he/she is delegated to as a Team member.
WHO	Assignment owners are team members responsible for the outcome of a single assignment.
WHAT	Assignment owners cannot see anything except their delegated assignment and potential Tasks/Sub Tasks below.
WHO	Task owners are team members responsible for the outcome of a single task.
WHAT	Task owners cannot see anything except their delegated task and potential Sub Tasks below.
WHO	Gatekeeper are decision makers, i.e. members of the University, student organizations, BIs/STPs, Business organization, investors, etc.
WHAT	Gatekeeper are all called to project at appropriate time to review the working phase deliverable and decide the fate of the project in StageGate approach.
WHO	Process Managers are members of the Business Service Centre who will be trained to work in Process modeler as Process managers and as administrators as well.
WHAT	Process Manager's main responsibility is to maintain and configure process or processes that are set in the system.

Figure 11: Assigned roles for platform users

5.5 Some of the Functions

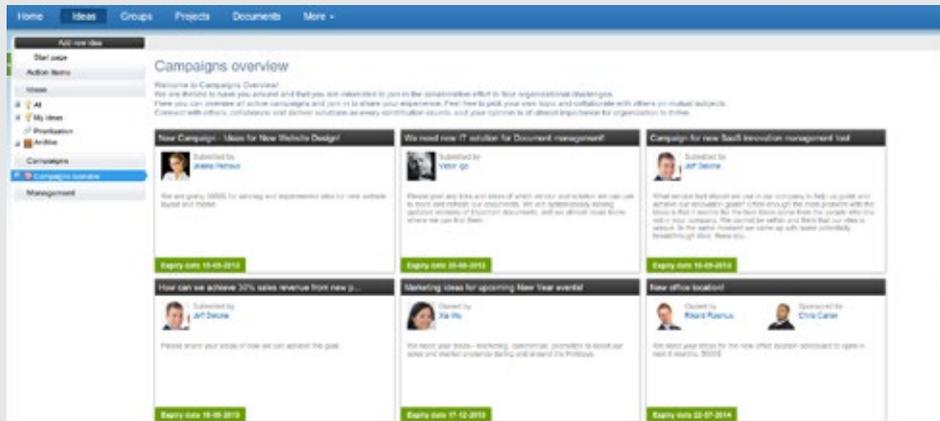
Sharing of Idea

- Idea can be shared with single users, or even whole groups!
- In the how people can see my idea section you can control this and set up.



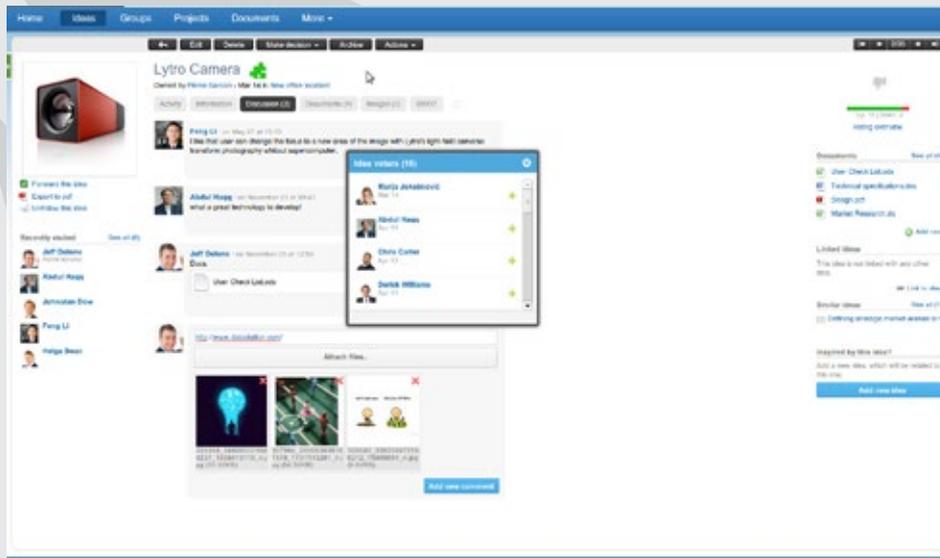
Idea Campaign Functions

- Campaigns are top down initiatives launched to collect ideas and solutions for certain topics or issues.
- In this case they are going to be used to place a problem and reward for the problem solution from which both students and problem holder will benefit.



