



## Task O3/A4

# TECHNICAL IMPROVEMENTS OF OER AND ICT BASED TOOL



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## 1. INTRODUCTION

This report is included in the task “O3-A4. *Technical improvements of OER and ICT based tool*”, corresponding to Intellectual Output 3 “*OER for training and raising awareness*” of the SafeCRobot project.

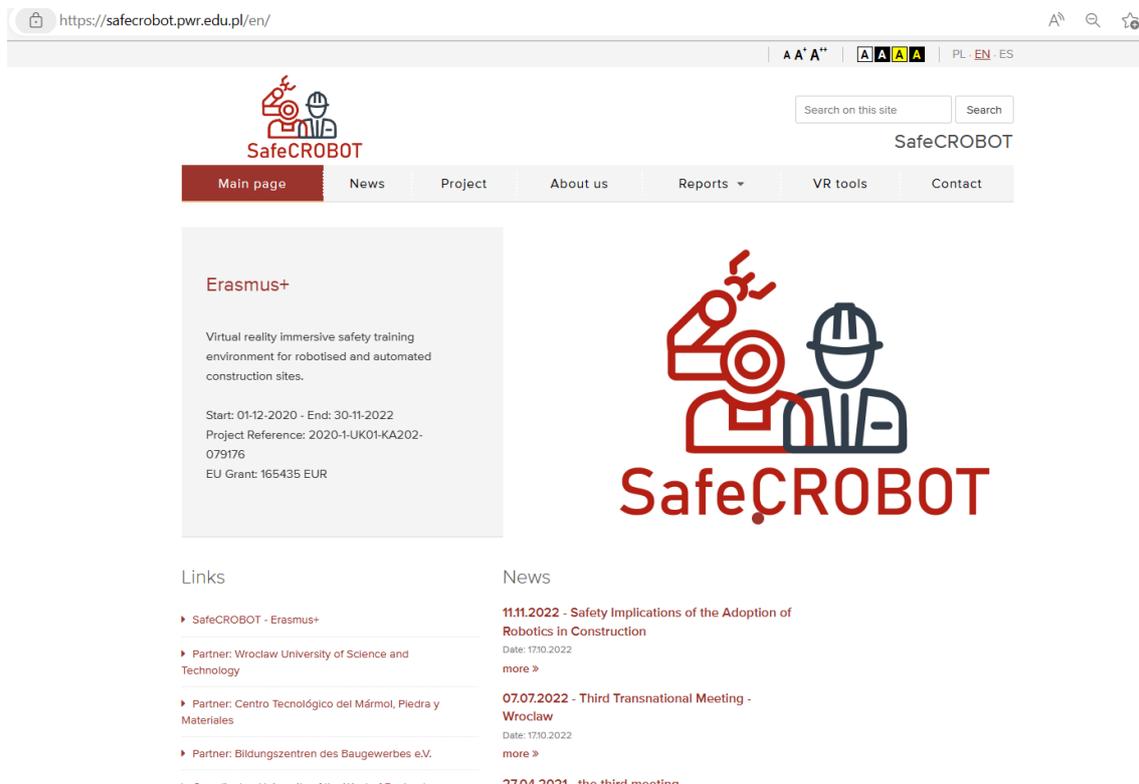
Based on activities A2 and A3 of this Intellectual Result 3, the OER and the ICT-based tool have been improved and the beta version of the OER has undergone several modifications with the improvements identified in the evaluation carried out by the external evaluators of the project, as well as those identified in the pilot courses by the attendees.

This report and all the information about the project are available in the following url: <https://safecrobot.pwr.edu.pl/en/>

## 2. SafeCROBOT WEBSITE

### 2.1. DEVELOPMENT OF SafeCROBOT WEBSITE

This website of the SafeCROBOT project was created by PWR during the first period of the project and it is used as a common place to share the products of the project and base of the dissemination activities.



Once all the graphic details of the website, the menu and the logos were decided, designed and implemented, basic information about the project, such as the summary, the objectives, the list of reports developed during the project, etc., started to be included. Subsequently, the finalised documents resulting from the research and studies carried out by the project partners have been uploaded.

The SafeCROBOT website includes the main intellectual outputs of the project. It should be noted that the entire website is available in all the languages of the project partners. For the translation of the available contents, all project partners participated by providing translations into their mother tongues.

