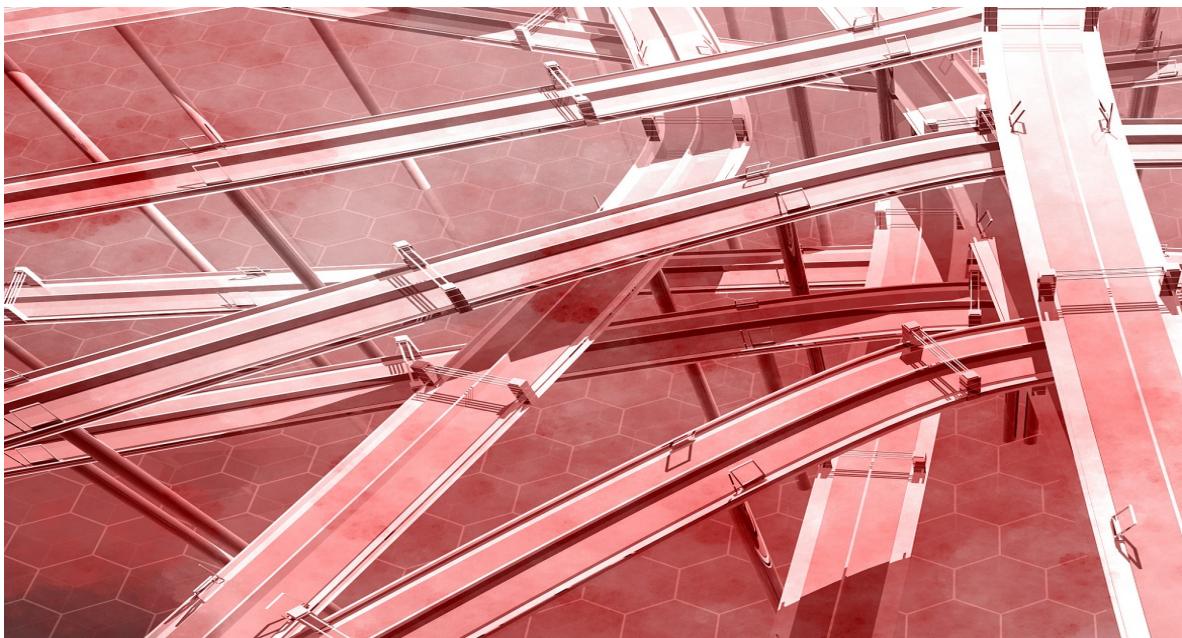


RECREATE
**REinforce Competitiveness of REgionAI
Transport SMEs**

PGI05275

**Craiova Thematic Workshop & Study Visit
Report**



RDA South-West Oltenia

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Abbreviations

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| EC: | European Commission |
| EU: | European Union |
| PA: | Partnership Agreement |
| SME: | Small Medium Enterprises |

1. Introduction

On 16th and 17th October 2019 a Thematic Workshop and a Study Visit have been organised in Craiova (Romania) by the Regional Development Agency South-West Oltenia. A total of 34 people participated to the activities between representatives of the five Project Partner organisations and their stakeholders from academic, business and government sectors.

2. Thematic Workshop

The Thematic Workshop took place on 16th October and its subject was IP and Commercialisation.

The first session was a presentation from the hosting partner RDA South-West Oltenia about the **South-West Oltenia Region**. The Region is characterised by the following elements:

- It is situated in the South-West part of Romania.
- It consists of five counties: Dolj, Gorj, Mehedinți, Olt and Valcea.
- It is bordered by Bulgaria in the South; the historical region of Muntenia (nowadays South Muntenia Development Region) in the East; Transilvania (Centre Region) in the North; Banat (West Development Region) and Serbia in the West.
- With an area of 29,212 sq. km, representing 12.25% of the Romania's total territory, the Region occupies the 7th place among Romanian regions.
- It includes 40 cities (of which 11 municipalities), 408 communes and 2070 villages – second place after the North-East region in terms of number of rural localities.

The population of S-W Oltenia region is 2.212.539 inhabitants, out of which: 1.103.303 in urban area (49%) and 1.109.236 in rural area (51%), in 2015. The most important cities are:

- Craiova, Dolj county (306.115 inhabitants)
- Ramnicu-Valcea, Valcea county (118.890 inhabitants)
- Dr.Tr.Severin, Mehedinți County (110.098 inhabitants)
- Targu-Jiu, Gorj county (97.039 inhabitants)
- Slatina, Olt county (84.788 inhabitants).

