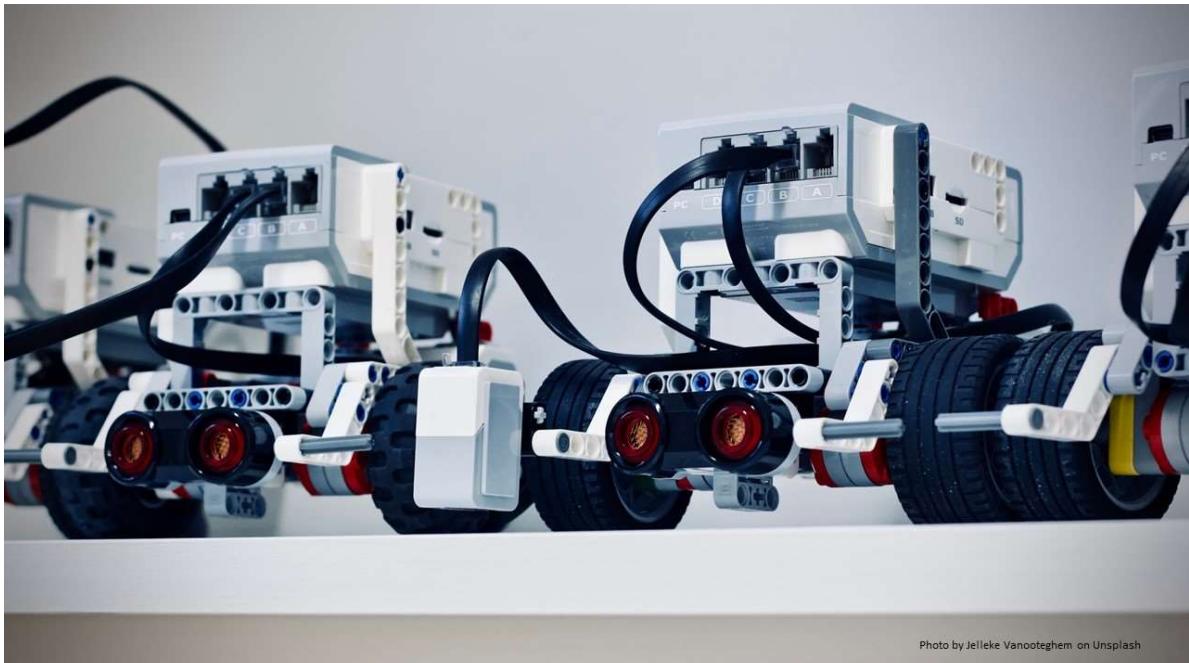


**ROBOtics Learning for empowering the new GENerations of EU
Innovators**

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ROBOGENIUS Best practice guide

Short version

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The Intellectual Output “ROBOGENIUS Best practice guide” includes an European research on the use of different innovative approaches in education through interdisciplinary education, the use of ICT and play in the partner countries and a collection of best practice examples from the activities of the partners in the consortium related to the project ROBOGENIUS.

The main content of the final publication consists of good practice examples from the partner organisations involved in the ROBOGENIUS consortium, regarding the use of ICT and games in the education, as well as the use of learning-by-doing and peer learning methods in the teaching and learning process.

The “ROBOGENIUS Best practice guide” aims to have valuable inspirational impact on a wide European audience of education stakeholders and practices, together with raised interest among professionals working with robotics in education. In this respect, the guide will reach professionals, but will have also the potential to be attractive to policy-makers in the field of learning robotics.

The European research focuses on the use of different innovative approaches in education through interdisciplinary education, as well as on the use of Information and Communication Technology (ICT) and play in the countries involved in the ROBOGENIUS project consortium (**Netherlands, France, Spain, Greece and Romania**). For each of the five countries, the result of the research includes a short introduction to each national system of education and the most recent diagram according to Eurydice. Moreover, it includes a general view on the use of Information and Communication Technologies (**Netherlands, France, Spain, Greece and Romania**), interdisciplinary teaching (**Netherlands, France, Greece and Romania**) and gamification in education (**Netherlands, France, Spain and Greece**).

The Best practices are a result of the training activities each organisation involved in the ROBOGENIUS project consortium organised based on the experience gathered by the representatives of the mentioned organisations through their participation in the ROBOGENIUS short-term training event, as well as on the professional related experience of the partners in organising and delivering hands-on workshops and courses based on interdisciplinary teaching, ICT, gamification and storytelling. Consequently, the following best practice examples aimed to improve and/or develop trainees digital skills and competencies included in the five categories of the DigiComp Framework: Information and data literacy; Communication and collaboration; Digital content creation; Safety; Problem solving were chosen:

Quarter Mediation (Netherlands)

1. Learning for the future by bringing robotics to present education
2. Robotics learning for empowering the new generations. Musician robot
3. Robotics learning for empowering the new generations. Valet robot
4. Robotics learning for empowering the new generations. Exploration robot
5. Storytelling as a teaching technique for experiential learning

Boreal Innovation (France)

1. First steps with advanced robot: A participatory teaching method
2. Initiation to educational robotics: Children
3. Initiation to educational robotics: Parents and Children

Cookie Box (Spain)

1. The Waypass Gamified approach: self-knowledge for teenagers
2. Applying Storytelling to Train the Trainers workshop on Educational Robotics
3. Gamification Design: Engagement within Train the Trainers workshop on Educational Robotics

1ο Επαγγελματικό Λυκείο Περαμάτων (Greece)

1. Rotation in centimeters
2. Line follower
3. Virtual programming

Asociatia de Studii Socio-Economice (Romania)

1. Discover the robots 'world'
2. Robots limit and perspectives
3. Coding with clever robots

Colegiul National Fratii Buzesti (Romania)

1. Soft hoarders
2. Let's learn the ABC of Robotics
3. Learning by discovery, training new "teachers"

The Best practice examples include the following information:

- title of the activity
- name of the partner in the ROBOGENIUS project that organised the training activity/workshop
- place where the selected training activity was organised
- main aims of the training activity
- digital skills and competencies to be developed from the DigiComp Framework
Each Best practice example includes a selection of the relevant skills from each DigiComp category: Information and data literacy; Communication and collaboration; Digital content creation; Safety; Problem solving.
- target group the training activity/workshop was applied to
- type of the training activity (e.g. indoor or outdoor; formal, non-formal or informal)
- duration of the activity
- teaching/training methods used
- number of participants
- necessary materials/devices
- detailed content of the training activity
- outcome/results
- feedback participants (if applicable)
- tips for organising similar training activities
- weblinks links, in case the training activity and/or its feedback was published on a certain website or Facebook page.

The target groups involved in the training activities described in this chapter were diverse:

- Adults involved in education from all over Europe and from all levels of education - teachers, trainers, activity leaders, heads of studies, SEN teachers – as part of **Quarter Mediation**'s target group
- Students who are interested in robotics and mechatronics and parents, as well as adults involved in education, teachers, trainers from **Boreal Innovation** target group
- Teenagers from **Cookie Box** target group and trainers from different European Countries participants in the ROBOGENIUS learning activity in Spain
- High school students from **1ο Επαγγελματικό Λυκείο Περαμάτων**
- Students interested in robotics, mechatronics, STEM education and Lego Mindstorms, adults involved in education, teachers, trainers from **Asociația de Studii Socio-Economice** target groups
- Students from **Colegiul National Fratii Buzesti** already initiated in robotic training and students that study mathematics-informatics intensively and are already familiar with programming



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