

BIFOCALPS Project

Boosting Innovation in Factory Of the future value Chain in the Alps

Project Number: 510

D.T1.1.2: Workshop on FoF adoption in manufacturing value chain

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EXECUTIVE SUMMARY

The aim of this document is to provide the description of the BIFOCAIps Industry Workshop held in Milan on the 30th of March 2017.

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1 BIFOCALPS INDUSTRY WORKSHOP

1.1 Workshop objectives

This Industry Workshop represented a public event at transnational level aimed at providing information on the state of the art and growth opportunities of manufacturing sector in terms of Factory of the Future practices and technologies to specific target groups, especially SMEs and policy makers in order to actively discuss the challenges related to their adoption and implementation. Moreover the workshop had also a dissemination objective: an overview of the BIFOCAlps project was given and first results were presented.

1.2 Workshop programme

The programme of the workshop is given in Annex I. The major issues addressed within the different sessions of the programme included:

- An overview of the BIFOCAlps project
- The presentation of first results related to WP1 and in particular the FoF Manufacturing Framework and the survey
- Four parallel round tables on the following topics:
 - Collaborative robots
 - Virtual and Augmented Reality
 - Artificial Intelligence
 - IoT
- A final recapp and related discussion

1.3 Workshop organization and attendance

The workshop was organized by CNR with the support of project partners and was held at the CNR premises in Milan on the 30th of March 2017. Participants included representatives from most of consortium members, PMI and policy makers of the Alpine Space regions. The complete list of attendants is given in Annex II.

1.4 Workshop Sessions and Discussion

The training workshop was opened with a welcome speech by Marco Sacco from CNR ITIA, followed by an overview on the BIFOCAlps project of the project coordinator Massimiliano Bertetti. The next speech held by the Andrea Zangiacomì from CNR ITIA presented the running activities of WP1 and related preliminary outcomes: the FoF manufacturing framework in the Alpine Space and the survey on awareness and adoption of Factory of the Future solutions in the manufacturing companies of the regions involved.

After this plenary session the four round table started and participants divided into three groups according to their interest in the topic proposed. In the following section a recap of the three round table from each moderator is provided.



Figure 1: a picture of the plenary session



Figure 2: a picture of the plenary session

1.5 Recap of the three round tables

1.5.1 IoT

Moderator: Attilio Rogora, Digital Transformation Senior Manager - Manufacturing 4.0 Advisor EMEAR, CISCO.

“For a company became e service oriented organization is a journey that need to be addressed with the support of the right skills, resources and organization. My advice is to work

since the beginning with a cross functional team composed of policy maker and vendors that could add the right vision and roadmap on the project that impact the most on the revenue or cost structure on the customer value chain.

With the right business case in mind start a transition to a digital journey addressing a standard based, integrated and secure infrastructure as a backbone where to growth.

Evidence from live customer projects demonstrate that technology is not anymore an issue neither in term of scalability or data security. Success comes from putting in the game right resources as mentioned above”

1.5.2 Artificial Intelligence

Moderator: Franco Scolari, Managing Director – Polo Tecnologico di Pordenone

Franco introduced himself, electronic engineer with computer science specialization and 5 years experience as professor in CS at university of Udine.

Every participant presented himself and briefly their knowledge and expectations from the workshop.

Franco started with some definitions about AI: the origins with Alan Touring machine and test, the three main groups automated, human like and super. Then a discussion started on the implication on every day repetitive jobs, on man machine interface and relationship.

The ethics of emerging technologies has been the last point of discussion and of course the most controversial!

In conclusion Franco disclosed his vision of future and some personal suggestion:

- AI will be more invasive and penetrating than any other new technology, don't try to be against but accept it as the best offer for the world global improvement.
- Not everybody agreed, but all enjoyed the workshop.

1.5.3 Collaborative robots

Moderator: F. Vicentini (CNR-ITIA)

Participants: 4 (3 research institutions, 1 end user)

Presentation

The audience have a very limited previous experience with collaborative robots. The main purpose for all participants is to have a first introduction of collaborative robotics, some insights of the technology.

The Moderator presents a general overview of the new concept and approach in designing collaborative applications. Open workcells are intended to provide a direct hands-on experience for operators in a number of intermediate-volume production cases, where flexibility and adaptability of human operators can be fully exploited. Examples of layouts, typical configurations, collaborative tasks in handling, assembly and robot machining are presented. Safety for human workers is of course a primary aspect of collaborative applications. The Moderator presents the recent innovations in terms of regulation and standardization for collaborative robots. A brief introduction of the safety requirements and the robot modes for attaining safe behaviors in most relevant cases are introduced.

Feedback

Participants were very interested in the new domain. The Q&A session and comments are particularly solicited to the end user, who is a valuable stakeholder in the collaborative robotics market. As a market leader in machine tool building for rubber and plastic, automation is very important for the end user who reckons the possibility to positively introduce hybrid robotics on its shopfloor. Assistance to workers, error reduction and traceability, and ergonomics are the most important benefits of collaborative applications that are expected to have an impact on their processes.

ANNEX 1

Industry Workshop

Thursday, 30th March 2017, 10h00-15h15

National Research Council of Italy
Via Corti 12, 20133 Milano

Agenda

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|-------------|--|
| 10h00-10h30 | <i>Registration & welcome coffee</i> |
| 10h30-10h40 | Welcome
<i>ITIA-CNR</i> |
| 10h40-11h00 | The Bifocalps project: an overview
<i>Ing. Massimiliano Bertetti - Polo Tecnologico di Pordedone</i> |
| 11h00-11h20 | The Factory of the Future in the Alps: framework and Survey
<i>ITIA - CNR</i>
<i>University of Udine</i> |
| 11h20-13h00 | Round tables: <ul style="list-style-type: none">• Collaborative robots
<i>Moderator: Eng. Federico Vicentini - CNR,</i>• Virtual and Augmented Reality
<i>Moderator: Dr. Marco Sacco - CNR</i>• Artificial Intelligence
<i>Moderator: Ing. Franco Scolari - Polo Tecnologico PN</i>• IoT
<i>Moderator: Dott. Attilio Rogora - CISCO.</i> |
| 13h00-14h00 | <i>Lunch</i> |
| 14h00-14h45 | Recapp and discussion |
| 14h45-15h15 | Conclusions |