

DOCUMENT TITLE:

# REGIONAL MAPPING REPORT – CZECH REPUBLIC

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**Project: Improving RD and business policy conditions for transnational cooperation in the manufacturing industry**

**Acronym: Smart Factory Hub**

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## TARGET GROUP ASSESSMENT

Has this deliverable addressed any of the target group indicated in the application form?

Yes / **No**

If yes, please describe the involvement of each individual target group in the table below.

Target group	Number reached by the deliverable	Description of target group involvement
SME		
Regional public authority		
National public authority		
Higher education and research		
Business support organisation		

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## 1 Introduction

The objective of regional mapping is to provide insight into the current state of the manufacturing sector, particularly functioning of support environment in Czech Republic from which production oriented small and medium enterprises (SME) can benefit on a long term. The regional report is drafted by following common methodology, which includes the analysis of supportive environment for manufacturing oriented companies - particularly smart specialization measures, priorities, indicators, implementation schemes, instruments, emerging trends in the manufacturing sector, analysis of existing support ecosystems and analysis of the main regional actors. Moreover, the supporting institutions and available support services are highlighted, in order to determine possible inclusion of these institutions in a common hub, and thus offer complementary services to SMEs and other target groups.

This report is provided as a single report, similar to reports from other countries, where each partner delivered mapping covering its own region. As a result, regional mapping reports are prepared for Austria, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Romania, Serbia, Slovakia and Slovenia.

After the introduction, Chapter 2 is providing strategic background for the Smart Specialization Strategy including top-down description of strategies and status of their evolution at a national level, background analyses supporting development of strategies and highlight Smart manufacturing topics.

Chapter 3 is presenting support environment by highlighting the support environment structure, detecting actors responsible for implementation of strategies and other supporting actors like clusters, technology parks, R&D centres, competence centres, University incubators, Business incubators.

Chapter 4 presents Smart Factory support schemes and programmes including list of currently available or future programmes, grants, loans, etc.

Relevant statistical data for Czech Republic manufacturing sector is presented in chapter 5.

Chapter 6 provides national Smart Factory related projects in execution by the project partner or partnering organisations.

Chapter 6 presents list of regional actors relevant for area of Smart Factory whereas actors are grouped by relevance (User, Solution provider or User/solution provider)

## 2 Strategic background

Industry and the whole economy is undergoing major changes due to the introduction of information technology, cyber-physical systems and artificial intelligence systems into manufacturing, services and all sectors of the economy. The impact of these changes is so crucial that they are referred to as the 4<sup>th</sup> Industrial revolution. A number of developed countries have already understood the opportunities and threats of these changes and have embraced the 4<sup>th</sup> industrial revolution in systemic measures and dedicated programs. The Czech Republic must respond to these trends because they offer tremendous opportunities in terms of sustainability and increased productivity of industrial production and services and, consequently, demand for skilled workforce. Otherwise, the Czech Republic is facing a loss of competitiveness, with large impacts not only on employment and productivity but on the whole development of the society.

The Government of the Czech Republic has already started to take the first steps towards formalizing approaches to the implementation of Industry 4.0. With respect to this, the two most important documents are the National Research and Innovation Strategy for Intelligent Specialization of the Czech Republic and the National Initiative Industry 4.0. The most important findings from these documents are summarized in the following chapters. The better the government and businesses will understand the possibilities and the possible impacts, the better they will be prepared for the potential risks and will take advantage of the opportunities that the Industry 4.0 visions bring. Due to the extent of the impact, this philosophy must penetrate the thinking of the whole society. Without further exaggeration, **Industry 4.0 is primarily responsible for supporting a change in the way in which the whole society is thinking, rather than on specific technologies.**

### 2.1 National Research and Innovation Strategy for Intelligent Specialisation (RIS3) in Czech Republic

The National Research and Innovation Strategy for Intelligent Specialization of the Czech Republic (further referred to as the National RIS3 Strategy) is a strategic document that ensures the **effective targeting** of European, national and private funds for activities leading to the enhancement of innovation capacity and to the priority areas with a view to fully exploiting the knowledge potential at both national and regional level, thus supporting the reduction of unemployment and the strengthening of the competitiveness of the economy in the area of **research, development and innovation**. The National RIS3 Strategy is also a prerequisite for drawing on the European Structural Funds through various operational programs. Preparations of this document were launched in 2013. The Czech Intelligence Specialization Strategy includes a national RIS3 strategy and 14 regional strategies in the form of so-called regional annexes elaborated for individual regions of the Czech Republic that refine national priorities in relation to the specificities of the region's research and innovation potential. National RIS3 together with regional annexes was approved by the Czech government on 8<sup>th</sup> December 2014.

Within the conceptual view on RIS3 two priorities are proposed for the Czech Republic:

- horizontal: interventions supporting the creation and / or improvement of the innovation system at national and regional level (eg. interventions regardless of the specialized focus of the supported activities)
- vertical: interventions focused on specific competitive, prospective sector / sub-sectors of R&D&I with strong growth potential, so-called smart specialization domains

The proposing part of RIS3 consists of six key areas in which the Czech Republic needs to make significant changes in order to strengthen the knowledge-based economy, develop the identified domains of specialization and to fulfill the vision of RIS3 "Czech entrepreneurial, creative and attractive for talents and money " in the long run. <sup>1</sup>

The key areas of changes and strategic goals of the National RIS 3 strategy are as follows:

- Key area of changes A: Higher innovation performance of companies has these sub-strategic goals.
  - A.1: Increase innovation demand in companies (also in the public sector).
  - A.2: Increase the rate of corporate business with an emphasis on creating new fast growing businesses.
  - A.3: Increase the internationalization of SMEs.
- Key area of changes B: Improving the quality of public research has these sub-strategic goals.
  - B.1: Improve the quality and problem orientation of research in knowledge domains relevant for intelligent specialization.
- Key area of changes C: Increasing the economic benefits of public research has these sub-strategic goals.
  - C.1: Increase the relevance of research according to the needs of the application sphere.
- Key area of changes D: Better accessibility of human resources in the number and quality for innovative entrepreneurship, research and development has these sub-strategic goals.
  - D.1: Improve the quality of school leavers.
  - D.2: Identify and use talents.
  - D.3: Improve the quality of R&D personnel.

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<sup>1</sup> Source: <http://www.czechinvest.org/narodni-ris3-strategie>

- Key area of changes E. The development of eGovernment and eBusiness to increase competitiveness has these sub-strategic goals.
  - E.1: Development of eGovernment.
  - E.2: Development of eBusiness and ICT in business.
  - E.3: Infrastructure Development in ICT.
  
- Key area of changes F: Strengthening and better use of social capital and creativity to address complex societal challenges has these sub-strategic goals.
  - F.1: Promote open partnership cooperation in experimental solutions of social challenges and system-based use of proven models.
  - F.2: Encourage and make better use of the cooperation of local actors to address needs in the area of employment, economic development and social inclusion in the regions of the Czech Republic.

## 2.2 National initiation Prumysl 4.0

The Czech Republic is a historically industrialized country, linking it to the history and industrial and the entrepreneurial tradition of the Bohemian Crown countries. At the time of independence of Czechoslovakia in 1918, more than 70% of the industrial production of the entire former Austro-Hungarian Empire was located in its territory. At present, industry in the Czech Republic accounts for approximately 32% of gross added value. Czech companies are both direct exporters as well as suppliers of European and non-European companies, including those that have their production facilities in the Czech Republic and which are a major buyer for a large percentage of Czech producers, and for their interconnection with foreign owners and partners, they are interested in cooperating in areas that include Industry 4.0. There is an opportunity to exploit the potential of Czech creativity and competences on a wider than national scale.

With regard to the structure of Czech industry, the automotive, electronics, electrical and mechanical engineering industries account for more than half (55%) of the total volume of exports and by their demands are also a driving force to other industrial branches. At the same time, these are branches of the largest Czech employers and in which a large part of the research and development capacities are concentrated. Intensive export linkages of companies operating in these industries to foreign markets and their interconnection with the global economy, not only in the field of manufacturing, but also in engineering services and R&D, predestinate them first to introduce requirements for implementing changes related to the fourth industrial revolution.

However, businesses in other industries are also not spared. Here, however, their take-up may be slower and may often not be enforced by buyers from abroad. In order to maintain the dynamics of the development of Czech companies, it is necessary to create conditions for Czech industrial companies not to develop in isolation, but to be informed and adapted to foreign trends expressed, for example, in the strategic materials of the EU and other countries so that they can gradually prepare for the transition to communication and production facilities that will be



compatible and interoperable within the global customer-supplier chains. The Czech industry must be ready for the 4<sup>th</sup> Industrial revolution, not because of the external pressure from foreign companies, but thanks to the need to further increase its competitiveness through rapid adaptation to the new entry conditions and requirements of the European and world market. The course of the whole revolution should be understood as a societal challenge that the Czech Republic must react to in a timely manner so that it does not lose its position on the international markets and, on the contrary, it has further strengthened it. The Czech business environment includes a wide range of companies whose practical experience and in-house regulations and procedures can draw inspiration and list of best practices for other Czech companies. The special potential lies in a newly emerging dynamic and globally successful Czech start-ups. 2

The National Initiative Industry 4.0 aims to mobilize key sectors and industry representatives to develop detailed action plans in areas of political, economic and social life. The prerequisites and impacts of the 4<sup>th</sup> Industrial revolutions are truly far-reaching, therefore a discussion for whole society will be needed and especially the cooperation of all members of the government, as well as social partners in the implementation of the Initiative Industry 4.0 will be necessary. Below are the key challenges in each area that need to be urgently addressed in the context of the Czech Republic's increased readiness for Industry 4.0 principles.

- **Technological prerequisites** - broadband internet, big data, autonomous robots, sensors, cloud computing and data storage, additive production, augmented reality and last but not least the whole discipline of cybernetics and artificial intelligence.
- **New requirements for applied research in the Czech Republic** - centralization of research activities, especially in the field of applied research.
- **System security** - data security, system security of critical infrastructures and power systems.
- **Standardization** - systems, processes and solutions.
- **Legal and regulatory aspects** - essential changes to legislation relevant to digital and cyber practices in industry and services.
- **Impact on the labor market, skills of the workforce and social impacts** - threats to less qualified professions, new jobs linked to higher demands on the qualification of the workforce.
- **Education** - changes in the education system at all levels of education.
- **Industry 4.0 and resource efficiency** - reducing energy and raw materials production, increasing productivity in production, optimizing logistics routes, technology solutions for decentralized power generation and distribution systems, or intelligent urban infrastructure.
- **Investments promoting Industry 4.0** - an overview of possible financial instruments.

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<sup>2</sup> Source: <https://www.mpo.cz/assets/dokumenty/53723/64358/658713/priloha001.pdf>

## 3 Support environment

In Czech Republic supporting institutions for business oriented SMEs are chambers of commerce, chambers of crafts, centres of excellence, research centres, development centres, competence centres, technology centres, technology parks, incubators and other operating in the eligible program area.

All these institutions promote the emergence of new competitive companies that promise high added value and equitable regional development. Incubators support the realization of entrepreneurial ideas, the creation and development of enterprises, stimulating environment, subsidised leases of premises and administrative, intellectual services and other services for its tenants. Technology parks in one location bringing together business development, research and operations of new technology companies, its members while offering a supportive environment consultancy, easy exchange of information, transfer of knowledge, the necessary infrastructure and the like.

### 3.1 Clusters

Clusters represent a form of informal networking among businesses and other organizations in the sector in a given geographical area, which offers plenty of benefits of cooperation. Connectivity is based on common interests, the basic idea of clustering is based on cooperation, including companies that have market competition, which is somewhat illogical, but understandable since it is a common interest in development cooperation, transfer of knowledge and the development of new competences.

Organizational forms of business clusters are different and depend on each cluster, scope and content. All clusters have in common is that it is a common entrepreneurial activity in a particular environment, focused on the broader global market. Companies within the cluster are specialized and complementary but competing at the same time. In this way may be associated companies acquire larger and more complex transactions that create higher added value and increase their visibility in the market. Membership and participation in the cluster of micro, small, medium and large companies makes contact with partner organizations abroad. These may be companies, institutes, universities and other organizations of interest in terms of members. Organizations and individuals to find themselves in a network of international projects and partners from all over Europe or even the world's countries.

The objective of fostering the entrepreneurial clusters is to strengthen the infrastructure established at local, regional, national and international level and support the identified clusters at a certain level. Cooperation in research and development projects, the members of the cluster enables learning, networking and the development of competencies. Companies can spend a lot of time developing and training, participate in workshops, development and innovation of business models and the like. For micro, small and medium-sized enterprises means integration into clusters, a good opportunity and solution to consolidate its position in the domestic market

and the penetration of foreign markets. Affected companies easier to overcome challenges in the areas of foreign market entry, promotion, marketing, take on larger and more complex transactions, investments, technological development, and so on.

In Europe, there are more than 2,000 different industrial clusters, of which there are about 150 of those who are among the leaders in the world in terms of focus, specialization, size and employment. Around 40% of European jobs is based on clusters; and clustering of micro, small and medium-sized enterprises leads to more innovation and growth.

In the Czech Republic an umbrella organisation called the National Cluster Association (NCA) is active and brings together subjects and individuals with a view of coordinated development of cluster initiatives and the development of cluster policy. The NCA mission is to create a long-term and competent platform for the development of cluster initiatives in the Czech Republic and an active interface for their internationalization. Based on information from NCA the following clusters are existing in the Czech Republic<sup>3</sup>:

1. Agroklastr Vysočina
2. ATOMEX GROUP [www.atomex.cz](http://www.atomex.cz)
3. Bezpečnostně technologický klastr [www.btklastr.cz](http://www.btklastr.cz)
4. BOKLASTR <http://klastrbioplyn.cz/>
5. CGMC [www.maestroj.cz](http://www.maestroj.cz)
6. CLUTEX - klastr technické textilie [www.clutex.cz](http://www.clutex.cz)
7. CREA Hydro&Energy [www.creacz.com](http://www.creacz.com)
8. Czech Cloud Cluster [www.czechcloudcluster.cz](http://www.czechcloudcluster.cz)
9. CZECH IT CLUSTER [www.czech-itc.cz](http://www.czech-itc.cz)
10. Czech Smart City Cluster [czechsmartcitycluster.cz](http://czechsmartcitycluster.cz)
11. CZECH STONE CLUSTER [www.czechstonecluster.eu](http://www.czechstonecluster.eu)
12. CzechBio - asociace biotechnologických společností ČR [www.czechbio.org](http://www.czechbio.org)
13. CZECHIMPLANT <http://czechimplant.cz/cluster-members>
14. Česká peleta [www.ceska-peleta.cz](http://www.ceska-peleta.cz)
15. České umění skla - Český a moravský sklářský klastr <http://czechartofglass.com/>
16. ČESKO - SLOVENSKÝ PRŮMYSL OVÝ KLASTR [www.csklastr.eu](http://www.csklastr.eu)
17. Český telekomunikační klastr [www.projekt-mvno.cz](http://www.projekt-mvno.cz)
18. EKOGEN [www.ekogen.cz](http://www.ekogen.cz)
19. Elektra-City [www.electra-city.cz](http://www.electra-city.cz)
20. Energeticko-technický inovační klastr [www.etikcz.cz](http://www.etikcz.cz)
21. Energeticko-vodárenský inovační klastr [www.ewic.eu](http://www.ewic.eu)
22. ENVICRACK, klastr alternativních zdrojů energie [www.envicrack.cz](http://www.envicrack.cz)
23. Havířovsko-karvinský kovo klastr

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<sup>3</sup> Source: <http://www.nca.cz/cs/ceske-klastrove-organizace>