South-West Oltenia Region is crossed by:

- Three Priority Axes of the European transport network (TEN-T):
 1. Road Priority Axis 7 (formerly Pan-European Corridor IV), the southern branch: Lugoj-Drobeta Turnu Severin-Craiova-Calafat, with variant Simian-Maglavit;
 2. Road Priority Axis 18 (the Danube) - formerly Pan-European Corridor VII;
 3. Railway Priority Axis 22, the southern branch: Arad-Drobeta Turnu Severin-Craiova-Calafat.
- Three European roads:
 1. E70 Timisoara-Orsova-Tr. Severin- Filiasi-Craiova-Caracal-Rosiori-Alexandria-Bucuresti-Giurgiu
 2. E79 Oradea-Deva-Tg. Jiu-Filișani-Craiova-Calafat
 3. E81 Satu Mare-Cluj-Sebes-Sibiu-Rm Valcea-Pitesti

- A secondary European road: E574 Craiova-Slatina-Pitesti-Campulung-Brasov-Bacau.

The economy of the Region is characterised by the following elements:

- Machine building industry (automobiles, tractors, airplanes, shipyards) – Craiova, Drobeta Turnu Severin, Slatina, Ramnicu Valcea;
- Agriculture and agricultural products processing (cereals, industrial crops, fruit and vegetable processing) – especially in Dolj County, Olt County;
- Coal and hydro power plants – Craiova, Targu-Jiu, Drobeta Turnu Severin, Olt and Valcea Counties;
- Metallurgical industry, manufacturing and processing of non-ferrous metals (aluminium plant) – unique in Romania, Slatina;
- Wood processing industry – Valcea County, Gorj County;
- Light industry (well represented in the Region by factories producing clothing and leather/substitutes footwear, textiles and fabrics, etc.) – Dolj, Valcea and Olt Counties.

The Regional Innovation Strategy for Smart Specialisation was approved through the Regional Development Board Decision on 31st March 2016. In the Region there are five Smart Specialisation Areas:

1. Industrial Engineering and Transport,
2. Sustainable Energy and Environment
3. Fundamental and Applied Innovative Medicine,
4. Agriculture and Food Industry,
5. Tourism and Cultural Identity

There are also 2 Horizontal Areas: ITC and ECO-technologies. After 2020, smart specialization will be a favourable condition (for Policy Objective 1 – Research-Development-Innovation in SMEs will be allocated 35% of the funds).

In terms of Higher Education Institutions, in the Region there are three public universities: two in Craiova (University of Craiova and University of Medicine and Pharmacy) and one in Targu Jiu (Public University Constantin Brancusi). The University of Craiova, with over 31,000 students in 16 faculties and 14 doctoral schools, is the most powerful academic centre in the South-West of Romania.

The most important characteristics of **the transport sector in the South-West Oltenia Region** are:

- Road Network: in 2017 the region had 12,993 km of public roads, of which 4692 km were modernised roads (41.5%). Of the total, 2190 km are national roads, 4650 km are county roads and 4453 km are communal roads. The national roads in the region are upgraded to 90% (1976 km), county roads in proportion of 35% (1597 km), and the communal roads in proportion of 25% (1119 km). Unfortunately, there are no motorways in the Region. The main means of road transport are buses and minibuses, in all the counties of the region. In Craiova trams are available, while in Târgu Jiu we find trolleybus transport.
- Railway Network: in 2017 the railway network in service in the Region was 990 km, representing 9.2% of the national total. The electrified lines have a length of 507 km, representing 51.2% of the railways length of the crossing the region. The main railway

node is Craiova having links to localities in the Region and Country. An important feature of the rail transport infrastructure in the Region is the presence of Railway Corridor IV on the Sofia-Thessaloniki branch, Sofia-Istanbul, which connects Arad, Timisoara, Craiova and Calafat. This section is part of the project priority TEN-T 22: Athens - Sofia - Budapest - Vienna - Prague - Nürnberg / Dresden.

- Air Traffic: this is provided by Craiova International Airport, the maximum important objective in the development of the southwest of the country, as stated in the strategic regional documents. The airport serves the whole area of South-West Oltenia, being the closest air carrier for the five counties. The inclusion of the airport in the Romanian Master Plan of Transport proved to be a major investment opportunity in infrastructure upgrading and growing its operating capability.
- Ports and Naval Transport Infrastructure: naval passenger transportation has poor connectivity with other modes resulting in a poor representation in the Region. Development perspectives must focus on encouraging trips for tourism on the Danube in order to capitalize on the major potential offered by the presence of the second largest river in Europe in the Region. Thanks to the proximity to the southern part of the Danube River, naval shipping in the South-West Oltenia Region is represented by the segment of the waterway adjacent to the region (385 km in total). The major ports are: Orsova Port, Drobeta Turnu-Severin Port, Bechet Port; Calafat Port; Corabia Port; Cetate Port.

