

Local startup ecosystem diagnosis - Kuyavian-Pomeranian voivodeship

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Methodological assumptions

One of the activities planned as part of the implementation of the Innova Foster project involves the assessment of startup ecosystems. Each partner is obliged to prepare an assessment with respect to the region in which it operates. Torunska Agencja Rozwoju Regionalnego S.A. (Torun Regional Development Agency) is responsible for the creation of an assessment of startup ecosystems in Kuyavian-Pomeranian voivodeship.

The purpose of this report is primarily to identify the strengths and weaknesses of the regional startup ecosystem. Subject to analysis and evaluation are institutional forms of support and systemic solutions in the sphere of education. In order to gain a complete picture of the condition of startup ecosystem in the region, the information on the available financing opportunities (including: investment) and non-financial support, i.e. trainings, workshops, conferences, was also reviewed.

In early 2017, the partners involved in the implementation of the Innova Foster project developed a standardized assessment template. The definition of a startup was jointly established for the sake of the assessment, and it was modelled on the definition created by Bill Auleta - Managing Director of Martin Trust Center at MIT Entrepreneurship, a person of extensive business experience (work at IBM, establishment and management of such companies as Cambridge Decision Dynamics and SensAble Technologies), who currently works worldwide with entrepreneurs, small and large companies and governments to promote the idea of innovation-based entrepreneurship among his customers.

According to B. Auleta's definition, this assessment focuses on the startups understood as innovation-driven enterprises (IDE), which strive to serve markets that go beyond the local market: they aim at selling their products/services globally, or at least regionally. These entrepreneurs base their business on technologies and innovations that give them an advantage over existing companies¹.

The assessment is divided into the following parts: the startup ecosystem, institutional forms of support and enhancing corporate innovation. The SWOT analysis comprises a separate part of the assessment.

The information contained in this assessment comes from nationwide reports on the condition of startups and from materials made available by regional institutions. When collecting the data as regards local startups, talks were held with the Regional Stakeholder Group, which encompasses: Interdyscyplinarne Centrum Nowoczesnych Technologii (UMK) (Interdisciplinary Centre of Modern Technologies - Nicolaus Copernicus University), Centrum Transferu Technologii

¹ Bill Aulet, *Disciplined Entrepreneurship*. 24 Steps to a Successful Startup, Wydawnictwo Onepress

UMK sp. z o.o. (Centre for Technology Transfer), Idea Spin Sp. z o.o. and Bydgoski Park Przemysłowo-Technologiczny Sp. z o.o. (Bydgoszcz Industrial and Technological Park)

1. Startup ecosystem

1.1. Introduction to the country

Poland is one of the largest countries of the European Union - with the population of 38.5 it is ranked on the 6th place. In 2016, it generated 2.9% of EU's GDP, which is the 8th result among the EU countries.

According to the "Global Innovation Index", which provides detailed data on innovation with regard to 127 countries and economies around the world, Poland ranks 38th (46th in 2015). This global ranking involved 81 indicators, including data on patent applications, political environment, education, infrastructure and business.

In the other ranking, "European Innovation Scoreboard 2017", Poland was classified as a **moderate innovator**, ranking 25th among all EU member states. In the classification of EU States, Poland was appreciated for business investments and environment that promotes innovation. Our country received the least favourable score for innovations introduced by small and medium enterprises.

The number of enterprises in Poland is growing dynamically - over 1/3 million of new enterprises are created annually and this figure has been more or less constant for a long time. At the same time, the quality of Polish entrepreneurship is improving - the share of the companies' contribution in the Polish GDP is increasing, the entrepreneurs are becoming increasingly more open and their attitude towards development is positively changing. Polish enterprises also invest, develop and implement more innovations, although the scale of such operations is still not very large.

The Polish enterprise sector, as in most other countries, is dominated by microenterprises, whose share in the structure of all enterprises amounts to as much as 96%. The number of micro-companies has increased over recent years. In 2015, according to the data from the Central Statistical Office, there were over 1.8 million of small companies, 7% more than in 2008. Small companies constitute 3% of the Polish enterprise sector. Currently, the number of small enterprises is on the increase, with 4.5% more than in 2008. In Poland, there are a little fewer than 16 thousand medium-sized companies, which account for 0.8% of the Polish enterprise sector. Their number has been decreasing in recent years and currently it is 2.8% lower than in 2008.

The largest number of microenterprises operates in services (52%) and trade (26%) They have the largest share in generating GDP - 30% – among all enterprise groups, and assuming the value of GDP generated by the enterprise sector as 100% - 41%.

In addition, they make a significant contribution to the labour market – they generate 39% of jobs in the enterprise sector (the number of employees in such companies is approx. 3.7 million

people). The majority of microenterprises are single-person companies, and the average number of employees in this group is 1.3 million. According to CSO data, in 2015, micro-enterprises allocated nearly PLN 30 billion to investments (14% of the expenditure value of the entire enterprise sector) Compared to other groups of companies, microcompanies are the most productive (results to inputs ratio), cost-effective (costs to revenues ratio) and profitable.

Unfortunately, most micro-enterprises focus only on the domestic market - they rarely export/import their produce and achieve a very low share of these values in their revenues/expenditures. However, the situation is much more positive as far as the dynamics of export of services is concerned, where export revenues of the average micro-exporter have grown the fastest in comparison to other groups. These companies increased their export of services by more than 180% over the period 2010-2015. Over the period 2016-2017, the dynamics of service exports increased by 40% (companies recorded a total increase of 27%). Micro-enterprises are also characterized by a lower survival rate - an average of two-thirds of those companies survive the first year. In the following years of their operation their situation is more difficult than that of the other major entities. Nevertheless, the share of the oldest entities that have been operating on the market for 5 or more years increases in the structure of micro-enterprises, which may indicate an improvement in their situation².

Polish entrepreneurship is "young" and at a high level, which translates into high market dynamics, flexibility of our companies and openness to new technologies. Following the example of innovative countries, we also need well-established companies, the number of which is relatively lower. This need stems from the fact that it is usually mature, often larger companies that are key elements in the chain of connections, generating cooperation with smaller entities. As GEM data and other statistics show, most enterprises in Poland remain at the stage of single-person companies without employed workers and with lower developmental aspirations³.

1.2. Introduction to the region

Kuyavian-Pomeranian voivodeship is located in the central part of Poland. It is one of the five Polish regions that do not border with other countries. It covers an area of 18,000 km² and it has about 2 million inhabitants, i.e. 5.4% of the country's population. It has two capitals - Bydgoszcz, inhabited by 355,000 inhabitants, is the seat of the regional government administration, i.e. the voivode, and Torun, with 203,000 inhabitants - the local government authorities of the region, i.e.

² A report on the condition of the small and medium enterprises sector in Poland, Polish Agency for Enterprise Development, Warsaw 2017

³ Global Entrepreneurship Monitor report – Poland 2015

the regional assembly and board of the voivodeship. In addition to these centres, the main cities are Włocławek (114,000 inhabitants), Grudziadz (97,500) and Inowrocław (78,000). Over 60% of people inhabit the urban areas. The voivodeship is divided into 19 poviats, 4 cities with poviat rights (Bydgoszcz, Torun, Włocławek, and Grudziadz) and 144 municipalities.

According to the survey by the Central Statistical Office, there are 194 099 national economy entities in Kuyavian-Pomeranian voivodeship, which ranks the region at the 9th place in the country (out of 16 voivodeships)⁴. The region is the hub of modern food, electromechanical and paper industries as well as electric engineering and plastics. An important role in the economy of the region is also played by well-developed agriculture.

To assess the level of entrepreneurship in the regional system, the *Report on the state of SMEs in Poland*⁵ has compared the values of three indicators: the number of active SMEs per 1000 inhabitants, the number of newly created SMEs, and the number of liquidated SMEs per 1,000 inhabitants of the voivodeship. As far as the first indicator is concerned, i.e. the number of active SMEs per 1,000 inhabitants, Kuyavian-Pomeranian voivodeship with the score of 43.43 is ranked 9th, with the leader being Masovian voivodeship - 64.31. When analysing the ratio of newly created to deregistered small and medium-sized enterprises per 1000 inhabitants in 2015, it is worth noting that in all voivodeships the number of newly created enterprises slightly exceeded the number of liquidated enterprises. The ratio was the most favourable in Mazovian, Pomeranian and Lesser Poland voivodeships. Kuyavian-Pomeranian voivodeship ranked right in the middle (8th) with the balance score of 0.73 (8.07 - the number of newly established enterprises per 1000 inhabitants, 7.34 - the number of liquidated enterprises per 1000 inhabitants).

