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Authors :	R. Bevec, T. Gašpar, and A. Ude
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1 Executive summary

This deliverable describes the information services of the ReconCell project, which will be used to present the project to the public and to support communication between the project partners. The ReconCell information services currently consist of a website, SVN repository, and mailing lists.

2 Website

The website was launched on February 29th, 2016, and can be found at <http://www.reconcell.eu/>. The front page is shown in Figure 1. The “Home” section shows general project information, including project objectives and description. Updates on the progress of the project and other current information will be available in the “News” section. In “Publications” and “Deliverables” sections, all publications related to the project and deliverables will be accessible. The ReconCell partners are described in the “Consortium” section. A special section called “Experiments” will contain information related to the implementation of ReconCell robot assembly experiments, which address challenges in manufacturing encountered by SMEs. For non-public project documentation, deliverables and communication, there is a link to the SVN repository under “Useful links” on every page in the footer and also on the “Contact” page under internal links.

Updates to the website can be requested by contacting the website administrator Robert Bevec ([robert.bevec\[at\]ijs.si](mailto:robert.bevec@ijs.si)).

3 Mailing lists

We set up the following mailing lists to support communication between partners and different groups within the project:

- [reconcell-all\[at\]ijs.si](mailto:reconcell-all@ijs.si)
- [reconcell-pi\[at\]ijs.si](mailto:reconcell-pi@ijs.si)
- [reconcell-mgt\[at\]ijs.si](mailto:reconcell-mgt@ijs.si)

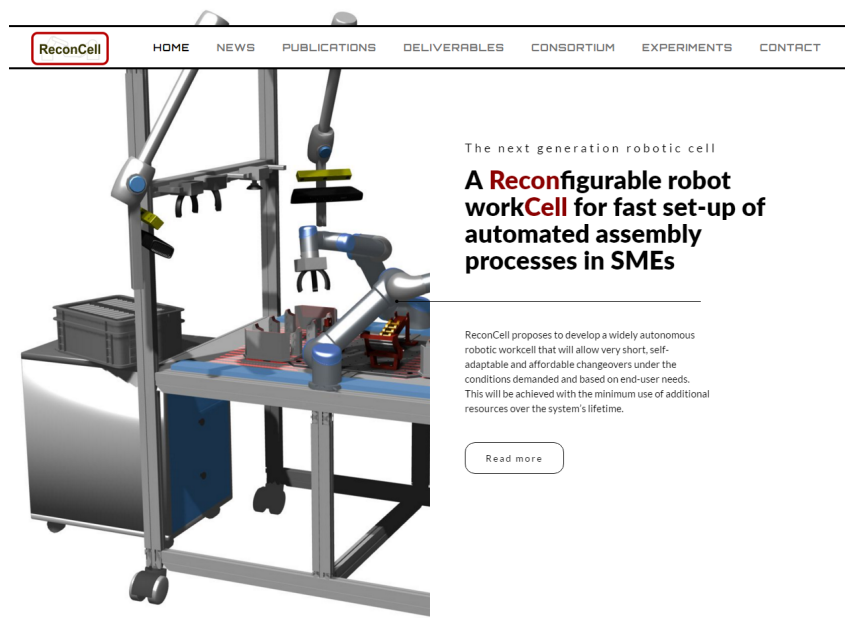
The first list, [reconcell-all](mailto:reconcell-all@ijs.si), includes all people involved with the scientific, technical and dissemination activities in the ReconCell project. The second list, [reconcell-pi](mailto:reconcell-pi@ijs.si), includes the principal investigators (PIs) and their deputies. The third list, [reconcell-mgt](mailto:reconcell-mgt@ijs.si), includes everyone dealing with the project management and financial reporting.

4 SVN repository

Since the group working on ReconCell is relatively large, it is essential to provide an easy way to make all the important documents and data accessible to the participants in the project. For this reason, we set up an SVN repository (Subversion repository). This repository will contain also confidential data, therefore only people with a registered username and password can access it. The username and password can be obtained by contacting the repository administrator Timotej Gašpar ([timotej.gaspar\[at\]ijs.si](mailto:timotej.gaspar@ijs.si)). We set up encryption to realize secure communication using SSL client/server certificates. The SVN repository is hosted on the JSI servers and is accessible via the following URL: <https://abr-svn.ijs.si/ReconCell/>. Initially, the repository contains the following directories:

- Deliverables
- DoA (description of action)

Figure 1: The ReconCell home page: <http://www.reconcell.eu/>

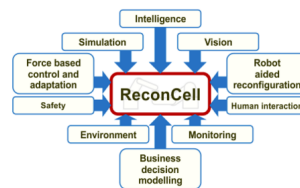


Objectives

ReconCell aims at designing and implementing a new kind of an autonomous robot workcell (see Figure 3), which will be attractive not only for large production lines but also for few-of-a-kind production, which often takes place in SMEs. The proposed workcell is based on novel ICT technologies for programming, monitoring and executing assembly operations in an autonomous way. It can be nearly automatically reconfigured to execute new assembly tasks efficiently, precisely, and economically with a minimum amount of human intervention. This approach is backed up by a rigorous business-case analysis (see Section 1.3.1), which shows that the ReconCell system is economically viable also for SMEs.

Production of plastic and sheet metal parts will be considered for demonstration purposes. A simulated and real pilot demonstration will be implemented in the laboratory conditions and in the real SME-like environment (Technology Readiness Level 6).

On the business side, the consortium's overall commercial ambition and vision is to bring the ReconCell robot system to the market. The strategy is to develop and demonstrate its usage in real-life environments at client. This includes preparation of the post-project commercial phase with focus on development of a business plan as well as involving investors in setting up a commercially sustainable enterprise from which the ReconCell subsequently can be implemented and scaled as a new product and business for the world market with a product and distribution philosophy that enables a global uptake of the technology / production companies. All partners agree to grant free of charge all necessary IPR, licenses, etc. that will be developed in the project and are required to fully support and realise this ambition. Based on an analogy to the App business eco-system and Amazon's "long-tail" market model a business and entrepreneurial developer network in ReconCell will drive a "Web-Shop" with App-like skills and tools for automating branch-, materials-, process- or in other ways specific assembly processes that will ensure an ongoing development and spreading of ReconCell technologies.




- 3D vision system that enables monitoring, recognition, and pose estimation for fast re-positioning of workpieces.
- Smart affordable reconfigurable workcell design that includes passively reconfigurable fixtures to enable fast adaptation of the robotic assembly workcell with minimum human intervention, but still leaving the possibility of human interaction on demand.
- Cooperative autonomous robots that can speed up the work, jump-in in the case of problems, replace something, or simply sequentially execute assembly operations. A two robot arm solution will be used in ReconCell.
- Force-based control and adaptation capabilities to relax the requirements with respect to inaccuracies in positioning or tolerance-deviations during assembly.
- Effective robot programming technologies and innovative strategies and concepts to enable fast acquisition of new assembly skills and skill libraries.
- Online monitoring capabilities to collect KPIs (Key Performance Indicators) as well as to support error recovery, to allow for exception handling, and to provide support-actions where the second robot helps the first to recover the task "in another way". The monitoring functionality will also enable remote servicing.
- Robot assembly cell simulation which should be associated both with the design of the product and simulation of robot assembly.
- Business modelling techniques to support setting-up of a new production process. Here the objective is to predict whether it is profitable to assemble a new product in the proposed workcell already before implementing the complete process in a real workcell.

Useful links

- SVN
- Logo

Horizon 2020 project



Quick info

Project coordinator: Ales Ude
Phone: +386 1 477 3142
Email: ales.ude[at]ijs.si

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