Transport related sectors are in full development. In consultations during the working groups organised in the South-West Oltenia Region, transportation and industrial engineering sector resulted one of the smart specialization areas in the Region. Since 2013, the automotive industry concentrates some very active SMEs in the Region, the highest turnover being recorded by Ford Romania SA and a group of companies producing car parts and components like Kirchhoff Automotive Romania SRL, located in Dolj County.

The rolling stock industry has a long tradition at regional level. This is one of the sectors in the field of mechanical engineering and transport for which the Region has several research centres set up by the University of Craiova: Aerospace Engineering Research Centre - CERDIAS, Electrotechnics in Transport and Energy Systems - ELTRES, Electrical Engineering, Electro energy and Ecological Technologies - IEEET, Centre for Innovation and Technology Transfer - CITT, Scientific Research Centre for Electromechanical and Quality Systems - SEMEQ. A few examples of intelligent innovations from SMEs and specialisation directions in the transport sector are:

- Design and development of the bio-vehicle concept, based on biofuels from renewable resources.
- Developing new generations of railway vehicles and green, energy-efficient technologies.

It followed a presentation from the Lead Partner CUE Ltd about the **RECREATE project**. This gave a general overview of the project and its aim and specific objectives, the Regions and organisations involved, the main expected results and outputs, as well as the stakeholders' role.

The following session, led by the hosting partner RDA South-West Oltenia, showed the first results from the five RECREATE Regions involved in the **Transport SME Competitiveness report**. The main results were:

- **West Midlands Region (UK):** the Region has strong automotive base, clusters and SME support schemes. It has a strong innovation ecosystem specific to this sector, especially in Low Emission and Connected & Autonomous Vehicles from Coventry, Warwick and Birmingham Universities; it is characterised by the presence of Manufacturing Technology Centre, Quinton Rail Innovation Centre and UKBIC as well as JLR, Aston Martin, BMW and their Innovative Supply Chains. The Transport related SMEs clusters/innovation poles in the Region are: National Transport Design Centre (NDTC); Warwick Manufacturing Group (WMG); Manufacturing Technology Centre (MTC); Midlands Connected Autonomous Vehicles (MCAV); Midlands Aerospace Alliance (MAA).

In addition to a strong research base, the Region boasts a well-developed network of science parks, associated innovation and incubator centres, as well as accelerator programmes. Along with the high availability of superfast broadband, this provides our businesses, wherever they are located, with the necessary physical assets and 'hard' infrastructures to support their growth and development.

The West Midlands faces multiple skills challenges. This is a major issue for the development of innovative businesses, with too few people with high-level qualifications relative to the UK, and too many with no qualifications.

The Region has an impressive set of local networks and their institutions are actively engaged at regional, national and international levels, with significant industrial and academic collaborations and partnerships in place. The ecosystem is underpinned by a strong local policy focus on driving-up levels of innovation and maximising the potential of their key assets, including their major research-intensive universities, RTOs and R&D active firms.

- **Campania Region (Italy):** Campania is a moderate innovator; however recent investments made by large industrial groups such as FIAT (automotive) and Finmeccanica (aerospace and defence) have contributed to higher growth. Clusters in Campania are: DAC Campania - Aerospace District; DATTILO for Surface Transport and Logistics. From the point of view of innovation, passengers' service sectors, traditionally identified as that of collective transport have been, almost exclusively, subject of economic-financial and legislative restructuring, reforming specific rules for rationalising systems' organization and management. This has led to halving the use of the services. In order to prevent citizens, especially commuters, from giving up and aiming more and more at their own means of transport, with a consequent increase in vehicular traffic, urban pollution, which also affects the quality of everyday life, in the last strategic period 2019-2021, the Campania Region is pursuing, in the field of transport, a general policy aimed at redevelopment, securing, strengthening and improving the efficiency of existing infrastructures and the overall offer of public transport to users. With regard to the companies in the transport sector, automotive, aerospace, vehicle construction and rail transport systems and port and airport logistics, the success of the Campania system goes through an ever-stronger integration and participation among private and public institutions in the processes, to share common tools and methodologies, for a spread of light, interoperable and sustainable collaboration platforms. A sharing of knowledge finds its natural focus in

the design of specific paths to form and train a new generation of human and technical resources. Despite the fact that Campania is the first in Italy in terms of number of development contracts set up (30% of the national amount), public tools cannot support long-term the Campania company's needs; SMEs can no longer think of developing only by focusing on the resources provided by the public bodies: in order to maintain an important role at the international level they must cope with the new development paradigms offered by digital transformation, engaging a new cycle of growth and development through large-scale strategic public-private investment projects.