The driving force behind the development of Kuyavian-Pomeranian voivodeship is constituted by the enterprises operating in the region. The remuneration of employees, and hence the income of households, as well as local governments (through the income and local tax system) depends to a large extent on their ability to carry out production (provision of services) and achieve profit on this account. Thus, it is the prosperous companies (achieving above-average profit) that have the greatest opportunities of development, including research and development activities and cooperating with the sphere of science. When assessing the state of entrepreneurship, more attention should be paid to the financial results and the pro-innovative potential of the operating entities than their number alone⁶.

⁴ Statistical bulletin of the Kuyavian-Pomeranian Voivodeship IV quarter of 2017, Bydgoszcz, February 2018

⁵ Raport o stanie sektora MSP w Polsce 2017, [Report on the state of SMEs in Poland] p. 48

⁶ http://www.innowacje.kujawsko-pomorskie.pl/wp-content/uploads/2015/03/zalacznik-nr1_ris.pdf

In Kuyavian-Pomeranian voivodeship, based on the region's economic and scientific potential, specific development vision and planned economic effects, 8 smart specializations have been distinguished. These are:

- healthy and safe food (innovative production, food processing, innovative packaging, certification/quality control methods, together with a new and specified consumer education),
- health and health tourism (innovative and personalized diagnostics and a wide range of care and prophylaxis, also through advanced and modern tourism (rehabilitation, sanatoriums, recreation)),
- advanced materials and tools (innovative materials that are used for the innovative production of objects: machines, tools, packaging),
- transport and mobility (the potential to be used in the processes of displacement, efficient communication and the use of resources of the region),
- cultural heritage and creative industries,
- ICT services,
- eco-innovations,
- industrial automation.

These specializations were selected following a diagnosis of the situation and the strategic analysis for the region. The selected areas have a particularly significant impact on the economic development of the region and have strong scientific facilities conducting highly advanced research and can form the basis for a radical development of enterprises' innovation⁷.

The *Polskie Startupy 2017 [Polish Startups 2017]* report prepared by the Startup Poland Foundation sets out the main technological specializations of startups from the region. They include space technologies, the medical/health sector, food technologies, chemical technologies, materials and tools, transport, eco-innovations, industrial automation, pharmaceuticals, ICT, electrical engineering.

1.3. Startup community

The largest Polish organization that represents the growing Polish startup community is the Startup Poland Foundation. It operates on a non-profit basis and since 2015 it has been publishing reports on the condition of Polish startups. Its main goal is to build awareness of the great potential of startups among decision makers, politicians and local government officials. On its website www.startuppoland.pl it has created the largest database of startups, investors and all other people

⁷ <http://www.innowacje.kujawsko-pomorskie.pl/wp-content/uploads/2016/06/charakterystyka-obszarow-inteligentnych-specjalizacji-dla-projektow-w-ramach-rpo-wk-p.pdf>

related to the startup environment. The foundation has its 'ambassador' in each voivodeship, whose task is to build and promote, openly and broadly, the Startup Poland brand in a given region in close cooperation with the community, including startups, universities and capital investors, with the participation of the media, as well as representing the environment at the city-startup entrepreneurs level.

A great example of how to connect and integrate a startup community is the Exea Smart Space, one of the many incubators in the region (more in section 1.6) Companies that use the space for rent offered by the incubator very often cooperate with one another to create new projects, and also use one another's services. One may be tempted to say that they create an informal cluster of startups in the region. In Kuyavian-Pomeranian voivodeship, it has not yet been possible to create a formalised cluster structure that includes startup companies. The example of Exea Smart Space shows that the region has the potential to create this kind of initiatives and there is a chance that in the future a cluster of startups can be formally created.

Networking, regular meetings, interesting events are all activities that create a bond in a given community Regional startups have the opportunity to regularly participate in various events which more often than not provide networking possibilities. The nature of these meetings is different: some are more, others less formal, topics and issues discussed may vary. Some of the meetings focus on good practices, whereas others describe business failures - for example FuckUp Nights, which was organized for the first time in Torun in 2016. The convention of the meeting is to share stories of unsuccessful businesses and projects. A description of the most important events organized in the voivodeship is provided in section 2.3.

The startup community in Poland has a relatively high profile in the media. In 2016 a documentary titled *Anatomia startupu* [Startup Anatomy] appeared (written and directed by: Aleksander Dembski). This is the first documentary in Poland that tells the story of the startup environment: starting from the very idea of a startup through the subsequent stages of its development. We are presented with 5 stories about rising stars of Polish business who, being in their twenties, earned their first million in a very unconventional manner.

Yet another example of the presence of the startup movement in the media is the *Łap startup* [Seize the startup] programme, which premiered in 2017. It came as an idea for a TV blog by one of the Polish innovators and IT specialists of the younger generation, 23-year-old Petros Psyllos, who is trying to find some interesting examples of Polish startups, while at the same time creating an original blog on the topic. By doing so, he makes a fusion of traditional media with social networking. So far, one 10-episode season has been broadcast. One of the episodes featured a startup from Torun – Neurodio.

Companies from Kuyavian-Pomeranian voivodeship, including startups, appear in the weekly cycle titled: *Tak sie robi biznes w Toruniu* [That's the way to do business in Torun], which is published online. Business owners make a few-minute speech about how to obtain capital and find partners in their industry, how to conduct effective marketing and gain customers. The idea for the cycle and its production came from the Business Support Centre in Torun, which is on the mission to support economic activity in the city.

One may also find internet portals dedicated to the startup community, i.e.: mamstartup.pl, which regularly publishes information from the region, or innpoland.pl, which is entirely devoted to innovations.

An important step in improving the relationship between academic and research centres with business (including startups) is a number of agreements which aim at developing joint measures and concrete, transparent procedures. In mid-2017, a letter of intent was signed between the three largest universities of the region (Nicolaus Copernicus University in Torun, University of Technology and Life Sciences in Bydgoszcz, Kazimierz Wielki University in Bydgoszcz), as regards the appointment of: *Kuyavian-Pomeranian Academic Initiative for innovation and development*. The Initiative is focused on the cooperation of Technology Transfer Centres, which are located at the region's universities. The signatories of the Initiative declare their will to strengthen cooperation regarding the increase of effectiveness of scientific research, joint efforts to effectively commercialize research results and increase innovation in the region.

1.4. Funding (private)

A very important element in the development of the startup ecosystem is the provision of capital which will ensure that a given project will be able to develop dynamically. Like in the entire country, the most popular form of financing a startup is the so-called **bootstrapping**, i.e. carrying out all work with own resources while minimising the costs and financing activities from own funds or money borrowed from family or friends. It is a difficult method of developing a company, because it is well-prepared and business-experienced teams that have the highest chances of achieving success. These chances increase along with the team's experience and obtaining appropriate technical competence - i.e. without the need to employ external specialists. This is the development model for most startups in our region. They provide less advanced technological services, which become a source for financing development works over their own products.

Another source of capital is the [Lewiatan Business Angels](#) network, which is co-created by the richest Poles. It is a nationwide network of Business Angels which has its office also in Torun. A summary of institutions that qualify as Business Angels can be found [HERE](#)

The lack of VC funds in the region puts startups in an uncomfortable position, because there is no institution that could support innovative projects on a continuous basis. Most of the capital comes from projects initiated by the EU, which is why they are often of temporary nature and terminate when the funds are settled.

The location of the voivodeship in the central part of Poland is a favourable circumstance. It gives enables a very good connection with the capital (Warsaw), Poznan or Gdansk, where the possibilities to raise capital are much greater. However, it should be remembered that in a scalable and well-developing business, geography is of little importance and entrepreneurs can make use of Polish and foreign capital. The current list of VC funds in Poland can be found here [HERE](#).

The so-called crowdfunding gains in popularity as far as financing business activity is concerned. In this case the venture is financed by a large number of small, one-off payments made by persons interested in the project. In exchange for the funds transferred, the donor receives a product to which they have contributed in a pre-sale, or some kind of material reward - this form of financing is the non-equity crowdfunding. Although it is quite popular, it is the second type of social financing, the equity crowdfunding, that offers more opportunities for startups. The idea behind it is that in exchange for financial support, investors receive shares in the supported enterprise. There are currently 15 crowdfunding portals in operation in Poland, e.g. *Beesfund*, *Wspieram.to*. This does not present an issue for the most determined startup representatives, as they can make use of foreign platforms.