- |  |  |
|--|--|
| 24. Hi-Tech inovační klastr                              | <a href="http://www.htcluster.eu">www.htcluster.eu</a>   |
| 25. INDUSTRY CLUSTER 4.0                                 |  |
| 26. IT Cluster   | <a href="http://www.itcluster.cz">www.itcluster.cz</a>   |
| 27. Jihočeský lesnicko-dřevařský klastr                  | <a href="http://www.jcdk.cz">www.jcdk.cz</a>   |
| 28. Jihomoravský stavební klastr                         | <a href="http://www.stavebniklastr.cz">www.stavebniklastr.cz</a>                                     |
| 29. Klastr aditivní výroby                               | <a href="http://www.3dklastr.cz">www.3dklastr.cz</a>   |
| 30. Klastr aplikovaných biotechnologií a nanotechnologií |  |
| 31. Klastr českých nábytkářů                             | <a href="http://www.furniturecluster.cz">www.furniturecluster.cz</a>                                 |
| 32. Klastr MECHATRONIKA                                  | <a href="http://www.klastrmechatronika.cz">www.klastrmechatronika.cz</a>                             |
| 33. Klastr OMNIPACK, Klastr výrobců obalů                | <a href="http://www.klastromnipack.cz">www.klastromnipack.cz</a>                                     |
| 34. Klastr přesného strojírenství Vysočina               | <a href="http://www.kpsv.cz">www.kpsv.cz</a>   |
| 35. Klastr sociálních inovací a podniků - SINEC          | <a href="http://www.klastr-socialnich-podniku.cz/o-nas/">www.klastr-socialnich-podniku.cz/o-nas/</a> |
| 36. MedChemBio   | <a href="http://www.medchembio.cz">www.medchembio.cz</a>   |
| 37. MoPharmaC - Moravian Pharma Cluster                  | <a href="http://www.mopharmac.com">www.mopharmac.com</a>   |
| 38. Moravskoslezský automobilový klastr                  | <a href="http://www.autoklastr.cz">www.autoklastr.cz</a>   |
| 39. Moravský lesnický klastr                             | <a href="http://www.lesnickyklastr.cz">www.lesnickyklastr.cz</a>                                     |
| 40. Moravský letecký klastr                              | <a href="http://www.aero-cluster.cz">www.aero-cluster.cz</a>   |
| 41. NANOPROGRESS   | <a href="http://www.nanoprogres.cz">www.nanoprogres.cz</a>   |
| 42. Národní dřevařský klastr                             | <a href="http://www.msdk.cz">www.msdk.cz</a>   |
| 43. Národní energetický klastr                           | <a href="http://www.msek.cz">www.msek.cz</a>   |
| 44. Národní strojírenský klastr                          | <a href="http://www.nskova.cz">www.nskova.cz</a>   |
| 45. Network Security Monitoring Cluster                  | <a href="http://www.nsmcluster.com">www.nsmcluster.com</a>   |
| 46. NiPaS  | <a href="http://www.nipas.cz">www.nipas.cz</a>   |
| 47. Plastikářský klastr                                  | <a href="http://www.plastr.cz">www.plastr.cz</a>   |
| 48. Regionální potravinářský klastr                      | <a href="http://www.repok.cz">www.repok.cz</a>   |
| 49. STAR Research & Innovation Cluster                   | <a href="http://star-cluster.cz/">http://star-cluster.cz/</a>  |
| 50. Zemědělský klastr Orlicko                            |  |
| 51. Zlínský kreativní klastr                             | <a href="http://kreativnizlin.cz/">http://kreativnizlin.cz/</a>                                      |

## 3.2 Centres of excellence <sup>4</sup>

Centres of Excellence are a measure within the framework of the scientific and technology policy of the Czech Republic aimed at promoting the concentration of knowledge at priority technological areas and horizontal linking along the entire chain of knowledge development, which is realised on the basis of strategic partnerships between the private sector and academia.

The interdisciplinary character of the center of excellence, combined with the predominant orientation on various aspects of material research, as well as information technology and medical disciplines, indicate their greater continuity to above-average research disciplines in the Czech Republic and increase interconnectivity. In this respect, the Center of Excellence could best relate to the fields of material research, medical research, molecular biology, or research in the field of information technology. From the point of view of potential links and synergies of the Center of Excellence with the key sectors of the Czech economy, the strongest links can be seen in the area of health, information and communication technologies and the pharmaceutical industry. In general, however, centers of excellence will focus on the applicability of R&D results and cooperation with industry actors generally less than regional R&D centers.

Nine Centres of Excellence were selected within a public call for the development of centres of excellence in 2009–2013:

### 1. Centre of Excellence Telč

*The contribution of the European Regional Development Fund: 202 555 752 CZK*

*The contribution of the State Budget: 35 745 133 CZK*

The project contributes to solving specific and complex problems of sustainable development (new environmentally friendly technology), material research (scientific references and industrially protected results for Innovation materials for the preservation of cultural heritage), a competitive engineering (instrumentation innovations in diagnostics and testing), Information Society (dedicated data and the development of databases and monitoring networks) and security research (impacts, damage mitigation and prevention of natural and civilization disasters) in terms of the expected climate change and associated phenomena in terms of societal pressures to intensify the use of cultural and natural heritage in terms of growing natural and anthropogenic threats.

### 2. Extreme Light Infrastructure (ELI)

*The contribution of the European Regional Development Fund: 5 780 489 517 CZK*

*The contribution of the State Budget: 1 020 086 385 CZK*

ELI project should allow scientists to dramatically push the boundaries of what is possible in several areas. Revolutionary scientific instruments and the work of individual research programs find jobs in a wide range of scientific fields from astrophysics to medicine, chemistry, biology and

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<sup>4</sup> Source: <http://www.opvavpi.cz/cs/siroka-verejnost/projekty.html>

materials science. We will laser emitting particle accelerator in an unprecedented energy range. Cancer treatment are needed high quality and inexpensive proton source, and in this area, the results of research work ELI could be beneficial in many ways. And this is just one example of many.

### **3. Biotechnology and Biomedicine Centre of the Academy of Sciences and Charles University in Vestec (BIOCEV)**

*The contribution of the European Regional Development Fund: 1 959 323 237 CZK*

*The contribution of the State Budget: 345 762 924 CZK*

BIOCEV is a joint project of six institutes of the Academy of Sciences and two faculties of Charles University in Prague, whose main objective is the realization of a scientific center of excellence focused on fields belonging to the most complex areas of modern science - biotechnology and biomedicine. The basic research objectives of the project are BIOCEV detailed knowledge of cellular organisms at the molecular level, which will be an inspiration for applied research and development of new therapies. These include early diagnosis of diseases, the development of biologically active compounds, including chemotherapeutic agents, protein engineering, and other innovative technologies that will lead to improving the quality of human life, the development and growth of the knowledge economy and the competitiveness of the country.

### **4. Central European Institute of Technology (CEITEC)**

*The contribution of the European Regional Development Fund: 4 459 100 000 CZK*

*The contribution of the State Budget: 786 900 000 CZK*

CEITEC is the first type of scientific centers in the Czech Republic, which integrates research and development in the field of life sciences and advanced materials and technologies to such an extent. The basic building blocks of the center consists of 64 research groups with factually or logically related research focus, which are concentrated in seven collaborative research programs: 1. Advanced Nanotechnology and Microtechnology 2. Advanced Materials 3. Structural Biology, 4. Genomics and Proteomics of Plant Systems, 5. Molecular Medicine, 6th Research on brain and mind, 7. Molecular Veterinary Medicine.

### **5. Centre of Excellence IT4Innovations**

*The contribution of the European Regional Development Fund: 1 546 566 705 CZK*

*The contribution of the State Budget: 272 923 536 CZK*

In Ostrava is growing supercomputer that helps solve both floods and terrorism. It will help the development of new drugs based on nanotechnology or optimizing design of automotive components. Using supercomputers will create and flood models, simulation of air pollution and traffic congestion. Without complex calculations and simulations today can not do any research. The supercomputer is therefore the key to innovation and successful future. Ostrava supercomputer will be after its completion in the first hundred of the world's most powerful

computers. It is already part of the prestigious European network PRACE supercomputing ((Partnership for Advanced Computing in Europe)).

#### **6. International Clinical Research Centre (ICRC)**

*The contribution of the European Regional Development Fund: 2 010 250 000 CZK*

*The contribution of the State Budget: 354 750 000 CZK*

International Clinical Research Center (International Clinical Research Center, ICRC) is a center of excellence dedicated to research, education and treatment, especially in the field of cardiovascular and neurological diseases, which are among the most widespread in modern society. Its mission is to find new methods, processes, and technologies enabling effective drug prevention, early diagnosis and individualized treatment.

#### **7. New Technologies for the Information Society (NTIS)**

*The contribution of the European Regional Development Fund: 698 717 273 CZK*

*The contribution of the State Budget: 123 303 048 CZK*

The main project goal is to build a research and development center in information technology and materials research with strong interdisciplinary links that allow you to:

- the creation of new jobs in research and development and long-term stabilization,
- building excellently equipped laboratory workplaces for product-oriented research, experimental development, innovation and the targeted exploratory research,
- better links between research institutions and companies in the Czech Republic and abroad, strengthening funding research from private sources.
- active involvement in transfer of knowledge structures eg. In the form of spin-off companies,
- interconnection and partly doctoral and master studies with research and development activities.

#### **8. Centre for the Study of the impacts of global climate change (CzechGlobe)**

*The contribution of the European Regional Development Fund: 550 738 702 CZK*

*The contribution of the State Budget: 97 189 183 CZK*

The Center CzechGlobe is focused on environmental sciences, namely the issue of Global Change (GZ), which by their nature and potential consequences beyond basic thematic segments: Atmosphere - Ecosystem - socio-economic system. GZ become ecological, sociological and technical problem currently with a global reach, and its solution requires deep technical knowledge.

#### **9. Sustainable Energy (SUSEN)**

*The contribution of the European Regional Development Fund: 2 083 091 600 CZK*

*The contribution of the State Budget: 400 367 604 CZK*

The project SUSEN represents:

- a new challenge for Nuclear Research in Central Europe
- strengthening the material-technical base of research for nuclear energy in the Czech Republic
- support science research program for the new generation of nuclear reactors
- modern equipment and laboratories
- development of advanced technologies
- new opportunities for young, promising scientists and students
- support for NUTS II regions Central Bohemia and Southwest

### 3.3 Competence centres <sup>5</sup>

The competence centres are defined as development and research centres that are managed by partners from industrial sector and link partners from the industry and public research sector; they focus on the promotion of the development capability and the application of new technologies in manufacturing new competitive products, services and processes at priority areas of technological development. This function is complementary to that of the centres of excellence; together they constitute an autonomous whole in the area of research and development.

Thirtythree centres were selected within a public invitation to tender for the development of competence centres in 2010–2013:

#### 1. Center of Competence of the Automotive Industry of Josef Božek

*The total eligible costs: 347 721 000 CZK*

*The contribution of the State Budget: 240 714 000 CZK*

Innovations in the design of vehicles and propulsion units with internal combustion engines and electric motors to reduce fossil fuel consumption and emissions, maximum safety, comfort and pleasure, adaptation to the requirements of legislation and interaction with infrastructure and other vehicles and competitiveness in the development markets. There is a dual order of innovations for an immediately applicable output or background for subsequent development. The Using the knowledge database as an integrating element of a complex topic and a broad team.

#### 2. Flexible printed microelectronics using organic and hybrid materials (FLEXPRINT)

*The total eligible costs: 167 200 000 CZK*

*The contribution of the State Budget: 117 000 000 CZK*

Research and application center focused on the research of materials and hybrid technologies for functional electronic systems printed on flexible substrates and based on a combination of

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<sup>5</sup> Source: <https://www.tacr.cz/index.php/cz/programy/centra-kompetence.html>



metallic nanostructures created by nanoimprinting technology, functional electronic and sensory elements applied by rotary printing methods. Applications will be focused on low-cost printed flexible electronics, especially for intelligent packaging, smart fabrics and holographic security features.

### **3. The Center for the Development of Original Medicines**

*The total eligible costs: 288 226 000 CZK*

*The contribution of the State Budget: 190 105 000 CZK*

The Center for the Development of Original Medicines is a strategic plan that explores the results of basic research in the fields of medicinal chemistry and pharmacology. The aim of the project is to enable the transfer of drug candidates to commercial practice. The project will create an organizational structure able to develop projects aimed at finding new drugs, especially in the pre-clinical stage. The project will greatly increase the success of the development of original medicines in the Czech Republic and will be a successor in the traditionally strong field of local science and industry.

### **4. Advanced technologies for heat and power generation**

*The total eligible costs: 244 582 000 CZK*

*The contribution of the State Budget: 168 419 000 CZK*

The project focuses on applying the latest knowledge in the field of heating, in particular on expanding knowledge about fuel properties, improving equipment efficiency, reducing own consumption and optimizing distribution networks. The research team, design and production organizations, are represented in the research team, the implementation of research results is ensured in practice. It will also strengthen the position of the participating production organizations in the market. There is an education of new experts in generation in the heating zone.

### **5. Center of Competence of Rail Vehicles**

*The total eligible costs: 340 228 000 CZK*

*The contribution of the State Budget: 237 806 000 CZK*

Rail Vehicles Competence Center is a project of coordination and deepening of existing co-operation between manufacturing and research organizations. The Center is focused on applied research and development. The results of the Center's activities will be continuously implemented into the final products and will lead to a significant strengthening of the competitiveness of the Czech Republic in the transport engineering within a period of 4-6 years from the start of the project.

### **6. Research and experimental development center for reliable energy**

*The total eligible costs: 217 200 000 CZK*

*The contribution of the State Budget: 149 500 000 CZK*

The project aims to contribute to increasing efficiency, extending service life, operational reliability, safety and efficiency of both conventional and nuclear power plants. Research and development of new technologies and materials will result in increased competitiveness of manufacturers and operators of energy equipment. The project will further contribute to the upbringing of a new generation of technical intelligence and the development of weakening know-how in energy and energy engineering.

#### **7. Progressive detection systems for ionizing radiation**

*The total eligible costs: 352 700 000 CZK*

*The contribution of the State Budget: 243 250 000 CZK*

A workplace from CVUT in Prague together with UJP Praha, VF Černá Hora, evolving system consulting, ATG and TESTIMA created a consortium for the research and development of ionizing radiation detection systems for applications in medical diagnostics, radiotherapy, radiation dosimetry, defectoscopy and other fields. Within the Competence Center an expert department of microelectronics and a development workplace of ionizing radiation detectors will be set up to ensure the solution of the Center's themes using the latest technologies.

#### **8. Competence Center - Engineering production technology**

*The total eligible costs: 317 984 000 CZK*

*The contribution of the State Budget: 220 840 000 CZK*

The field of engineering production techniques creates for all other engineering branches machine tools, forming machines and new technologies. The main objective of the project is research and development of technical means, solutions and technologies for increasing the main utility features of the machines. The main utility features are: accuracy, quality, production performance, reliability, economy and environmental friendliness. The aim of the project is to support excellence in the Czech Republic so that the Czech Republic is one of the TOP10 producers of SVT in the world by 2020.

#### **9. Center for Competence for Biorefining Research**

*The total eligible costs: 335 900 000 CZK*

*The contribution of the State Budget: 233 319 000 CZK*

The project deals with the complex use of biomass using so-called green chemistry on the spectrum of socially desirable products with high added value and energy. From microbial, plant and animal sources, bioraffing includes, among others, feed and food supplements, fertilizers, biopolymers, together with higher-energy biofuels and energy. Biorefinery is a unique way of a new sustainable solution for the substitution of fossil resources with minimal environmental impact, which exploits the full volume of biomass.