- **South Aegean Region (Greece):** in this Greek region the innovation is low but with a high presence of transport SMEs especially in the maritime and logistics sector. Clusters are: Corallia Clusters Initiative and Tourism Cluster. The Region is a relatively wealthy and well-known tourism hotspot with a rich natural and cultural environment comprised of 79 dispersed islands (31 inhabited). The transport sector is vital for citizen's wellbeing and for the development of sustainable tourism, that is the most important sector for the regional economy. However, due to the relative isolation from the mainland, the geographical fragmentation and the special characteristics of the local natural environment such as location, size, insularity, etc., the local transport systems are heavily affected, especially their operational effectiveness and complementarity. This has an impact both on tourism, since the sector is highly affected by issues generated in the transportation sector, such as the frequency, cost and reliability; and SMEs competitiveness that is considered very low at the moment. Transport SMEs face daily major challenges like limited access to finance, increase in taxation, low level of science-business collaboration and PPPs, lack of innovation culture & funds for R&D investments, high transportation costs, insufficient infrastructures, unattractive legal framework, bureaucracy, etc. Local SMEs (especially in the most remote areas) need to become resilient to a climate of constrained national budgets and public investments and an unstable banking system with restrictions in all kind of loans (due to reduced liquidity) in order to have a sustainable future. However, this "challenging" environment could be confronted if SMEs exploit the opportunities offered by the Region, such as the availability of renewable resources, the public incentives (like the "Road Equivalent Tariff", high-speed internet in remote islands and other), the collaboration with the local research/innovation centres and initiatives, participation in workshops/conferences and EU-funded projects etc. Based on the challenges the South Aegean Region faces, the formation of synergies in topics such as promotion of employment, consultation regarding development services and technical problem solving is needed in order to enhance research and smart specialisation in matters related to environment, renewable energy sources, informatics and in transportation. Jointly with support from the Regional Operational Programme and the relative ministries, the local transport SMEs could attract private and public investments to test their products and services and bring them in the market.
- **Lithuania:** transport innovation and SME schemes in Lithuania are relatively low but transport and logistics is one of their priorities for smart specialisation and thus heavy investment is expected. Clusters are: Sunrise Valley Science and Technology Park; Santaka Valley; Baltic Valley; Lithuanian Automotive Export Association; Baltic Automotive Components Cluster (BACC); Railway LT Cluster. Having in view the future trends, major developments in relation to transport safety, environmental concerns, cities, autonomous transportation, intelligent transport management and monitoring systems will also be visible in Lithuania. Already at

national and enterprises level there are some plans and projects which will respond to these challenges. Lithuanian government developed various mobility and environment plans and strategies in order to reduce traffic jams and air pollution. Transport SMEs are also aware of changing environment and seeks to develop world class production. Lithuanian companies are very active in the fields of transport sharing platforms, development of alternative energy solutions, especially electricity, transport monitoring and management systems.

Lithuania innovation potential in transport sector is not fully exploited. Even though there are plenty of universities, science valleys and technology parks operating in transport innovations, researchers participate in international projects and some enterprises spend a lot for R&D, there are some major drawbacks in this system. Overall expenditure for R&D is very low, there is no unified transport research centre consolidating research programs for the entire sector, business and science cooperation is relatively low. Transport SMEs in Lithuania also do not fully exploit the opportunities related to the financing of the EU Structural Funds. Lithuania is one of the most important transport sector countries in Europe. Geographical position and already developed transport systems mean that country is very competitive in this sector. However, new emerging technological and social trends are changing this sector. In order to stay competitive, Lithuanian transport SMEs will have a crucial role in solving these emerging issues. There are already some successful cases such as "Ruptela" or "Elinta" companies who are famous for their innovative solutions, however this list has to be expanded. SMEs have to increase their innovation capabilities by increasing expenditure on R&D activities, improving science and business cooperation.

- **South-West Oltenia Region (Romania):** the Region is a modest innovator overall; however, the transport sector and specifically the automotive sector has the biggest developing potential in the Region, having over 27 local units working in this field, the most important one being Ford. One remarkable feat of Romania's national transport research is the high involvement of SMEs. Clusters are: Automotive SWO - Competitiveness Pole; ICT Oltenia Cluster; Innovatrans Pole. Annual turnover of SMEs in the Region is almost 50% of the region's GDP.

The economy of the Region has experienced a continuous increase in the last four years (2015-2018). In 2018, economic growth reached the peak of the post-crisis period (app 4.9%), a situation driven by strong domestic demand amid pro-cyclical fiscal policies. The labour market has further strengthened as a result of steady economic growth. For the first time since 2008, actual production has exceeded its potential and it continued this growing trend over the period 2017-2018.

The unused work force in the region is limiting the economic growth. Public spending on investment is high, but low infrastructure development in the region is hindering economic growth.