A participation in competitions, voting and rankings is a good opportunity to promote the company. The most important competitions for the entrepreneurs from Kuyavian-Pomeranian region are: *Pracodawca Pomorza i Kujaw* [Kuyavian-Pomeranian Employer]- organised by the employers of Pomerania and Kyavia. The jury assesses the submitted candidates on the basis of the criteria that allow the selection of the best employers, guided by good practices and integrity in relations with employees and business partners, and at the same time achieving economic success. From the startup point of view, the most interesting is the Innovative Company category.

Another example is *Złota setka Pomorza i Kujaw* [Golden Rank of Pomerania and Kuyavia], organized for 22 years by *Gazeta Pomorska*. Companies are evaluated in terms of financial results, but also in terms of innovation. For the first time the 2017 ranking included the category: A successful startup, which evaluates companies established after 1 January 2015.

Nowosci and *Ekspres Bydgoski* organise their own competitions. The choice of the Businessman and Company of the Year is decided jointly by the jury and readers of the newspaper, who vote for their favourites by means of text messages. Moreover, the jury has decided on granting the title of the Debut of the Year 2017.

1.5 Legal regulations (Regulatory environment)

Legal regulations play a key role in the functioning of every business. The ease of understanding and the friendliness of the procedures are very important features at the initial stage of the company's development. The Polish system of legal regulations is characterized by low transparency of the tax system and insufficient speed of setting up a business⁸.

In the Doing Business 2017 report held by the World Bank, which measured and compared regulatory environment for running a business, Poland occupied a high 24th position among 190 countries. This high rank has been achieved on account of the introduction of many reforms in legal regulations in the period 2015-2016. All formalities related to the establishment of business activity in Poland takes a relatively long time. Procedures may take up to 37 days. 107th position in the ranking of establishing business activity is not satisfactory.

POLAND	
Ease of doing business rank (1–190)	24
Starting a business (rank)	107
DTF score for starting a business (0–100)	84.22
Procedures (number)	4
Time (days)	37
Cost (% of income per capita)	12.1
Minimum capital (% of income per capita)	10.9

Table: Ease of doing business in Poland (Doing business 2017, World Bank).

Efforts are being made to simplify the business establishment process. A good example is to ensure the possibility of electronic **registration of a limited company in 24 hours**. The participation of a notary is not required - only the model of Articles of Association is used. With more complicated contractual entries, registration in a 24-hour mode is not possible. However, this is a very useful mode which does not require the presence of a notary, and the company can theoretically start operations on the following day.

There are also plans to introduce a new type of company to the Polish legal order which would be dedicated to startups in the initial stage of developing an innovative idea which have a much different specificity of operation than an entrepreneur starting a business based on a proven idea. The forms of conducting business activities provided by the Polish law are not suited to this specificity. It would be a **simplified joint-stock company**, which would join some of the characteristics of a limited company and a joint stock company. The minimum share capital would amount only to PLN 1, and its registration would take 24 hours in an online system.

⁸ Diagnoza ekosystemu startupow w Polsce [Assessment of startup ecosystems in Poland], Deloitte Polska, 2016

Each person starting a business in a different industry than farming is subject to obligatory social insurance, the so-called social security contributions (ZUS). Social security contributions for an entrepreneur and employees must be paid on a monthly basis, regardless of the financial situation of the company. Persons who start a business activity can benefit from a special preferential social security contribution. It consists in the fact that for the first two years a reduced social security contribution is paid, the so-called **small ZUS**.

As of 31 March 2018, **the Entrepreneurship Act** comes into force, which constitutes the most important element of the Business Constitution package. The Constitution of Business is a package of laws whose aim is to reform and simplify business activity regulations. The most important solutions of the Entrepreneurship Act include the introduction of the presumption of integrity principle and resolving the actual doubts in the entrepreneur's favour, which is to ensure a more friendly and partner-like relationship between the administration and entrepreneurs. The Act gives the entrepreneurs new privileges, including the so-called initial relief, as well as the possibility not to register business activity after the premisses contained in the Act are fulfilled.

Pursuant to the Act, natural persons starting a business activity will be able to benefit from the exemption from paying social contributions for the first six months. After this period, they will be required to report to the Social Insurance Institution (ZUS) and will have the right take advantage of preferential contributions for the next 24 months, i.e. pay the so-called small ZUS.

The law will provide an **opportunity to act without registration** and paying social contributions by natural persons whose income with respect to the activity will not exceed 50% of the amount of a minimum wage in any month, and who have not performed business activity in the last 60 months. If the income due from such activity, i.e. unregistered, exceeds 50% of the minimum wage in a given month, then this activity will become an economic activity as of the day on which the amount of income was exceeded. The solutions described above are to limit the fear of starting a business.

The act also abolishes the obligation to use the so-called REGON number (number of registering at the Central Statistical Office) in dealings with offices - in contacts with most of them the entrepreneur will be required to use only the so-called NIP number (Tax Identification Number).

The feature that distinguishes startups from other young companies is a clear focus on the ability to create innovative solutions. These solutions, due to their innovative nature, should be well secured against unauthorized use by competitors. The awareness of the need to legally protect innovative solutions is extremely important in this context.

Protection on the territory of Poland is ensured by obtaining a patent at the Patent Office of the Republic of Poland. The persons authorized to appear before the Patent Office are persons who

report directly or patent agents registered in Poland. The activities of patent agents are regulated by the act on patent agents. Unfortunately, the patent procedure in Poland is not short. The decision to grant a patent is made after 4 -5 years after the submission date. In order to decide whether to apply for protection of an invention abroad, the applicant has 12 months, counting from the date of filing the application with the Polish Patent Office.

The Patent Office undertakes many activities and initiatives to promote innovation and disseminate knowledge in the field of industrial property. The Office prepares many publications, guides, organizes conferences, symposia, training workshops, cooperates with national business organizations, employers' associations as well as with universities.

Kuyavian-Pomeranian voivodeship has seen an increase in submission of inventions to the Patent Office. Submissions of inventions made to the Patent Office by domestic entities with the registered office in Kuyavian-Pomeranian voivodeship, domestically and internationally, were respectively in 2016 - 169, 2015 - 163, 2014 - 114, 2013 - 169⁹. At the same time, it should be noted that the number of patent applications filed by domestic entities in 2016 in our region constitutes only 3.97% of the total number of applications in Poland.

In 2016, Polish companies and institutions obtained as many as 180 patents at the EPO, which is an increase by 19% compared to 2015. What is worrying, however, is the fact that the number of Polish patent applications, on the basis of which patents are later obtained, has decreased by nearly 28%. It is worth noting that the highest number of patents is reported by Polish universities and research institutes, not private companies, which is a distinctive feature of other countries.

In startups, although significant expenses on R&D are incurred, the benefits of tax relief in standard form of an ordinary write-off are impossible to be obtained due to tax losses that they often have at the beginning of their operations. The new incentive for innovations, in force since 2016, assumes the possibility of an increased tax deduction from the taxable base for R&D related business expenses. The amount of the relief is 10-30% depending on the cost type. This instrument, on account of its construction, is available only to those entities that generate tax profits, therefore, more often than not, it may not include startups.

There are too few foreigners working in Polish startups. Innovative companies are established by Poles, and only 5% of their employees come from abroad¹⁰. Young, but experienced companies are looking for sellers, marketers and programmers. In the case of the first two groups,

⁹ Based on the data from Annual Reports from the Patent Office of the Republic of Poland, <https://www.uprp.pl/raporty-roczne-urzedu-patentowego-rp/Lead03,68,3909,1,index,pl,text/>

¹⁰ Polskie startupy. Raport 2017 [Polish Startups - 2017 Report], Fundacja Startup Poland, Warsaw 2017

foreign experience is desirable and it is the biggest developmental challenge. Currently in Poland there is a solution in operation that facilitates the employment of foreigners with high professional qualifications, which was implemented in 2013 as a consequence of the European Union directive of 2009. The **EU Blue Card** is a permit to remain issued in all EU countries, with the exception of Denmark, Ireland and the United Kingdom.

The Blue Card is issued in Poland for up to three years to foreigners performing the so-called regulated professions (as defined by the relevant Office or Ministry) who have 5 years of documented professional experience or have completed at least 3 years of higher education. In order to apply for a Blue Card, one must have a contract of employment for at least one year, valid health insurance, and the remuneration proposed in the position cannot be lower than 150% of the average remuneration in Poland. Permits are granted by Voivodeship Offices. The procedure takes up to two months¹¹.

Citizens of Armenia, Belarus, Georgia, Moldova, Russia and Ukraine have a special status that entitles them to work in Poland in any profession without having to obtain a work permit, for a period not exceeding 6 months during the 12 months following the registration at the Poviast Labour Office¹².