Link to SafeCROBOT project web: <https://safecrobot.pwr.edu.pl/en/>



## 2.2. PRESENTATION OF SafeCROBOT WEBSITE

In the following picture, it should be seen the different section in which the SafeCROBOT project website is divided and the links to each of these sections.

### 2.2.1. MAIN PAGE

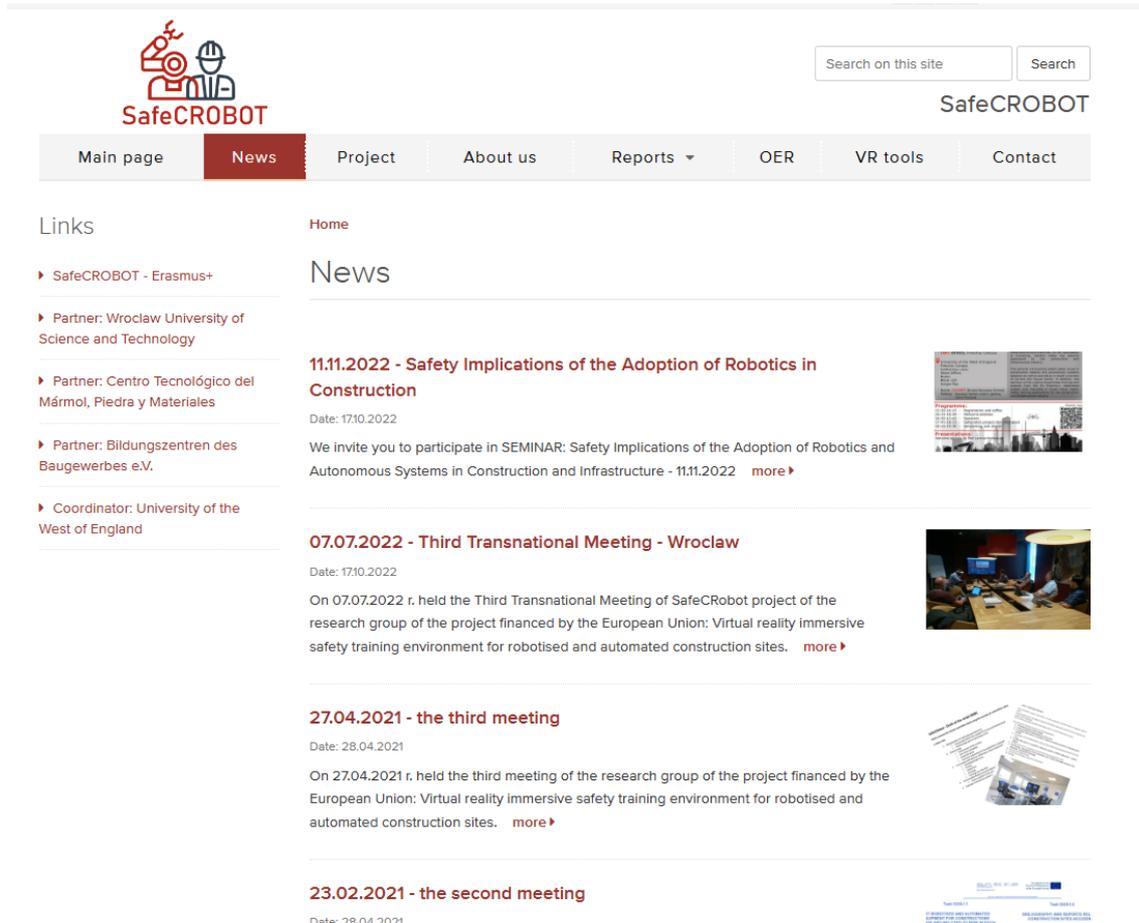
Link: <https://safecrobot.pwr.edu.pl/en/>



The screenshot shows the main page of the SafeCROBOT website. At the top left is the SafeCROBOT logo. To the right is a search bar with the text "Search on this site" and a "Search" button. Below the logo is a navigation menu with the following items: "Main page" (highlighted), "News", "Project", "About us", "Reports", "OER", "VR tools", and "Contact". The main content area features a large "Erasmus+" logo and a description: "Virtual reality immersive safety training environment for robotised and automated construction sites." Below this, it lists the project start and end dates (01-12-2020 to 30-11-2022), the project reference number (2020-1-UK01-KA202-079176), and the EU grant amount (165435 EUR). To the right of this text is a large graphic of a person wearing a hard hat and holding a tool, with the text "SafeCROBOT" below it. At the bottom, there are two columns: "Links" and "News". The "Links" column lists three partners: "SafeCROBOT - Erasmus+", "Partner: Wroclaw University of Science and Technology", and "Partner: Centro Tecnológico del Mármol, Piedra y Materiales". The "News" column lists two news items: "11.11.2022 - Safety Implications of the Adoption of Robotics in Construction" and "07.07.2022 - Third Transnational Meeting - Wroclaw".