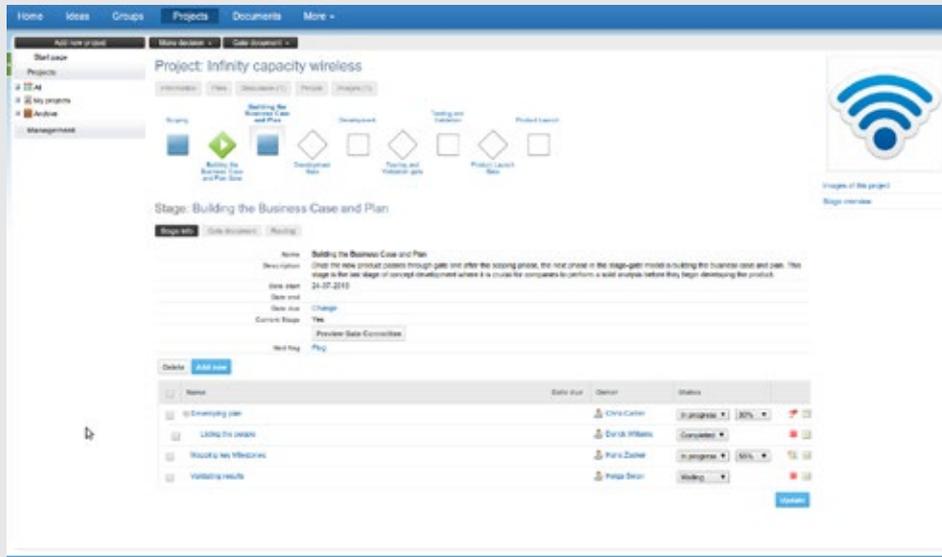
Scoring function

- Certain roles will have access to Scoring feature which enables rating ideas per predefined list of criteria.
- Criteria can be grouped together and rated as such simply by sliding the sliders from left negative to right positive end.
- Each idea phase is represented with separate idea icon.



Project Documentation, Assignment and Task overview

- With Launch Station, we can map people, activities for which they are responsible and documentation that is result of it.
- Status of the activities is managed from this page, documentation can be uploaded and re-uploaded with new versions always keeping the fresh data in the context of the activity it is tied to.



The screenshot displays a project management dashboard. At the top, there are navigation tabs: Home, Ideas, Groups, Projects, Documents, and More. The main header shows 'Project: Infinity capacity wireless' with a Wi-Fi icon. Below this, a progress bar indicates the current stage: 'Building the Business Case and Plan'. The dashboard includes a list of tasks with columns for Name, Status, Owner, and Progress. The tasks listed are:

Name	Status	Owner	Progress
Developing plan	In progress	Chris Carter	80%
Adding the details	Completed	David Wilson	100%
Reviewing the milestones	In progress	Peter Zoller	60%
Validating results	Waiting	Paula Scott	0%



5.6 Idea Station Features

Ideas

- Ideas Dashboard
- Role based view
- Submitting ideas
- Enriching ideas with custom fields and tags (public and personal)
- Duplication check with tags
- Linking ideas together
- Sharing ideas with groups and individuals
- Attaching files and images
- Expressing opinions with voting, discussing
- Collaboration Request
- Idea Campaigns
- Idea status transparency
- Sharing ideas with individuals and Groups
- Flexible multiphase work-flow – submission, enrichment, reviewing, scoring, approving.
- Scoring ideas against configurable scorecard criteria
- Implementing ideas
- Starring favourite ideas
- Tracking personally submitted ideas
- Tracking top innovators and contributors
- Filtering widget, Search – keyword
- Forwarding idea to individuals and Groups
- Prioritizing ideas
- Analytic tools - SWOT

Groups

- Public and Personal configurable groups
- Join approval management
- Expressing opinions with discussions and themes
- Posting and reading news, attaching files
- Sharing ideas and documents with group members
- Forwarding group
- Sending Group Announcements

Search

- Contextual search with keywords and tags
- Search within file and archive content