## **10. Electron microscopy**

*The total eligible costs: 224 750 000 CZK*

*The contribution of the State Budget: 157 325 000 CZK*

The project aims to introduce new techniques into electron microscopes to meet the needs of nanotechnology, the development of advanced materials and the application of new knowledge in biology and medicine. These are methods of displaying crystals including two-dimensional, non-conducting surfaces, imaging by wave optic contrasts, etc. New materials, their processing technologies and new building elements of scanning electron microscopes will be developed, accompanied by appropriate methodology.

## **11. Center for the Development of Transport Systems (RODOS)**

*The total eligible costs: 211 872 000 CZK*

*The contribution of the State Budget: 148 178 000 CZK*

The Center for the Development of Transport Systems is creating a strategic partnership of cooperating research institutions and businesses defining the direction of smart mobility development in the Czech Republic. Together, we have embraced the challenge of finding a balance between the need for modern society to move and the negative impacts of mobility. We rely on experienced teams, perfect knowledge of the environment, willingness to cooperate and share the risks associated with adjusting the mobility management trends corresponding to the needs of the 21<sup>st</sup> century.

## **12. Center for Effective and Sustainable Transport Infrastructure (CESTI)**

*The total eligible costs: 360 250 000 CZK*

*The contribution of the State Budget: 243 328 000 CZK*

The CESTI project focuses on technical innovations addressing the shortcomings of today's transport infrastructure. It deals with road and rail infrastructure, including bridges and tunnels. It deals cross-sectional environmental aspects, safety and reliability aspects of the construction, and efficient infrastructure management systems with application of performance parameters. It responds to the needs of cost-effective, materially and energy-conscious, technically durable, reliable and sustainable transport infrastructure.

## **13. Center for Integrated Satellite and Earth Navigation Technologies**

*The total eligible costs: 139 075 000 CZK*

*The contribution of the State Budget: 95 282 000 CZK*

The Center will develop methods for positioning, speed and time by - simultaneous signal processing of all existing and future satellite navigation systems including systems operating in the C and S bands - processing of digital radio and TV signal signals, communication and computer networks - methods independent of external signals Designed by a demonstrator To familiarize future users with device preferences, to verify usability in applications, and to prepare for production.

#### **14. Center for Applied Cybernetics**

*The total eligible costs: 358 640 000 CZK*

*The contribution of the State Budget: 237 818 000 CZK*

The Center for Applied Cybernetics 3 builds on the existing center supported projects LN00B096 and 1M0567. It concentrates state-of-the-art research and application capacities of the public and private sector for long-term cooperation. It generates new results in the field of modeling and control of power generation, distribution and conversion, intelligent human-machine interaction, machine vision and image analysis, and provides new optimization tools for industrial informatics.

#### **15. Center of Advanced Polymer and Composite Materials**

*The total eligible costs: 209 644 000 CZK*

*The contribution of the State Budget: 146 028 000 CZK*

With a view to intensively interconnecting the complementary areas of processing, material development and surface treatment of used raw materials, semi-finished products and final products on polymeric basis and in order to ensure the long-term sustainable potential in the segment of the plastics industry, a joint development base of Tomas Bata University in Zlín and major processors of polymer materials - Fatra, corp., Quinn Plastics Ltd., SPUR corp., Zlín Precision Ltd. and 5M Ltd.

#### **16. E Eco-friendly nanotechnology and biotechnology for water and soil purification**

*The total eligible costs: 316 209 000 CZK*

*The contribution of the State Budget: 219 013 000 CZK*

The aim of the project is to establish a NANOBOWAT Center linking the capacities of three academic and six industrial entities to develop and implement environmentally friendly nanotechnologies and biotechnologies that can be used to clean and treat a wide range of water, including underground, potable, waste and surface, with the option of removing organic, inorganic and microbial contamination. The strategic goal of the project is to make the Czech Republic a European leader in water and soil cleaning and treatment.

#### **17. Center of Digital Optics**

*The total eligible costs: 312 000 000 CZK*

*The contribution of the State Budget: 208 000 000 CZK*

The Center brings together academic institutions and industrial partners focused on optics, thermal imaging technology, the development and manufacture of complex equipment and software and create a strong high-tech consortium in the field of digital optics. The project monitors the close link between advanced technologies, modern optical and photonic systems and powerful digital data processing methods. The center will allow for rapid development and increased competitiveness of all participating partners.

### **18. Platform of Advanced Microscopic and Spectroscopic Techniques for Nano and Microtechnology**

*The total eligible costs: 277 496 000 CZK*

*The contribution of the State Budget: 187 999 000 CZK*

The project creates a R&D platform comprising 3 high-tech companies and 2 leading research centers in the Czech Republic focusing on 1) building a complex instrumentation base and 2) finding methods and procedures for its application in the creation and characterization of functional nanostructures and semiconductor materials / components. The second activity will lead to a portfolio of technologies and diagnostic procedures for creating new high-tech applications for the professional community and the public ((bio) sensors, optical security features, etc.).

### **19. Center for the development of modern metallic biomaterials for medical implants**

*The total eligible costs: 208 000 000 CZK*

*The contribution of the State Budget: 138 775 000 CZK*

The project focuses on the research, development and application of new metal materials and their surface treatments for the production of modern medical implants with longer lifetimes, better mechanical properties and better biocompatibility compared to existing materials.

### **20. Center for Competence in Processing Visual Information (V3C - Visual Computing Competence Center)**

*The total eligible costs: 267 636 000 CZK*

*The contribution of the State Budget: 187 178 000 CZK*

The aim of the project is to create a Visual Computing Competence Center (V3C) as a cluster of two major research organizations and four industrial partners. Motivation is the long-term insufficient interconnection of research centers and industrial enterprises in the Czech Republic. The aim of the project is to create a long-term framework for more intensive application of the results of applied research in the field of Czech industry and to fulfill this framework by its own research.

### **21. Technology Development Center for Nuclear and Radiation Safety (RANUS – TD)**

*The total eligible costs: 342 400 000 CZK*

*The contribution of the State Budget: 239 096 000 CZK*

The aim of the Center of Competence, consisting of long-term export-oriented companies with a privileged position in the Czech Republic and internationally recognized scientific research institutes, is the development, production and export of unique inaccessible detection materials and radiation detection systems to address current problems of nuclear safety and their environmental impacts. Project outputs have an overlap in applications in industry, health, geology, space and basic research.

## **22. Center for Advanced Nuclear Technologies (CANUT)**

*The total eligible costs: 345 600 000 CZK*

*The contribution of the State Budget: 240 951 000 CZK*

The Center for Advanced Nuclear Technology defines a system of long-term cooperation in research, development and innovation of research organizations and major industrial enterprises. The reason for the establishment of CANUT is to build a strategic partnership of consortium members in the field of nuclear technology, which include participating organizations to internationally recognized research institutions and industrial companies with a long history of tradition. These technologies are among the key and prestigious research themes all over the world.

## **23. Advanced Materials and Technologies Center for Protecting and Enhancing Safety**

*The total eligible costs: 305 286 000 CZK*

*The contribution of the State Budget: 198 392 000 CZK*

The proposed project deals with research, development and application of advanced materials, test methods and related technologies designed to increase protection and security. The specific results are aimed at enhancing the security of the population, critical infrastructure protection, defense and national security. Major applications are planned in the field of explosion protection (accidental or intentional) and ballistic protection.

## **24. Center for Innovative Utilization and Strengthening Competitiveness of Czech Brewing Materials and Products**

*The total eligible costs: 155 234 000 CZK*

*The contribution of the State Budget: 108 532 000 CZK*

This project demonstrates the possibilities of innovative use of raw materials for the production of Czech beer (CHZO) - barley and hops. The Center's proposed strategy is based on a unique knowledge base of research organizations and businesses. The output will be completely new competitive products with health benefits and friendly, economically efficient raw material processing technologies. Multidisciplinary concepts and direct connectivity to commercial enterprises are a guarantee of a high application potential of the results achieved.

## **25. Surface Treatment Research Center**

*The total eligible costs: 265 536 000 CZK*

*The contribution of the State Budget: 183 346 000 CZK*

The project focuses on the field of surface treatment for engineering and construction, especially for research and development of new types of materials, technologies for their application and pretreatment of surfaces with a high level of know-how significantly improving their properties. New coatings will be effective and reach a level of performance that meets current or future environmental requirements. The project focuses on the commercialization of results and their

coordination with the priorities of the Czech Republic. Topics are defined in the long-term horizon.

#### **26. Center for Intelligent Drives and Advanced Machine Control (CIDAM)**

*The total eligible costs: 355 935 000 CZK*

*The contribution of the State Budget: 245 244 000 CZK*

CIDAM is an interdisciplinary research center concentrating teams of leading research organizations and renowned companies in the field of mechatronics. The Center introduces a system of long-term research, development and innovation among its members and accelerates the transfer of knowledge and technology between participating research institutions and companies. CIDAM opens up new challenges in power electronics research, drives / actuators, machine control and complex mechatronic systems, utilizing vertical integration of these sphere.

#### **27. Competence center for energy recovery of waste**

*The total eligible costs: 175 315 000 CZK*

*The contribution of the State Budget: 122 720 000 CZK*

Activities in the field of waste energy utilization are aimed at increasing the competitiveness of the Czech Republic in the area concerned. They are based on long-term and effective cooperation between consortium partners. The activity is specified in such a way as to cover the energy recovery of the waste from the idea to the realization. It is based on strategic planning of investment plans and the selection and design of modern technologies and facilities using R & D results.

#### **28. Center of Competence for Molecular Diagnostics and Personalized Medicine**

*The total eligible costs: 331 963 000 CZK*

*The contribution of the State Budget: 207 163 000 CZK*

The main objective of the proposed project "Center for Competence for Research, Development and Transfer of Technologies for Molecular Diagnostics in Medicine - MOLDIMED" is to use and further strengthen the existing expertise and reach a critical mass of participants and experience in research, development, production, intellectual property protection, , Technology transfer and business development to create market driven flexible national networks of major biomarkers and molecular diagnostics institutions.

#### **29. Advanced sensors and methods for processing sensor data**

*The total eligible costs: 180 048 000 CZK*

*The contribution of the State Budget: 122 297 000 CZK*

The Advanced Sensor Competence Center is an association of Czech manufacturers of sensors and sensor systems and research institutions. The Center will develop advanced sensors and methods for processing sensor data for a wide range of industrial applications. Applications include advanced sensors and methods for aerospace and rail navigation as well as building

condition monitoring sensors. The aim of the center is to develop advanced sensor solutions up to the level of functional samples.

### **30. Research center of special rotary machines**

*The total eligible costs: 259 156 000 CZK*

*The contribution of the State Budget: 165 805 000 CZK*

The Competence Center is focused on the application of the latest knowledge in the fields of aerodynamics, hydraulics, mechanics, electromagnetism, electronics and management to solve technical problems of special rotary machines such as gas, hydraulic and electric machines. The center will develop these machines and some of their parts.

### **31. Center of alternative eco-friendly, highly effective antimicrobial agents for industrial applications**

*The total eligible costs: 126 650 000 CZK*

*The contribution of the State Budget: 88 217 000 CZK*

It is a research, development and design of commercialization of innovative antimicrobial systems for plastics, paints, cosmetics and textiles. Designed antimicrobials will be firmly bound in the polymer system so they will only protect the surface of the material without affecting the surrounding environment. In this way long-term protection of the treated materials will be achieved against the effects of microbial infestation without undesirable health and environmental impacts

### **32. Center of Competence for Effective and Organic Mining of Mineral Resources**

*The total eligible costs: 225 599 000 CZK*

*The contribution of the State Budget: 153 114 000 CZK*

The competence center is based on national priorities of focused research and is aimed at enhancing the sustainability of the supply of raw materials. It focuses on the review of stocks of selected non-energy raw materials, which are among the EU's critical commodities. The framework will identify suitable mineral deposits and an effective and environmentally friendly way of extracting and modifying them.

### **33. Intelligent Regions - Information Modeling of Buildings and Settlements, Technology and Infrastructure for Sustainable Development**

The total eligible costs: 248 242 000 CZK

The contribution of the State Budget: 169 613 000 CZK

The aim of this project is to create a multidisciplinary and interdisciplinary system of cooperation between enterprises and research organizations for the development of energy-efficient and environmentally friendly technologies of systems, equipment, components, methodology and strategies for intelligent buildings in the regions. The project is in line with the EU's energy



strategy in the Czech Republic on the basis of Directive 2010/31 / EU of the European Parliament and of the Council from 19<sup>th</sup> May 2010 on the energy performance of buildings.

### 3.4 Research centres <sup>6</sup>

The focus of regional R&D centers is significantly more applicational (more than in case of centers of excellence) and seeks to respect the specific regional economic structure. Regional R&D centers are generally oriented to research in various industrial fields. The most frequent focus is on material research and nanotechnology, information and communication technologies, chemical research and construction research. Other fields of specialization include genetics and molecular biology and research in the field of non-nuclear energy. There are currently 32 regional research centers in the Czech Republic, which are listed in Table 1 below.

**Table 1: Research Centres**

Name of regional R&D center	Main socioeconomical goals (NABS 2007)	Main field	Secondary field
Transport R&D center (CDV PLUS)	Transport, Telecommunications and other infrastructure	Ground transportation systems and equipment	Urban, regional and transport planning
Regional Technological Institute (RTI)	Industrial production and technology, Transport, Telecommunications and other infrastructure	Machinery and tools	Ground transportation systems and equipment
Sustainable Mobility Vehicle Center	Industrial production and technology	Drives, engines and fuels	Ground transportation systems and equipment
AdMaS - Advanced building materials, construction and technology	Industrial production and technology	Construction	Composite materials
Center of Polymer Systems	Industrial production and technology	Macromolecular chemistry	Fluid mechanics
Center for Nanomaterials, Advanced Technologies and Innovation	Industrial production and technology	Applied statistics, operational research	-
NETME Centre (New technologies for engineering)	Industrial production and technology	Industrial processes and processing	Computer use, robotics and its applications

<sup>6</sup> Source: <http://www.vyzkum.cz/FrontClanek.aspx?idsekce=15138&ad=1&attid=708149>

Center for the Development of Engineering Research in Liberec	Industrial production and technology	Machinery and tools	Industrial processes and processing
Regional Material Technology Research Center	Industrial production and technology	Metallurgy, metallic materials	Physics of solids and magnetism
Regional Innovation Center of Electrical Engineering (RICE)	Industrial production and technology	Electronics and optoelectronics, electrical engineering	Sensors, measurement and regulation
Unipetrol R&D Center	Industrial production and technology	Organic chemistry	Organic chemistry
Regional Center of Advanced Technologies and Materials	Industrial production and technology	Physical chemistry and theoretical chemistry	Physics of solids and magnetism
Application and development laboratories of advanced microtechnologies and nanotechnologies	Industrial production and technology	Electronics and optoelectronics, electrical engineering	Optics, masers and lasers
Center of New Technologies and Materials (CENTEM)	Industrial production and technology	Physics of solids and magnetism	Aeronautika, aerodynamika, letadla
West-Bohemian Material Metallurgical Center (ZMMC)	Industrial production and technology	Metallurgy, metallic materials	Composite materials
Institute of Clean Technology of Extraction and Use of Energy Resources	Industrial production and technology	Mining industry including coal mining and processing	Non-nuclear energy, energy consumption and use
Center for Material Research at FCH VUT in Brno	Industrial production and technology	Physical chemistry and theoretical chemistry	Ceramics, refractory materials and glass
Center of sensory, information and communication systems (SIX)	Industrial production and technology	Electronics and optoelectronics, electrical engineering	Sensors, measurement and regulation
Regional R&D Center for Low Cost Plasma and Nanotechnology Surface Treatment	Industrial production and technology	Plasma physics and gas discharge	Physics of solids and magnetism
Center for Security, Information and Advanced Technologies	Industrial production and technology	Informatics	Industrial chemistry and chemical engineering

Regional Center of Special Optics and Optoelectronic Systems (TOPTEC)	Industrial production and technology	Optics, masers and lasers	Electronics and optoelectronics, electrical engineering
Energy units for use of non-traditional energy sources (ENET)	Energy, Industrial production and technology	Non-nuclear energy, energy consumption and use	Industrial processes and processing
Center for the Research and Use of Renewable Energy Sources	Energy	Non-nuclear energy, energy consumption and use	-
Innovation for efficiency and the environment	Energy, Environmental protection	Non-nuclear energy, energy consumption and use	Pollution and air control
CETOCOEN	Industrial production and technology	The impact of the environment on health	Pollution and air control
Institute of Environmental Technologies	Environmental protection	Solid waste and its control, recycling	Pollution and air control
Center for Applied Microbiology and Immunology in Veterinary Medicine	Agriculture, Environmental protection	Animal diseases and pests, veterinary medicine	The impact of the environment on health
The Haná Center for Biotechnology and Agricultural Research	Agriculture	Genetics and molecular biology	Plant breeding
South Bohemian Research Center for Aquaculture and Biodiversity of Hydrocenoses	Agriculture	Fishing	Zoology
Center of algae biotechnology Třeboň (ALGATECH)	Agriculture	Biotechnology and bionics	Microbiology, virology
Biomedical for Regional Development and Human Resources	Health	Genetics and molecular biology	Pharmacology and pharmaceutical chemistry
Regional Center of Applied Molecular Oncology (RECAMO)	Health	Genetics and molecular biology	Oncology and hematology

### 3.5 Technology parks

Technology parks are institutions that provide the concentration of knowledge, high technology, education and interaction with national and global institutions. They connect professionals and entrepreneurs who wish to realize their economic goals, which are based on new technologies. Similar to the business park whose primary objective is to business and production, technology parks, but the focus is on the development and scientific research activities. They set up mainly in the vicinity of higher education institutions and development centres and are attractive for top professionals, but also for young talents who want to improve and educate.