So far, Poland has not offered to facilitate setting up companies by foreigners in terms of immigration and visas. The pilot programme **Poland Prize** (the so-called visa for startups) is to help foreign startups to settle in Poland. Its goal is to promote Poland as the first choice among countries of Central and Eastern Europe for foreign startups to do business. On the basis of the pilot programme, analyses will be made as regards the implementation of a similar programme but in a wider scope in the future. The Polish Agency for Enterprise Development (government agency) is responsible for the implementation of the pilot programme.

When assessing the proposals presented by foreign startups, the following are taken into account: innovativeness of the proposed solutions and ideas, the estimated value of the project/idea and the possibility of the startup to be further developed and operate on global markets. A specially selected person (a concierge) will support the foreigner in terms of language and advice with regard to the challenges related to the stay in the new country, as well as those strictly related to the establishment of a business. Startups qualified for acceleration have the possibility to receive a grant of up to PLN 200,000 for the development of the product and remuneration for people involved in the implementation of the enterprise.

¹¹ <http://zielonalinia.gov.pl/Niebieska-karta-41531>

¹² Regulation of the Minister of Labour and Social Policy of 20 July 2011 on the cases in which employing a foreigner in the Polish territory is allowed without having to obtain a work permit

1.6. Forms of supporting startups

Incubators

Incubators are the organizations whose aim is to help companies at an early stage of development. Beneficiaries may be granted the option of using the legal personality of the incubator and a full package of services necessary to run their own business, i.e. legal and accounting consultations, specialized training and office space along with the most important infrastructure needed for work.

In June 2014, in Torun, **Exea Smart Space** - a modern incubator and work space for freelancers, designers, startups and young technology companies was established. There are over 60 companies operating in the incubator now. Apart from space for rent, Exea Smart Space organizes a number of events that activate the regional startup community: from regional editions of global events to conferences, trainings and workshops, as well as individual mentoring sessions.

Operating in Kuyavian-Pomeranian voivodeship also are **Academic Incubators of Entrepreneurship** located at regional universities, i.e.: Nicolaus Copernicus University in Torun, University of Technology and Life Sciences in Bydgoszcz, Kazimierz Wielki University in Bydgoszcz, Collegium Medicum in Bydgoszcz and at Torun School of Banking.

In three of the largest cities of the region: Bydgoszcz, Torun i Wloclawek, operating are **Regional Incubators of Entrepreneurship** managed by the Kuyavian-Pomeranian Loan Fund. Currently, there are 33 companies working in these locations. They include companies from the IT and computer graphics industries, publishing and training services, accounting, leasing and consulting offices, law firms, as well as companies dealing in renewable energy and precision measuring devices. Incubators also rent space for business meetings and conferences.

The largest of such incubators in terms of the area occupied (with the usable area of the facility being 5091.16 m²) is the **Wloclawek Incubator of Innovation and Entrepreneurship**. Its main task is to support the creation and development of business entities to acquire external financial resources for the provision of consulting and training services that support setting up and running a business activity with the main focus on companies with an innovative character. In addition to 32 office rooms, the incubator holds 35 storage rooms and 10 production rooms.

Business incubators are also located in smaller cities of the region: in Swiecie and Grudziadz. The incubator in Swiecie was established by the **Economic Development Support for Swiecie Land Association "Entrepreneurship Incubator"**. The **Grudziadz Entrepreneurship Incubator** is managed by Grudziadz Industrial Park.

Business Link is the largest network of co-working, private offices for rent in Poland, operating since 2011. Currently, it has 13 offices located in 10 largest Polish cities, including one in Torun. Modern interiors are available in prestigious locations, as places for work, meetings and networking - available 24 hours a day, 7 days a week. Business Link offers the total of 21,000 m² of creative space.

The list of entrepreneurship and technological incubators operating in the largest Polish cities can be found [HERE](#).

Several of the regional incubators offer co-working spaces (e.g. Exea Smart Space, Business Link) that allow you to rent a desk in an open space for a limited time - an hour, a day, a month. It is an excellent alternative to renting office space commercially, which is, on the one hand, becoming increasingly more expensive, and secondly, the offered rental conditions are not as flexible. The market reacted quickly to this new trend and private companies that offer co-working services followed suit. The lessee can count on access to a desk and office infrastructure 24/7, and besides they have the possibility to flexibly decide how long the space is rented for. Co-working in Bydgoszcz is offered by Starowka Office, and in Torun: Warsztat Office, among other places.

Accelerators

In Kuyavian-Pomeranian voivodeship in 2015-2017, two acceleration programs for startups appeared: one managed by Fundingbox and the other by Exea Smart Space. As in the case of incubators, the aim of acceleration programmes is to help developing one's business. These programmes are aimed at people and enterprises that already have a specific business idea and are in the seed phase. With a systematized concept, e.g. in the form of a business plan or illustrated by means of a product model or prototype they can participate in the acceleration programme that they select themselves.

Exea Smart Space created **SCALE** - a 6-month acceleration programme for selected startups that work on products or services from Big Data, SaaS, mobile or other areas with the potential of global development. It consisted of two stages: Stage 1 - Forging: in the course of 5 days of intensive workshops, the mentors helped to forge an idea into the best product. The tackled issues included: UX, marketing, sales and all the key issues necessary to build a startup. The stage ended with the presentation of the startup in front of the mentors and judges and the evaluation on their part. The best teams were invited to participate in the 2nd stage of the acceleration programme, combined with an investment of PLN 75,000. The second phase, unfortunately, did not take place - ideas submitted for the programme were at a stage that was short of market and technological readiness.

Much more expanded was the **IMPACT_POLAND** proprietary acceleration programme prepared by Fundingbox and the partners in the ecosystem: the leader on the pharmaceutical market, a strategic Treasury Company in the agricultural sector, a leading Danish entrepreneurship accelerator, a business environment unit was. This program was implemented as part of the Scale Up pilot programme financed from the Smart Growth Operational Programme 2014-2020 by the Polish Agency for Enterprise Development.

IMPACT_POLAND was addressed to startups, micro and small entrepreneurs, who develop their products, services or technologies in the broadly understood sectors of healthcare and agro-food. Only those projects could apply for the programme that had at least a working prototype (or were able to implement the MVP in a few months) and require the support of a large industry partner. The participation in the programme might result in the project support amounting to PLN 222,000 – PLN 250,000, including: up to PLN 200,000 in the form of non-returnable financing and up to PLN 50,000 for mentoring and expert services. The entire acceleration process took 25 weeks. The programme was implemented according to the original approach of 'live due diligence' acceleration. As a result, an ongoing verification of startup progress and effective decision-making on making subsequent instalments of investments are carried out.

Acceleration was carried out in accordance with the "4I" programme (Identification, Inspiration, Integration and Investment) Stage 1 - Inauguration (one day) - during the first day, lean canvas workshops take place, work on the project is commenced in the accelerator, and the mentor is assigned to the team. Stage 2 - Identification (month) - during the first month an Individual Acceleration Plan (IPA) had to be developed, within which the project assumptions, milestones, work schedule and cost estimate were created. The work was carried out as part of weekly mentoring sessions. In the course of this month, participants were assessed on the basis of their commitment, knowledge and the work completed. Only the best teams that received financial support guaranteed under the programme went on to the next stage. Stage 3 - Inspiration (three months) - in the course of the next three months the participants worked daily with mentors and representatives of large companies on adapting the idea to the business needs of the chosen partner. The goal of this stage was to create the so-called proof of concept and refine the MVP of the product so that it was ready for testing. Stage 4 - Integration (two months) - earlier business hypotheses were developed during this stage. As part of the tests, the assumptions about the product and its operation, sales method and communication strategy were verified. With the knowledge gained, the participant was expected to be able to adapt their product to the needs of clients and users and to prepare for commercial implementation.

The secondary objective of the project was to disseminate the idea of startups in Poland, provide them with a complete support ecosystem and ensure the continuity of funding, also after the project has terminated, with the help of the unique concept of 'continuity funding'.

In the first round of the programme, 18 projects were selected from among 148 applications. Thirteen of them completed the acceleration and could boast of the first effects of cooperation - one of the mentees - AISENS - was chosen for the prestigious Startup Bootcamp Berlin Digital Health programme. Yet another startup – CTA – commenced cooperation with NVIDIA. CTA deals with advanced image analysis in which it uses, among others, the concept of machine learning. In June 2017, recruitment for the 2nd edition of the programme was completed. The acceleration programme has been completed by 23 startups, some of which continue to cooperate with large enterprises or have acquired an investor interested in entering their capital.