## 2.2.2. NEWS

Link: <https://safecrobot.pwr.edu.pl/en/news>



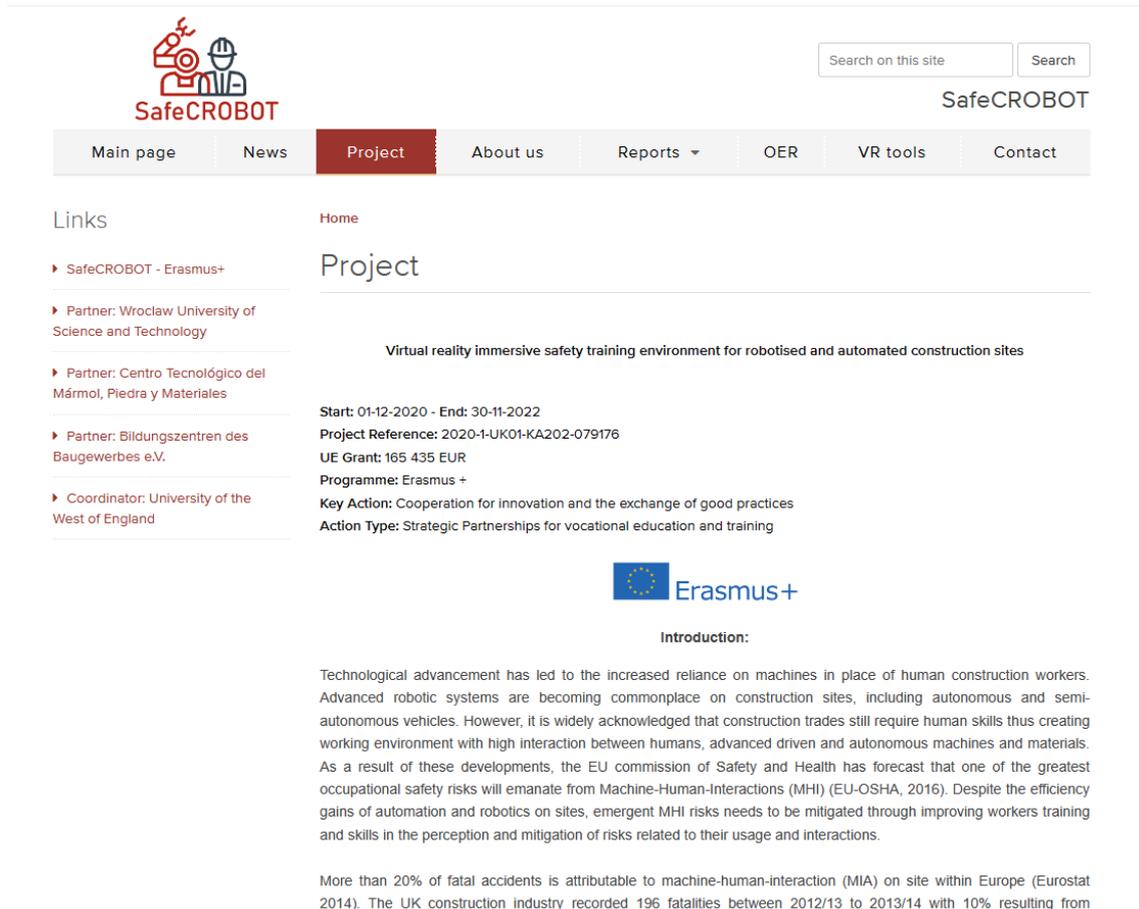
The screenshot shows the SafeCROBOT website's news page. At the top, there is a search bar and the SafeCROBOT logo. A navigation menu includes 'Main page', 'News' (highlighted), 'Project', 'About us', 'Reports', 'OER', 'VR tools', and 'Contact'. On the left, a 'Links' section lists partners and the coordinator. The main content area, titled 'News', features three news items:

- 11.11.2022 - Safety Implications of the Adoption of Robotics in Construction**  
Date: 17.10.2022  
We invite you to participate in SEMINAR: Safety Implications of the Adoption of Robotics and Autonomous Systems in Construction and Infrastructure - 11.11.2022 [more](#)
- 07.07.2022 - Third Transnational Meeting - Wroclaw**  
Date: 17.10.2022  
On 07.07.2022 r. held the Third Transnational Meeting of SafeCRobot project of the research group of the project financed by the European Union: Virtual reality immersive safety training environment for robotised and automated construction sites. [more](#)
- 27.04.2021 - the third meeting**  
Date: 28.04.2021  
On 27.04.2021 r. held the third meeting of the research group of the project financed by the European Union: Virtual reality immersive safety training environment for robotised and automated construction sites. [more](#)
- 23.02.2021 - the second meeting**  
Date: 28.04.2021



### 2.2.3. PROJECT

Link: <https://safecrobot.pwr.edu.pl/en/project>

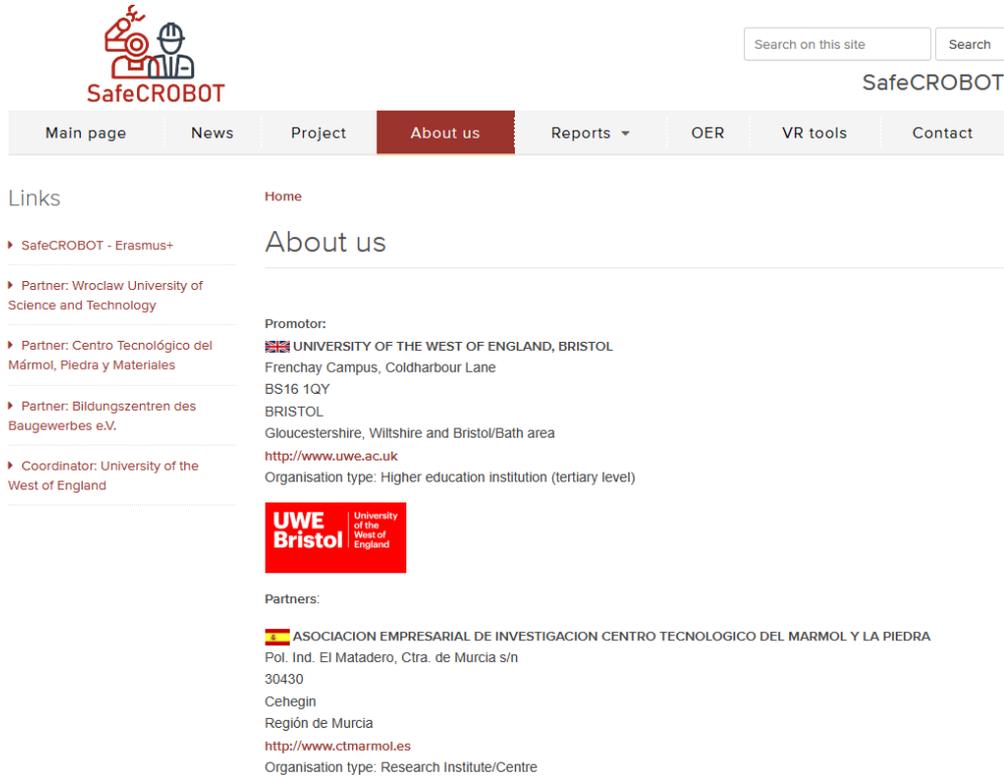


The screenshot shows the 'Project' page of the SafeCROBOT website. At the top, there is a navigation menu with 'Project' highlighted. Below the menu, the page title 'Project' is displayed. The main content area features a sub-header 'Virtual reality immersive safety training environment for robotised and automated construction sites' and a list of project details: Start (01-12-2020), End (30-11-2022), Project Reference (2020-1-UK01-KA202-079176), UE Grant (165 435 EUR), Programme (Erasmus+), Key Action (Cooperation for innovation and the exchange of good practices), and Action Type (Strategic Partnerships for vocational education and training). An Erasmus+ logo is also present. The 'Introduction' section discusses the increased reliance on machines in construction and the associated safety risks from Machine-Human-Interactions (MHI). A Eurostat statistic is cited at the bottom of the introduction.



