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ISSUE 3 | AUGUST 2020

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School Center Nova Gorica:

Establishment of the IIOT platform in Slovenia

The purpose of the Talentjourney project is to bring together various stakeholders and experts at the local, regional, national as well as international level into an industrial IoT platform. The platform will be a meeting place, connecting and sharing knowledge between different professionals, teachers, researchers and learners.

To establish the IIOT platform and set the framework for its operation, an introductory workshop was held on Wednesday, 1 July 2020 at the Nova Gorica School Center premises with Slovenian school centres and Slovenian key stakeholders.

IoT platform, Workshop, IIOT expert

The work was based on networking and cooperation of company representatives, teachers and managers. Together, the participants sought answers to key questions for us, namely: what are and will be future processes in companies in the field of Industrial IoT, what kind of profiles will perform these processes and how will we successfully provide the necessary profiles to the economy.

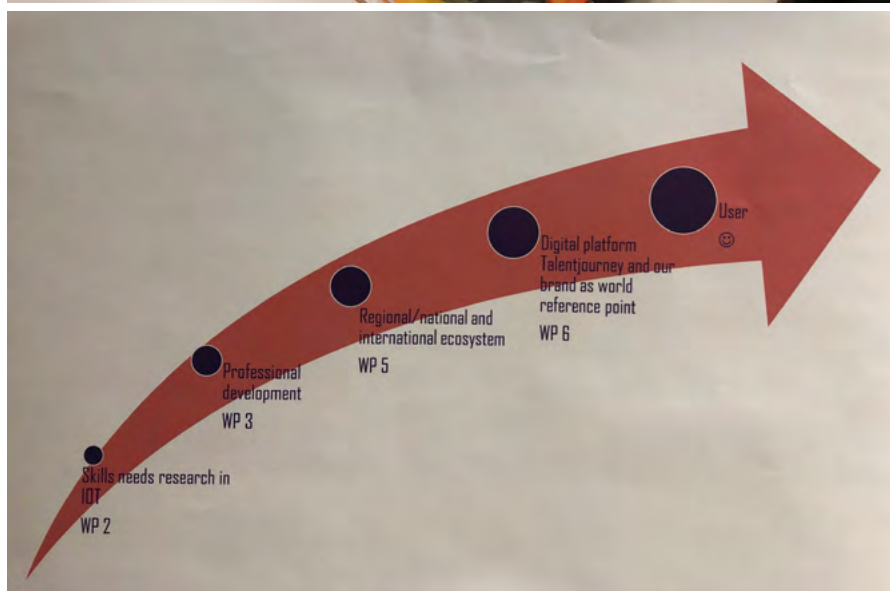
The first challenge was an insight into the future, ie how we imagine the IIOT business model, what will be the main processes in it and what will be the main stakeholders involved. The importance of an orderly data collection system, monitoring the traceability of materials and then products, process automation and data analysis and processing were emphasized.



In the following, we discussed the most ideal competency framework for the “IIOT expert”. What professional knowledge does he need, what soft skills does he need to have, green skills, what personality traits, etc? Most of the working groups exposed team working, communication skills, readiness to learn, self-initiative.

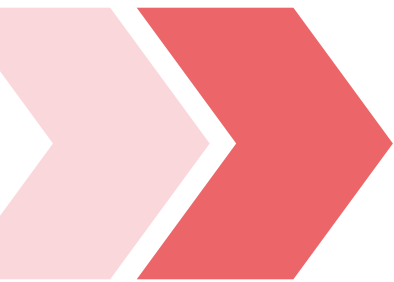


The last part of our workshop was dedicated to finding out if we need to create a staff that will have a holistic view and knowledge given the great interconnectedness of professional fields or just a staff with specific knowledge. An interesting debate has erupted over the universality of knowledge versus specialist knowledge. There was no winner as we found that both were important.



The next workshop is foreseen in the fall. Until then all the involved Slovenian partners must start working on designing the content of the joint curricula, more exactly defining the prerequisite knowledge and basic skills for entering the modules.





School Center Nova Gorica:

Centres of vocational Excellence – Skills ecosystems for innovation, regional development and social inclusion

Centers of Vocational excellence, online workshop

We are proud to have been able to present our Talentjourney project to the world public at the virtual conference of Centres of vocational excellence, on 16th of June 2020. The conference purpose, organized by Tknika in cooperation with the European Commission, was showing real examples of the 5 pilot projects approved under the first call of proposals for Centres of Vocational Excellence. The online workshop shared the approach to VET excellence and the future of the platforms of Vocational Excellence. The conference provided a mixture of policy vision and strategy and practical examples to allow participants to fully grasp the concept of excellence in VET in the European context.