Technology parks in Czech Republic are presented in Table 2.

**Table 2: Technology parks**

Country	NUTS2	Name	Institution type	Adress	e-mail	Webpage links
CZ	CZ020	Science and Technology Park Řež	Technology park	Hlavní 130, Řež, 250 68 Husinec, CZE	ujv@ujv.cz	<a href="http://www.ujv.cz/cz/park.html">www.ujv.cz/cz/park.html</a>
CZ	CZ080	Ostrava Science and Technology park	Technology park	Technologická 372/2, 708 00 Ostrava-Pustkovec, CZE	info@vtpo.cz	<a href="http://www.vtpo.cz">www.vtpo.cz</a>
CZ	CZ071	Science and Technology Park of Palacký University Olomouc	Technology park	Šlechtitelů 21, 783 71 Olomouc, CZE	recepce@vtpup.cz	<a href="http://www.vtpup.cz">www.vtpup.cz</a>
CZ	CZ010	Science and Technology Park of VZLÚ	Technology park	Beranových 130, 199 05 Praha - Letňany, CZE	info@vzlu.cz	<a href="http://www.vzlu.cz">www.vzlu.cz</a>
CZ	CZ032	Plzeň Science and Technology Park	Technology park	Riegrova 1, 301 00 Plzeň, CZE	info@vtpplzen.cz	<a href="http://www.vtpplzen.cz">www.vtpplzen.cz</a>
CZ	CZ010	Business Centre Rumburk, Ltd.	Technology park	Sázavská 914/8, 120 00 Praha 2, CZE	info@pc-vtp-rumburk.cz	<a href="http://www.pc-vtp-rumburk.cz">www.pc-vtp-rumburk.cz</a>
CZ	CZ072	Business Incubator, Science and Technology park and Center of Technology Transfer by Thomas Bata University in Zlín	Technology park	Nad Ovčírnou 3685, 760 01 Zlín, CZE	saha@utb.cz	<a href="http://web.uni.utb.cz/?id=0_2_1_6_6&amp;lang=cs&amp;type=0">http://web.uni.utb.cz/?id=0_2_1_6_6&amp;lang=cs&amp;type=0</a>
CZ	CZ051	Technology Park - Research Institute of Textile Machines Liberec, Co.	Technology park	Svárovská 619, 460 01 Liberec, CZE	vuts@vuts.cz	<a href="http://www.vuts.cz/park">www.vuts.cz/park</a>
CZ	CZ080	OSTRAVA SCIENCE AND TECHNOLOGY PARK	Technology park	Technologická 372/2, 708 00 Ostrava-Pustkovec, CZE	info@vtpo.cz	<a href="http://www.vtpo.cz">www.vtpo.cz</a>

### 3.6 University and Business incubators

The primary purpose of the incubators is to increase the potential for growth and survival of young firms by providing modular buildings, common technical infrastructure, managerial support and other support services. Business incubators are support organizations that assist in the creation, speeding up and long-term performance of the companies in that they provide space for the operation, advisory services, and opportunities for networking and collaboration with other companies.

University incubators in Czech Republic are presented in Table 3.

**Table 3: University incubators**

Country	NUTS2	Name	Institution type	Adress	e-mail	Webpage links
CZ	CZ064	BUT Incubator	University incubator	Purkyňova 649/127 (budova JIC INMEC), Brno –Medlánky 612 00, CZE	jic@jic.cz	<a href="http://www.jic.cz">www.jic.cz</a>

Business incubators in Czech Republic are presented in Table 4.

**Table 4: Business incubators**

Country	NUTS2	Name	Institution type	Adress	e-mail	Webpage links
CZ		Business and Innovation Centre Brno	Business incubator	Purkyňova 648/125, 612 00, Brno, CZE	bicbrno@bicbrno.cz	<a href="http://www.bicbrno.cz">www.bicbrno.cz</a>
CZ	CZ080	Business and Innovation Centre in Ostrava	Business incubator	Ruská 83/24, 703 00 Ostrava – Vítkovice, CZE	bicova@bicova.cz	<a href="http://www.bicova.cz">www.bicova.cz</a>
CZ	CZ032	Business and Innovation Centre Pilsen	Business incubator	Riegrova 1, 301 00 Plzeň, CZE	bic@bic.cz	<a href="http://www.bic.cz">www.bic.cz</a>
CZ	CZ072	Technology and Innovation Centre in Zlín	Business incubator	Vavrečkova 5262, budova 23, 760 01 Zlín	tic@ticzlin.cz	<a href="http://www.ticzlin.cz">www.ticzlin.cz</a>
CZ	CZ052	TECHNOLOGY CENTRE Hradec Králové	Business incubator	Piletická 486/19 - letiště, 503 41 Hradec Králové, CZE	info@tchk.cz	<a href="http://www.tchk.cz">www.tchk.cz</a>

Table 5 is presenting other Smart Factory relevant organisations in Czech Republic.

**Table 5: Business support organisations and Ministries and governmental bodies**

Country	NUTS2	Name	Institution type	Adress	e-mail	Webpage links
CZ	CZ010	Investment and Business Development Agency	Ministry/Government	Štěpánská 15, 120 00 Praha, CZE	info@czechinvest.org	<a href="http://www.czechinvest.org">www.czechinvest.org</a>
CZ	CZ010	Technology Centre AS CR	Ministry/Government	Ve Struhách 1076/27, 160 00 Praha 6, CZE	tc@tc.cz	<a href="http://www.tc.cz">www.tc.cz</a>
CZ	CZ031	The South Bohemian Agency for Support to Innovative Enterprising	Business support organisation	Na Zlaté stoce 1619, 370 05 České Budějovice	www.jaip.cz	<a href="http://www.jaip.cz">www.jaip.cz</a>

## 4 Smart Factory support schemes and programmes

This chapter describes financial environment, support schemes and programmes including relevant policies in the Czech Republic. Furthermore identified currently available or future programmes, grants, loans specifically relevant for SFH project are presented.

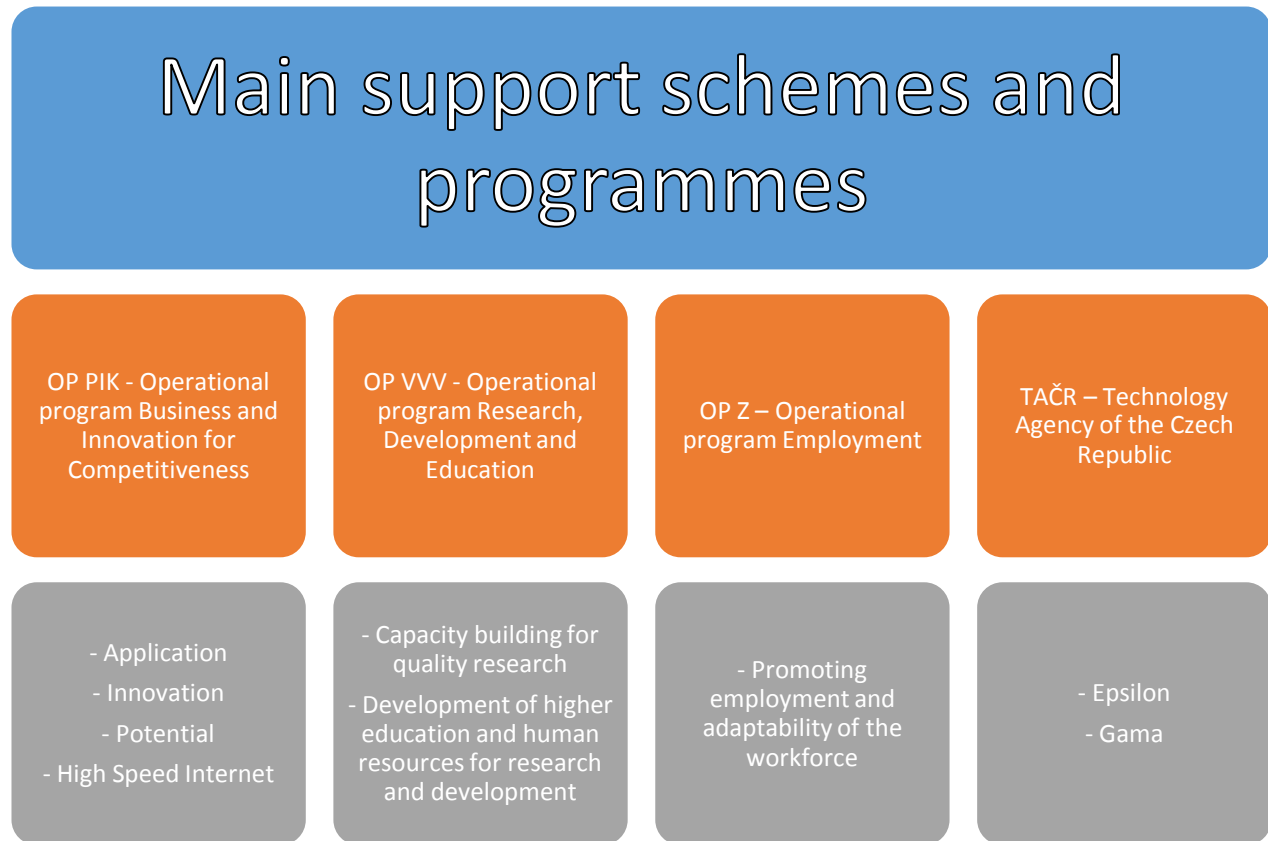
Projects that are implementing Industry 4.0 technologies will be extremely financial demanding. The Czech Republic should provide financial support to companies boldly investing in such solutions. Investments in science, education, and the social sector must also be taken into account. An optimal financial mechanism, such as operational program PIK (Business and Innovation for Competitiveness) and other relevant operational programs or modern financial instruments (a mix of subsidies and loans, revolving funding) or a combination of them, needs to be found.

Operational program PIK is becoming the key financial tool for launching Industry 4.0 applications in the upcoming years. In addition to the programs Applications, Innovation, Collaboration, ICT and Shared Services or High Speed Internet, which can be at least partly used for Industry 4.0, it could be considered also to create a separate program/call named Industry 4.0, strongly aimed for system compatibility. The opportunities and implications of Industry 4.0 must be projected into the RIS3 innovation platforms and, consequently, in the calls within the operational programs subordinate to RIS3 strategy. Moreover, the demonstrable ability to work in the Industry 4.0 environment will significantly increase the attractiveness of the national environment for foreign investment, which has so far benefited from the wage differential.

It is absolutely necessary that the Ministry of Industry and Trade, in cooperation with the Ministry of Finance, the Ministry of Education and the Technology Agency of the Czech Republic, proceeded with the design, verification and implementation of new instruments for the financing of applied research in Industry 4.0, eg. by risk capital form, combination of loan and subsidy or by revolving financing. More than enough experiences can be found in the industrialized world - the Czech Republic can not lag behind in the forms of financing and investment aid.

In addition to investing in technical solutions and supporting industry related innovations, it will also be necessary to take into account the financial demands of programs that will trigger the necessary changes in the education and training system, ensure the appropriate preparation of workers for new qualification requirements and prepare suitable labor market conditions. Obtaining funds directly for these purposes is one of the priorities of the operational programs VVV (Research, Development and Education) and Z (Employment) in the programming period until 2020. As all processes of changes concerning people are of a long-term nature, new principles should also become a regular part of the policies of the Ministry of Education, Youth and Sports and the Ministry of Labor and Social Affairs and should be financed from the state budget in the longer term.

The main support measures for Smart Factory relevant areas identified in are presented in Figure 1 and further described in the following chapters. Those are mainly European funds or are financed from the state budget.



**Figure 1: Main support schemes and programmes**

## 4.1 Operational program PIK

Operational program PIK, with a total allocation of 120 billion CZK, is the key financial instrument for launching the Smart Factory applications in the current programming period. Applications, Innovation, Potential, High Speed Internet and Innovation vouchers can be identified as suitable programs.

### 4.1.1 Application

The goal of the Application program is to support industrial research and experimental development leading to the introduction of higher-level innovations and the creation of internationally competitive products. Subsidies in this program are for businesses of all sizes (independently or in consortium) and organizations for research and dissemination of knowledge defined by the state. The program supports projects in the amount of 1 to 100 million CZK. The level of the subsidy varies according to the type of research and the size of the enterprise. The maximum rate of support for the whole project is limited to 70%.

### **4.1.2 Potential**

The Potential program will support investment in high-quality enterprise background for industrial research. Projects should also stimulate activities deepening the cooperation of companies with research and development organizations. Subsidies can be awarded to companies of all sizes that already carry out or possibly considering their own industrial research. The project must be implemented outside the City of Prague. One project can receive a subsidy of 2 to 75 million CZK.

### **4.1.3 High Speed Internet**

The aim of the program is to modernize and expand the infrastructure for high-speed internet access, in particular to cover so-called white spaces where such access does not yet exist. Assumed supported activities will be modernization, esp. expanding existing infrastructure for high-speed internet access by using optical elements, setting up new networks consisting partially or fully of optical fibers enabling high bandwidth and building a passive infrastructure to support high-speed internet access, especially in locations of the foreseeable future building development.

### **4.1.4 Innovation vouchers**

The aim of the program is to provide companies with the means to purchase expert know-how to help them grow their business quickly. The subsidy is intended for companies, business groups, government and self-government bodies, research and knowledge dissemination organizations, as well as for non-profit organizations. For one project it is possible to obtain a subsidy in the range from 80 to 250 thousand CZK.

## **4.2 Operational program Research, Development and Education**

The Operational Program Research, Development and Education (OP VVV) gives the Ministry of Education, Youth and Sports the opportunity to rationally divide a total of 75 billion CZK. Relevant for the needs of smart manufacturing are especially the priority axes PO1: Capacity building for quality research, focused on achieving the top level of Czech research on an international scale and PO2: Development of higher education and human resources for research and development, cooperation between the research and the private sector, etc. and also in the PO3 - especially under specific objective 2: Improving the quality of education and pupils' performance in key competences, and specific objective 5: Improving the quality of education and training, including enhancing their relevance to the labor market.



