

# D.T3.2.2 INVITATION TO THE SHOWROOM FACILITY: HOW TO USE ROBOTIC ARMS

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Report

Version 1  
03/2022

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## 1. Name of the event, implementing date and place

Showroom of Robotic Arms Pilot Action was implemented as follows:

- **1 on-spot technology** event in the formula of **Technology Breakfast: Robotics**, when we demonstrated the robotic arms with a production line simulation.

Number of participants: 13

Date of implementation: 21.09.2021

- **5 individual consultations** in terms of possible usage of robotic arms - adjustment made due to COVID-19 restrictions

Number of participants: 5

Date of implementation: from March 2021 till February 2022

- **Showroom: FabLab & Robotic Arms 4 schools** - pupils were able to get familiar with creative space of FabLab and learn about how robotic arms are working and what skills are needed to operate such equipment

Number of participants: 25

Date of implementation: 02.12.2021

- **1 outside FabLab Showroom of Robotic Arms-** participation in the BBDays4.IT festival - robotic arms booth at the venue of the event - demonstration and simulation of the work of simple robotic line; event dedicated to ICT and technological companies

Number of participants:

Date of implementation: 11. 09. 2021

- **On-line webinar-** available on a daily basis on our YouTube channel - open for everyone, presenting in accessible way how robotic arms are working, what software is needed etc.

Available on a YouTube channel FabLab Bielsko-Biała on a daily basis

## 2. Number and types of participants/target groups

- Total number of participants of events related to the pilot action implementation: 43 (participants of on-spot events, where ARRSA was the only organizer are counted)
- On the BBDays4.IT conference, where FabLab Showroom of Robotic Arms Booth was organized there were 250 participants

Target groups of Showroom of Robotic Arms were:



- Representatives of SMEs - main target group, especially for the Technology Breakfast formula
- Technology and IT sector - both from the side of technology providers as well as demanders - showcasing in terms of possibilities of FabLab and robotics in the scope of automation of production lines, networking and future cooperation opportunities
- Education sector - students and pupils - we decided to expand pilot action activities on this target group because we saw the need of awareness raising in terms of Industry 4.0 technologies, automation and digitalisation as well as high capacity for talent creation

### 3. Topics tackled and links to deliverables, outputs

Pilot action - in all of its formulas - had a demonstrative character and its aim was to increase the awareness and knowledge of entrepreneurs, engineers and young people about the technological possibilities, rules of application, needs and benefits offered by the automation of production processes. The access to a demonstrator in the form of two Epson robotic arms - SCARA type and 6-axis was provided, with the possibility of testing solutions in the field of production automation, programming of production lines, showing the possible directions of their programming, the sequence of operations with the use of robots, introducing health and safety procedures when operating robotic lines and identifying potential gains and risks associated with the operation of robots.

Different formulas, adjusted to the needs of certain target groups and to COVID-19 restrictions gave us the possibility to tackle same topic of automation and Industry 4.0 technologies on a different angles and different levels of advancement. From the most sophisticated Technology Breakfast dedicated to stakeholders already related with the robotics, having specific needs, through open events - for schools in FabLab and on the BBDays4.IT festival - where the access to the technology was given to a wider audience, basics were explained and demonstrated and all the interested ones can come back to us and explore it more, to the tailored individual consultations - each different than the others, tackling specific topics (from a total number of 5 3 of them were focused on the usage of optical systems, 1 related to the specific case of programming robotic arms and 1 demonstrative, showcasing the main possibilities of the robots and explaining the benefits of automation of production in general).

We have prepared a detailed training program on a basic level that was used on Showroom Events as well as individual consultations to introduce the technology to people with low or no experience and to those who were operating on different equipment before.

In relation to our former 4STEPS project activities - survey conducted with 50 regional automotive sector-related companies - we have indicated low level of digital maturity among them as well as low level of awareness in terms of possibilities of Industry 4.0 technologies. This is why we decided to prepare a basic level activity within our pilot action and build technological competences from the ground. With such approach, we were able to introduce the technology almost to everyone and adjust the level of advancement to certain needs and to boost the regional innovative potential from bottom up.



