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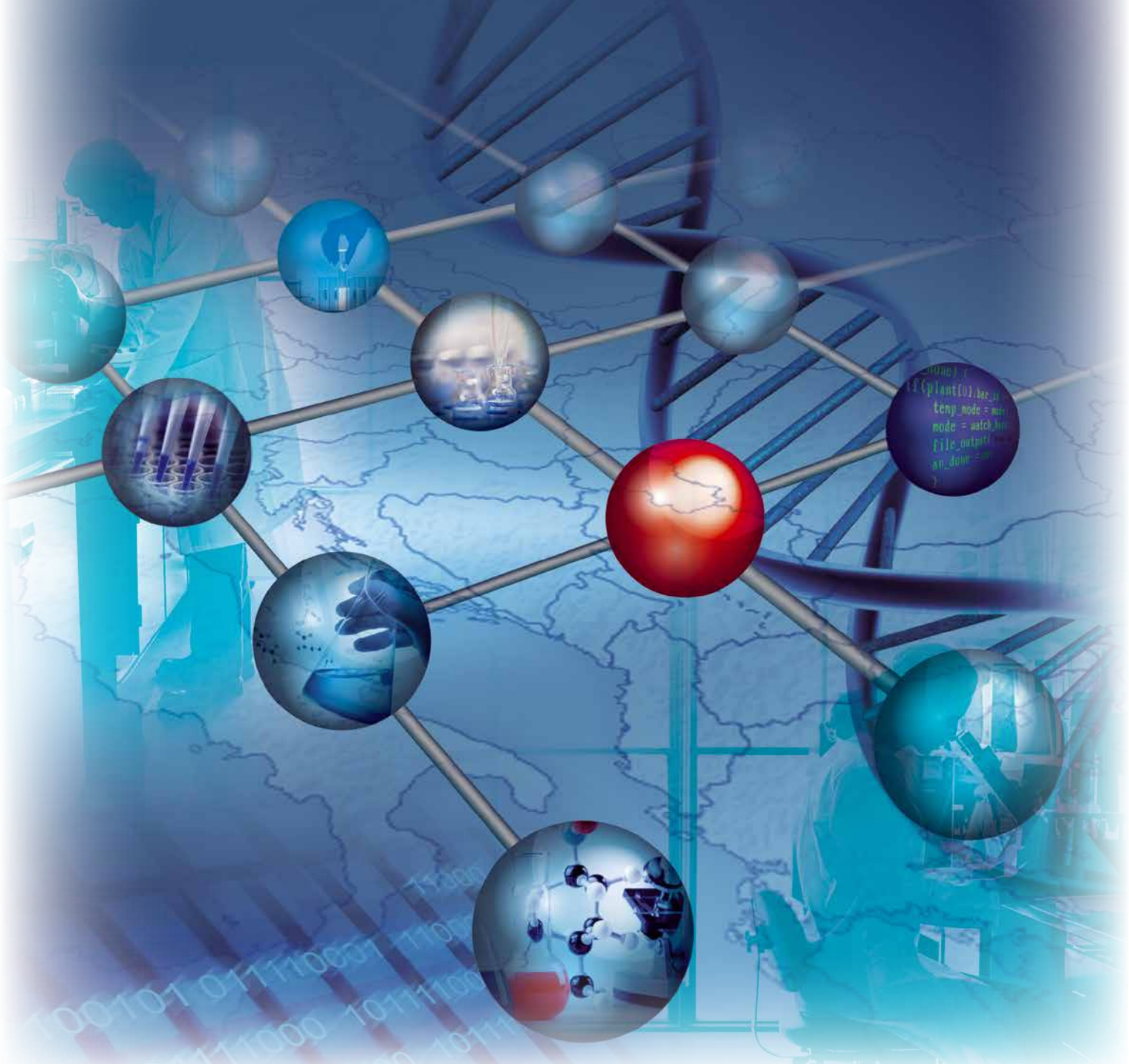
Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Economic Affairs SECO



**BUSINESS TECHNOLOGY
INCUBATOR**
OF TECHNICAL FACULTIES Belgrade I.L.C.

EXPORT PROMOTION FOR INNOVATIVE PRODUCTS



Project

„Export Promotion for Innovative Products“

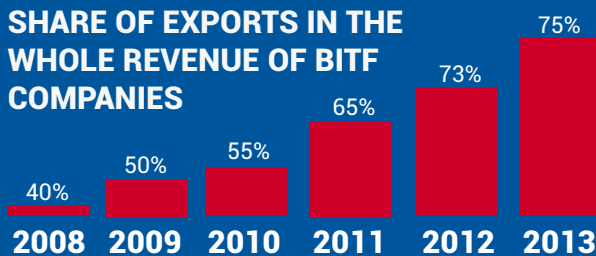
Business Technology Incubator of Technical Faculties Belgrade has completed the implementation of a three-year project “Export Promotion for Innovative Products” supported by the Swiss Government (Swiss Secretariat for Economic Affairs) with the goal to increase exports of high-tech products and services from Serbia, especially in the fields of IT, MedTech and BioTech.

The project was implemented under the framework of the Memorandum of Understanding between the Government of the Republic Serbia and the Government of Switzerland Confederation. The authority responsible for implementation on behalf of Serbia was the **Ministry of Education, Science and Technological Development**.

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SHARE OF EXPORTS IN THE WHOLE REVENUE OF BITF COMPANIES



Gabriela Schafroth,
Deputy Director,
Swiss Cooperation
Office Serbia

We have achieved visible results

More than 25 start-up companies have been established and more than 100 new jobs created within the support we are currently providing for BITF. We are very pleased and proud to have some of these firms received prestigious prizes and awards for their services and products in Serbia and abroad.