Business Link has also prepared an acceleration programme for entrepreneurs which offers, among others, Business Mentoring - meetings with experienced entrepreneurs and experts, Business Trainings or Business Mixers.

In 2019, an acceleration programme will be organized under the *Opportunities for European Entrepreneurs in the Sharing Economy* project, abbreviated as SharON, which is financed under the Framework Programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises 2014-2020 COSME. The objective of the acceleration is to select 24 SME entities which are innovation-oriented and inclined towards technologies with high growth potential, and to provide them with an advisory programme tailored to their needs. The final item of the consultancy programme will be the organisation of a *demo day*, in the course of which top 5 representatives of the sharing economy solutions from partner regions will present their ideas to investors and seed funds.

The remaining accelerators that operate in Poland may be found [HERE](#).

Category	Instrument	Operational	Developing	Recently created	Non existing
Density					
	A recognizable cluster of startups exist			x	
	Startup movement is in the media	x			
	Meeteups and events for entrepreneurs happens every week		x		
	Academic & research networks are well connected to business	x			
Culture					
	Entrepreneurs are high-lighted as role models		x		
	Failure is accepted as a part of the learning process		x		
	Jobs at startups are promoted		x		
Funding (private)					
	Seed capital			x	
	Crowdfunding				x
	Venture capital				x
	Prizes	x			
Regulatory environment					
	Tax regulation fosters entrepreneurship		x		
	Patent protection system supports innovation		x		
	R&D transference to market is encouraged		x		
	Special visas for startups		x		
Support services and business training					
	Incubators	x			
	Accelerators	x			
	Next-generation incubators and accelerators (coworking)	x			

2. Institutionalised forms of support

2.1. Educational system solutions

Promotion of STEM (science, technology, engineering, and mathematics) at schools

Early school education in the field of science is extremely important for the subsequent development of the innovation ecosystem. Polish schools prepare pupils in the field of basic IT knowledge or mathematics through the implementation of the core curriculum from their early age. However, there is still a lack of typical education related to programming or electronics. Therefore, commercial programming classes enjoy great popularity among parents and students. Nicolaus Copernicus University has prepared a special offer for young technology adepts - programming for the youngest, DIY - classes in electrical engineering and electronics or the Innovation Centre Mill of Knowledge, a local centre promoting science and technology. Support in the field of technology education can also be found through Lego Mindstorm commercial courses, often implemented at schools outside school hours.

The self-government of Kuyavian-Pomeranian Voivodship is the author of a unique initiative, domestically but also at the European level, which is based on the construction of a network of astronomical observatories - the **Astrobase Project**. Kuyavian-Pomeranian voivodeship is a region with a network of fourteen fully equipped astronomical observatories. Students can observe not only the objects of the Solar System, but also distant systems of stars and galaxies located millions of light years away from the Earth. In the Astrobases, numerous workshops are organized for pupils and teachers, which serve to acquire and expand astronomical knowledge and practical issues related to the operation of observation equipment, the use of this equipment in astronomical observations and the popularization of astronomy.

Large companies get involved in the popularization of STEM, which, while carrying out their CSR mission, help children to understand technology. A good example may be the actions taken by Samsung as part of programming lessons.

In our region, some initiatives are taken to promote technological education among students of Torun high schools. Exea Smart Space, an incubator operating in Torun Technology Park, was involved in Startup School classes under which classes were run for students of three Torun high schools for one semester. The purpose was to motivate the students to create their own projects. As a result, the creators of the best business ideas were invited to the second edition of the Startup Weekend to present the results of their work to entrepreneurs and innovators.

In 2017, the students of technical schools of Kuyavian-Pomeranian voivodeship could participate for the first time in the Jan Czochralski Inventiveness and Innovation Competition. The competition was organized by the Kuyavian-Pomeranian Local Government Association 'Europe of

Kuyavia and Pomerania' The goal of the competition was to stimulate and develop technical interests, as well as to support students' technical talents.

Since 2015, the **Regional Science Festival E(x)plory** has been held in Kuyavian-Pomeranian voivodeship, an event that promotes science, innovation, and also creates the opportunity to meet young and creative scientists with investors. E(x)plory is a cyclical undertaking of the Advanced Technologies Foundation, which implements this type of projects throughout Poland. During the event, creative workshops and inspirational lectures for pupils, scientists and companies operating in the field of new technologies are held. As part of the festival, the Regional Final of the Scientific E(x)plory Competition is held, which is addressed to people aged 14-20, allowing young people to create scientific projects, develop their interests and broaden their knowledge.

Another regional example is the **My Innovative Invention** competition organized by the Kujawsko-Pomorska Agencja Innowacji sp. z o.o. The goal of the competition is to promote creativity among children and young people and to instil in them the interest in improving their technical skills. As part of the competition, the best work which presents an idea for an innovative invention is selected. Every pupil aged from 6 to 20 years old, who attends elementary, junior high or high school in Kuyavian-Pomeranian voivodeship, may participate in the Competition.

One of the ways to engage young people in entrepreneurship and show them the benefits of gaining new professional experience while still attending school is the organization of internships. There are many internship projects in the region, such as: 'Time for internship', provided by the Bydgoszcz City Hall, the second project under the name of 'Vocational training in practice', implemented by the City Hall in affiliation with the Bydgoszcz Industrial Cluster, or 'Professional start. Internships and apprenticeships as a professional form of support for vocational education', which was supervised by the Bydgoszcz Regional Development Agency.

In addition, Bydgoska Agencja Rozwoju Regionalnego Sp. z o.o. implements the cyclical programme titled **Bydgoszcz is Looking for Talents**. This year's edition of 2018 will provide free workshops for programmers in partnership with the Bydgoszcz branch of Cybercom Poland. Participation in the workshop is an excellent way of gaining additional qualifications. The most talented persons will have an opportunity to win a paid internship.

Equalizing opportunities for women and men

In Torun and Bydgoszcz the organization Geek Girls Carrots operates, the aim of which is to promote STEM among women. GGC is a series of workshops initiated by a group of women who work in the technology industry. In the course of their meetings, the participants have the opportunity to learn how to design websites, build mobile applications, or learn the basics of a given

programming language. These events are very popular not only in the region, but also throughout the country.

An inspiring initiative which promoted female entrepreneurship was the cycle titled: *Business suits me*. The main actresses - mentors - of each meetings were women who had achieved success in business - both those who run their own business, and those who take up high positions in other companies. The main purpose of the events was to motivate women to act and show - on local examples - that Torun and our voivodeship are places where one can also succeed and have a career. The business women gave account of what path they had to go through to become what they were and be in the very place of their careers. They said what helped them, how they planned their careers, where they succeeded and where they failed, and how they found a life-work balance. The cycle enjoyed great popularity, and the total of 15 meetings took place.

2.2. Public contributions

2.2.1 Structure of management

Startups seen as a form of entrepreneurship have found an important place in country strategy papers and government programmes. A significant share of EU funds in the EU financial perspective 2014-2020 are intended for the establishment, operation and development of these entities, both from the European Regional Development Fund and the European Social Fund, as well as from the national budget.

The development perspective for 2014-2020 is implemented in Poland through national operational programmes managed by the Ministry of Investment and Development, and 16 regional programmes managed by Marshal Offices, which are regional centres of power.

The Smart Growth Operational Programme (PO IR) is a program which finances research, development and innovation. It will provide support for scientists and entrepreneurs, among others, for their joint research and development projects, and the results of their R&D work will find practical application in the economy. The PO IR budget is over EUR 10 billion.

Two government agencies are the position-taking institutions for PO IR: [National Centre for Research and Development](#) (NCBiR), [Polish Agency for Enterprise Development](#) (PARP) and [Bank Gospodarstwa Krajowego](#) (BGK). They manage individual programme priorities and implement parts of the programme with regard to specific topics.

As part of the Regional Operational Programme of Kuyavian-Pomeranian voivodeship (RPO WKP), the Kuyavian-Pomeranian voivodeship has the budget of EUR 1.9 billion, of which EUR 430 million have been allocated for activities related to strengthening the innovation and competitiveness of the region's economy.