Regarding the regional business environment, this has improved, but still has a number of shortcomings. Over period 2011-2018, the Region's competitiveness has improved significantly, but it still needs further efforts and capital investment for development. Progress has been made in simplifying administrative procedures, in order to ease the SMEs development and competitiveness, but far from advanced countries. Between 2016 and 2018, Romania has achieved results above the EU average in terms of facilitating the creation of new businesses, especially SMEs. Omnipresent bottlenecks and reluctance hinder SMEs investment in innovation in the region, a situation which is likely to continue in the coming years. SMEs have a low level of innovation and the

knowledge flow between R&D suppliers and business activities is weak, which is confirmed by the fact that the Region is in the queue of the 'Collaboration and Entrepreneurship' dimension in the Scoreboard. Bureaucracy, underdeveloped infrastructure and low levels of entrepreneurial education are all too many obstacles to innovative entrepreneurship and the creation and development of businesses (and SMEs) in the technology sector. It is expected to improve SMEs' access to finance through a range of new financial instruments. Corruption, encountered at all levels, remains an obstacle to economic activities. Public spending on investment has been among the highest in the EU over the last decade, but the perceived infrastructure quality is among the lowest in the EU.

There is a high potential for further development and expansion of Transport-SMEs sectors in the Region in the next 20-30 years continuously. Transport-related industry is supported by a major automotive manufacturing company, Ford Romania, along with numerous companies producing automotive components. Ford Company is present in the Region since 2007 when it took over Craiova factory by making massive investments. Regarding the automotive component manufacturing, the Region has attracted increasingly more foreign investors in this segment, so currently there are produced automobile components in several factories. Such developments have increased the turnover of the sector steadily over the period 2010-18 and the increasing trend continues. Automotive production is almost entirely exported, its share in the total exports of the country's automobiles is important. The value of the exported vehicles is increasing, together with the increasing value of the automotive components to export. The automotive sector represents a major share of the total exports of Romania, being one of the most competitive sectors of the economy.

The vision for the Region is to become a major hub in transport related industry: automotive (passenger cars) and railway vehicles (passenger trains and tramways), aircraft industry (a major plant of military industry), Craiova International Airport steady development with connected service providers in maintenance and logistics.

The report will be finalised by the end of the semester and uploaded on the project website.

The last presentation was dedicated to '**Valorization, intellectual property and commercialisation**' and was delivered by Prof. Oana Gingu, Director of the Scientific Research and Programme Management Department at the University of Craiova. She highlighted the following concepts:

- The Scientific Research & Programs Management Department of the University of Craiova develops the Innovation and Technological Transfer Centre activities, including Intellectual Property valorisation and commercialisation.
- Some examples of developed activities are:
 - Consulting for patents description and documents fulfil for the national deposit such as: Integrate system for biodiesel fuel supply B100 for the LDE 2100 CP locomotive (consulting for RELOC Craiova, company in the field of transport vehicles modernization); Transmission electric diesel locomotive (consulting for PROMAT SRL Craiova, company in the field of transport vehicles modernization); Device for the direct measurement of traction force at the hook rail vehicles (consulting for PROMAT SRL Craiova).
 - First diagnosis visits with OSIM specialists (Romanian State Patents Office) to predict the patenting possibilities of SMEs used solutions such as the ones for:

SOFTRONIC, SME locomotive manufacturer; INDA, SME for electric equipment's supplier for locomotives; PROMAT, SME for locomotives modernization; SPIACT, SME for rail switches manufacturer; ICMET Craiova, National Institute for R&D in Testing for Electrotechnics.

- Visits made by Innovation and Technological Transfer Centre (ITTC) of University of Craiova, to the SMEs in order to identify the research topics such as the ones at: INDA, SME equipment for batteries loading on the locomotives; RELOC, SME in repairing and modernization of the locomotives; ROMDATA AQ, SME for electric equipment monitoring.
- They do activities linked to education and training (not only for the transport sector) as well as valorisation and partnership identification with the SMEs.

After the end of the presentations, the participants had the opportunity to discuss more in depth about barriers and opportunities and training skills development for SMEs in the Transport sector. The results of the discussion were then presented in plenary.

2.1 Round table: Barriers and opportunities in IP & commercialisation

In one roundtable, the discussion focused on the barriers and opportunities in IP and commercialisation that help or prevent innovation from progressing into the marketplace to the benefit of regional Transport SMEs sector. Specific objectives of the discussion were:

- Barriers and opportunities in IP & commercialisation
- Good practice in each Region/Country
- Needs/lacks in each Region/Country

Questions prepared to guide the discussions were:

- What are the weak points in regions' Transport SMEs in IP Commercialisation?
- Why engineers leave Europe and migrate to North American companies?