### **4.3 Operational program Employment**

The objective of the Operational Program Employment (OP Z) under the Ministry of Labor and Social Affairs is to improve the human capital of the population and public administration in the Czech Republic, adaptability of employees and employers and further education which are all the parameters necessary for Industry 4.0 concept. Companies should focus mainly on priority axis 1: Promoting employment and adaptability of the workforce. The total allocation of this operational program is approximately 70 billion CZK.

### **4.4 Trio**

The Trio program administered by the Ministry of Industry and Trade of the Czech Republic with an estimated allocation of 3.7 billion CZK supports applied research and experimental development. Its goal is to increase the use of research and development results in technologies used in the corporate sphere. The program also seeks to strengthen cooperation between businesses and research organizations. The areas of support relevant to Industry 4.0 are photonics, micro and nanoelectronics, nanotechnology, advanced materials and advanced manufacturing technologies. Emphasis will be placed on economic areas in which the Czech Republic has significant growth potential. Subsidies can be obtained by businesses and research organizations throughout the whole area of the Czech Republic, including the City of Prague.

### **4.5 TAČR**

The Technology Agency of the Czech Republic plays an extremely important role in the relevant public support, with its Gamma and Epsilon programs.

#### **4.5.1 Epsilon**

The program aims to support applied research and experimental development. Subsidies can be earned by businesses and research organizations. The program covers the whole area of the Czech Republic, including the City of Prague. The program supports applied research and experimental development. It is aimed at improving the position of Czech industry by supporting projects whose results have a high potential for rapid application in new products, manufacturing processes and services.

#### **4.5.1 Gama**

The aim of the program is to support and significantly improve the transformation of R&D results into practice. Subsidies can be obtained by research organizations and businesses. The main objective of the program is to support and significantly improve the transformation of research and development outcomes achieved by research organizations - either alone or in cooperation with companies. The Gama program will also support innovation in small and medium-sized enterprises that will be able to get a grant to utilise the results of research already carried out in the laboratories of research organizations. The program is aimed at supporting the verification of

the results of applied research and experimental development from the point of view of their practical application and the preparation of their subsequent commercial use, mainly through the sale of licenses and the establishment of spin-off companies.

#### **4.6 International initiatives (Horizon 2020 and Eureka)**

The last but not least option for obtaining grants, especially for high-quality research, is in international cooperation programs such as Horizon 2020 or Eureka.

Program Horizon 2020 will support projects which pursue and achieve scientific excellence and are internationally comparable to the best research projects. Projects will have to demonstrate top-level quality in the context of initiatives and projects which are recognized as scientifically excellent in central EU Horizon 2020 programmes.

The aim of the program is to provide targeted support to selected projects, to support international cooperation in applied research, to increase the competitiveness of Czech companies and to create new innovative products and services. EUREKA projects are focused on both private and public sectors. Their output must be new high-end products, technologies or services capable of commercial exploitation, including:

- information technology,
- new materials,
- environment,
- biotechnology and medical technology,
- robotics and Automation,
- communication technologies,
- energy,
- transportation and more.

Smaller project can be obtained for cross-border cooperation usually with Germany (Bavaria and Saxony) or Austria.

Some of relevant support schemes, measures and calls including information about implementation body, available budget, eligible costs and other relevant data is presented in Table 6. Due to quantity of information in this chapter only an extract table is presented below and more data is included in Annex XLS file – sheet “Funding schemes”.

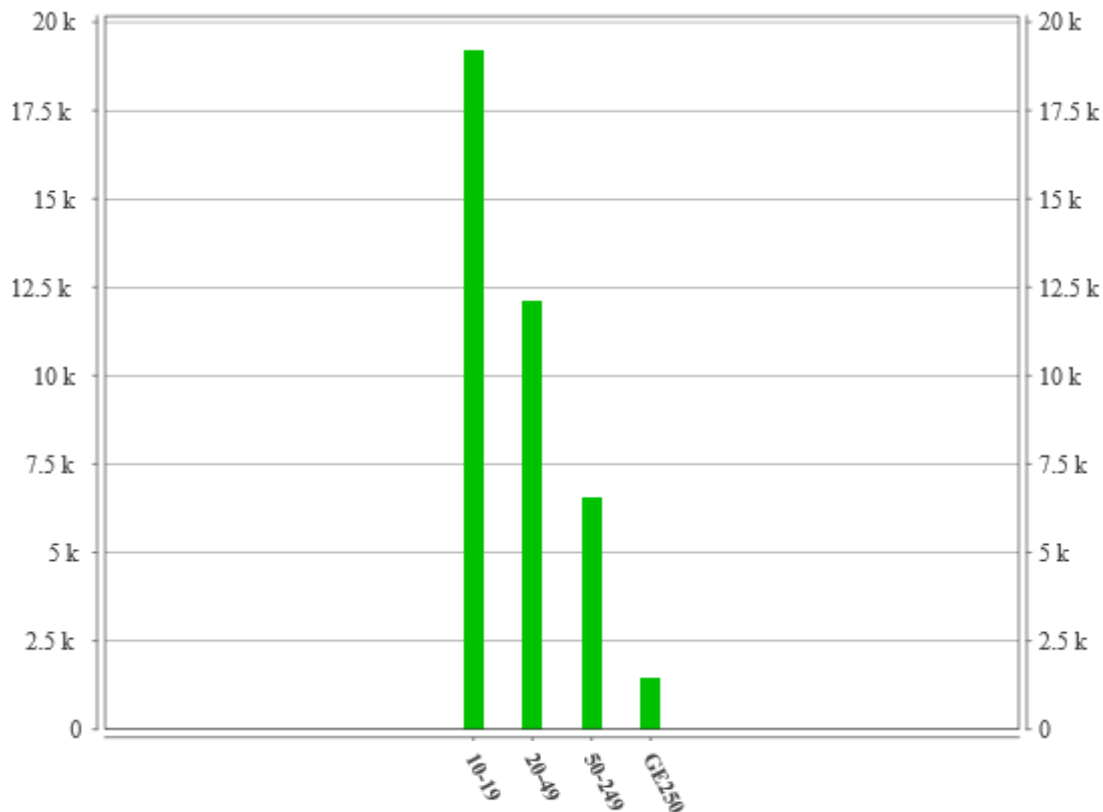
Table 6: National support schemes summary

Country	Measure/Call	Objective	Implementation body	Budget (Mio €)	Beneficiary	Financing rate	Eligible costs	Max. grant (€)	Year from:	Year to:
CZ	OP Podnikání a Inovace pro Konkurenceschopnost - Application	The grant program Application is aimed at supporting the industrial research and experimental development. Supported is in particular cooperation between businesses, universities and research organizations.	Ministry of industry and trade	4.440 in OPPIK program	Business entities, especially SMEs	whole project max. 70% – company 25% to 65%, research organisation max. 75%	<ul style="list-style-type: none"> <li>- Personnel costs - wages of researchers, technicians and other support staff</li> <li>- Material</li> <li>- Cost of contract research</li> <li>- Purchase of equipment by depreciation</li> <li>- Additional overhead costs</li> </ul>	min. 37037 €, max. 3.7 mil €	2017	2020
CZ	OP Podnikání a Inovace pro Konkurenceschopnost - Innovation	The aim of the Innovation program is to support the acquisition of new production technologies, including necessary intangible assets and investment property. Support is used to introduce newly developed or upgraded products and processes into production and market. It can be used by businesses of all sizes.	Ministry of industry and trade	4.440 in OPPIK program	Business entities, especially SMEs	whole project max. 45% of eligible expenses	<ul style="list-style-type: none"> <li>- Purchase of new production machines</li> <li>- Purchase of hardware and software</li> <li>- Purchase of licenses, patents, certifications, etc.</li> <li>- Construction work related to the project</li> </ul>	min. 37037 €, max. 3.7 mil €	2017	2020
CZ	OP Podnikání a Inovace pro Konkurenceschopnost - Potential	This program aims to support companies that have a clear idea of the future development of their products and their market application and need to acquire new technologies and equipment for this research or development. The program does not allow the acquisition of technology for serial production.	Ministry of industry and trade	4.440 in OPPIK program	Companies of all sizes	whole project max. 50% of eligible expenses	<ul style="list-style-type: none"> <li>- Purchase of machines</li> <li>- Purchase of buildings including reconstruction or extension</li> <li>- Purchase of software for research and development</li> </ul>	min. 74074 €, max. 2.7 mil €	2017	2020
CZ	OP Podnikání a Inovace pro Konkurenceschopnost - Low Carbon Technologies	The objective of the Low Carbon Technology program is to support the competitiveness of enterprises and the sustainability of the Czech economy by introducing innovative technologies in the field of electromobility, renewable energy, energy management and use of secondary raw materials. Another goal is to increase the use of more efficient and reliable low-carbon technologies, which are not normally applied in the Czech Republic.	Ministry of industry and trade	4.440 in OPPIK program	Companies of all sizes	elektromobility max. 55%, energy utilisation max. 60%, processing of secondary raw materials max. 25% of eligible expenses	<ul style="list-style-type: none"> <li>- Purchase of electromobility</li> <li>- Acquisition of charging stations for electromobility (for company own use only)</li> <li>- Accumulation of energy including renewable energy sources</li> <li>- In the case of a project focused on the processing of secondary raw materials, the purchase of machinery and equipment, construction of an engineering network, construction costs and project documentation</li> </ul>	elektromobility max. 0.37 mil €, energy utilisation 1. mil. €, processing of secondary raw materials max. 3.7 mil €	2017	2020

## 5 Trends in the manufacturing sector

Relevant manufacturing trends based on EUROSTAT<sup>7</sup> statistical data are presented in this chapter.

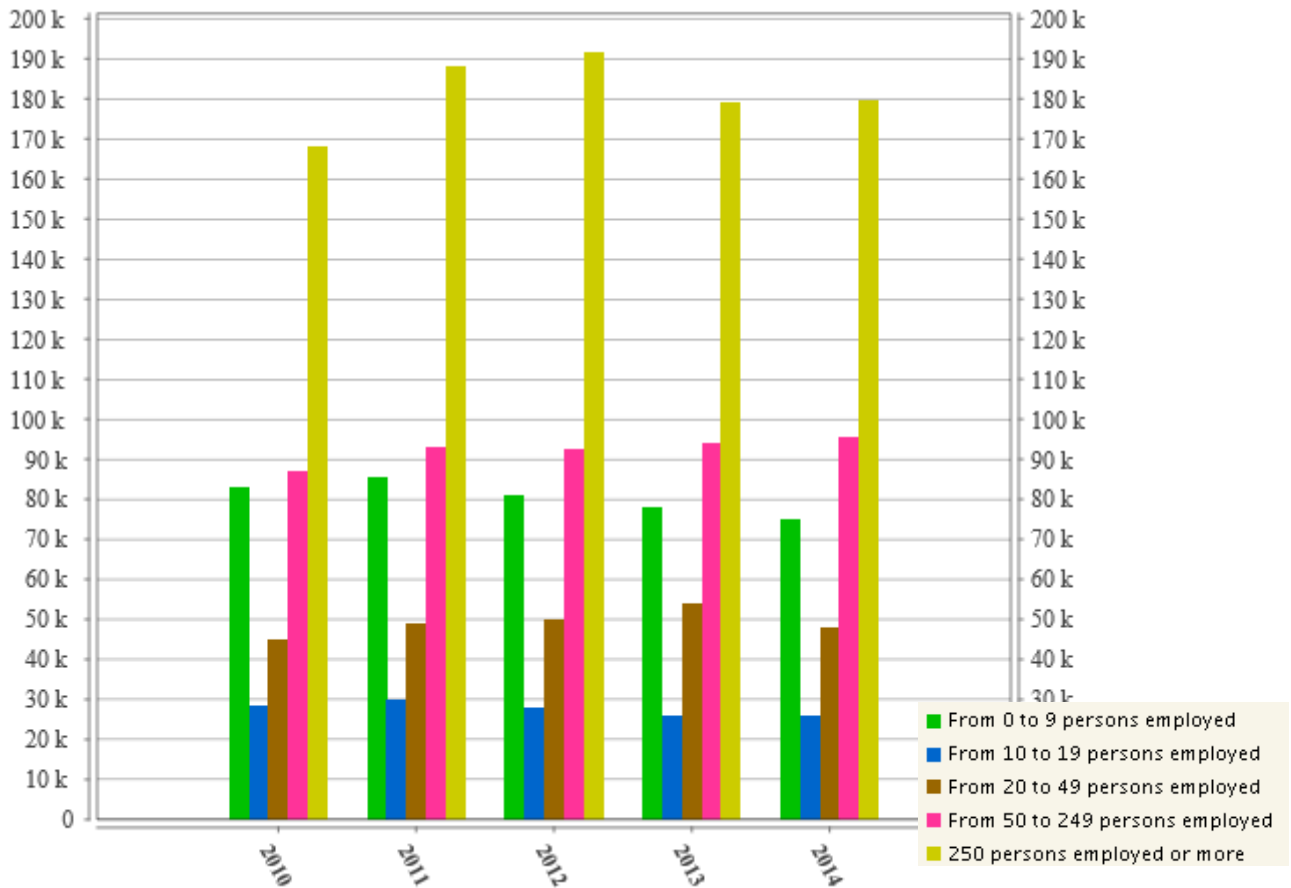
Indicator presented on Figure 2 covers the number of enterprises active during at least part of the reference period. The data is broken down by size classes of persons employed.



**Figure 2: Czech Republic - Number of enterprises in the non-financial business economy by size class of employment**

<sup>7</sup> <http://ec.europa.eu/eurostat/guip/themeAction.do>

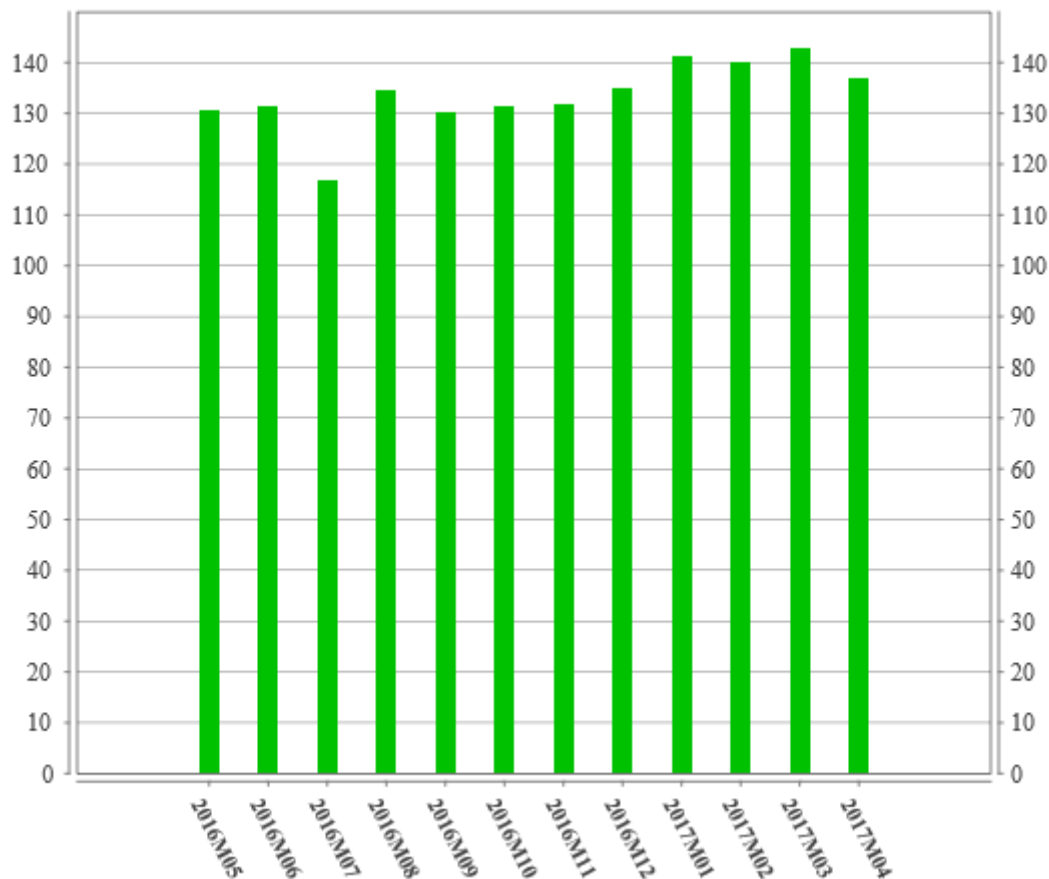
Turnover is the total of all sales (excluding VAT) of goods and services carried out by the enterprises of a given sector during the reference period are presented on Figure 3. The data is broken down by size classes of persons employed.