## 2.2.4. ABOUT US

Link: [https://safecrobot.pwr.edu.pl/en/about\\_as](https://safecrobot.pwr.edu.pl/en/about_as)

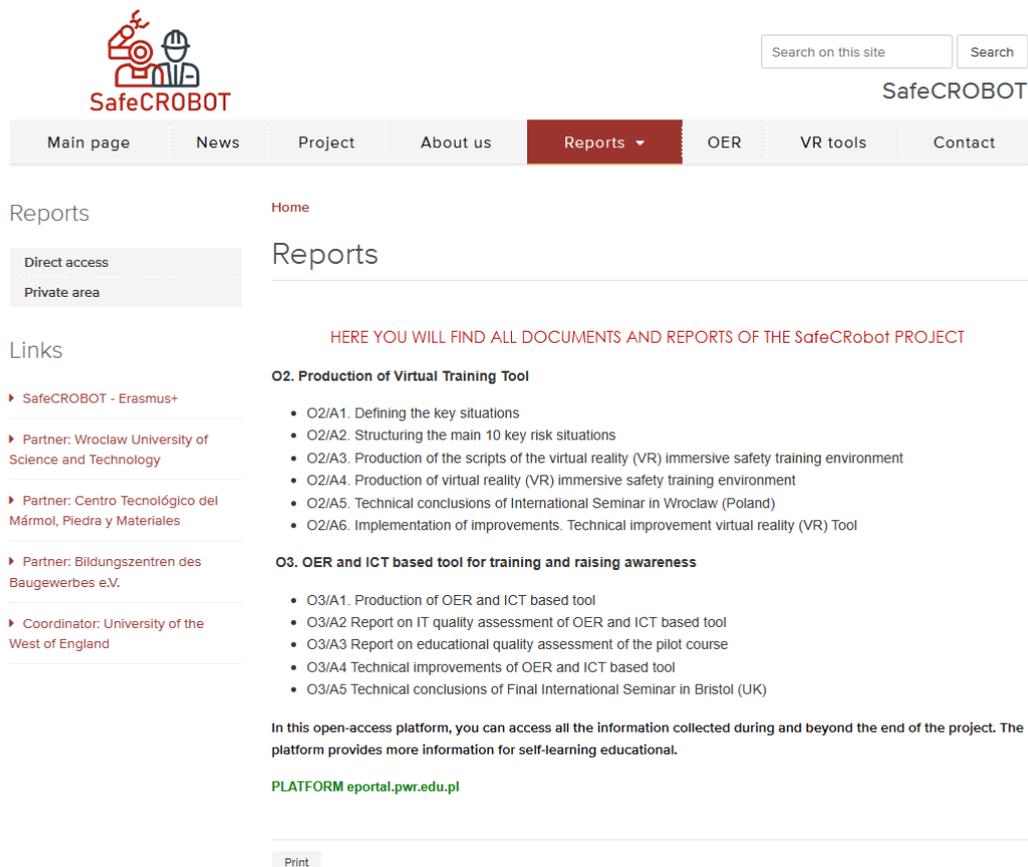


The screenshot shows the 'About us' page of the SafeCROBOT website. At the top left is the SafeCROBOT logo. To the right are search boxes labeled 'Search on this site' and 'Search'. Below these is a navigation menu with 'About us' highlighted. The main content area is divided into two columns. The left column, titled 'Links', lists four partners: SafeCROBOT - Erasmus+, Wrocław University of Science and Technology, Centro Tecnológico del Mármol, Piedra y Materiales, and Bildungscentren des Baugewerbes e.V. The right column, titled 'Home', features the heading 'About us' and details about the promoter, the University of the West of England, Bristol, including its address, website, and organization type. Below this is the UWE Bristol logo and a section for partners, listing the Asociación Empresarial de Investigación Centro Tecnológico del Mármol y la Piedra with its address and website.