65% of future jobs will require a VET qualification in Europe and, therefore, it is necessary for the VET systems to change, adapt to the new times and provide students with skills, competences and knowledge that will allow them to adapt to the new world and perform different jobs in the future.

VET centres should be completely student-centred, drivers of innovation, sustainability, employment and social inclusion. They should become drivers of competitiveness, innovation, sustainability and social well-being. They should be firmly anchored in regional

strategies, they should provide a whole set of services apart from initial training and they should have a strong partnership with other agents in the strategic triangle.

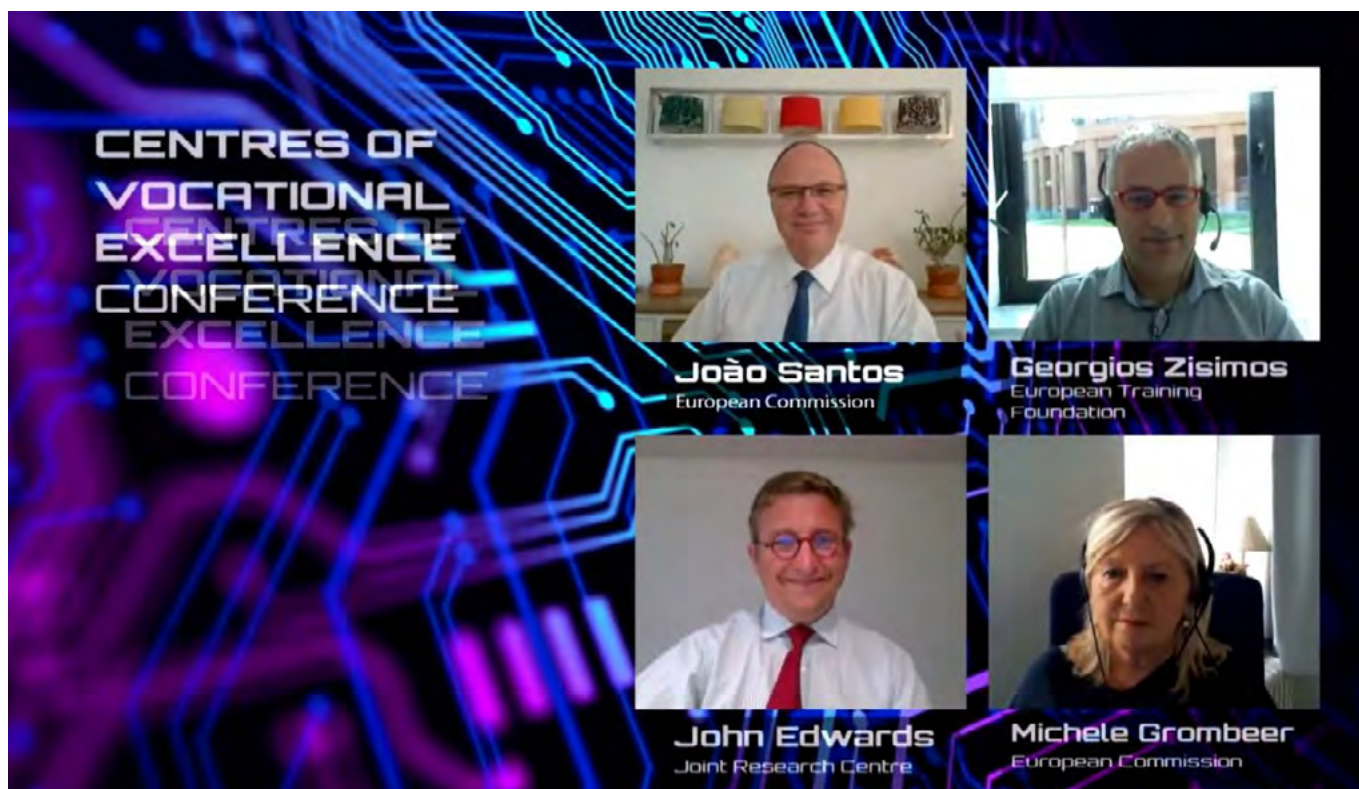
The conference
is available at the
following link:
[https://youtu.be/
bFLhj1ouYww](https://youtu.be/bFLhj1ouYww)

A new approach to VET excellence, where VET institutions are capable of rapidly adapting skills provision to evolving local needs, is essential to raise the attractiveness, relevance and quality in VET.



