



FUTURE 4.0



**Final National Conference**  
Tirana, dec, 14th 2020



**Local Pilot Action Albania (PP9)**  
**Design and Experience**



PP9



# Part 1

Local Pilot Action  
description

# Part 2

Presentation of  
implemented activities

1. Seminar
2. Awareness
3. Acquisition
4. Transformation

# Part 3

Feedbacks and remarks  
from local actors

# Part 1 :Local Pilot Action description

- ▶ We have based the pilot action on the information from the companies interviewed during the previous stages of the project and their opinions about future professions / set of skills considered as appropriate to the implementation of I 4.0 technologies, during the formal stages of pilot action design
- ▶ The pilot actions are also highly influenced by the studies and recommendations from the researchers worldwide, dealing with the professions of tomorrow. For many reasons, it can't be exhaustive. Amongst others, as Industry 4.0 indirectly addresses the human health issues within the changing working context, this might be a point of discussion in terms of skills required for a deeper analysis.



# Main target group

- ▶ Direct companies:
- ▶ 1. Albsea transport
- ▶ 2. Blumare shipping
- ▶ 3. Vital Shipping
- ▶ 4. Coli sh.p.k
- ▶ 5. Fenikas Company
- ▶ 6. Pelican LTD
- ▶ 7. Shega Sh.a
- ▶ 8. Mediterranean Shipping Company MSC

# stakeholders

- ▶ (companies and research centres) as well as the external stakeholders
- ▶ Public administration,
- ▶ business support organisations,
- ▶ sectoral agencies,
- ▶ other interest groups such as associations of professionals) were involved by adopting a quadruple helix approach in the implementation of the Local Pilot Action through Information seminars

## Part 2. Presentation of implemented activities

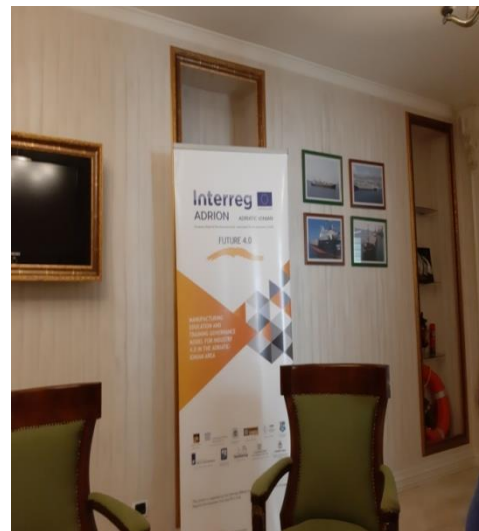
- ▶ The local actions involved at least: - 25 participants from Albania (8 companies and other organization and institutions).
- ▶ Moreover, during the testing of the Smart Learning Model, companies and their workers were stimulated to cooperate with research centres and universities
- ▶ **Smart Learning activities included:**
- ▶ One Seminar organized as Plenary sessions, working groups, discussions and feedback during the SME week - June 2019
- ▶ One awareness event during the SME European WEEK- Dissemination about I4.0 technologies and possible methodologies
- ▶ Two acquisition Workshops ( inter company training)
  - ▶ One about main technological megatrends in Green Manufacturing and Logistics and impact of professional profiles and skills; (October 2019)
  - ▶ Shipbuilding being so complex in nature, calls for involvement of engineers from a wide range of fields. The online platform- cooperation with research centers and universities (November 2019)
- ▶ One joint transformation seminar: Knowledge transfer and application on 3 D modeling, communication in management level, product and process needs analyzing (nov 2019)