**Figure 3: Czech Republic - Turnover of the non-financial business economy by size class of employment - Millions EUR**

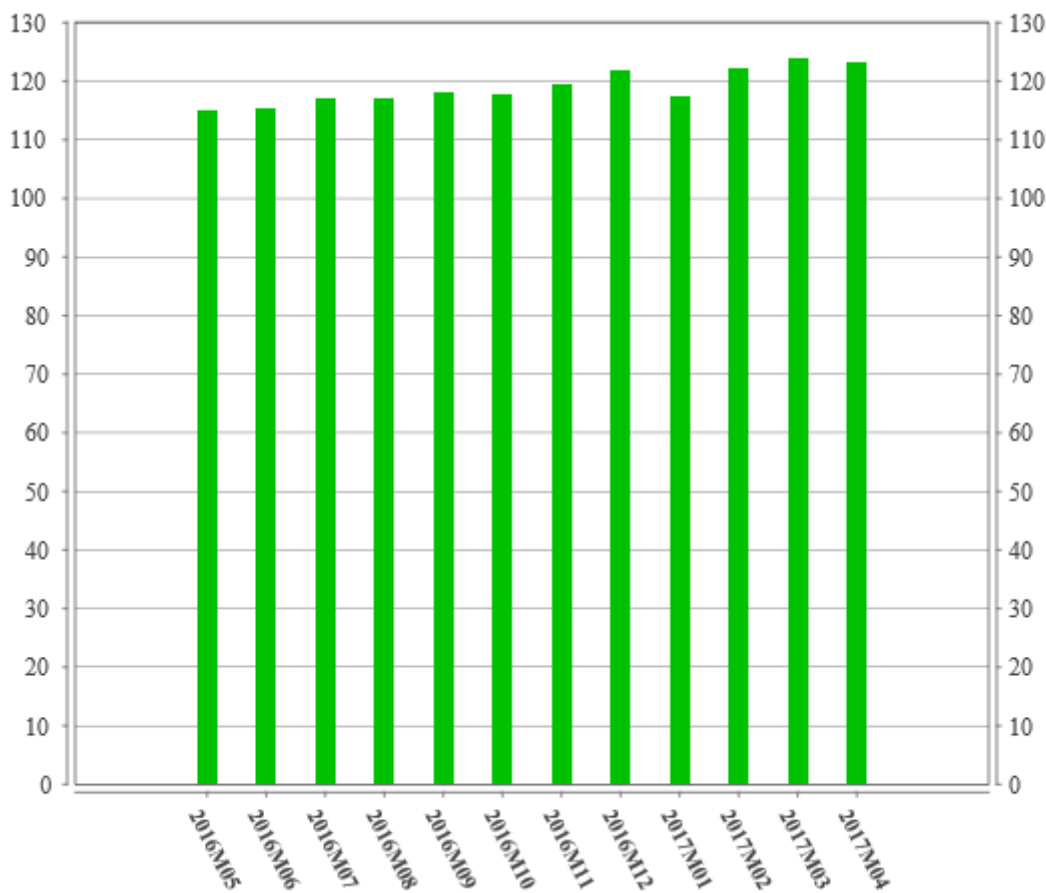
The Turnover Index presented on Figure 4 is a business cycle indicator showing the monthly evolution of the market of goods and services in the industrial sector. It also records the evolution of turnover over longer periods of time. The turnover of industry index is not deflated. It is therefore the objective of this indicator to measure the market activity in the industrial sector in value.

Data are compiled according to the Statistical classification of economic activities in the European Community, (NACE Rev. 2, Eurostat). Industrial turnover is compiled as a "fixed base year Laspeyres type volume-index". The current base year is 2010 (Index 2010 = 100). The index is presented in calendar and seasonally adjusted form. Growth rates with respect to the previous month (M/M-1) are calculated from calendar and seasonally adjusted figures while growth rates with respect to the same month of the previous year (M/M-12) are calculated from calendar adjusted figures.



**Figure 4: Czech Republic - Turnover in industry - manufacturing**

The industrial production index presented on Figure 5 shows the output and activity of the industry sector. It measures changes in the volume of output on a monthly basis. Data are compiled according to the Statistical classification of economic activities in the European Community, (NACE Rev. 2, Eurostat). Industrial production is compiled as a "fixed base year Laspeyres type volume-index". The current base year is 2010 (Index 2010 = 100). The index is presented in calendar and seasonally adjusted form. Growth rates with respect to the previous month (M/M-1) are calculated from calendar and seasonally adjusted figures while growth rates with respect to the same month of the previous year (M/M-12) are calculated from calendar adjusted figures.



**Figure 5: Czech Republic - Production in industry - manufacturing**

## 6 Smart Factory related projects

This chapter presents relevant national projects in execution by the partner or partnering organisations. Due to quantity of information in this chapter only an extract table is presented below and more data is included in Annex XLS file – sheet “Projects”.

**Table 7: Smart Factory related projects - extract**

Main applicant country	Project name	Programme name	Year from:	Year to:
AT	CNCB	INTEREG IVB - CENTRAL EUROPE	2010	2012
AT	CERlecon	INTEREG IVB - CENTRAL EUROPE	2016	2019
IT	FabLabNet	INTEREG IVB - CENTRAL EUROPE	2016	2019
DE	NUCLEI	INTEREG IVB - CENTRAL EUROPE	2016	2018
DE	TRANS <sup>3</sup> Net	INTEREG IVB - CENTRAL EUROPE	2016	2019
NA - start in 2017	AMiCE	INTEREG IVB - CENTRAL EUROPE	2017	2020
SI	SMART FACTORY HUB	Interreg - Danube	2016	2019
SK	Ecolnn Danube	Interreg - Danube	2016	2019
HU	SENSES	Interreg - Danube	2017	2019



## 7 List of regional actors

This chapter presents Smart Factory relevant actors identified by University of West Bohemia.

Production oriented SMEs as potential users of solutions are presented in Table 8. The data is collected in Annex XLS file – sheet “Reg. actors”.

**Table 8: List of regional actors – users**

NUTS2	Name	Institution type	Industry sector	Service type 1	Service type 2	Adress	Webpage links
CZ063	ADH-PLOTY s.r.o.	SME	OTHER	Manufacturing		Štoky 463, 582 53 Štoky, CZE	<a href="http://adh-ploty.cz/">http://adh-ploty.cz/</a>
CZ063	AGADOS, spol. s r.o.	SME	Automotive industry	Manufacturing	Engineering	Průmyslová 2081, 594 01 Velké Meziříčí, CZE	<a href="http://www.agados.cz">http://www.agados.cz</a>
CZ020	Agor Tech spol. s r.o.	SME	OTHER	Manufacturing		Sádek 1, 261 01 Příbram, CZE	<a href="http://www.agor.cz/">http://www.agor.cz/</a>
CZ020	AgroZZN, a.s.	SME	Food industry	Manufacturing		V Lubnici 2333, 26901 Rakovník, CZE	<a href="http://www.agrozzn.cz/">http://www.agrozzn.cz/</a>
CZ020	ALCO CONTROLS, spol. s r.o.	SME	Mechanical engineering	Manufacturing		K Dílnám 843, 28002 Kolín IV, CZE	
CZ032	ANS Kovo s.r.o.	SME	Pressure equipment and gas appliances	Manufacturing		Domažlická 1123/194, 318 00 Plzeň, CZE	<a href="http://www.anskovo.cz">www.anskovo.cz</a>
CZ031	ASPERA, spol. s r.o.	SME	Electrical and electronic engineering industries	Manufacturing		Křížkova 734/1, 37 001 České Budějovice, CZE	<a href="http://www.aspera.cz">www.aspera.cz</a>
CZ032	ATMOS CHRÁST s.r.o	SME	Pressure equipment and gas appliances	Engineering	Manufacturing	Plzeňská 149, 330 03 Chrást, CZE	<a href="http://www.atmos-chrast.cz">http://www.atmos-chrast.cz</a>
CZ071	AVL Moravia s.r.o.	SME	Automotive industry	Manufacturing	Engineering	Tovární 605 Město, 753 01 Hranice, CZE	<a href="http://www.avlcechy.cz">http://www.avlcechy.cz</a>
CZ072	B.A.D. MAGNETICS	SME	Mechanical engineering	Engineering	Manufacturing	Drahlov 29, 767 01 Kroměříž, CZE	
CZ031	BANES, spol. s r.o.	SME	Mechanical engineering	Manufacturing		Rašínova 504, 39 201 Soběslav, CZE	<a href="http://www.banes.cz">www.banes.cz</a>
CZ031	Bentex Automotive, a.s.	SME	Automotive industry	Manufacturing		Benešov nad Černou 301, 38282, CZE	<a href="http://www.bentex.cz">http://www.bentex.cz</a>
CZ020	Bilfinger MCE Slaný s. r. o.	SME	Construction	Manufacturing		Netovická 538, 27401 Slaný, CZE	<a href="http://www.mce.bilfinger.com/en/technologies/bilfinger-mce-slany/">http://www.mce.bilfinger.com/en/technologies/bilfinger-mce-slany/</a>
CZ031	BISO - Keibel s.r.o.	SME	Mechanical engineering	Manufacturing	Engineering	Radošovice 147, 38 601 Radošovice, CZE	<a href="http://www.biso.cz/">http://www.biso.cz/</a>
CZ041	BMP Bohemia, s.r.o.	SME	Mechanical engineering	Manufacturing	Engineering	Jenišov 148, 362 11 Jenišov, CZE	<a href="http://www.bmp.cz">http://www.bmp.cz</a>

NUTS2	Name	Institution type	Industry sector	Service type 1	Service type 2	Adress	Webpage links
CZ041	BMP obrábění kovů Chodov s.r.o.	SME	Mechanical engineering	Manufacturing		Krátká 879, 357 35 Chodov, CZE	<a href="http://www.bmp-chodov.cz">www.bmp-chodov.cz</a>
CZ031	BTC GROUP a.s.	SME	Mechanical engineering	Manufacturing		Jarošovská 1338, 37 701 Jindřichův Hradec, CZE	<a href="http://www.btcgroup.cz/">http://www.btcgroup.cz/</a>
CZ031	COGEBI a. s.	SME	Electrical and electronic engineering industries	Manufacturing		Vožická 2104, 39 002 Tábor, CZE	<a href="http://www.cogebi.com/">http://www.cogebi.com/</a>
CZ020	České lupkové závody, a.s.	SME	Raw materials, metals, minerals and forest-based industries	Manufacturing	Services	Pecínov 1171, 271 01 Nové Strašecí, CZE	<a href="http://www.cluz.cz/">http://www.cluz.cz/</a>
CZ020	Českomoravský beton, a.s.	SME	Construction	Manufacturing		Beroun 660, 26601 Beroun, CZE	<a href="http://www.transportbeton.cz">http://www.transportbeton.cz</a>
CZ032	D.O.O.S. TRADE, spol. s r.o.	SME	OTHER	Services	OTHER	Vřesová 602, 330 08 Zruč-Senec, CZE	<a href="https://www.doos-trade.cz">https://www.doos-trade.cz</a>
CZ032	DAIHO (CZECH) s.r.o.	Large Enterprise	Automotive industry	Manufacturing		Podnikatelská 1112/23, 301 00 Plzeň, CZE	<a href="http://www.daiho.cz">www.daiho.cz</a>
CZ063	DE JONG LIFTEN CO, s.r.o.	SME	Construction	Manufacturing		Bíteše 74, 594 57 Vidonín, CZE	<a href="http://www.dejong.cz">www.dejong.cz</a>
CZ031	Denios s.r.o.	SME	Mechanical engineering	Manufacturing		Heydukova 1305, Strakonice I, 386 01 Strakonice	<a href="http://www.denios.cz">http://www.denios.cz</a>
CZ031	Dittrich & Greipl CZ s.r.o.	SME	Mechanical engineering	Manufacturing	Engineering	Pohorská 148, 38 241 Kaplice, CZE	<a href="http://www.dittrich-greipl.com/">http://www.dittrich-greipl.com/</a>
CZ032	DS METAL s.r.o.	SME	Mechanical engineering	Manufacturing	Engineering	Chotíkov 451, 330 17 Chotíkov, CZE	<a href="http://www.dsmetal.cz">www.dsmetal.cz</a>
CZ032	EKO-SEPAR, s. r. o.	SME	OTHER	Services	OTHER	Hřbitovní 1214, 330 23 Nýřany, CZE	<a href="https://www.ekosepar.cz">https://www.ekosepar.cz</a>
CZ064	Elakov Production s.r.o.	SME	Mechanical engineering	Manufacturing		Za Mostem 342, 691 64 Nosislav, CZE	<a href="http://www.elakov.cz">http://www.elakov.cz</a>
CZ031	ELBH - CZ s.r.o.	SME	Mechanical engineering	Manufacturing		Havlíčková 35, Malá Strana, 375 01 Týn nad Vltavou, CZE	<a href="http://elbh-cz-s-r-o3.webnode.cz">http://elbh-cz-s-r-o3.webnode.cz</a>
CZ032	ENERGIZE GROUP s.r.o.	SME	Mechanical engineering	Services		Tylova 2923, 316 00 Plzeň, CZE	<a href="http://www.energizegroup.cz">www.energizegroup.cz</a>
CZ031	ERT Automotive Bohemia s.r.o.	SME	Automotive industry	Manufacturing		U VODARNY 1506, 397 01 PÍSEK, CZE	
CZ041	EURON STEEL s.r.o.	SME	Mechanical engineering	Manufacturing		Karlovarská 50, 350 02 Cheb. CZE	<a href="http://www.euron.cz">http://www.euron.cz</a>