The **main points of the discussions** were:

- West Midlands region (UK): inventors/innovators are good at inventing, but they are not as good in IP Commercialisation. The inventors have to study and work out the Patent Commercialisation, but generally they do not have knowledge in IP Commercialisation.
- Campania Region (Italy): if SMEs could spend money in IP Commercialisation, is it considered as a risk? For instance, JABIL (one of the companies/good practices visited during the study visit in Naples, April 2019) is like a 'supermarket' of ideas. There is a strong interaction with engineers and inventors in an operational system. They know how to match the sides, how to fill the gap. They also train entrepreneurs to think before the crisis. Maybe the best model – best idea – should be studied to set-up and develop a culture of IP Commercialisation.

In Campania Region, an open call on IT funding programme was launched, but sadly there were zero proposals submitted. A possible explanation of the lack of interest is that the Transport-SMEs need serious training in tackling IP Commercialisation.

A model should be in place to incentivize IP Commercialisation.

- South Aegean region (Greece): JABIL in Italy is a model of how inventor is focusing on business. As regards the Greek region, IP Commercialisation is well developed in universities and R&D units in Thessaloniki area and Athens metropolitan region. However, bureaucracy is mentioned as a barrier to IP Commercialisation.
- Lithuania: IP Commercialisation is quite active in SMEs located in Vilnius area. Bureaucracy is also mentioned as a barrier to IP Commercialisation.
- South-West Oltenia region (Romania): important weak points are low level of product/process innovations; insufficient marketing or organisational innovations; the fact that just a few SMEs are innovating in-house. There is a bureaucracy issue for patent filing with OSIM (State Office for Inventions and Trademarks), the time needed to obtain the patent is 4-5 years. The process is very slow, the time taken is too long: the risk is for the invention to lose the right moment of market launch.

A good model in the region is COSME. Another good practice is the Fulbright Programme: it offers scholarships and training for local inventors in US, Rochester University, for 4 months. The candidates are selected by competition (in SW Oltenia), on condition to hold a PhD. After the US stage, the inventor continues the courses, identifying an invented product to be sold on market. After that, the inventor returns to Romania for 6 months and has to work with his students.

- Often engineers leave Europe and migrate to North American companies as, currently, the innovation level is remarkably high in North American Automotive related SMEs. Also in Asia (e.g. Japan, South Korea, China etc) the innovation and IP commercialisation level is much higher than in Europe. In North America, the SMEs have a strong innovation commitment. Moreover, in North America the innovators/inventors/engineers do engage in development of products-related to business, instead of research.

Conclusions:

- Creating a sustainable model in IP Commercialisation is necessary.
- One of the barriers to IP Commercialisation is the slow bureaucratic and approval process that characterises the patenting system. Any effective solution to IP commercialization has to overcome these obstacles. Considering the high potential of commercializing patents, any efforts made in this regard would be worthwhile.
- To improve IP Commercialisation is to empower start-up founders in the region, to build quality patents and improve their chances of funding, access to market and contract opportunities.
- IP Commercialisation in the partner regions have insufficient strengths; inventors do not have “salesman” capacity to outline the strength of regions innovation. The regions must do more to exploit their R&D capabilities and strengths in attracting business and keep them in the region.
- The culture of IP Commercialisation needs to be promoted in the regions.
- The regions are trying to improve IP Commercialisation for future opportunities and better understanding of how Transport-SMEs industry innovation works. However, the bureaucracy that comes with IP Commercialisation is not favourable to Transport-SMEs business. Obtaining research grants is also a barrier for Transport-SMEs.
- The Catapult Centre (in West Midlands, UK) can be a successful model to the partner regions to give support in their IP Commercialisation.

- A comprehensive mapping of regions IP Commercialisation system is needed to know how to link to other relevant stakeholders and to collaborate with them.
- More efforts are needed to ensure collaboration between academia and Transport-related industry.
- It is crucial attracting Venture Capital funding to support growth of business and IP Commercialisation in Transport-SMEs sector.
- Regions policy makers can act for upholding new technologies and support the IP Commercialisation on Transport-related SMEs market. They must be proactive in supporting innovation, in recognising potential of valuable ideas on their way to IP Commercialisation in Transport-related SMEs sectors.
- Regions have a strong research base, but it isn't exploited enough.
- More assessment is needed to assure the successful behaviour in IP Commercialisation in the regions' Transport SMEs sector.

2.2 Round table: Leveraging training skills development in transport SMEs

The change in jobs and competences (e.g. green economy), the persistence of shortage occupations and an aging workforce are some of the challenges that labour market faces. Against the background of innovation, trends and shifts in sectors, jobs, functions are taking place.

We acknowledge the importance of enhancing the competences in Small and Medium-Sized Enterprises (SMEs) in its policy to respond and anticipate on these current and future trends and needs of the labour market.

Different studies and data demonstrate that SMEs are less likely to participate in training and skills development than large firms. Because of their limited scale SMEs often encounter difficulties to train their employees.