2.2.2 Non-returnable instruments

Grants for innovation (including R&D)

According to the latest act that regulates the level of co-financing, it may amount to the maximum of 80% in the case of micro-enterprises conducting research and development works. Project activities in most cases must be part of national or regional smart specializations. The most popular forms of support for research and development are:

- Fund for Research and Implementation - industrial research and development works in enterprises; maximum grant amount is PLN 3 million (RPO WK-P);
- Innovation vouchers - vouchers of up to PLN 300,000 for the purchase of R&D at the scientific unit (PO IR);
- The research voucher - voucher of up to PLN 80,000 for the purchase of R&D at the scientific unit (RPO WK-P);
- Sector programmes - industry subsidies (industry, games, chemistry, medicine) from PLN 1 million to 20 million (OP IR);
- Fast track - industrial research and development works in SMEs, financing from PLN 2 million to 10 million (OP IR);
- Scale up - acceleration of ideas and grants of up to PLN 250,000 with the use of experience and resources of large corporations, including state-owned companies (PO IR);
- Subsidies for innovative SMEs - implementation of R&D works in enterprises without the maximum value of the project (RPO WK-P);
- Research on the market - experimental development works and consulting services, project worth between PLN 5 million and PLN 50 million (PO IR);
- Support for investment in R&D infrastructure of enterprises - investments in equipment, technologies and other necessary infrastructure that will serve the purpose of conducting research and development works for the sake of creating innovative products and services, minimum value of eligible costs PLN 2 million, maximum PLN 50 million (PO IR);
- Protection of industrial property - obtaining the right to protect industrial property (i.e. patents, protection rights for utility models and rights from the registration of industrial designs), support in the amount of PLN 10,000 up to PLN 1 million (OP IR);
- Patent voucher - covering the costs related to the submission of an application for an invention, utility model or industrial design to the competent authority, maximum value of the grant: up to PLN 68,000 (RPO WK-P).

Subsidies for scaling up the startup activities

- Go to Brand - support targeted at industries with high competitive and innovative potential (including biotechnology and pharmaceuticals, building construction and finishing, car and aircraft parts, machinery and equipment, Polish fashion, IT/ICT, yachts and recreational boats, Polish food specialties, medical equipment, cosmetics, furniture, health services, within the promotion of product and service brands on foreign markets, support of up to PLN 850,000 (PO IR).

Training grants

In September 2017 the Torun Regional Development Agency established the Regional Training Fund. Under the Fund, up to PLN 30,000 can be obtained for training and post-graduate studies for employees of small and medium-sized enterprises from Kuyavian-Pomeranian voivodeship. A non-returnable subsidy in the form of a refund of up to 80% of the costs is allocated for training and consultancy for employees of the SME sector, which is aimed at strengthening the potential and competitiveness of enterprises. Also, the management and SME owners interested in transforming the company's business profile, optimizing management processes or building a company's development strategy can apply for co-financing. Preferential treatment is offered to the employees over 50 years of age and people with low qualifications. Entrepreneurs have the opportunity to choose different forms of development services (i.e. trainings, vocational courses, consultancy, postgraduate studies, mentoring or coaching), which are available in the Internet Database of Development Services run by the Polish Agency for Enterprise Development.

2.2.3 Financial instruments

Financial instruments within the Kujawsko-Pomorski Fundusz Pożyczkowy Sp. z o.o. (Kuyavian-Pomeranian Loan Fund).

Operating in the region is the Kujawsko-Pomorski Fundusz Pożyczkowy Sp. z o.o. (the Kuyavian-Pomeranian Loan Fund). It offers help in the form of loans for starting, running and developing business activity from European and own funds. The overriding goal of the fund is to support people who intend to open their own business or are already running business in the province. Depending on the needs of entrepreneurs, the offer includes the following types of loans:

- for investments and development financed under the ROP WK-P, which can be used only for investment purposes and, depending on the size of the company, they are divided into micro-loans of up to PLN 100,000 small loans of up to PLN 300,000 and large loans from PLN 300,000 to PLN 1 million;

- for establishing a company - from ESF sources, the so-called 'Microloans' for starting a business of up to PLN 50,000, which can be used for any purpose related to starting a business with a preferential interest rate of 0.5% per annum.
- for starters, defined as companies operating for not less than 6 months – the loan is granted for investment or working purposes. The maximum value of the loan is PLN 40,000 with own contribution of up to 20% of the project value.
- for social economy entities with a surety intended for working, working-investment or investment purposes, directly related to undertaking, running and developing business activities or statutory activity of the applicant. The maximum value of the loan is PLN 100,000.

Loan for technological innovations

Yet another form of financial support is the co-financing in the form of a loan for technological innovations under OP IR. It is an instrument that aims at increasing the innovativeness and competitiveness of micro, small and medium enterprises by enabling them to implement technological innovations which are the result of own R&D work or the result of R&D works purchased by entrepreneurs. The technology being the subject of the implementation must have the form of industrial property rights or results of development works, industrial research or unpatented technical knowledge. The entrepreneur will then receive the so-called technological bonus, which is a repayment of a portion of the technological loan granted by a commercial bank for the implementation of a technological investment. The maximum amount of co-financing for the project is PLN 6 million, and the co-financing level in the case of Kuyavian-Pomeranian voivodeship amounts to 55% of eligible costs.

Seed funds and *Venture Capital*

In addition to loan instruments, innovators from Poland and Kuyavian-Pomeranian voivodeship have the opportunity to use external sources of capitalisation of enterprises using EU funds. One of the elements of the Polish startup ecosystem is an institution called the Polish Development Fund (PFR), whose goals include an activation of the VC market in Poland. It offers funding to support newly established VC funds for seed phase projects (PFR Starter) or support large companies in creating their own funds (PFR CVC).

An example of another method of co-financing R&D projects in their early stages of development (projects in the proof-of-principle and/or proof-of-concept phase) is the *Bridge Alpha* programme. Currently, the mechanism is implemented by the VC Funds, which provide own

contribution to invested projects. Operating in Kuyavian-Pomeranian voivodeship are three funds interested in investing in startups (usually at the level of PLN 1-3 million) in the *seed phase* (prototype stage or first customers):

1) [bValue](#) - an investment fund operating with the Business Link network of business incubators (including Torun).

2) [Data Ventures](#) - an investment fund established by the Data Invest company (Data centre); this is one of the Funds created as part of the Bridge Alpha programme (the principle of operation assumes the co-financing of 80% of the capital under the support from the National Centre for Research and Development, and 20% of the fund is to be invested in companies carrying out research and development works).

3) [Black Pearls](#) - a fund interested in investing in Life Science projects; it is also one of the beneficiaries of the Bridge Alpha programme.

Competitions for enterprises

Innovation Leaders of Pomerania and Kuyavia is the competition for innovative enterprises and startups which has been held in the region for nine years. The competition organized by the Torun Regional Development Agency S.A. is addressed to micro, small and medium enterprises of the region, academic enterprises and scientific units/research teams that can boast of successful development or implementation of an innovative technology, product or service. The aim of the competition is to promote and distinguish those enterprises from Kuyavian-Pomeranian voivodeship, which base on knowledge, innovations and modern technologies, to support innovative research and research projects, as well as cooperation between entrepreneurs and scientific units, to promote smart specializations that are conducive to innovations from the Kuyavian-Pomeranian region.

2.3. Support services and business training

2.3.1 Support for entrepreneurship at universities

At the formal level, regional universities are prepared to support scientists in the field of commercialising research or constructing academic companies. All units responsible for this type of tasks were created only in the last decade. The development of a good network in the business environment, the organization of venture capital and cooperation with good managers are the big challenges that all **institutions animating entrepreneurship in the academic environment** are facing. The situation is changing for the better each year, institutions are seeking support for entrepreneurs from public or university funds. At Nicolaus Copernicus University in Torun, the Chancellor has allocated PLN 100,000 to establish academic companies for the most promising ideas.

In addition, the Academic Entrepreneurship Incubator under Nicolaus Copernicus University mediates in the transfer of grants for scientists who conduct research with high commercial potential. Every academic scientist can receive a grant of PLN 100,000 to refine their own solution. Financing is possible on account of the "Incubator of Innovation" programme, under which 18 authors of ideas will receive financial support. Kuyavian-Pomeranian voivodeship, by virtue of the activities of Nicolaus Copernicus University, stands out nationwide as an advocate of activities supporting spin-off and spin-out companies. So far, 28 such companies have been created with a very diverse business profile - from research related to chemistry and physics to historical education, the production of therapeutic games and advanced information processing systems.

Kuyavian-Pomeranian voivodeship is the first region in the country that has decided to grant EU funds for academic entrepreneurship. In 2017, 16 companies operating at regional universities signed contracts for co-financing research projects. The university companies can allocate funds for the purchase of advisory support with respect to stimulating technology transfer and the process of commercialization of research and development results. In particular, they are advisory services in the field of innovation, building and maintaining networks of connections between the scientific environment and the business environment. These funds can also be used to establish contacts and organize meetings with the representatives of the scientific and economic community to initiate commercialization processes.