# Seminar June 2019





# Acquisition inter- company workshop (October 2019)





# Acquisition inter- company workshop September 2019

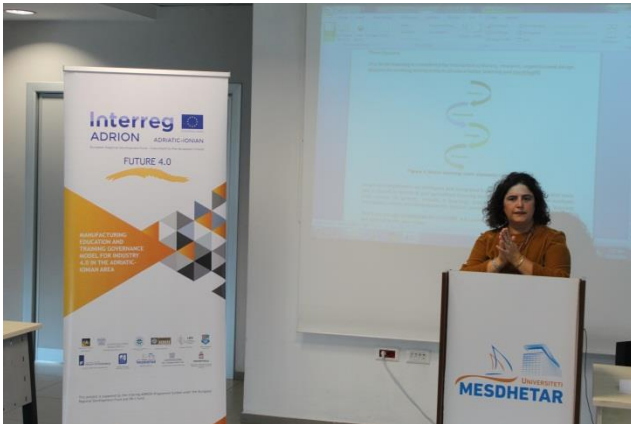


# Awareness Nov 2019





# Transformation Nov 2019



## Part 3: Feedbacks and remarks from local actors

- ▶ The current technologies used in the shipyard sector in Albania - in the framework of I 4.0 - can't be analyzed if only discussing the technical skills and qualification. It is obvious for all stakeholders that the work culture, company organization and management, leadership style and other managerial issues are of paramount importance for the successful activity of every organization. We are of the opinion it deserves a special attention and survey, in order to pave the road for the factory 4.0.
- ▶ Information technologies particularly are playing a greater role in manufacturing and the value chains into which they are embedded.
- ▶ Each manufacturing sector relies upon a combination of factors for the location of a new facility or for its daily operations. The most common factors relate to labour, resources, infrastructure (e.g. utilities and transport) and market access. Standards relate to issues such as the quality, interoperability, consistency, reliability, safety and security of those factors
- ▶ Locations with low labour standards may have cheap input costs, but are likely to lack the capabilities to perform tasks of higher added value. Reaching standards that are suitable to a wider set of manufacturing activities is an important goal for Albania in order to develop and expand their manufacturing base.

- ▶ many big companies in the area are aware of transferring the Industry 4.0 principles to their shipyards in order to build Shipyards 4.0, and seeking to apply the newest technologies related to ubiquitous sensing, Internet of Things (IoT), robotics, Cyber-Physical Systems (CPS), 3D printing or Big Data to improve the efficiency of the many processes that occur in a shipyard. This is the inevitable trend even for the Albanian companies belonging to this industry and carrying out their activity in the Mediterranean/ Adriatic- Ionian region
- ▶ Easy to declare, but not at all easy to achieve without a considerable engagement in the future education and training system of every country, Albania included.
- ▶ The know-how about materials, processes, products, communication, especially about the so-called Smart Connected Products, bring in the need for engineering and technology education : under terms of *production engineer, product designer, operations manager, materials engineer, mechatronics, graphic artist, software engineers, system administrators, database administrators, network administrators, data scientist, cyber-security specialists, system integrators* etc
- ▶ There is a new source in the higher education system that has just started to provide some of the specialties needed, amongst which: Navigation and Maritime Management, Sea/ Road Transport management, Construction management, Automobile technology, Electrical Technic, Computer network Specialist, etc., that is expected to contribute to a better match of the demand and supply. It is located in Durrës, the biggest port of Albania, thus facilitating the provision of new professionals to the job market. However, the companies are generally skeptical to choose from the youngest generations, due to the missing experience and to the gap between the theoretical preparation and the practical job requirements.

- ▶ Whatever the name of the diploma, the education system should provide such specialists with deep technical and advanced ICT knowledge.
- ▶ Companies will be capable of responding to their customers' needs if their employees, either called “engineers” or otherwise called, will be capable to monitor product operations and factory' conditions in real time, control and customize product operations remotely, and optimize product performance using real-time data.
- ▶ Many companies are treating digital transformation projects as typical IT projects
- ▶ There is a basic challenge of understanding the drivers behind Industry 4.0 and digital transformation within the organization, to properly allocate resources and focus on the most important aspects of this transformation



- ▶ From the business point of view, they consider the role of above mentioned technologies - as a whole set - on the value chain, as the benchmarking, that pave the road for the companies - operating regionally.
- ▶ Logistics is another activity from the value chain that is suffering and could benefit from these 4.0 technologies, while preparing the operating staff to use efficiently the advanced instruments and software
- ▶ The companies themselves, also in cooperation with the educational system, should enable to all workers up-skilling and learning new information throughout the duration of their career, especially when it comes to technical intelligence
- ▶ The last, but not the least, although many of abovementioned professions seem to require a big amount of knowledge for becoming a specialist in the field, which means possession of bachelor's or master's degrees, the practitioner' experience has shown, and the opinion is, that “the two-year people” are highly efficient and very suitable to fulfill the needs of companies for staff during their digitalization process.

- ▶ This raises up another issue: that of continuous update of knowledges and obtaining of new skills for most of professionals the company needs. The company can hire new staff recently graduated and equipped with the latest skills, while it should try to raise the qualification level of the other part of the staff working in different departments. The company acts as a whole entity, where discrepancies are risky and may affect the business success
- ▶ At the other side, companies facing difficulties to fill in their vacancies for above professions and skills try to find alternatives. They do make use of different ways, mainly:
  - ▶ - invest in training of existing staff by hiring private training providers, and invest in technology,
  - ▶ or, in some cases - increase salary and benefits to make the job more attractive and do outsource for other experts/ companies to undertake the job.



Contacts



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