Specific objectives of the discussion in this round table were:

- Definition of training needs
- Identification of the obstacles that SMEs encounter and how they can be overcome
- Good practice in each Region/Country
- Needs/lacks in each Region/Country

Questions prepared to guide the discussions were:

- How do you see the role of public administration in supporting SMEs?
- Do you see any barriers/obstacles for SMEs to invest in training and skills development?
- What about the brain drain phenomenon?
- What are the barriers for training (financial costs, insufficiently adapted training offers, etc.)?
- What are the key factors to support the SMEs from an administration point of view?

The main points of the discussions were:

- Strengthening partnerships between the business environment and the state institutions. More lobby for promoting products from each region, more involvement from local public authorities.
- Reinforce the vocational and professional training.
- Young persons should be supported to go in for practical stages in companies (placement schemes for six months)
- Within the companies there is an internal concern for the development of human resources, but also the access to training and training programs funded from European Union funds. The companies are investing themselves in training,
- Specialised programs in universities
- Companies can come towards universities with certain requirements, and universities should adapt their curricula according to the specific local needs
- To upgrade the skills for the transport planners
- Main problem: the lack of workforce

Conclusions:

- More assessment is needed to assure the successful training framework for skills to workforce employed in the regions' Transport SMEs sector.
- Regions must be proactive in supporting professional training programmes and creating opportunities for skills development aimed at persons employed in Transport - related SMEs sectors.

3. Study Visit

On 17th April a Study Visit took place to see Good Practices in the local area.

The first visit was at **Softronic**. Softronic Holding consists of three companies:

- Softronic – manufacturer of Electric Multiple Unit Trains and Locomotives
- CMF – metallic construction factory of large and small subassemblies
- Softrans – railway freight & passenger operator and also a leader in the locomotive rental business.

Established in Craiova Romania in 1999, with the main purpose of modernizing locomotives, Softronic continues today the city's tradition of over 50 years in the construction of electric locomotives. Understanding the needs of private operators, the company is able to offer a bi-system modern and reliable locomotive, TRANSMONTANA, perfectly adapted for transport conditions in countries like: Bulgaria, Romania, Hungary, Turkey etc.

In 2013, Softronic finished its latest project a bi-system low floor electric multiple unit train, HYPERION, capable to operate both on 25 kV 50 Hz AC and 3 kV DC. Their focus includes a large variety of businesses including transfer of technology worldwide and building a new plant based on a strategic partnership. Softronic values its employees, recognizing their importance, helping them develop further, sustaining together the growth. Under expert management, international operations concepts are being developed for the European network.

Softrans was founded in 2002 with the initial purpose of testing technical solutions for Softronic's products. In 2003, the first locomotives began the freight transport activities offering

these services to more and more customers. They are a premium railway freight and passenger transport operator, safe for the travellers and environmentally friendly. Today Softrans operates Hyperion train linking Craiova city to Constanta and Brasov through Bucharest. Their technology shapes the future by developing and offering secure, reliable and profitable railway vehicles for the clients and by implementing interoperability technical specifications allowing free rail traffic. Also, the company Softronic SRL has benefited from financing instruments and support / financing schemes that are used in the South-West Oltenia region.

| Key issues of the site visit | |
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| Success factors identified in the site visit: | <p>Hyperion is an ultramodern electric train, unibody (streamlined like metro trains) built by the Softronic factory in Craiova and it can reach a speed of 160 kilometers per hour. It operates regular journeys on two routes: Craiova-Bucharest-Constanta and Craiova-Bucharest-Brasov.</p> <p>Softronic in Craiova is the only factory producing electric trains and locomotives in Eastern Europe, and invested 4.3 million Euros in 2014 to build the first high-speed electric train (Hyperion). Softronic developed the second train in 2015, and then built other 2 trains, that is 4 trains in total.</p> <p>It is a revolutionary train in Romania, entirely made in Craiova factory, and it brings in a very comfortable high-tech interior for passengers. It is a highly innovative offer for rail transport.</p> |
| Barriers to productivity, competitiveness, growth and innovation identified in the site visit: | <p>Softronic company has to win the barriers caused by unfair commercial practices that are put by state company CFR (rail passenger carrier) that allows Softrans time slots for departure at inconvenient hours only (e.g. in Craiova station it has to depart at around 05 HRS AM). Hyperion is a vital competitor of CFR that runs trains with old carriages.</p> |

Table 1: Softronic: key issues of the site visit

Another interesting visit was at **Nextrom Industries SRL**, an example of a SME in the industry that applies innovative solutions.