NUTS2	Name	Institution type	Industry sector	Service type 1	Service type 2	Adress	Webpage links
CZ032	FAIVELEY TRANSPORT LEKOV, a.s.	Large Enterprise	Electrical and electronic engineering industries	Manufacturing	Engineering	U Přivaděče 1315/3, 326 00 Plzeň-Černice, CZE	
CZ032	FEMOTEC s.r.o.	SME	Mechanical engineering	Manufacturing		K Letišti 441, Klatovy II, 339 01 Klatovy, CZE	
CZ031	Fetter + Spiritini s.r.o.	SME	Mechanical engineering	Engineering	Manufacturing	Nebahovská 68, 383 01 Prachatice, CZE	
CZ031	FONTEA a.s.	SME	Food industry	Manufacturing		F. Líbala 596, 39 181 Veselí nad Lužnicí, CZE	<a href="http://www.fontea.cz/">http://www.fontea.cz/</a>
CZ031	GMA Stanztechnik Kaplice spol. s r.o.	SME	Automotive industry	Manufacturing		Pohorská 181, 38 241 Kaplice, CZE	<a href="http://www.gma.cz">http://www.gma.cz</a>
CZ041	GRÜN s.r.o.	SME	OTHER	Manufacturing		Bor 13, 360 01 Karlovy Vary, CZE	<a href="http://www.gruen.cz">www.gruen.cz</a>
CZ041	HaR Komplet, s.r.o.	SME	Electrical and electronic engineering industries	Manufacturing		Luční 395, 364 71 Bočov, CZE	<a href="http://www.harkomplet.cz">http://www.harkomplet.cz</a>
CZ031	HEYCO WERK ČR s.r.o.	SME	Automotive industry	Manufacturing		Čížovská 453, 39 701 Písek, CZE	<a href="http://www.heyco.cz">http://www.heyco.cz</a>
CZ041	HG METAL s.r.o.	SME	Mechanical engineering	Manufacturing		Nádražní 61/8, 360 17 Karlovy Vary, CZE	
CZ041	CHODOS CHODOV s.r.o.	SME	OTHER	Manufacturing		Nejdecká 814, 357 35 Chodov u Karlových Varů, CZE	<a href="http://www.chodos.cz/">http://www.chodos.cz/</a>
CZ032	IGRO, s. r. o.	SME	OTHER	Services	OTHER	Karlín 591, 348 15 Planá u Mariánských Lázní, CZE	<a href="http://www.igro.cz">www.igro.cz</a>
CZ031	IMG BOHEMIA s.r.o.	SME	Mechanical engineering	Manufacturing	Engineering	Průmyslová 798, 39 102 Planá nad Lužnicí, CZE	<a href="http://www.img-management.cz">http://www.img-management.cz</a>
CZ041	IMS TRADE, s.r.o.	SME	Electrical and electronic engineering industries	Manufacturing		Nerudova 1053, 357 35 Chodov u Karlových Varů, CZE	<a href="http://www.ims-trade.cz">http://www.ims-trade.cz</a>
CZ041	In Tech 24, s.r.o.	SME	Mechanical engineering	Manufacturing		Podhradská 2113/5, 35002 Cheb, CZE	
CZ020	ITALINOX s.r.o.	SME	Mechanical engineering	Manufacturing		Zděbradská 58, Jažlovice, 251 01 Říčany, CZE	<a href="http://www.italinox.cz">http://www.italinox.cz</a>
CZ051	Kadlec s.r.o.	SME	Mechanical engineering	Manufacturing		Vesec 42, 511 01 Mírová pod Kozákovem, CZE	<a href="http://www.kadlec-kovo.cz/">http://www.kadlec-kovo.cz/</a>
CZ080	Kajstura s.r.o.	SME	Construction	Manufacturing		Stonavská 553, 735 43 Albrechtice u Č. Těšína, CZE	<a href="http://www.kajstura.com">http://www.kajstura.com</a>
CZ031	KeyTec České Budějovice s.r.o.	SME	Mechanical engineering	Manufacturing		Novohradská 1764, 37 001, České Budějovice	<a href="http://www.keytec.nl">http://www.keytec.nl</a>

NUTS2	Name	Institution type	Industry sector	Service type 1	Service type 2	Adress	Webpage links
CZ031	KORES PRAHA, spol. s r.o.	SME	OTHER	Manufacturing		Nivka 336, 37 853 Strmilov, CZE	<a href="http://www.kores-europe.cz">http://www.kores-europe.cz</a>
CZ041	KOVO GKZ s.r.o.	SME	Mechanical engineering	Manufacturing		U Přádelny 96, 357 03 Svatava, CZE	<a href="http://www.kovogkz.cz">http://www.kovogkz.cz</a>
CZ063	KOVOMOD s.r.o.	SME	Mechanical engineering	Manufacturing		Modlíkov 23, 582 22 Modlíkov, CZE	
CZ032	KOVOVÝROBA MONT, spol. s r.o.	SME	Mechanical engineering	Manufacturing		Na Sklárně 213, 301 00 Plzeň, CZE	
CZ080	Krnovské opravny a strojírny s.r.o.	SME	Mechanical engineering	Manufacturing	Services	Stará Ježnická 1556/1 Pod Bezručovým vrchem, 794 01 Krnov, CZE	<a href="http://kos.cz">http://kos.cz</a>
CZ031	LARM a.s.	SME	Mechanical engineering	Manufacturing		Triumf 413, 38 411 Netolice, CZE	<a href="http://www.larm.cz/">http://www.larm.cz/</a>
CZ032	LIBENIA PLZEŇ, spol. s.r.o.	SME	Mechanical engineering	Manufacturing		Božkovská 1221/63,326 00 Plzeň, CZE	<a href="http://www.libenia.cz">www.libenia.cz</a>
CZ032	Liška - ozubené převody	SME	Mechanical engineering	Manufacturing		Kbel 54, 340 12 Švihov, CZE	<a href="http://www.liska-prevody.wz.cz">www.liska-prevody.wz.cz</a>
CZ020	Meta Kladno a.s.	SME	Electrical and electronic engineering industries	Manufacturing		Arménská 2673, 272 01 Kladno, CZE	<a href="http://www.metakladno.cz">http://www.metakladno.cz</a>
CZ064	MTE - Metal Trade Europe s.r.o.	SME	Mechanical engineering	Manufacturing	Services	Minská 152/51, 616 00, BRNO, CZE	<a href="http://www.mtmetal.com">www.mtmetal.com</a>
CZ032	NPC kovo s.r.o.	SME	Construction	Manufacturing		Pod Kyjovem 350/20, 322 00 Plzeň, CZE	<a href="http://www.npckovo.cz">www.npckovo.cz</a>
CZ020	O.K. KONSTRUKCE spol. s r.o.	SME	Construction	Manufacturing		Vítězná 449, Sedlec, 284 03 Kutná Hora, CZE	<a href="https://www.ok-konstrukce.cz/">https://www.ok-konstrukce.cz/</a>
CZ032	OK Záchlumí, a.s.	SME	Mechanical engineering	Manufacturing		Záchlumí 45, 349 01 Stříbro, CZE	<a href="http://www.okz.cz">www.okz.cz</a>
CZ031	OM PROTIVÍN a.s.	SME	Mechanical engineering	Manufacturing		Švermova 349, 39 811 Protivín, CZE	
CZ032	Precision Castparts CZ s.r.o.	SME	Aeronautics industries	Manufacturing	Services	Univerzitní 36, 301 00 Plzeň, CZE	<a href="http://www.precast.cz">www.precast.cz</a>
CZ041	Rauschert, k.s.	SME	OTHER	Manufacturing		Kounice 603, 357 31 Horní Slavkov, CZE	<a href="http://www.rauschert.cz">http://www.rauschert.cz</a>
CZ032	RETROFIT, s.r.o.	SME	Mechanical engineering	Manufacturing	Services	Slovanské údolí 37, 318 02 Plzeň, CZE	<a href="http://www.retrofit.cz">www.retrofit.cz</a>
CZ032	SENKOV s.r.o.	SME	Mechanical engineering	Manufacturing		Senecská 565, 330 08 Zruč-Senec, CZE	<a href="http://www.senkov.com/">http://www.senkov.com/</a>
CZ031	Servis Technika Služby a.s.	SME	Mechanical engineering	Manufacturing	Services	Květnova 421/2, 392 01 Soběslav, CZE	<a href="http://www.s-t-s.cz">http://www.s-t-s.cz</a>
CZ032	SG strojírna s.r.o.	SME	Mechanical engineering	Manufacturing		Nádražní 166/II, 342 01 Sušice, CZE	<a href="http://www.sg-stroj.cz">www.sg-stroj.cz</a>
CZ052	SONEX MECHANIC	SME	OTHER	Manufacturing		Libuň 226, 507 15 Libuň, CZE	<a href="http://www.sonex.cz">www.sonex.cz</a>

NUTS2	Name	Institution type	Industry sector	Service type 1	Service type 2	Adress	Webpage links
	s.r.o.						
CZ032	Stäger Inovac Packaging s.r.o.	SME	OTHER	Manufacturing	Engineering	Tylova 57/1, Areál PZ Škoda, hala 2.6.1., 316 00 Plzeň, CZE	<a href="http://www.staegerinovac.cz">www.staegerinovac.cz</a>
CZ032	Strojírna Vrága s.r.o.	SME	Automotive industry	Manufacturing	Research and dev.	Libušínská 60, 326 00 Plzeň, CZE	<a href="http://www.strojirnavraga.cz">www.strojirnavraga.cz</a>
CZ080	STROJÍRNÝ KALINOWSKI s.r.o.	SME	Mechanical engineering	Manufacturing		Soukenická 140/21, 794 01 Krnov, CZE	<a href="https://strojirny.kalinowski.cz">https://strojirny.kalinowski.cz</a>
CZ041	Svatavské strojírny s.r.o.	SME	Mechanical engineering	Manufacturing		Pohraniční stráž 365, 357 03 Svatava, CZE	<a href="http://www.svssro.cz">http://www.svssro.cz</a>
CZ032	SWE Technologies a.s.	SME	Pressure equipment and gas appliances	Manufacturing	Services	Železniční 119/7, 326 00 Plzeň, CZE	<a href="http://www.swe.cz">http://www.swe.cz</a>
CZ032	ŠKODA TVC s.r.o.	SME	Mechanical engineering	Manufacturing	Services	Tylova 1/57, 301 28 Plzeň, CZE	<a href="http://www.skodatvc.cz">www.skodatvc.cz</a>
CZ052	Šolc konstrukce s.r.o.	SME	Construction	Manufacturing		Sokolská 543, 541 01 Trutnov - Poříčí, CZE	<a href="http://www.solckonstrukce.cz">http://www.solckonstrukce.cz</a>
CZ031	TCS, s.r.o.	SME	Construction	Manufacturing		Těšovice 39, 383 01 Těšovice, CZE	
CZ052	TOORS CZ Door systems	SME	OTHER	Manufacturing	Engineering	Turkova 1338, 504 01 Nový Bydžov, CZE	<a href="http://www.toors.cz">http://www.toors.cz</a>
CZ032	TORO TECH s.r.o.	SME	Mechanical engineering	Manufacturing		Lipová 1127/22, 301 00 Plzeň, CZE	<a href="http://www.torotech.cz">www.torotech.cz</a>
CZ080	Traťová strojní společnost, a.s.	SME	Mechanical engineering	Engineering	Manufacturing	Na Valše 676/18, 702 00 Ostrava, CZE	<a href="http://www.tssas.cz">http://www.tssas.cz</a>
CZ053	TUZI s.r.o.	SME	Mechanical engineering	Manufacturing		Kunčice 176, 561 51 Letohrad, CZE	<a href="http://www.tuzi.cz/">http://www.tuzi.cz/</a>
CZ032	VZV repase s.r.o.	SME	OTHER	Services		Sladkovského 2389/46, 326 00 Plzeň 26, CZE	<a href="http://www.vzvrepase.cz">http://www.vzvrepase.cz</a>
CZ032	WIXMETAL s.r.o.	SME	Mechanical engineering	Manufacturing		K letišti 532, 339 01 Klatovy, CZE	<a href="http://www.wixmetal.cz">www.wixmetal.cz</a>

Identified potential solution providers for Smart Factories are presented in Table 9.

**Table 9: List of regional actors - solution providers**

NUTS2	Name	Institution type	Industry sector	Service type 1	Service type 2	Adress	Webpage links
CZ032	LECO Instrumente Plzeň spol. s r.o.	R&D center	Mechanical engineering	Services	Research and dev.	Plaská 66, 323 00 Plzeň, CZE	<a href="http://www.leco.cz">www.leco.cz</a>
CZ032	Výzkumný a zkušební ústav Plzeň s.r.o. (VZÚ Plzeň)	R&D center	Automotive industry	Research and dev.	Services	Tylova 1581/46, 301 00, Plzeň, CZE	<a href="http://www.vzuplen.cz">www.vzuplen.cz</a>
CZ032	Škoda transportation s.r.o.	Large Enterprise	OTHER	Engineering	Manufacturing	Tylova 1/57, 301 00 Plzeň, CZE	<a href="http://www.skoda.cz">www.skoda.cz</a>
CZ032	DOOSAN ŠKODA POWER s.r.o.	Large Enterprise	Mechanical engineering	Engineering	Manufacturing	Tylova 1/57, 301 28 Plzeň 3, CZE	<a href="http://www.doosanskodapower.com">http://www.doosanskodapower.com</a>
CZ042	PRODECO, a.s.	Large Enterprise	Raw materials, metals, minerals and forest-based industries	Engineering	Manufacturing	Důlní 437 Mostecké Předměstí, 418 01 Bílina, CZE	<a href="http://www.prodeco.cz">http://www.prodeco.cz</a>

A number of companies presented in Table 10 was identified for acting as potential user and also solution provider for Smart Factories.

**Table 10: List of regional actors - Users/solution providers**

NUTS2	Name	Institution type	Industry sector	Service type 1	Service type 2	Adress	Webpage links
CZ031	ACO Industries k.s.	SME	Mechanical engineering	Engineering	Manufacturing	Průmyslová 1158, 391 02 Sezimovo Ústí II, CZE	<a href="http://www.aco-industries.cz/">http://www.aco-industries.cz/</a>
CZ032	ACTI PACK CZ, a.s.	SME	Food industry	Manufacturing	Research and dev.	Rozvojová zóna 560, 34021 Janovice nad Úhlavou, CZE	<a href="http://www.actipack.eu">www.actipack.eu</a>
CZ032	AIR Consult CZ s.r.o.	SME	Mechanical engineering	Manufacturing	Services	Slovanská 169, 326 00 Plzeň, CZE	<a href="http://www.airconsult.cz">www.airconsult.cz</a>
CZ032	ARC-H a.s.	SME	Mechanical engineering	Manufacturing	Engineering	Doudlevecká 17, 301 38 Plzeň, CZE	<a href="http://www.arc-h.cz">www.arc-h.cz</a>
CZ032	ARC-Heating s.r.o.	SME	Mechanical engineering	Services	Engineering	Domažlická 171, 318 00 Plzeň, CZE	<a href="http://www.arc-heating.cz">www.arc-heating.cz</a>
CZ032	ARC-Robotics s.r.o.	SME	Mechanical engineering	Engineering		Obchodní 1279/1, 301 00, Plzeň, CZE	<a href="http://www.arc-robotics.cz">www.arc-robotics.cz</a>
CZ020	ARIETE automotive s.r.o.	SME	Automotive industry	Manufacturing	Engineering	Bělská 139/7, 29301 Mladá Boleslav, CZE	<a href="http://www.ariete-group.eu">http://www.ariete-group.eu</a>
CZ031	AVÍZO s.r.o.	SME	OTHER	Manufacturing		Bezdrvská 769, 37 344 Zliv, CZE	<a href="http://www.avizo-zliv.cz">www.avizo-zliv.cz</a>