The academic community is actively involved in industry events implemented by the regional Institutions of the Business Environment. One of the most recent and most experimental initiatives was the establishment of Startup Campus UMK - which was created on the basis of the experience of two institutions: the Exea Smart Space technology incubator and the Academic Incubator of Entrepreneurship at Nicolaus Copernicus University. This facilitated the adaptation of a coworking space in the Interdisciplinary Centre of Modern Technologies of Nicolaus Copernicus University and the implementation of the pre-incubation support programme.

List of regional units supporting research commercialization at universities:

- Kazimierz Wielki University in Bydgoszcz: Regional Centre for Innovation - Technology Transfer Centre
 - http://www.innowacje.ukw.edu.pl//jednostka/centrum_transferu_tehnologii/
- University of Technology and Life Sciences in Bydgoszcz: Regional Centre for Innovation - Technology Transfer Centre
 - <http://ctt.utp.edu.pl/>

- Nicolaus Copernicus University in Torun Technology Transfer Centre of Nicolaus Copernicus University, Academic Business Incubator of Nicolaus Copernicus University, Startup Campus of Nicolaus Copernicus University
 - <http://www.aip.umk.pl/>
 - <https://www.ctt.umk.pl/>
 - <http://startupcampus.umk.pl/>

2.3.2 Education and consulting services

In addition to the university support, many institutions offer entrepreneurs additional, often free services in the form of workshops, training, specialist advice or mentoring sessions in order to gain basic knowledge of running a business and, more importantly, to raise qualifications in many fields, which may be used to expand business and offer professional, innovative and specialized services. Below are presented the most interesting forms of non-material help offered to startups by various institutions in the region

First on the list is Exea Smart Space, an incubator operating at the Torun Regional Development Agency S.A., which provides, among other things, infrastructure for startup companies focused in the IT industry. The following services are included in its package:

OpenBeta is an open meeting for those interested mainly in the subject of e-business, where experienced entrepreneurs share their successes and failures in establishing and developing startups while revealing the secrets of the knowledge of business.

People who want to learn how to effectively promote their company on the Internet, conduct presentations and create websites, can use **Business Workshops**, or in other words practical trainings and workshops devoted to this subject.

The third interesting service is the so-called **Office hours**, or in other words meetings with an incubator team or an invited expert for an individual mentoring session during which concepts and solutions for business problems existing in the company are jointly developed or a preliminary verification of the business idea is made.

Yet another institution operating in Torun which actively supports startup companies, is **Business Link**. It offers a service called "Business mentoring", which is dedicated to all those who need to gain the perspective of an experienced person (a mentor) to take important business decisions in the company. It consists in structuring the knowledge and experience between the mentor and the entrepreneur. The meeting focuses on areas that are important for the further development of the company in order to make the right business decisions.

It is worth mentioning the service of **Global Business Development**, which is also dedicated to startup companies, and whose goal is primarily to gain experience in the global development of the company, taking into account such topics as: conditions for dynamic development, implementation perspectives for products/services on the global market, and factors that facilitate or condition the development of the startup globally.

The next institution that supports the startup ecosystem is the **Academic Entrepreneurship Incubator** in Torun, which operates at the largest university in the region, Nicolaus Copernicus University, and offers, among others, the **StartUP Mixer**. It is a series of informational, promotional and educational events, the aim of which is to build a community of startups and integrate the environment of young, talented, Polish entrepreneurs with people wishing to start their own business, but not yet having an idea and a precise vision for creating a company. They are used to establish business relationships and are an ideal inspiration for starting own business.

Meetings that are strictly devoted to trade are very popular in the region. The most popular of them include: **SIM Torun** ('social, Internet, mobile'), which is a type of a BarCamp inaugurated in 2012 and regularly held every two months ever since. It is organized for all residents of Torun and the surrounding area who are interested in the subject of social media used to exchange experiences, ideas, broaden knowledge and integrate the environment of the internet industry. The regulars include not only people who are professionally associated with Social Media, but also students, local bloggers and entrepreneurs. The lecture topics are diverse and the lectures are conducted by well-known personalities who share their insights and knowledge.

Moreover, every month in the two largest cities of the region, Torun and Bydgoszcz, the so-called **JUG (Java User Group) meetings** are organized, which bring together the enthusiasts of the most popular software language in the world. They are held in order to popularize technologies based on JVM and contribute to the development of the local Java community.

MeetupAllegro is an initiative created by Allegro, one of the largest technology companies in Poland. It is a series of meetings that integrate the IT environment. Invited for cooperation are companies from a given sector which can share valuable knowledge and extensive industry experience. MeetupAllegro provides several hours of lectures that cover specialist topics from selected IT areas.

A service dedicated to scaling up and internationalising startups and SMEs is provided through the **Polish Technological Bridges** instrument, whose beneficiaries will receive a number of consulting services to create a strategy for expanding into a selected foreign market.

Events

There are many interesting initiatives organized in the region. These events are aimed at promoting entrepreneurial attitudes, and thus encouraging business startups or improving competences, expanding the service package, introducing modern and innovative solutions in companies that already operate on the market. Additionally, they often have an educational aspect. They are accompanied by trainings, workshops, and meetings with many specialists, professionals and well-known entrepreneurs who successfully carry out the mission of their company. Such events can become a source of valuable knowledge and allow to gain experience or a new perspective for doing business. Additionally, during this type of events, many regional enterprises which have been successful domestically and globally, are presented. What makes them distinct from the competition is the innovation and the application of new technologies and modern methods of managing and running a business.

The **Expansion Forum** is a regular event organized by the Torun Regional Development Agency S.A. as part of the celebration of the European Week of Small and Medium-sized Enterprises, i.e. a Europe-wide campaign by the European Commission for strengthening the competitiveness of the SME sector. Each year, the event deals with different economic issues. Previous editions focused on topics related to raising funds from external sources, innovations as regards company management, development of the e-commerce industry, application of design thinking, expansion into foreign markets. In total, approximately 1,700 participants have taken part in all editions. The purpose of the latest edition of this event (November 2017) dedicated to the Internet of Things was to provide entrepreneurs with the largest possible amount of practical knowledge on rapidly developing technologies, and make them aware of how they are able to gain new customers and optimize the costs of their operations. The Expansion Forum was also a perfect place for meetings and networking between speakers, representatives of the manufacturing industry and ICT, and owners and employees of companies willing to absorb innovative ideas.

Yet another important event is the **Welconomy Forum in Torun**, which is considered one of the most important economic events in the region, but also in the whole of Poland. The issues discussed at the Forum dealt with such global problems as: energy, renewable energy sources, banking and healthcare. The initiative itself promotes the process of European integration and modern civilization trends, creates a platform for multi-faceted discussion and exchange of views on global and national political and economic problems, supports entrepreneurship, shows outstanding achievements of Polish entrepreneurs on the international arena. The conference is attended by approximately two thousand guests from Poland and abroad, including outstanding personalities

from the world of economy, politics, science and culture. Organizing these meetings is the Integration and Cooperation Association in Torun.

Startup Weekend Torun, a 54-hour event supported by Google and Techstars. It is addressed primarily to people who have an idea for innovative solutions or business - regardless of profession, industry or competence - and wish to implement it. The authors of ideas find a team with which they work for three days to put their ideas into practice. The result of the activities done in the course the Startup Weekend is a prototype or an early version of an online product or service - a portal, a web application, an e-store. The teams are made up of people with diverse competencies - primarily programmers, graphic designers or marketers. The speedy construction of the startup is supported by mentors and experts from innovative companies who share their experience. On the last day, the teams present ready projects to judges - business development experts and investors. The winning team will be the one to create the best business model, vision and product prototype. The Startup Weekend is a global movement that has a huge impact on the world of new technologies and the startup industry. As part of this initiative, over 1000 events have been organized in 120 countries around the world. 300 people from Poland and abroad have participated in the three editions of Startup Weekend Torun. The participants were supported by over 40 mentors and experts from the most recognized technological companies and startups (including IBM, Microsoft, Mozilla, Allegro). 40 teams have been created in total, some of which continue their projects to this day.

Yet another inspiration to open own business may be the participation in **TEDex**, which is a one-day meeting in which the best speakers from the world of technology, culture, art or business share their personal stories and experiences, and encourage listeners to take their own actions and self-fulfil. In Torun, three editions have taken place, attended by approximately 1,250 people.