The E-TWOW – Electric Two Wheels brand is part of a large international concept, with headquarters in China, focused on offering a new era in urban mobility, through ingenious electric vehicles. The idea, design and construction of the E-TWOW electric kick scooter belongs to the Romanian engineer, Dr. Sorin Sirbu and the concept was further developed alongside a research team of engineers with a solid background in mechanical and electrical engineering. Sorin created the first electric scooter in 2013.

The E-TWOW scooter was the first scooter to integrate a kinetic energy recovery system, which was only used for race cars at that time. It's lightweight and the 3-point folding system, made it one of the most convenient personal transportation vehicles, as it could be carried and stored with ease. The initial design suffered little changes in time, as from the very beginning, the scooter was designed for optimal stability and manoeuvrability. Nonetheless, newer generations featured major improvements in terms of ergonomics and software.

In 2015, the company sold about 2,000 units of electric scooters, and in 2016 it sold over 8,000 units at European level.

In 2017, the E-TWOW electric portable and foldable vehicle won a gold medal for the best invention at the 45th International Exhibition of Inventions of Geneva. Over the years, several other manufacturers started producing similar vehicles, but the E-TWOW electric scooters continue to be the best choice, due to their high quality, their incredible manoeuvrability and overall ease of use. At the moment, the E-TWOW scooter is the only electric vehicle that can be completely functional without a battery. If you take out the battery from another electric vehicle and you accelerate, you will ruin the controller or the brakes. With the E-TWOW scooter, you can take out the battery and ride it downhill without ruining any components. Moreover, even without the battery, you will still be able to use the brakes and the lights.

The factory also produces other electrically powered vehicles - scooters, motorcycles, bicycles and electric transportation vehicle for disabled people.

Also, the company Nextrom Industries SRL has benefited from financing instruments and support / financing schemes that are used in the South-West Oltenia region.

| Key issues of the site visit | |
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| Success factors identified in the site visit: | The E-TWOW scooter was the first scooter to integrate a kinetic energy recovery system, which was only used for race cars at that time. It's lightweight and the 3-point folding system, made it one of the most convenient personal transportation vehicles, as it could be carried and stored with ease. |
| Barriers to productivity, competitiveness, growth and innovation identified in the site visit: | The E-TWOW scooter are sold all over the world and have to adapt according to the legislature of each country. |

Table 2: Nextrom Industries SRL: key issues of the site visit

The visit concluded at the **University of Craiova, Faculty of Mechanics and Transport Engineering**. In February 2016, the University of Craiova inaugurated the Mechanics Campus of the Mechanics Faculty, which was modernized by a project funded within Regional Operational Programme in South-West Oltenia Region, Romania, worth 10 million Euros.

The project provided for the rehabilitation, modernization of existing buildings, the extension and upgrading of some of them, the creation of conditions according to highest quality norms for carrying out the educational and research-development processes in linked to Transportation engineering and technology. Thus, spaces designed for academic courses, laboratories, research-development, consulting, administrative, as well as information offices were set up at higher European standards. State-of-the-art laboratory equipment and installations were purchased and implemented with European funds. At the same time, a modern and performance infrastructure for the faculty library with direct access to current scientific information was developed; and not last, the ultramodern auditorium built within the MC is a powerful asset in this "Mecca" of knowledge.

| Key issues of the site visit | |
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| Success factors identified in the site visit: | <p>Mechanics Campus is a technological RD platform built to answer the challenge of mastering the mechanical engineering and research-development in the field of transportation and related sectors. Mechanics Campus platforms respond to the challenges of industrial competitiveness, technological research in advanced manufacturing. They include state-of the-art labs, materials and industrial & academic players that work on strategic sectors.</p> <p>The campus has industrial & academic teams that work on developing innovative manufacturing technologies for transportation means. MC offers resources, encourage interdisciplinary approach, collaborative R&D and technology transfer. Mechanics Campus contributes to the excellence of South-West Oltenia region in the field of mechanical engineering applied in transportation industry sectors.</p> <p>During the study visit, the academic and research staff have presented concerns and topics from the traffic studies carried out, they presented curricular elements and laboratory applications from the specialized subjects they are managing and teaching to students, all related to mechanical engineering and technology linked to transportation sectors. MC is a vibrant innovation ecosystem.</p> |
| Barriers to productivity, competitiveness, growth and innovation identified in the site visit: | If MC managers are not enough proactive and innovative in thinking and developing new EU funded projects, this platform is in danger to miss the opportunities. The academic & RD staff together with students should make joint teams and set-up start-ups, high-tech firms and ventures. Assuring the funding of RD projects in the next period might prove difficult and become a barrier to productivity, competitiveness, growth and innovation. Campus staff should also be really open to collaboration with regional SMEs that have talented engineers and specialists in technological development, to identify fresh ideas in development of new technology and IP commercialisation. |

Table 3: Faculty of Mechanics and Transport Engineering, University of Craiova: key issues of the site visit