CZ032	BB vytlačování plastů spol. s r.o	SME	OTHER	Engineering	Manufacturing	Na Roudné 21, 301 00 Plzeň, CZE	<a href="http://www.bbplasty.cz">www.bbplasty.cz</a>
CZ031	BBH Tsuchiya s.r.o.	SME	OTHER	Manufacturing		Prostřední 2807/7, 37 004 České Budějovice, CZE	<a href="http://www.bbhc.com/">http://www.bbhc.com/</a>
CZ031	BELIS a.s.	SME	Automotive industry	Manufacturing		Rudolfovská tř. 476/111, 37 001 České Budějovice, CZE	<a href="http://www.belis.eu/">http://www.belis.eu/</a>
CZ032	Bögl a Krýsl k.s.	SME	Construction	Engineering	Manufacturing	Dvořákova 998, 334 01 Dobřany, CZE	<a href="http://www.boegl-krysl.cz">http://www.boegl-krysl.cz</a>
CZ020	Colsys s.r.o.	SME	Electrical and electronic engineering industries	Engineering	Services	Buštěhradská 109, 272 03 Kladno-Dubí, CZE	<a href="http://www.colsys.cz">http://www.colsys.cz</a>
CZ031	ČZ Řetězy, s.r.o.	SME	Mechanical engineering	Manufacturing	Engineering	Tovární 202, 38 601 Strakonice, CZE	<a href="http://czretezy.cz/">http://czretezy.cz/</a>
CZ031	ČZ Strojárna, s.r.o.	SME	Mechanical engineering	Manufacturing	Engineering	Tovární 202, 38 601 Strakonice, CZE	<a href="http://www.czas.cz/">http://www.czas.cz/</a>
CZ032	DCK Holoubkov Bohemia a.s.	SME	Electrical and electronic engineering industries	Manufacturing		Holoubkov 336, 338 01, Holoubkov, CZE	<a href="http://www.dck.cz">http://www.dck.cz</a>
CZ031	DELTA Kardašova Řečice, a.s.	SME	Mechanical engineering	Engineering	Manufacturing	Husova 537, 37 821 Kardašova Řečice, CZE	<a href="http://www.neva.cz">http://www.neva.cz</a>
CZ041	DIKRT spol. s r.o.	SME	Chemicals	Engineering	Manufacturing	U Přádelny 66, 357 03 Svatava, CZE	<a href="http://www.dikrt.cz/">http://www.dikrt.cz/</a>
CZ020	Dr. Oetker, spol. s r.o.	SME	Food industry	Manufacturing		Americká 2335, 27201 Kladno, CZE	<a href="http://www.oetker.cz">http://www.oetker.cz</a>
CZ032	ELITEX Machinery, s.r.o.	SME	Mechanical engineering	Engineering	Manufacturing	Nádražní 104, 345 06 Kdyně, CZE	<a href="http://www.elitex.cz">www.elitex.cz</a>
CZ020	ESSA CZECH, spol. s r.o.	SME	Automotive industry	Manufacturing	Engineering	Jirenská 1500, 25082 Úvaly, CZE	<a href="http://www.grupoessa.es/cs">http://www.grupoessa.es/cs</a>
CZ071	Fortex AGS	SME	Mechanical engineering	Engineering	Manufacturing	Jílová 1550/1, 787 01 Šumperk, CZE	<a href="http://www.fortex.cz">www.fortex.cz</a>
CZ031	Friall s.r.o.	SME	Food industry	Manufacturing		Soběslavská 2098, 39 002 Tábor, CZE	<a href="http://www.friall.cz">http://www.friall.cz</a>
CZ032	G team	SME	Pressure equipment and gas appliances	Manufacturing	Services	Vochoz 50, 330 23 Plzeň – Vochoz, CZE	<a href="http://www.g-team.cz">http://www.g-team.cz</a>
CZ032	GASTRO PRODUCTION, s.r.o.	SME	Food industry	Engineering	Manufacturing	Zemědělská 500, 373 81 Kamenný Újezd, CZE	<a href="http://www.gastro.cz">www.gastro.cz</a>
CZ032	HOBERO, spol. s r.o.	SME	Mechanical engineering	Manufacturing		Arbesova 866/III, 337 01 Rokycany, CZE	<a href="http://www.hobero.cz">www.hobero.cz</a>
CZ032	HOFMEISTER s.r.o.	SME	Mechanical engineering	Manufacturing	Research and dev.	Mezi Ploty 12, 326 00 Plzeň, CZE	<a href="http://www.hofmeister.cz">www.hofmeister.cz</a>
CZ031	IDSC, spol. s r.o.	SME	Mechanical engineering	Engineering	Manufacturing	Voračického předměstí 636, 39 143 Mladá Vožice, CZE	<a href="http://www.idsc.cz">http://www.idsc.cz</a>
CZ020	Ingersoll-Rand Manufacturing s.r.o.	SME	Mechanical engineering	Manufacturing		Kolín 292, 280 02 Ověčary, CZE	<a href="http://www.ingersoll-rand.cz/kolin/kolin.php">http://www.ingersoll-rand.cz/kolin/kolin.php</a>

CZ031	INOTECH electronic s.r.o.	SME	Electrical and electronic engineering industries	Engineering	Manufacturing	Omlenická 179, 38 241 Kaplice, CZE	<a href="http://www.inotech-electronic.cz">http://www.inotech-electronic.cz</a>
CZ031	ISOTHERM s.r.o.	SME	Construction	Manufacturing	Engineering	Linecká 646, 38 241 Kaplice, CZE	<a href="http://www.isootherm.cz">http://www.isootherm.cz</a>
CZ064	IVEP, a.s.	SME	Electrical and electronic engineering industries	Manufacturing	Engineering	Vídeňská 117a, 619 00 Brno, CZE	<a href="http://www.ivep.cz">www.ivep.cz</a>
CZ032	KASYS, s.r.o.	SME	OTHER	Services		Guldenerova 9, 326 00 Plzeň, CZE	<a href="http://www.kasys.cz">www.kasys.cz</a>
CZ031	KOH-I-NOOR Mladá Vožice a.s.	SME	OTHER	Manufacturing	Engineering	Mladá Vožice 620, 39 143 Mladá Vožice, CZE	<a href="http://www.kohinoor.cz/">http://www.kohinoor.cz/</a>
CZ032	Koramex a.s.	SME	Mechanical engineering	Manufacturing		Pražská 268, 342 01 Sušice, CZE	<a href="http://www.koramex.cz">http://www.koramex.cz</a>
CZ064	KORNFEIL industry spol s.r.o.	SME	Food industry	Engineering	Manufacturing	Čejč 66, 696 14 Čejč, CZE	<a href="http://www.kornfeil.cz">http://www.kornfeil.cz</a>
CZ032	KOVO TOMANDL CNC s.r.o.	SME	Mechanical engineering	Manufacturing		Sedlice 13, 344 01 Domažlice, CZE	<a href="http://www.tomandl.cz">www.tomandl.cz</a>
CZ053	KSK, s.r.o.	SME	Mechanical engineering	Engineering	Manufacturing	Podbranská 128, 560 02 Česká Třebová, CZE	<a href="http://www.kskct.cz">http://www.kskct.cz</a>
CZ01	LATECOERE Czech Republic s.r.o.	SME	Aeronautics industries	Engineering	Manufacturing	Beranových 65, 199 02 Praha 9, CZE	<a href="http://www.latecoere.cz">http://www.latecoere.cz</a>
CZ020	Lučební závody Draslovka a.s. Kolín	SME	Chemicals	Manufacturing	Engineering	Havlíčková 605, 280 02 Kolín IV, CZE	<a href="http://www.draslovka.cz">http://www.draslovka.cz</a>
CZ032	Ludwig Schwerdtel, výroba strojů, spol. s r.o.	SME	Mechanical engineering	Engineering	Manufacturing	Jungmanova 312, 334 01 Přeštice, CZE	<a href="http://www.schwerdtel.cz">www.schwerdtel.cz</a>
CZ020	M.A.S. Automation a.s.	SME	Mechanical engineering	Engineering	Services	Havlíčková 261, 280 02, Kolín IV, CZE	<a href="http://www.mas-as.cz">http://www.mas-as.cz</a>
CZ020	MANDÍK, a.s.	SME	OTHER	Engineering	Manufacturing	Dobříšská 550, 267 24 Hostomice, CZE	<a href="http://mandik.cz">http://mandik.cz</a>
CZ032	MEDICA FILTER spol. s.r.o.	SME	Medical devices	Manufacturing	Research and dev.	Smetanova ul., 341 92 Kašperské Hory, CZE	<a href="http://www.medicafilter.cz">www.medicafilter.cz</a>
CZ031	MOTOR JIKOV Fostron a.s.	SME	Mechanical engineering	Engineering	Manufacturing	Kněžskodvorská 2277/26, 37 004 České Budějovice, CZE	<a href="http://www.motorjikov.com/spolecnosti/motor-jikov-fostron/">http://www.motorjikov.com/spolecnosti/motor-jikov-fostron/</a>
CZ032	NOVASPORT spol.s r.o.	SME	OTHER	Manufacturing	Engineering	Vítkov 107, 347 01 Tachov, CZE	
CZ020	OMB composites EU a.s.	SME	Automotive industry	Engineering	Manufacturing	Ke Kukuláku 60, 252 44 Psáry - Dolní Jirčany, CZE	<a href="http://www.ombcomposites.cz">http://www.ombcomposites.cz</a>
CZ020	Poděbradka, a.s.	SME	Food industry	Manufacturing		Nymburská 239/VII, 290 01 Poděbrady, CZE	<a href="http://www.podebradka.cz">http://www.podebradka.cz</a>
CZ031	RICHMONT - CZ a.s.	SME	Mechanical engineering	Engineering	Manufacturing	Kolodějská 507, 37 501 Týn nad Vltavou, CZE	<a href="http://www.richmont-cz.com">http://www.richmont-cz.com</a>



CZ020	SAPE BOHEMIA s.r.o.	SME	OTHER	Services		Pražská brána 108, 293 01 Mladá Boleslav, CZE	<a href="http://www.sapebohemia.cz">http://www.sapebohemia.cz</a>
CZ042	SETJA s.r.o.	SME	Mechanical engineering	Manufacturing	Engineering	Maxima Gorkého 674, 431 91 Vejprty, CZE	<a href="http://www.setja.cz">www.setja.cz</a>
CZ032	SCHNEIDER BOHEMIA spol. s r.o.	SME	Pressure equipment and gas appliances	Manufacturing	Engineering	V Zahrádkách 555, 330 21 Líně, CZE	<a href="http://www.schneider-airsystems.cz">www.schneider-airsystems.cz</a>
CZ032	Schwer Fittings, s.r.o.	SME	Pressure equipment and gas appliances	Engineering	Manufacturing	Líšťanská 499, 330 33 Město Touškov, CZE	<a href="http://www.schwer.cz">www.schwer.cz</a>
CZ020	STACHEMA CZ s.r.o.	SME	Construction	Manufacturing	Services	U Kostela 2, Zibohlav, 280 02 Kolín, CZE	<a href="http://www.stachema.cz">http://www.stachema.cz</a>
CZ032	STEATIT s.r.o.	SME	Electrical and electronic engineering industries	Manufacturing	Engineering	Klenčí pod Čerchovem 181, 345 34 Klenčí pod Čerchovem, CZE	<a href="http://www.steatit.cz">www.steatit.cz</a>
CZ032	Streicher s.r.o.	SME	Mechanical engineering	Manufacturing	Engineering	K Lomu 426, 332 09 Štěnovice, CZE	<a href="http://www.streicher-machinery.cz">http://www.streicher-machinery.cz</a>
CZ063	SWN Moravia s.r.o.	SME	Construction	Manufacturing	Engineering	Mladoňovice 65, 675 32 Třebelovice, CZE	<a href="http://www.swn-schody.cz">http://www.swn-schody.cz</a>
CZ032	Technické plastové systémy s.r.o.	SME	Automotive industry	Manufacturing		Dýšina 297, 330 02 Dýšina, CZE	<a href="http://www.tps-group.de">www.tps-group.de</a>
CZ032	Technické pružiny SCHERDEL s.r.o.	SME	Mechanical engineering	Manufacturing	Engineering	Průmyslový areál Vysočany, 348 02 Bor u Tachova, CZE	<a href="http://www.scherdel.com">http://www.scherdel.com</a>
CZ020	TIBERINA AUTOMOTIVE BĚLÁ spol. s r.o.	SME	Automotive industry	Manufacturing	Engineering	Mladoboleslavská 692, 294 21 Bělá pod Bezdězem, CZE	
CZ032	TONER RL, spol. s r.o.	SME	Automotive industry	Manufacturing	Engineering	Domažlická 1255/200a, 318 00 Plzeň, CZE	<a href="http://www.toner-rl.cz">www.toner-rl.cz</a>
CZ032	TORHAM s.r.o.	SME	Construction	Engineering	Manufacturing	Plzeňská 682, 348 02 Bor, CZE	<a href="http://www.torham.cz">http://www.torham.cz</a>
CZ020	Toyota Material Handling CZ s.r.o.	SME	Automotive industry	Manufacturing	Services	K Vypichu 1049, 252 19 Rudná, CZE	<a href="http://www.toyota-forklifts.cz">http://www.toyota-forklifts.cz</a>
CZ031	TSE spol. s r.o.	SME	Electrical and electronic engineering industries	Engineering	Manufacturing	Mánesova 390/74, 37 001 České Budějovice, CZE	<a href="http://www.tse.cz">http://www.tse.cz</a>
CZ041	UNIONPLAST-TS s.r.o.	SME	Construction	Manufacturing	OTHER	Potoční 226, 362 33 Hroznětín, CZE	<a href="http://www.unionplast.cz">www.unionplast.cz</a>
CZ052	Vapos s.r.o.	SME	Mechanical engineering	Engineering	Manufacturing	Soudná 62, 506 01 Jičín, CZE	<a href="http://www.vapos.cz/">http://www.vapos.cz/</a>
CZ071	VELOSTEEL TRADING, a.s.	SME	Mechanical engineering	Engineering	Manufacturing	Loučná nad Desnou 126, 788 11 Loučná nad Desnou, CZE	<a href="http://www.velosteel.cz">http://www.velosteel.cz</a>
CZ032	VIENNA-COMPONENTS-TRADING s.r.o.	SME	Electrical and electronic engineering industries	Services		Jedlová 395, Zruč - Senec, 330 08, CZE	<a href="http://www.vicomtrade.cz">www.vicomtrade.cz</a>

CZ042	Výtahy Vaněrka s.r.o.	SME	Construction	Engineering	Manufacturing	Mostecká 4, 419 01 Duchcov 1 , CZE	<a href="http://www.vytahy-vanerka.cz">www.vytahy-vanerka.cz</a>
CZ020	WAMAG, spol.s r.o.	SME	Mechanical engineering	Engineering	Manufacturing	Pražská 270, 252 10 Mníšek pod Brdy, CZE	<a href="http://www.wamag.cz/">http://www.wamag.cz/</a>
CZ020	WAVIN EKOPLASTIK s.r.o.	SME	OTHER	Manufacturing	Engineering	Rudeč 848, 277 13 Kostelec nad Labem, CZE	<a href="http://cz.wavin.com">http://cz.wavin.com</a>
CZ063	Wöhler Bohemia s.r.o.	SME	Mechanical engineering	Services	Manufacturing	Za náspem 1993, 393 01 Pelhřimov, CZE	<a href="http://www.woehler.cz">http://www.woehler.cz</a>
CZ032	Workpress Aviation s.r.o.	SME	Aeronautics industries	Engineering	Manufacturing	Folmavská 2, 301 00 Plzeň, CZE	<a href="http://www.workpressaviation.com">www.workpressaviation.com</a>
CZ031	Zambelli - technik, spol. s r. o.	SME	Automotive industry	Engineering	Manufacturing	Tovární 177, 38 101, Český Krumlov, CZE	<a href="http://www.zambelli.cz">www.zambelli.cz</a>
CZ071	ZK Kovovýroba Žerníček s.r.o.	SME	Mechanical engineering	Manufacturing		Na Pilníku 292, Štítý 789 91, CZE	<a href="http://www.kovozernicek.cz">http://www.kovozernicek.cz</a>

## 8 List of annexes

- XLS file “D3.2.1\_ Regional mapping Czech Republic D2.0.xlsx”



3.2.1 Regional  
mapping Czech Rep

**Figure 6: FILE - D3.2.1\_Regional mapping Czech Republic D2.0.xlsx**