## 2.2.5. REPORTS

Link: <https://safecrobot.pwr.edu.pl/en/reports>

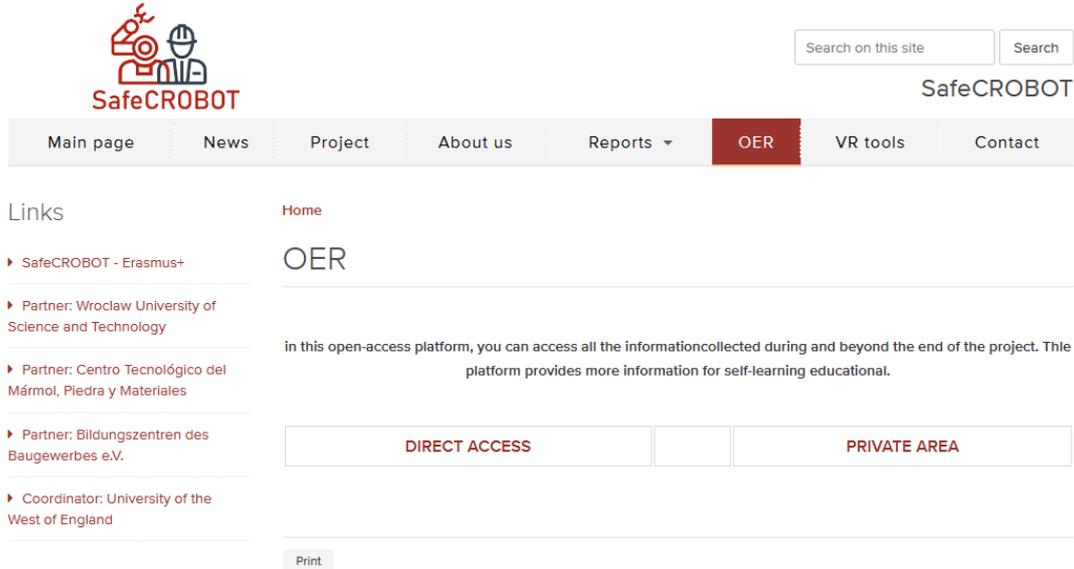


The screenshot shows the 'Reports' page of the SafeCROBOT website. The page features a navigation menu with 'Reports' highlighted. On the left, there are sections for 'Direct access' (Private area) and 'Links' (listing partners like Wroclaw University of Science and Technology, Centro Tecnológico del Mármol, Piedra y Materiales, and University of the West of England). The main content area is titled 'Reports' and contains a heading 'HERE YOU WILL FIND ALL DOCUMENTS AND REPORTS OF THE SafeCROBOT PROJECT'. Below this, two sections are listed: 'O2. Production of Virtual Training Tool' and 'O3. OER and ICT based tool for training and raising awareness', each with a bulleted list of sub-reports. A note at the bottom states: 'In this open-access platform, you can access all the information collected during and beyond the end of the project. The platform provides more information for self-learning educational.' and provides the platform URL 'eportal.pwr.edu.pl'. A 'Print' button is visible at the bottom of the page.



### 2.2.6. OER

Link: <https://safecrobot.pwr.edu.pl/en/oer>



The screenshot shows the SafeCROBOT website interface. At the top left is the SafeCROBOT logo. To its right is a search bar with the text "Search on this site" and a "Search" button. Below the logo is a navigation menu with items: Main page, News, Project, About us, Reports, OER (highlighted in red), VR tools, and Contact. The main content area is titled "OER" and contains the text: "in this open-access platform, you can access all the information collected during and beyond the end of the project. The platform provides more information for self-learning educational." Below this text are two buttons: "DIRECT ACCESS" and "PRIVATE AREA". At the bottom left of the content area is a "Print" button. On the left side of the page, there is a "Links" section with a list of partners and the coordinator.

#### Direct Access:

Direct access  
 Private area

#### Links

- ▶ SafeCROBOT - Erasmus+
- ▶ Partner: Wroclaw University of Science and Technology
- ▶ Partner: Centro Tecnológico del Mármol, Piedra y Materiales
- ▶ Partner: Bildungszentren des Baugewerbes e.V.
- ▶ Coordinator: University of the West of England