With its donations Switzerland is helping the development of Serbia for many years now. Those familiar with the situation say that your donations are better adapted to local needs than donations of other donors - is it



the role of the Swiss Cooperation Office in Belgrade?

Gabriela Schafroth: Switzerland attempts to be a reliable and engaged partner by its active involvement in all type of support, provided by our country. On the other hand, we are also accountable to the Swiss taxpayer to whom we have to demonstrate, that money is spent efficiently and effectively, meaning towards tangible results. The best guarantor for results is to tailor our support around actual needs, relaying on partnerships with strong local actors and building on existing structures. The role of the local office therefore during project definition is to help identify such needs but also strong local reform champions. During project implementation, the local presence is crucial for monitoring and coordination. True partnership requires frequent contact which only a local presence can offer. In addition, the local office also cultivates the dia-

logue with other donors. Through a regular exchange among donors, synergy potentials of support can be leveraged and overlap risks reduced.

● In which areas are the Swiss donations are mostly present in Serbia?

Gabriela Schafroth: For its support in Serbia, Switzerland in its new country strategy covering the period 2014-17 has defined three broad areas; Economic Development, Governance and Energy Efficiency and Renewable Energy. Within the Economic Development Domain, we have a trade cooperation program encompassing the promotion of high-tech exports.

● Supporting the development of high-tech products and innovations is not your usual area of interest. How do you recognize the export potential of BITF and what are your experiences of cooperation with this organization?

EXPORT PROMOTION FOR INNOVATIVE PRODUCTS

Gabriela Schafroth: Innovation is one of the key drivers of competitiveness in the global market. However, Serbia's economy as a whole is characterized by very low levels of competitiveness, negatively impacting its export performance. In addition, it relies predominantly on raw materials and semi-finished products for its exports whilst leaving huge potentials in education, science and research untapped. On the one hand, due to the occurrences of the late 90s of the previous century in former Yugoslavia and the subsequent unfinished transition process of its economy, sufficient and adequate mechanisms and institutions that can satisfactorily stimulate entrepreneurship and business failed to produce so far. On the other hand, the large Serbian Diaspora of technically well-educated young people who had left the country in large numbers because of the war and who are now very well positioned within international companies constitute an additional unexploited potential. Switzerland has identified BITF as a partner addressing these shortcomings, tapping successfully on the idle potentials and fruitful match making between various actors.

● What are your impressions of small start-up companies created in the Incubator at the technical college campus?

Gabriela Schafroth: Under our current support to the BITF, more than 25 new start-ups were created resulting in over 100 new jobs. We are very pleased and proud, that some of these companies have won reputable awards and recognition for their services and products well beyond Serbia.

● Switzerland has successful experience in the development of export platforms for IT, bio and medical technologies. How much of that experience can be applicable in Serbia?

Gabriela Schafroth: Switzerland definitely has some valuable experi-

ence to offer in the field of bio and medical technologies, which are the forefront of the innovation system. One interesting concept in order to integrate the various components and actors of this innovation system is the creation of "technological parks", which promote exchanges of experience and joint initiatives among SMEs, uniting forces to bring breakthrough concepts to commercial success. In this respect, the development of the science and technology park in Belgrade provides for an excellent opportunity to transfer this experience to Serbia focusing on the export potential of innovative products and services. The Serbian environment is obviously different, but the nature of the process is quite similar: it is all about creating synergetic models bringing together the different innovation stakeholders from the private sector, the public sector and the research sector.

● What would be your recommendations for innovative tech companies in Serbia - which have export potential but modest material resources - regarding the protection of intellectual property?

Gabriela Schafroth: The protection of innovation is crucial to foster future research and development and create a virtuous circle. It is therefore important for innovative Serbian companies to fully understand what the protection of intellectual property means in practice and to invest in a strategic way accordingly. The number one recommendation should be to get access to the relevant information and make use of the intellectual property services available in Serbia. This may sound trivial, but there still appears to be a lack of information among SMEs about the IP regime.

● Considering that Switzerland is a remarkably organized state, what do you think are the most important steps in establishing a sustain-

able system for promotion of exports through developing innovation?

Gabriela Schafroth: It is very difficult to answer this question as there is no "one size fits all" model. Switzerland has developed certain export promotion structures which also correspond to the federal nature of the country and to the traditional interactions existing between the Government and the private sector, but every country should try to develop the model which best fits its institutional context.

This being said, what should definitely come first is to define a clear export promotion strategy with all relevant stakeholders and develop a clear vision of the different "support systems" for the implementation of such a strategy. Very often, one witnesses the launching of various initiatives or elements of export promotion, but which do not appear to be properly articulated. This is even more obvious for "innovation", which depends on the existence of a synergetic system and proper framework conditions. You cannot innovate by decree or create a special law! The development of this strategy should also clarify the roles of the different stakeholders, looking how they can best contribute to the final objective in a complementary and synergetic fashion. This is a precondition for making sure that all stakeholders are part of the same story and fully committed to the implementation of the same strategy. The next step is obviously to make sure that the framework conditions are conducive for the implementation of the strategy, which could involve some specific reforms of the business environment for instance. Finally, the successful implementation of the strategy will highly depend on the leadership of key institutions such as export promotion agencies. ●

The deans of technical faculties speak about the importance of innovation for the national economy

Our goal is to keep talented people in the country

According to the deans of technical faculties of the University of Belgrade which train experts from different fields, all four technical faculties have the same common goal: jointly develop a business incubator to help their students and young teachers convert knowledge and ideas into new products and services and launch them into the most lucrative market segments, and thus create conditions for them to do business and create jobs in their country, where they gained education.