With the support of the
Erasmus+ Programme
of the European Union





ECIPA Scarl:

Predictive maintenance in industry 4.0

One of the biggest advantages of Internet of Things (IoT) for manufacturers is that it allows them to adopt a smarter approach. The continuous analysis of assets' behavior data improves their efficiency, but there is also another important aspect: it helps to predict product failure and increases assets' uptime.

***IoT, smart
manufacturing,
Industry 4.0***

Surely maintenance is a strategic concern in manufacturing; however, a third of current maintenance activities are carried out ineffectively. IoT can come to the aid: predictive maintenance has become a top business objective for innovative manufacturers. (www.smartindustry.com/).

Predictive maintenance builds on activity planning based on a dynamic model of a component, which allows determining the best strategy to put in place for the component itself.



On 7th July, Ecipa Scarl participated in an interesting webinar about Predictive Maintenance in Industry 4.0, organized by MADE, a Competence Center for Industry 4.0 managed by the Polytechnic University of Milan (Italy).

Predictive maintenance builds on activity planning based on a dynamic model of a component, which allows determining the best strategy to put in place for the component itself. Data collection and analysis are therefore at the core of predictive maintenance.

Predictive maintenance offers several benefits. It reduces maintenance costs (down by 50%), unexpected failures (down by 55%), repair and overhaul time (down by 60%) and spare parts inventory (down by 30%); it increases by 30% machinery mean time between failures and uptime. (reliabilityweb.com/)

Of course, predictive maintenance requires many efforts, in terms of time and resources; therefore, it is not always the best solution. Advantages and benefits have to be carefully considered, and predictive maintenance has to be compared to other strategies of maintenance (for example reactive maintenance). Among the parameters to be taken into account there are the value of the

component, the impact its failure would have on production, the complexity of fault repair.

The webinar was especially focused on how an SME can embark on the journey towards predictive maintenance. Deep knowledge of its own assets is definitely the starting point, as it allows the company to determine which are the most critical assets, and if any data collection is already in place and/or it is a viable option. The study of representative cases is fundamental too. Undoubtedly, skills and competencies are required, not only at the technical level but also as a capacity to look at the bigger picture, to examine the system as a whole: a multidisciplinary approach is a key to success.

ISIS Malignani:

Teaching IoT skills: some insights

**Remote work,
Cloud services,
Cisco
NetAcademy,
IoT courses**

Despite the lockdown for coronavirus, the activities planned for the Talentjourney Project continued in June with remote web calls at ISIS Malignani.

The preparation of an interview with EFL partner has been the starting point, for a group of teachers, to reflect on the main aspects of teaching regarding IoT related subjects in particular.

Keep contact with real world, team work, project based work and problem solving are the key aspects that have emerged from the discussion. This, because IoT skills include many hard and soft skills. Therefore, only a transversal approach that goes further single subjects can be effective.

IoT experts should be able to collect, store, and visualize data obtained from IoT sensors (big data & analytics). Moreover, they should know how to model

connecting sensors to cloud services over IP networks and collecting data in an end-to-end IoT system (connecting things), how to perform vulnerability and risk assessments. For this reason, it is essential for them to possess research skills and to be expert in recommending risk mitigation strategies (IoT security)

The lack of these contents and approaches in a traditional school curriculum led our school to be certified as Cisco NetAcademy a few years ago. Thanks to this agreement ISIS Malignani can now offer to students the following courses:

- 1) *Introduction to the Internet of Everything*
- 2) *IoT fundamentals: Connecting Things*
- 3) *IoT fundamentals: Hackathon Playbook*
- 4) *IoT Introduction to IoT*
- 5) *Introduction to Cybersecurity*
- 6) *Cybersecurity Essential*

PARK Frans Joziassse GmbH:

Kicking-off interviews with external stakeholders

Interviews with Stakeholders, Draft of Ecosystem Map

Interviews with several stakeholders were scheduled in June. A different interview framework was prepared for each type of stakeholder. Interviews with organisations took 90 minutes, while interviews with learners and tutors took 45 minutes. The following aspects were covered:



Learners:

- Motivation, challenges and goals
- Learning experience
- Work experience
- Long-life learning



Tutors:

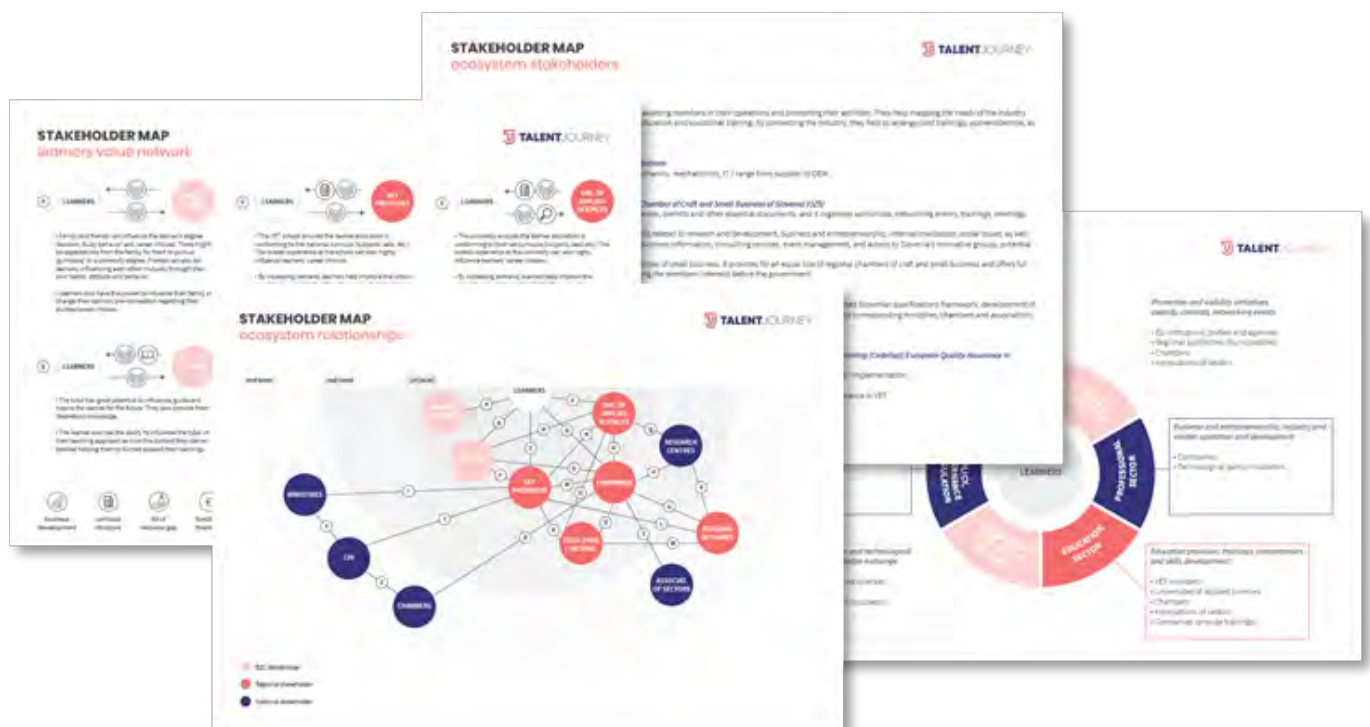
- Motivation, challenges and goals
- Experience with learners and school
- Teaching approach
- Role of the tutor



Companies

- Motivation, challenges and goals
- Regional context on CDS/IoT in Smart Manufacturing
- Other stakeholders and collaboration
- EU context on CDS/IoT in Smart Manufacturing.

While interviews were being conducted, PARK also started preparing a first draft for the ecosystem map, based on the insights gathered. The ecosystem map showcases the ecosystem enablers, stakeholders, stakeholder relationships and the value network/exchange in these relationships. Due to the nature of the WP5 activities, the deliverables created will be further iterated in the next months, together with partners.



First draft of ecosystem map created after interviews
Author: Paula Teixeira

School Center Velenje:

Exploring advantages and disadvantages of IoT

**IoT,
Mass Production,
Security issues,
Monitoring,
Technology 4.0**

When it comes to mass production the trends of robotics include smart robotics systems. The aim is to upgrade the current robotics system, to the point where it can ensure education and project work for high school students, higher education and for company workers. IoT brings a lot of advantages stemming from controlling and monitoring machines through internet. The main goal is to make robots connected to IoT network and connect monitoring of robots from anywhere and to get the data for future processing. The plan is to connect different robots into same IoT network and monitor them through a web application. So many different services in areas of the IoT devices bring many advantages but that also brings the disadvantages. One of the key weaknesses is security, which we as consumers do not check because we do not have enough knowledge, even though it would be necessary. The goal is to make our system secure and modern using latest standards in IoT / technology 4.0.