#### Direct access

#### LIST OF AVAILABLE DOCUMENTS

Task O2/A1.1 UK [ .pdf ] Task O2/A1.1 NATIONAL STATICAL DATA RELATED TO ACCIDENTS IN THE CONSTRUCTION AND FACTORIES SECTOR FOR EACH PARTICIPATING COUNTRY - UK (in English)	
Task O2/A1.1 SPAIN [ .pdf ] Task O2/A1.1 NATIONAL STATICAL DATA RELATED TO ACCIDENTS IN THE CONSTRUCTION AND FACTORIES SECTOR FOR EACH PARTICIPATING COUNTRY - SPAIN (in English)	
Task O2/A1.1 GERMANY [ .pdf ] Task O2/A1.1 NATIONAL STATICAL DATA RELATED TO ACCIDENTS IN THE CONSTRUCTION AND FACTORIES SECTOR FOR EACH PARTICIPATING COUNTRY - GERMANY (in English)	
Task O2/A1.1 POLAND [ .pdf ] Task O2/A1.1 NATIONAL STATICAL DATA RELATED TO ACCIDENTS IN THE CONSTRUCTION AND FACTORIES SECTOR FOR EACH PARTICIPATING COUNTRY - POLAND (in English)	
Task O2/A1.2 BIBLIOGRAPHY AND REPORTS RELATED CONSTRUCTION SITES ACCIDENTS [ .pdf ] Task O2/A1.2 BIBLIOGRAPHY AND REPORTS RELATED CONSTRUCTION SITES ACCIDENTS (in English)	



Private Area:

Direct access

**Private area**

Links

- ▶ SafeCROBOT - Erasmus+
- ▶ Partner: Wrocław University of Science and Technology
- ▶ Partner: Centro Tecnológico del Mármol, Piedra y Materiales
- ▶ Partner: Bildungszentren des Baugewerbes e.V.
- ▶ Coordinator: University of the West of England

## Private area

The platform for self-learning educational

**PLATFORM eportal.pwr.edu.pl**

Register. Create account

First name \*

Last name \*

E-mail \*

University / Company / Organization \*

I'm not a robot 

**SafeCROBOT**

[Dashboard](#) / [My courses](#) / [SafeCROBOT](#)

### Project SafeCROBOT

HERE YOU WILL FIND ALL DOCUMENTS AND REPORTS OF THE SafeCROBOT PROJECT

**The platform provides more information for self-learning educational.**

**O2. Production of Virtual Training Tool**

- O2/A1. Defining the key situations - (available)
- O2/A2. Structuring the main 10 key risk situations - (unavailable)
- O2/A3. Production of the scripts of the virtual reality (VR) immersive safety training environment - (unavailable)
- O2/A4. Production of virtual reality (VR) immersive safety training environment - (unavailable)
- O2/A5. Technical conclusions of International Seminar in Wrocław (Poland) - (unavailable)
- O2/A6. Implementation of improvements. Technical improvement virtual reality (VR) Tool - (unavailable)

**O3. OER and ICT based tool for training and raising awareness**

- O3/A1. Production of OER and ICT based tool - (unavailable)
- O3/A2 Report on IT quality assessment of OER and ICT based tool - (unavailable)
- O3/A3 Report on educational quality assessment of the pilot course - (unavailable)
- O3/A4 Technical improvements of OER and ICT based tool - (unavailable)
- O3/A5 Technical conclusions of Final International Seminar in Bristol (UK) - (unavailable)



 [Task O2/A1.1 UK](#)

Mark as done

 [Task O2/A1.1 SPAIN](#)

Mark as done

 [Task O2/A1.1 GERMANY](#)

Mark as done

 [Task O2/A1.1 POLAND](#)

Mark as done

 [Task O2/A1.2 BIBLIOGRAPHY AND REPORTS RELATED CONSTRUCTION SITES ACCIDENTS](#)