Six years ago, four technical faculties of the University of Belgrade - Civil Engineering, Mechanical, Electrical and Technological/Metallurgical Faculty, gathered around the common goal of establishing the Business Technological Incubator of Technical Faculties Belgrade (BITF), in partnership

with the Palilula Municipality and DTI. Over 6 years of BITF operation, 44 new high-tech companies have been established. Our interviewees remind us that transfer of knowledge from the university to the market through technological incubators is one of the most effective models applied in developed countries. BITF founders opted for the Israeli model of technological incubators. The development of BITF is based on longstanding experiences of developed economies about the systems of support to innovative high-tech start-ups, proving that „with a lot of good will, efforts and excellent organization, even with little money, it is possible to create conditions which enable talented young people in Serbia develop high-quality products and services for the world's most famous markets,“ says Professor Branko Kovačević, Dean of the Faculty of Electrical Engineering. Support to young entrepreneurs in the early stages of business development is provided by offering various services, such as: space at a subsidized price, business consulting about financing, accounting, legislation - especially in the domain of protection of intellectual property rights, marketing support in identifying potential markets, different ways of presenting their products, business matchmaking with companies in other countries, international database of business consultants and involvement in international projects.



**Branko Kovačević, dekan
Elektrotehničkog fakulteta**

Foto: MedijaCentar

All listed services are available to start-up companies under conditions that are more favorable than those in the market, „because our goal is to help young entrepreneurs, in a very vulnerable early stage of business development, direct talents and energy to development of products and services,“ said Kovačević. Even though, the companies are so interested in students of these faculties that they offer them employment in the second year, unfortunately, a large number of qualified young people leave the country as soon as they graduate. This is why, according to Kovačević, stronger support should be provided to BITF in order to prevent brain-drain and increase the number of returnees from abroad.



Đorđe Janačković,
Technological/
Metallurgical
Faculty, Dean

The importance of innovation activities for the domestic industry

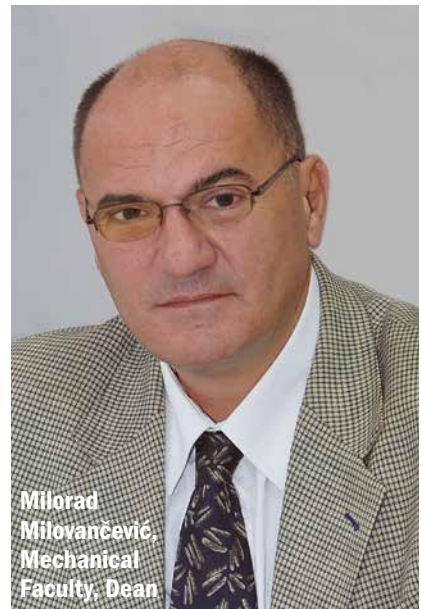
Modern technologies create new niche businesses and new labor markets, but the road to realizing product idea and the amount of required investment vary from one field to another. „In the field of IT, the most important resources are knowledge and good idea that can be implemented with little infrastructural support. The fields of modern biotech and engineering materials require high investment at the very beginning. Since the new product development in these industries requires complex and time consuming research and very expensive equipment, start-up companies rely on our university and the network of other universities and institutes we cooperate with,“ explains Professor Đorđe Janačković, Dean of the Technological/Metallurgical Faculty. This is the reason why start-ups in these fields are less represented in BITF than the IT companies, „but the fact that our teachers and students have established several start-up companies in BITF is encouraging for others. Biotech and engineering materials are among the most attractive fields for investors, and therefore we plan to make additional efforts to increase technology transfer in this

segment and encourage companies to invest,“ announces Janačković.

Professor Milorad Milovančević, Dean of the Faculty of Mechanical Engineering, has the same categorical attitude which implies changes in the structure of economy, in which trade largely dominates the production industry. „Technical Faculties of the University of Belgrade are highly valued by the most relevant international accreditation agencies for excellence in teaching and learning. However, to ensure positive effects of resources invested in education of experts, on the society, we need to make joint efforts into creating proper conditions and encourage them to stay in Serbia, where they will recognize opportunities and future prospects for their professional development“.

Incentives for domestic investment

Milovančević gives numerous examples of young and capable mechanical engineers who have developed new innovative products for aviation industry (production of agricultural aircrafts), rockets for protection against hail, manufacturing of modern tractors and agricultural machinery and sophisticated heating systems..., without state assistance and support of for-



**Milorad
Milovančević,**
Mechanical
Faculty, Dean

eign creditors.“ Our young experts are able to enhance the production in all industrial sectors - energy, agriculture, food production and processing, housing construction and all modes of transportation. Therefore, our main goal is to support the best people with entrepreneurial spirit to start their own small business in the Business Incubator of Technical Faculties, which can rapidly develop and enhance international competitiveness of domestic industry „.

Some of our technical experts have built successful careers abroad, „which confirms that we educate prospective people“, says Professor Branko S. Božić, Acting Dean, Faculty of Engineering. By reforming their curricula and establishing a very rich international cooperation, technical faculties enable students and their teachers to keep abreast of emerging trends in respective fields. Therefore, we need to create enabling environment that will considerably increase the extent to which this knowledge is applied in the domestic market, and enhance domestic investment in production and development of innovative activities, and thus reduce the brain-drain and increase economic growth-said Božić. ●