High school students can learn the basics of robotics, how to handle them and how to use them in basic situations. With many sensors and actuators, they can better understand the automation tasks. The implementation of collaborative robots ensures a safer working environment. Students in higher education can learn how to connect a processing line and get the data on a server and experience new technologies connected to industry 4.0. With machine vision and machine learning they can learn about the smart systems.

Author: Klemen Zaponšek





SC Nova Gorica: **Event**

*Online
conference*

»Centres of Vocational Excellence«

*We are kindly **inviting you to join** the
**online conference »Centres of Vocational
Excellence«** within the **European Week of
Regions and Cities**.*

Conference details

- **Date:** Wed 14, October 2020
- **Time:** 11:30 - 13:00.
- **More info:** https://europa.eu/regions-and-cities/programme/sessions/1148_en

This world café invites participants to provide input into the recently established European platforms for Centres of Vocational Excellence (CoVEs). These platforms, funded by Erasmus+, connect providers of high quality skills and competences for a specific economic sector or societal challenge, embedded closely in regional innovation ecosystems. CoVEs are composed of vocational education and training providers as well as other parts of the ecosystem such as business associations and regional development agencies. Each of the five pilot platforms will host a table to

explain the territorial dimension of their activities and seek the views and proposals of all participants. In addition to learning more about the CoVEs, the world café will also help participants to consider how skills can be integrated into their Smart Specialisation Strategies post 2020, for which the European Regional Development Fund can provide funding.

Online
conference
**»Centres
of Vocational
Excellence«**

📅 Wednesday 14,
October 2020

🕒 11:30 – 13:00

Moderators:

John Edwards, Research Associate, Public Policy Monitoring Unit
- Universidade de Évora, Portugal.

Dana Redford, President, Policy Experimentation and Evaluation
Platform, Portugal.

Speakers:

Iñigo Araiztegui, Project Coordinator, TKNIKA | EXAM 4.0, Spain.

Fernando Hervás, Deputy Head of Unit, European Commission,
Joint Research Centre, Spain.

Adrijana Hodak, Project Leader, Šolski Center Nova Gorica |
TALENTJOURNEY, Slovenia.

Pieter Hoekstra, Project Leader, CIV Water | PoVEWATER,
Netherlands.

Jouni Hytönen, Development manager, Helsinki Business College
| DIHUB, Finland.

Eva Maydell, MEP, European Parliament, Belgium.

Rita Orlando, Project Manager, Open Design School Matera |
DEUS, Italy.

Joao Santos, Deputy Head of Unit, European Commission, DG
Employment, Social Affairs and Inclusion, Belgium.



PARK:

 Monday 7,
September 2020

 12:45 – 18:30

Talentjourney ecosystem map Workshop (SLOVENIA)

Talentjourney ecosystem map Workshop for Slovenia will be held on **7th of September 2020**. We will all collaborate in the workshop through **Miro** (<https://miro.com/>). Miro is an online platform in which people can collaborate simultaneously on the same board.

Workshop agenda:




- 12:45 – 13:00** *Miro log-in*
Participants to take the time to log-in and get familiar with the platform
- 13:00 – 13:15** *Introduction*
PARK to present workshop objectives & agenda; provide an overview of the ecosystem map
- 13:15 – 14:15** *Activity 1 – Enablers alignment*
Review ecosystem enablers, decide which are important for the ecosystem
- 14:15 – 14:30** *Coffee Break*
- 14:30 – 15:30** *Activity 2 – Stakeholders alignment*
Review the stakeholders and check them against the enablers
- 15:30 – 16:30** *Activity 3 – Relationships alignment*
Review key connections between stakeholders
- 16:30 – 16:45** *Coffee break*
- 16:45 – 18:15** *Activity 4 – Value network alignment*
Review and decide key value network exchanges (what + description)
- 18:15 – 18:30** *Workshop closure*



*Internet of **curious** Things*

*Do you want to get involved in the project? Send us an **email**.*

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