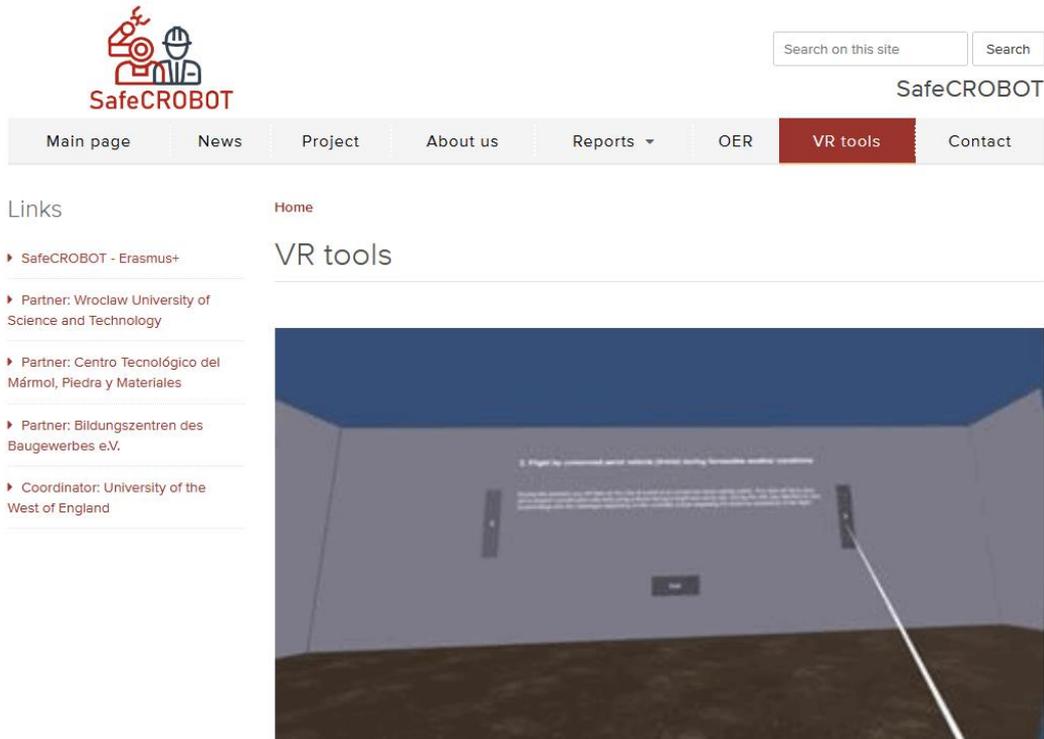
Mark as done

 [Task O2/A1.3 LIST ROBOTISED AND AUTOMATED EQUIPMENT FOR CONSTRUCTIONS SECTOR AND RELATED TO RISK](#)

Mark as done

### 2.2.7. VR TOOLS

Link: [https://safecrobot.pwr.edu.pl/en/vt\\_tools](https://safecrobot.pwr.edu.pl/en/vt_tools)



The screenshot shows the SafeCROBOT website interface. At the top left is the logo, and at the top right is a search bar. Below the logo is a navigation menu with items: Main page, News, Project, About us, Reports, OER, VR tools (highlighted), and Contact. On the left side, there is a 'Links' section with a list of partners and the coordinator. The main content area is titled 'VR tools' and features a large image of a VR training environment. The environment shows a dark blue sky and a dark brown ground. In the center, there is a white rectangular area with text, and a white line representing a tool or object is visible in the foreground.





Print



## 2.2.8. CONTACT

Link: <https://safecrobot.pwr.edu.pl/en/contact>

https://safecrobot.pwr.edu.pl/en/contact A<sup>aa</sup>

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PL EN ES

  
SafeCROBOT

**SafeCROBOT**

Main page News Project About us Reports VR tools Contact

Links

- ▶ SafeCROBOT - Erasmus+
- ▶ Partner: Wrocław University of Science and Technology
- ▶ Partner: Centro Tecnológico del Mármol, Piedra y Materiales
- ▶ Partner: Bildungszentren des Baugewerbes e.V.
- ▶ Coordinator: University of the West of England

Home

### Contact



Name\*

Surname\*

Email\*

Topic\* - select -

Content\*   
Characters remaining: 1000

Captcha\*  I'm not a robot 

\* - required field



### 3. Technical improvements

Taking into account all the quality assessments of participants in the pilot courses through their feedback in the questionnaires and comments during the implementation of the courses, as well as the results obtained in the quality assessment questionnaires sent to experts related to the main items of the project and the opinion of the consortium members when displaying both the OER and the tool, these results have been improved with respect to their initial beta versions.

The improvements have been as follows:

#### 3.1.1. TECHNICAL IMPROVEMENTS IN THE OER

As far as the OER is concerned, several improvements have been made:

- The access to the OER has been made easier for the user so that he/she can find it more easily within the website.
- The project tasks have been sorted by Outputs, so that they are easier to find.

#### 3.1.2. TECHNICAL IMPROVEMENTS IN THE VR TOOL

Technical improvements have also been made to the tool:

- The different scenarios can be accessed from an easily visible menu.
- Some technical aspects of the scenarios have been improved. Some of the improved aspects can be seen below:
  - Protective railings have been added on stages with heights.
  - Harnesses have been added to characters where required.

#### 3.1.3. IMPROVED PRODUCTS

Both products now feature all these improvements. They can be accessed on SafeCRobot website: <https://safecrobot.pwr.edu.pl/en/>