Branko S. Božić,
Civil Engineering
Faculty, Acting Dean

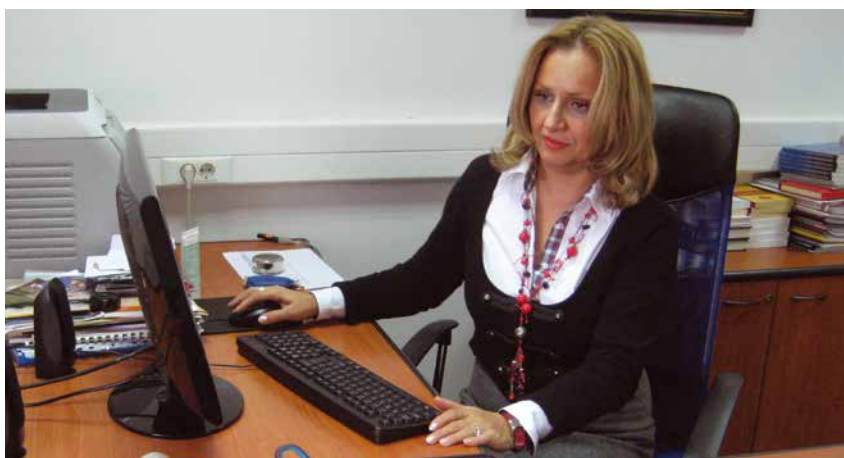
Gordana Danilović Grković, BITF Director

We must support our best people; otherwise we cannot make it without them

„At the time when we started a business incubator, I was aware that technical faculties of Belgrade had a huge potential. Now, I know that it is immeasurable and that these young and smart people do not ask for much support to raise the potential that already exists. Among them, there are some who believe that those who are the best do not need any support. Our experience with the business incubator shows that even the best among them need support, in order to become better in the shortest period of time. We enhance them in directing their energy and talents toward the development of innovative products, revenue, growth, new jobs, exports, etc, rather than waste the energy queuing at the counters. We must support our best people, because this country needs them.“

This is how Gordana Danilović Grković, Director of Business Technology Incubator of Technical Faculties Belgrade (BITF) briefly describes the motivation for launching the business incubator for high-tech start-up companies, six years ago, in partnership with technical faculties of the University of Belgrade, with the ultimate goal to enhance entrepreneurial spirit and facilitate commercialization of scientific research.

She emphasized that since the incubator was established, 550 young people have undergone free entrepreneurship training program. Apart from technical skills and knowledge required to start own business, they learn about challenges and problems they can expect. They also learn that in this process every problem has a solution and that teamwork is most important. Besides knowledge they need to put much energy into conquering foreign markets and be persistent. They also learn that every entrepreneur takes a risk but at the same time earns reward. The results achieved until now are: 44 newly established companies in various fields of a high-tech industry, employing 280 young professionals. There are also 25 companies established by returnees from abroad in the incubator. They could export their



products from the very beginning "because they were well acquainted with the global markets and they knew exactly what to develop and who could purchase their products," said Danilović.

She recalls that two companies from Serbia - Bitgear and HTEC, which started their operation in BITF, ranked high at the Deloitte's list of 50 fastest growing technological companies in the Central Europe.

The Swiss Government's support to export activities

Most of high-tech SMEs are export-oriented by nature of the business, but this can not be easily achieved in a small country with underdeveloped economy and insufficient reputation in the world of econ-

omy. Therefore, the support of the Swiss Government, through the implementation of a three-year project "Export promotion for innovative products" was in many ways crucial for the development of BITF. "When we launched the project with the Swiss Cooperation Office, there literally was no financial assistance for supporting the development of innovative activities in Serbia. The only way for start-up companies to obtain development funds for reinvesting into innovative products was by outsourcing their services. This was both painstaking and time consuming process which made it very difficult to be successful in highly competitive fields where speed is a crucial factor. Only now, after the completion of the project and having com-

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panies in the incubator capable to generate 75% of their revenue from exports, we can see the potential in this sector, recognized by Swiss Government, and the effects of support from a developed country such as Switzerland, which has gone through this experience and has a very well organized system for innovation support", Danilović said, adding that "this project made us realize that we need to shift our focus on exports. In order to achieve this goal, apart from the traditional administrative and logistics services, we had to use all capacities of the business incubator. This was not easy at all, given that we raised funds through short-term projects, while the increase of export capacity implies a long-term effort of developing infrastructure, which requires stable sources of funding. This stability of funding was secured through the Swiss Government support. It gave us time to consolidate our capacities, develop in the right direction and achieve results."

The project implementation was based on three main components. The first was aimed at identifying markets for exports of innovative products and services from Serbia, and instruments for export promotion developed by relevant institutions. The second component was focused on strengthening specific structures, organizations and innovation support networks in Serbia for long-term support for exports of innovative products, such as ICT Cluster and Business Angels and the third component was aimed at intensifying the cooperation with our experts in the Diaspora in the high-tech industry and development of specific instruments, such as web technology platforms for export promotion. "Technology platforms are part of the Swiss experience and when this project started we were not aware of such instruments. The purpose of business platform is to increase the visibility of high-tech companies and facilitate contacts and business matchmaking. The platform has a database containing information about Serbian companies and their products/services through which foreign companies can identify potential investors and business partners. In parallel, the platform has a database of international consultants where domestic export-oriented companies can identify consultants who are spe-

cialized in export activities. At this point, we have completed the platform for export promotion in IT sector (www.boostit.rs), identified as the sector with highest export potential in the domestic market. We can continue to apply these types of instruments by developing platforms for export promotion in BioTech and BioMed that have been recognized by the project as very promising areas in the longer run."

There is no such thing as an overnight success

Danilović points out a great support provided by our experts in the Diaspora, who have been in various ways involved in this project. She mentions as an example, the Serbian City Club, a London-based association, which has more than 1,600 members. It was established a decade ago and during that time many of our experts have returned to Serbia. Cooperation of the Serbian City Club with BITF companies is based on mentoring program. "Imagine how valuable it is for young entrepreneurs starting their own business in Serbia and trying to identify trends and potential investors in the world, to receive support from Serbian experts from London who occupy respectable positions and do business around the world."