Very popular in the region are **PMI Poland Chapter** conferences organized by the Kuyavian-Pomeranian Division of Project Management Institute Poland Chapter (pmi.org.pl), an organization that associates supporters of modern project management. The conference programme is most often related to issues dealing with project management through its theoretical and practical development and contemporary challenges existing in this field. It also promotes professionalism in business, organizations and academic centres, and creates a comprehensive compendium of knowledge in this field. The association also organizes workshops for volunteers who want to improve their qualifications in the field of project management.

An important event that inspires the establishment of new companies in the IT sector is the so-called **hackathons**, in the course of which IT specialists, programmers, graphic designers, interface designers and project managers have only little time to find ways and methods to solve a

specific problem related to designing. Many hackathons are organized at the Faculty of Mathematics and Computer Science of Nicolaus Copernicus University. One of the most popular in the country is the **Allegro BrainCode** hackathon, which is organized in three Polish cities, including Torun. BrainCode was first held in 2013 and was initially addressed to Allegro employees. Since then, the event has become an annual programming marathon organized in cooperation with the best universities in Poland, which is addressed both to novices and professionals, and is an opportunity to create new projects, meet new people and provide an opportunity to create an innovative solution in 24 hours under the mentors' supervision. The participants have access to the Allegro API and a set of analytical data to face the challenges of the event theme.

2.4. Demand-oriented public procurement

From the legislative perspective, Poland as a member of the EU participates in the legislative process of creating directives in the field of public procurement and it is obliged to implement them at the national level. However, as in other EU countries, there is no national regulation regarding pre-commercial procurement. Thus, in the sphere of legal regulations regarding public procurement, including innovations and pre-commercial procurements, the situation in Poland does not differ from the solutions applicable in other countries, especially the EU members.

As part of the program area, the reference to public procurement appears in many strategic documents related to innovation policy. In addition to government documents at the regional level, the assumptions of innovation policy are defined by regional innovation strategies that are developed and implemented by marshal offices. These programmes chiefly provide for promotional and information activities, although the strategy of the Kuyavian-Pomeranian voivodeship also assumes the implementation of pre-commercial procurements.

In Poland, the existing activities are part of a general approach to innovative public procurement or innovation-friendly policy. However, there are few examples of pre-commercial procurement or public procurements for innovations. They are usually associated with the implementation of projects financed by the European Commission, in which partners were Polish entities.

Category	Instrument	Operational	Developing	Recently created	Non existing
Talent					
	Flexible labor market		x		
	Education system focused on competences, not in knowledge		x		
	Companies supporting long-life-learning				x
	Coding included in the education system		x		
	Promotion of STEM education		x		
	Gender gap tackled, specially in STEM education		x		
Financing					
	Seed capital (public support or investment)		x		
	Crowdfunding (public support or investment)		x		
	Venture capital (public support or investment)		x		
	Prizes (public support or investment)	x			
	Incentives for new and experienced investors		x		
Support services and business training					
	Support for developing commercial loans for startups	x			
	Technology transfer and university spin-offs	x			
	Business and financial training	x			
Integrated public/private programmes (financing and services)					
			x		
Demand-oriented support& market creation: Public procurement and other					
			x		

3. Enhancing corporate innovation

Neuca S.A. - one of the largest distributors of medicines in Poland - operates in accordance with the CVC (Corporate Venture Capital) principle and actively searches for startups that could develop within the organizational culture of the corporation, and at the same time acquire capital and the first major customer or technology recipient.

The NEUCA Group also intensifies operations in innovative segments of the healthcare market. To this end, it established the **Neucubator** team responsible for searching for companies and innovative business solutions related to the broadly understood health market, the use of which will result in synergy in this market. To date, Neuca has already completed three investments in medical startups: Diabdis - device and application that monitors the level of diabetes in diabetics, Mediporta - provides software in the SaaS model for clinics and Ortopedio.pl - online distributors of rehabilitation and orthopaedic equipment.

The Polish Agency for Enterprise Development has created a new instrument under the Start In Poland government programme titled **Scale UP**. The goal of this pilot programme is to combine the potential of beginning, creative entrepreneurs with the infrastructure, experience and resources of large corporations, including state-owned companies. Involved in the implementation of the Scale UP pilot programme were the accelerators that were selected in the competition organized by PARP. An example of such an accelerator is IMPACT_POLAND, which has been described in section 1.6 of this diagnosis.

The opening of large enterprises, including state-owned companies, to the source of innovations that is represented by startups, is an element of building their competitive advantage and it facilitates their access to innovative solutions. For startups, on the other hand, the cooperation with large companies entails measurable benefits and increases their chances of success. Young companies will receive financial assistance, opportunity to use the resources necessary to develop and test their own solutions, access to high-quality mentors, and also a chance to gain experience and build a network of contacts, business partners and potential investors. Scale Up is also a chance for startups to increase their credibility and promote their own brand among a wide group of corporate clients.

Category	Instrument	Operational	Developing	Recently created	Non existing
Traditional models					
	Corporate venture capital		x		
	Corporate incubation (inside-out)		x		
New models					
	Outside-in startup programmes		x		
	Inside-out platform startup programmes		x		

4. SWOT analysis

The SWOT analysis of the startups ecosystem in the region was carried out by the team of Torun Regional Development Agency in cooperation with the Regional Stakeholders Group. Strengths and weaknesses refer to the internal characteristics of the ecosystem while opportunities and threats are factors that arise in the environment, affecting the ecosystem over which has no control.

Strengths	Weaknesses
<ul style="list-style-type: none"> - a dynamically developing startups' ecosystem - infrastructure (incubators) - strong academic centres - relatively strong business support institutions - EU funds for startups - strong IT industry 	<ul style="list-style-type: none"> - poor education structure (dominance of the humanistic profile, insufficient number of IT graduates) - a small number of large investors - low level of acceptance for the "risk culture", fear of investing - lack of VC funds in the region - low expenditure on R & D - poor cooperation between universities and startups and business support institutions - lack of a leading event on a national scale: innovation fair/show - low economic and financial awareness among students
Opportunities	Threats
<ul style="list-style-type: none"> - state policy focused on the development of academic entrepreneurship - appearing of large foreign investors - large internal market (Poland) - possibility of testing - inflow of foreigners, low labor costs - convenient location in the centre of Poland and Europe (security) - increase of "innovative" awareness among small and medium-sized enterprises and cooperation with startups – innovation carrier - access to non-returnable funds 	<ul style="list-style-type: none"> - monopolisation of the market by "large" players, based on their own solutions and technologies - global downturn causing economic stagnation in Poland / global economic situation - insufficient support for startups in the initial period (e.g. difficulty in obtaining financing in the form of a bank loan, low interest of investors in the initial period of activity of companies) - outflow of young people from the region (brain drain) - lack of stable legal and economic policy - a systemic gap in the science of entrepreneurship

As part of the workshop activities, there was a comparison of the relations between all elements of the analysis, the aim of which was to diagnose the most important strengths and weaknesses as well as opportunities and threats. Participants of the workshop were asked the specific questions such as: (1) can we use the particular STRENGTH to exploit each CHANCE? (2) does the WEAKNESS stop us from using a particular CHANCE? (3) can we use the STRENGTH to reduce each THREAT? (4) does the WEAKNESS increase particular THREAT?

The most important strengths of the Kuyavian-Pomeranian startups' ecosystem recognised the high dynamics of its development and the EU funds operating in the region that support academic entrepreneurship (spin-off and spin-out). Despite of the early stage of the system's maturity a growing number of startups can be noticed. More and more activities promoting the culture of innovation and encouraging networking and commercialisation are carried out.

Areas that were considered as the Weakness include: insufficient cooperation between universities / research units, start-ups and business support institutions and low acceptance of the "risk culture" that manifests the fear of investing in new ideas and setting up startups, which is inherently burdened with large probability of failure and low investor activity. The situation is compounded by the area of financing start-up ventures, poorly developed in the Kuyavian-Pomeranian region by venture capital funds (seed) or business angels. Friendly attitude, observance of mutual obligations and the ability to achieve mutual benefits constitute difficulties during the establishment of cooperation on the line between science and business and business support institutions.

The region's advantage is the location in the centre of Poland and Europe which guarantees convenient access to Polish as well as European markets and suppliers. Another opportunity is the access to external (national and EU) non-returnable funds such as: acceleration programs, support for innovation in SMEs.

The threat is considered as the lack of a stable legal and economic policy that may cause difficulties in the daily functioning of, in particular, newly established companies and the marginalisation of Poland within the European Union. The problem is the outflow of young people from the region to more competitive centres (brain drain). Many qualified young people decide to go to neighboring regions or abroad, where there are higher salaries, better working conditions and higher potential and possibilities. As a result, many startups created by people from the region arise in other centres. Moreover, there are also difficulties with recruiting employees.