On the Technology Breakfast our audience was already familiar with the possibilities of the automation and robotics, they know what they want and how to use robotics on the one hand, but also agreed, that basic training program that we have introduced to them in a nutshell is very important and useful. In their opinion, it can be introduced to a greater number of workers of certain company or plant, not only those directly involved in the automation, to have a basic knowledge about processes going on in the company and to ensure basic level replicability in unlikely, unpredictable situations.

On the other hand, the program was used on the event for schools where we wanted to show the possibilities of robots to young people. There are already classes related to automation in certain schools in Bielsko-Biała. Both teachers and children agreed that the course that we have presented, will be a great addendum. The flexibility of having it outside official school curricula and possibility of adding technologies that we have in FabLab as other blocks of the course, was very appreciated.

During individual consultations we tackled different real-life challenges and topics that enabled us to use purchased equipment in a different way and to tailor the offer on a maximum way. As the annexes of this documents two case studies are attached - one related to a student that wanted to expand the knowledge about automation to other software and programming languages; second related to SME owner that has w production line of diversified plastic parts and wanted to check if automation and robots are a solution for him.

As a next step of our pilot action, after implementation of different formulas of activities, we created a description of service that we will be offering within the structure of our Digital Innovation Hub.

Showroom of Robotic Arms wasn't a stand-alone pilot action, all the activities performed were directly related to the D.T3.2.1 - DIH development as well as D.T2.3.1 Definition of new services - where one of the services indicated is directly related to the purchase of the robotics arms within the 4STEPS project framework, its testing and demonstrating. Based on that, we have created a new, specific service that is going to be implemented within the structure of our DIH.

## 4. Expected effects and follow up

The main goals of the implementation of the pilot action were:

- To raise awareness in terms of automation of production lines, usage and possibilities of robotic arms in different target groups - show the benefits and increasing of the effectiveness of processes in the companies when using robotic arms on the one hand, and to boost the technological capacity of the young people and to-be-entrepreneurs in terms of Industry 4.0
- To teach and demonstrate how robotic arms are functioning, what software they need, how is it to program them
- To define a new service based on the experience gained with the implementation - thanks to the high interest in the pilot action and testing the demonstration of the



robotic arms in different aspects, we were able to provide a scenario of new service, that is going to be implemented after also after the project lifetime.

- To create a Showroom of Robotic Arms operating on a daily basis within the structure of our DIH
- To provide a knowledge that will help SMEs to improve their innovative potential and to showcase testing possibilities available in the city, that they may further develop in their companies - by creation of Showroom of Robotic Arms we gave the possibility to ‘touch’ the technology that usually isn’t accessible on the daily basis. Due to the practical dimension of the events, with the usage of cutting-edge equipment, participants of our pilot action were able to see how robots can really help in their daily operations, and ask questions to an expert that was available for them. Thanks to the small groups and different formats, pilot action was tailored to certain needs and different processes were showcased. Moreover, considering the fact that robotic arms purchased within the 4STEPS projects weren’t a stand-alone initiative but a part of an innovative space of FabLab (and later a DIH created during the lifetime of the project), makes the investment even more comprehensive and boosts regional innovative potential

As a follow up activity, after finalisation of the pilot action and after the project end - we are going to implement defined new services - basic training program and new services related to demonstration of the robotic arms - into the portfolio of FabLab (DIH) courses, so they will be continuously available, ready to use or adjust to the needs of certain group.



## 5. Annexes: e.g. agenda of the event, pictures, media coverage web- links etc

5.1. Agenda & attendance list of the Technology Breakfast

5.2. Attendance list of FabLab: Showroom & Robotic Arms 4 Schools

5.3. Evidences of the individual consultations - performance reports in accordance to our internal quality procedure

5.4. Pictures from the events

5.5. Newsletter, invitations

5.6. Description of the new service in terms of robotic arms demonstration (working translation in English)

5.7. Training program - level: basic

5.8. Case study - Storytelling #1 - My new robotic project - student of Faculty of Mechanical Engineering and Automation from local university

5.9. Case study - Storytelling #2 - How can I improve my production line with optical system? - representative of local SME

All annexes are available in the separate files.