However, our interviewee warns about the new trend that has led to concerns that the outflow of professionals from Serbia will continue, because we still have not sufficiently developed instruments for enhancing the entrepreneurship among young people, especially in the field of innovation. "Innovation is the basic precondition for competitiveness of economy in every country, but their development is extremely difficult and risky. When innovation succeeds, benefit is created for entire society, but if it fails, all losses or damages are assumed by individuals. This is very discouraging and prevents young people from putting their ideas into practice. Therefore, the most developed countries have figured out that they need to put far more effort into developing instruments for innovation support. Over the past years, we have witnessed the creation of large innovation development funds. This trend was continued in Serbia by establishing the Innovation Fund - the first fi-

nancial instrument which provides funding for innovation development. Apart from the Innovation Fund, much more additional funding needs to be provided. At the same time, many accelerators have been developed in the countries outside Serbia, which are trying to attract our young experts to establish their companies there. We must be aware that it may become a major problem for the whole country."

Therefore, it is of utmost importance for us to start developing our innovation potential in a more organized way. First of all, we need to start by changing our attitude - science should be viewed as an investment, rather than a cost. "We are still unaware how big is the potential of our researchers and their work, and what they are able to create. This market potential remains untapped due to insufficient support. Researchers are not per se market-oriented people and this problem is implicitly present everywhere. That is why countries develop instruments for transferring knowledge and technologies to the market, such as business incubators, innovation centers, technology parks, and centers for technology transfer. Each of these instruments has a role and specific focus. BITF and the future Science Technology Park Zvezdara are seen as practical instruments whose role is not only to commercialize innovation, but also to demonstrate the importance of science for economic development based on knowledge."

Furthermore, we need to have a good understanding of all requirements for entrepreneurship development, Danilović points out. "We are witnessing that various organizations which declare themselves as entrepreneur support organizations are popping up all the time promising young people overnight success. There is nothing of the stories about "instant" investors and easy money that we hear around. Entrepreneurship is a long process. If you want to gain confidence of young people and our experts abroad, and if you seek support from premier institutions in the field of entrepreneurship and innovation development, then you must do it properly, honestly and persistently. It is the only way. There is no other formula for success..."

Fastest growing technology companies

From business incubator to global village

Dejan Dramićanin and Aleksandar Čabrilo quit their international careers at the international corporations when they decided to set up their own companies. After only few years of operation, their companies armed with young teams of people, went a long way from the business incubator to the top of the list of fastest growing high-tech companies in Central Europe.

Services, founded by Dejan Dramićanin made a precedent last year on the list of 50 fast-growing technology companies in Central Europe published by consulting and auditing company Deloitte: it ranked second-fastest company, growing at a rate of 1872% over the last five years. This was the best performance achieved by a national company since the beginning of implementation of the Deloitte Technology Fast 50 program in Serbia.

At this year's list, Bitgear ranked 18, while the engineering company, High Tech Engineering Center (HTEC), founded by Aleksandar Čabrilo, with a growing rate of 1777% over the last five years ranked third fastest growing company.

Both companies started their rise as start-up companies in Business Incubator of Technical Faculties in Belgrade (BITF), immediately after its establishment in 2008. Čabrilo and



Dejan Dramićanin

Dramićanin say that BITF has helped their companies in very vulnerable stages of business development, during the three-year period of incubation. They are happy to recommend BITF to everyone who wants to set-up a High-Tech company. Thanks to the crucial logistic and administrative support provided to their companies at the beginning of operation, they could focus only on innovation development and placement of their products on the market. Unfortunately, such examples are still rare in Serbia. The investment climate for innovative companies and BITF support are best described by the fact that the amount of taxes and fees paid by some of BITF companies is several times higher than the total BITF budget for provision of the support for start-up companies.

Rely on yourself

The thing these two successful young men have in common is the previous experience gained in international markets.

Dramićanin gained experience working with the US company on development and application of devices for digital wireless communication. Knowledge about business and international markets gained abroad was

very useful when he decided to start his own business and set up Bitgear. Bitgear is engaged in electronic design and development services, applied digital signal processing (DSP), digital telecommunications and movement analysis and precise position sensor technology. Bitgear's business partners are companies in USA, Germany, Ireland, Greece, England and France. The company has a variety of clients, ranging from small start-up enterprises to the highest ranking „Fortune 500“.

„Our business orientation is to work only on technologically demanding projects“, explains Dramićanin. „In line with our business orientation, we offer exceptional services at affordable prices which makes our company very competitive. On the other hand, our innovative products are based on modern technologies used to solve real problems of the society. We are dealing with real issues such as internet-of-things, connected cars, wearable technology, smart cities...“ In the process of developing their products, Dramićanin and his team carefully monitor latest global developments in the financial sector, production, health and other industries, in order to be able to identify technologies that will be in demand in the near future.



Aleksandar Čabrilo

Apart from high quality and high demand products, the rapid growth can be attributed to flexible internal processes of the company conducive to growth, adds Dramićanin.

Most of our energy and time is invested in high-tech services which generate stable income that is accumulated and used for reinvestment in innovations. Innovations are marketed through various business models, such as development of spin-off companies, co-ownership in start-up companies and strategic partnerships with other companies. This is the best way for small high-tech companies to protect their intellectual property rights in the global market. Thanks to the results of such business philosophy, Dramićanin received the last year's title Ernst & Young Entrepreneur of the Year in Serbia, at the competition for the best entrepreneur for innovative solutions, organized by auditing and consulting company Ernst & Young.