Collaboration

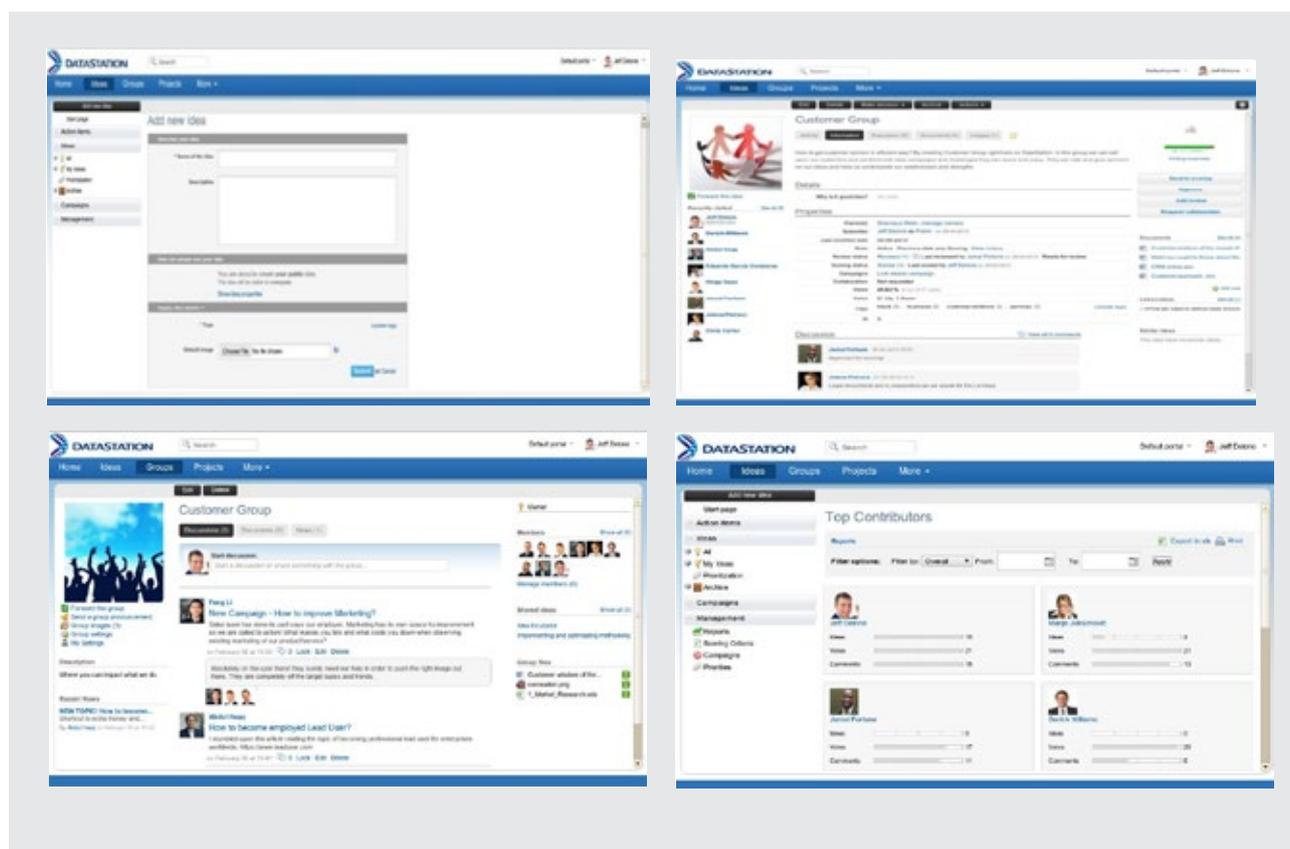
- User notifications feed
- Sharing a message with community
- Requests
- News
- Recommendation

Reporting and Analytics:

- Ideation reports (Engagement, Status, Portfolio, Duration, ROI)
- System parameters reports

Extensive Administration Capabilities:

- Easy and straight forward User management
- Categories
- Tags for further structure the data
- Roles to reflect your organization virtually
- Custom fields to support your unique business needs
- Languages with messages and labels to support specific country integrity
- System settings
- Notifications to engage the users to participate

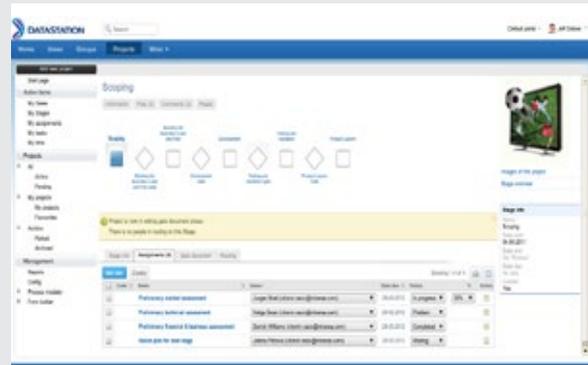


5.7 Launch Station Features

New Product Development

- Projects Dashboard
- Role based view
- Managing portfolio of new products from idea to launch
- Configuring multiple company process templates, simple to complex
- Breakdown of work structure with multi-level assignments and tasks Creation of flexible online document and form templates
- Custom decisioning and approval workflow templates
- Customizable product data model with dynamic fields
- Submitting new products
- Full customization of project structure on the fly
- Linking products with successful ideas they originated from
- Working in stages, evaluation and making decisions in gates

- Gate evaluation with scorecard templates
- Attaching files and images
- Classification and retrieval with tags and categories
- Contextual discussions on project, worksheet, stage or a gate level
- Easy access to most relevant functionalities depending of the role
- Audit trail for complete accountability of work and decisioning
- Archive and change history
- Extensible product portfolio reporting new product and process template metrics



Standard Routing
Routing templates
Add Bucket

Bucket 1					
Name	Type	Required	Show Stopper	Decision Maker	Action
Harris Zucker (vltomir.rasic@intrafea.com)	user	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Bucket 2					
Name	Type	Required	Show Stopper	Decision Maker	Action
Kim Xiu (vltomir.rasic@intrafea.com)	user	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Bucket 3					
Name	Type	Required	Show Stopper	Decision Maker	Action
Victor Igo (vltomir.rasic@intrafea.com)	user	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Add Bucket Update Routing

Documents Library

- Access control
- Sharing with users and groups
- Support for all formats
- Antivirus protection
- Collaboration with discussions
- Ranking
- Versioning
- Classification
- Content search
- Online preview
- Personal library

Literature

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***Modernization of WBC universities
through strengthening of structures
and services for knowledge transfer,
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