Recommendation based on personal experience

A decision to abandon his international career and return to Serbia still causes more amazement than recognition among people. It is exactly what Aleksandar Čabrilo did. He left a very promising Dutch company Silicon Hive for a start-up company High-Tech Engineering Center (HTEC) founded in Belgrade in 2008, with the aim to develop technologies for international cli-

ents. The company first specialized in digital image processing software and hardware, says Čabrilo. In the meantime, a part of HTEC was converted into a Silicon Hive's Development Center in Belgrade. After acquisition of Silicon Hive by Intel Corporation, several business partners joined Alexander's team with a common goal for HTEC to become a regional leader among high-tech companies. HTEC expanded its operation to the development of different types of application software, with a focus on web and mobile software development. In parallel, the company develops internal projects some of which have successfully led to spin-off companies.

The company has also invested in several start-ups, „it is unusual for a Serbian company to invest in start-ups in Germany, Sweden and the United States“.

HTEC has grown from a BITF start-up to a company that engages more than 80 young engineers who are, according to Čabrilo, most responsible for the company's fast growth. „To be able to compete with top quality rather than lower prices, we had to engage the best people. It was hard to attract the best people at the very beginning, but over time we have developed one of the best engineering teams in the region, which is the backbone of our further development“.

One of the problems in Serbia is a lack of qualified experts who are in

high demand, which causes competition among companies trying to recruit and retain them. HTEC is 100% export-oriented company with major markets in the US and Western Europe. Most of the company's revenue comes from the export sales to the US. According to Čabrilo, in the future, the focus will shift towards the Western European market, where companies are willing to pay more for a quality product. Besides, it is easier to operate with this market because it is physically closer. „We do not spend too much energy on finding new customers and new projects. Our customers recommend us to their friends and business partners who then become our customers. The technology we are developing is the basis for business operation for most of our customers, and by combining entrepreneurial approach and expertise, we always deliver more than they expect. This enables us retain our customers and ensure growth in the long run.“

Young high-tech companies are in especially difficult position, given that the venture capital market is underdeveloped in Serbia. When HTEC began operations, the only way to provide funding for innovation development was from own revenues, generated from outsourcing. It is still the main activity of the company, while the innovative projects are developed and commercialized through the establishment of spin-off companies. HTEC is also engaged in non-profit activities, such as the establishment of the Serbian Business Angels Network (SBAN). „We organized several conferences attended by some of the world's leading investors and entrepreneurs in order to motivate young people to take matters into their own hands. It does not mean that everyone has to become entrepreneur, but it is always much better to work for a fast growing small company and create opportunities for personal advancement, than to be part of a slow growing big corporation“, recommends Čabrilo, who adopted this life-philosophy in his own life, just like Dramićanin, his BITF friend did. ●

Support from Serbian Diaspora

Reasons for investing in innovation activities in Serbia

The rapid growth of BITF start-ups and even faster increase of exports and revenue from exports is attributed to cooperation with our highly skilled Diaspora members who have international experience in developing technological innovation.

Innovation and knowledge-based products are the third most profitable products, after the oil products and products related to monopolistic position in the market. Serbia does not have oil, or big market, and there are no big global players in Serbia. Therefore, development of marketable innovations is the only trump card that can be used to enter a competitive world market, says Vladeta Marjanović, Sales and Business Development Director at Cisco Systems. According to Vojin Živojnović, co-owner and CEO of AGGIOS Europe, Serbia's main advantages are highly educated, technical people, especially among young trained engineers who are considerably cheaper than their counterparts in the United States or Western Europe, as well as the dominant technological position in Southeast Europe. In terms of glo-

bal competition, Serbia has a realistic chance to succeed, but only with pragmatic and selective approach to investment and innovation, with a focus on high technology areas which do not require urgent capital investment. While it hardly makes sense to compete in developing fully new production processes, an original business idea and good implementation plan require smaller teams and can be a real springboard to the most demanding markets, explains Milan Milenković, New Technologies Expert at Intel.

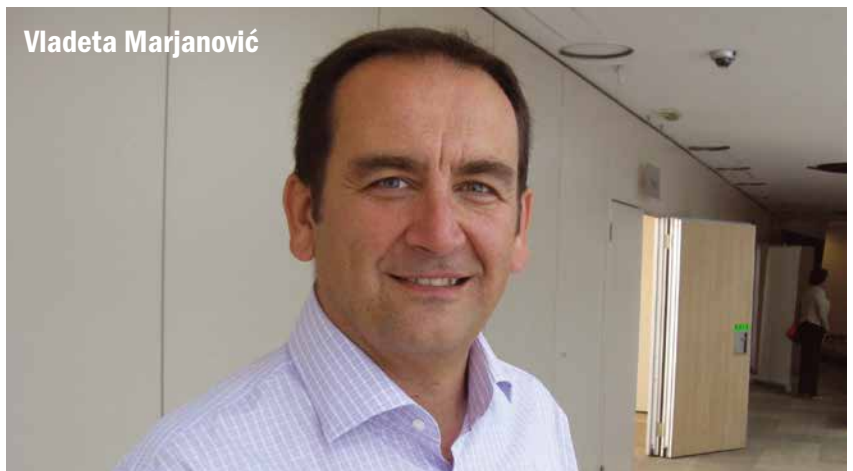
Apart from the successful careers abroad, another thing our interviewees have in common is the support to technology and innovation development in Serbia. In their view, BITF is a remarkable local example of how academic knowledge of technical faculties can be successfully transformed into a commercial product. At the same time, BITF's credibility gained so far, guarantees the quality of its start-up companies. BITF is also strategically important as an instrument that supports young, technically educated people to stay in their country and encourages those who have already left to apply the knowledge gained abroad successfully, by establishing new innovative companies in Serbia.

The way foreign investors think

On the other hand, our experts who have built successful careers in the world, can help small high-tech companies better understand their ideas and capabilities in a tough and expensive global competition, realistically target potential markets, understand how long-term planning and persistence are important for the success of business, but also the way foreign investors think and how small companies should present them their projects. Successful Serbs in other countries can help local start-up companies join international projects and connect with similar companies abroad. They can also provide useful advice about financing of new product development and fund raising.

What we lack the most is the experience in doing business abroad and with international companies, says Marjanović. „I have witnessed myself that a vast majority of development project proposals in the Innovation Fund are mainly focused on the Serbian market of Serbia, markets in the countries of former Yugoslavia and the Soviet Union. Any business plan that relies on former markets will most likely end up as former itself. Besides having courage to access markets in the United States, European Union and China, entrepreneurs need to be persistent and pervasive. „However, the most attractive markets have adopted different approaches to innovation. While markets in the US push for quantity, because of being open to innovative teams from all over the world, markets in Europe are much more organized, with stronger influence of large companies and scientific institutions, which may also have some negative effects on innovation activity, explains Živojnović.

Vladeta Marjanović



EXPORT PROMOTION FOR INNOVATIVE PRODUCTS

Vojin Živojnović



„At present, the number of innovative activities in Serbia is insignificant, whereas the support provided by large companies and formal institutions is insufficient. Therefore, start-ups trying to bridge the financial gap look for strategic partners among prominent companies abroad in the early stage of business.“

As a matter of fact, most of high-tech companies in Serbia take the wrong approach to draw attention of large companies on their business by offering traditional outsourcing services, warns Milenković.

„Small high-tech companies should predict future market demand based on trends, so that they can offer something new to large companies, which are sluggish by nature“. Even then, the investment policy rules are very strict, points out Milenković, who is currently being engaged as a mentor for technology and business education for companies in BITE.

„Investments in start-up companies are generally based on a three-year business model and financial structure, which contains the assessment of development costs of a new product until its commercialization, potential gain and the sequence of activities for bringing a new product to the market. The business model also specifies quarterly activities that will lead to the achievement of final goals. Financing is approved quarterly based on results achieved in the given quarter. You cannot get the whole amount for at once, but a three-year plan must be developed so that funds can be disbursed on a quarterly basis.“

Where to look for a business partner

Speaking about the opportunities for financing innovation on the local market, Marjanović points out that Serbia lacks education that stimulates devel-

opment, courage, resourcefulness and professionalism. Over time, Serbia has attracted some investment funds and small groups of investors who support risky projects in the early stage. „It would be great to see at least one Serbian millionaire developing an innovation fund for financing development of start-up companies in other industries, rather than the industry in which he became a millionaire, like billionaires in Russia and other markets do. This is a risky but highly profitable venture that can bring personal prestige“. Marjanović emphasizes: „Succeeding once is a matter of luck, but succeeding twice in two different industries, it is a matter of knowledge.“ The Innovation Fund of Serbia is a good example of financial support provided for the innovation development. „It helps start-up companies with prototype development and companies that have already commercialized their product and seek funding for further development. In Serbia, unfortunately, there are no financial institutions that provide funding for the business development stage often referred to as „A“ round stage. At this stage, company will typically test its product or service on the market. Such institutions can not set up or expand their activities in Serbia without the support from the EU, Serbian Government and other international partners.“

Small, innovative start-up companies have very limited resources and must seek for partners who will provide the funding to get their ideas off the ground and patent their products. „My advice to innovative start-ups is to cooperate with local universities and their innovation centers, which have built a systematic approach to scientific and technological development funding. At the same time, they should think about their patent position and accordingly decide on the content of patent and viability of investment“, recommends Živojnović. In some cases, companies engaged in the software and services industry do not need patents, Marjanović explains, „but then, you need to be faster than other companies in developing innovative solutions and their placing on the market.“ ●

Milan Milenković



A worthwhile experience of developing a technological park

Ljubljana City of Science

In the framework of the project „Export Promotion for Innovative Products“, implemented by BITF and supported by the Swiss Government, B2B meetings were organized for the companies in BITF with potential partners in Pomurje Technology Park in Murska Sobota, Technology Park in Ljubljana and AREA Science Park in Trieste. Ljubljana Technology Park is a leading entity in the development of innovative and knowledge based entrepreneurship in the country. It was established at the early stage Slovenia's transition which makes its experience particularly interesting for Serbia.

Ljubljana Technology Park is the multiplex city in miniature. The total area of the park is around 38,000 m², with seven buildings and approximately 280 tenant companies. More than half of them are start-ups less than three years old. The rest are com-

panies that have outgrown the incubation period and developed a stable business model, large companies which rely on services supplied by small companies, and companies that provide support services for the entire technology park, such as marketing and legal consulting, hospitality and healthcare services. There is also a bank and post office. The future plan includes the construction of a kindergarten. The construction of the industrial complex began in 2007. The City Master Plan envisages the construction of the future campus of the University Ljubljana and residential area within the Technology Park, with the aim of creating conditions for the „work from home“ arrangements.

Ljubljana Technology Park will celebrate 20 years of operation next year. The main purpose of this complex is to provide support to high-technology companies for development and growth, and enhance the transfer of research projects and technologies to the market. The idea of setting up a technology park rose at Jozef Stefan Institute, one of the most famous scientific institutions in the former Yugoslavia. A team of researchers focused on opportunities for commercialization of scientific research, developed a project of the future technology park in 1993, and two years later a private company was established for that purpose, „which at that time was not very common“, recalls Istok Lesjak, the first employee of that company and General Manager of Ljubljana Technology Park.

Founders of Ljubljana Technology Park are: Jozef Stefan Institute, National Institute for Chemistry, National Institute for Biology Institute, several private companies and the City of Ljubljana, which provided the land for the construction of the tech-



nology park. The access to commercial loans and the European structural funding required for the development of infrastructure and related facilities was much easier with the City of Ljubljana being a co-founder of the Technology Park. The initial intention of the management was to promote the purchase of premises among the residents of the Technology Park. To date, resident companies have purchased almost 70% of premises.

An instrument for fostering rapid growth and multiplication of companies

Ljubljana Technology Park hosts between 30 and 40 new companies every year. Most start-up companies operate in the field of information technology, indicating a similar trend to that in Serbia and in many other countries. The reason for that is attributed to the fact that the high-tech sector requires less initial investment and has faster payback period than other sectors. Ljubljana Technology Park has designed a pre-incubation program that



Ljubljana Technology Park

offers the holders of promising entrepreneurial ideas extensive support in assessing the entrepreneurial opportunity of their product or service in the market. The rapid growth of start-up companies in the Technology Park is illustrated by the number of new jobs created, given that most companies that began with two employees only, now employ around 50 young professionals on average. Some of the companies that have outgrown the incubation phase into developed businesses with stable performance behave as investors – they establish new start-up companies for operationalization of new products and services. This further confirms the value of business incubator as an instrument that applies the same methodology for fostering rapid growth and multiplication of successful companies, points out our interviewee, Lesjak.

At the same time, having start-up companies and large, developed companies located in the same space, enables them to jointly conduct business activities for mutual benefit and

enhances the scientific potential. Development centers of large companies, which rent their lab space and equipment, play a crucial role in this process. This reduces costs to small innovative businesses and attracts new generations of scientists to convert their knowledge into commercial products.

Organized support for entrepreneurs

Ljubljana Technology Park has reached a financial sustainability and no longer depends on state subsidies. Over time, a business model has been developed, which enables the reinvestment of entire profit in further development. Several decades of experience and expertise helped Ljubljana Technology Park become a leading entity and key national stakeholder in developing and implementing the effective strategies for entrepreneurial activities in the most profitable industries. In the circumstances where high-tech specialists are sought all around the world, national priority

is the development of a rational, coordinated and long-term approach to prevent the brain-drain. „Mass exodus of best people is an unrecoverable loss for any country, especially for a small country. This is the most important issue that should be raised by our tax payers to the government,“ Lesjak points out.

This problem cannot be resolved through numerous business incubators and technology parks popping up everywhere. The experience of most developed European countries shows that such approach carries the risk of failure, Lesjak says. Then he adds: „There was a time when every small town in Slovenia wanted to develop a business incubator and technology park, which could have led us to having more facilities offering the support to entrepreneurs, than actual entrepreneurs. In the last few years, we have managed to change this way of thinking and impose organized approach which implies the implementation of result oriented models and maximum use of existing facilities. ●

BITF: Sign Post to Success

BITF companies have won many prestigious international awards for their products and services. Here are just a few examples:



TeleSkin – engaged in development of medical technologies is ranked by the World Bank as one of the 50 most inspiring and most innovative companies. TeleSkin's BEST (software for basic dermoscopy examination of skin tumors) been recognized as a winner of the Microsoft Health Users Group (HUG) 2013 Innovation Awards. Sava Marinković, one of Tele Skin co-founders received the 2012 title Earnst & Young Entrepreneur of the Year in Serbia, at the competition for the best entrepreneur for innovative solutions, organized by auditing and consulting company Earnst & Young. He was also the winner of Next Step Challenge award in Denmark in 2014.



Bitgear Wireless Design Services – growing at a rate of 1872% over the last five years, ranked second-fastest company on the list of 50 fast-growing technology companies in Central Europe in 2013, published by consulting and auditing company Deloitte. At this year's list, the company ranked 18 with a five-year revenue growth rate of 759%. Its founder, Dejan Dramićanin, received the last year's title Earnst & Young Entrepreneur of the Year in Serbia, at the competition for the best entrepreneur for innovative solutions, organized by auditing and consulting company Earnst & Young.



High Tech Engineering Center (HTEC) – with a growing rate of 1777% over the last five years, ranked third fastest growing company, on the list of 50 fast-growing technology companies in Central Europe in 2014, published by consulting and auditing company Deloitte.



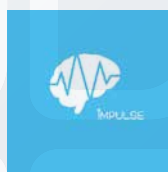
Strawberry Energy became famous for inventing „Strawberry Tree“ the world's first public solar charger for mobile devices. To date, 12 Strawberry Tree solar systems have been set up in 9 cities of Serbia and Bosnia and Herzegovina. Strawberry Energy received many awards for its STRawberry Tree, including the first award in the consuming category at the EU Sustainable Energy Week 2011 and Golden Superbrands award for the best innovative brand in Serbia.



mBrainTrain won the finals of the Best Technological Innovation 2013, organized by the Ministry of Education, Science and Technological Development. mBrain Train's wearable SMARTING device for recording the electrical brain activity, consisting of a hardware and software specially developed for a smartphone, was rated the best among 118 innovative products.



Omnis Design Studio and WEB LAB, with jointly developed application "bookmee" won the Google for Entrepreneurs Startup Weekend Belgrade (2014).



Veritek - the youngest member of BITF and the champion of the first Serbian "Get in the Ring" contest, with its Impuls device which measures the pulse of social networks, using software that understands how people feel and behave in social networks. With this device, Veritek represented Serbia at the regional "Get in the Ring" contest, held in Sofia.

Results achieved over the past 6 years of BITF operation

280

young engineers
employed
including

25

returnees
from abroad

33

new technologies
through the
development of
innovative products
and services

44

newly established
high-tech
companies

3

networks/clusters
established

9

patent
applications
filed

550

students have undergone
free entrepreneurship
training program (starting
own business)

Service Center

developed – business
planning, financial and legal
services, protection of
intellectual property rights
and fund raising