

ACOSAR WEBSITE

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AUTHOR(S): **MARTIN KRAMMER (VIF)**
DESHENG FU (LUH)
MARTIN KRAMMER (VIF)
NADJA MARKO (VIF)

REVIEWED: **NATARAJAN NAGARAJAN (ETAS)**

APPROVED: **MARTIN BENEDIKT (VIF)**

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COORDINATION: **VIRTUAL VEHICLE RESEARCH CENTER (AT)**
PROJECT LEADER: **DR. MARTIN BENEDIKT**

Executive summary

This document describes the ACOSAR project websites: the public and the project intern which is restricted to ACOSAR partners (ProjectPlace). The website was launched on September 28th 2015, close next to the official ACOSAR Project start, under the domain www.acosar.eu.

Basic functionalities embed:

- Newsletter
- News & event update
- Download section
- Progress overview
- CPS Demo example

The creation of the public ACOSAR project website is part of the dissemination plan and strategy, which is further described in the confidential Deliverable D8.2.

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1 ACOSAR project website

The ACOSAR public website has been launched in September 2015. It contains all the information, fact & figures, news & events regarding to the project.

In addition to the public website, we use ProjectPlace (www.projectplace.com) as the restricted website, accessible only to partners of the project, for planning, announcement and confidential document handling.

1.1 ACOSAR public website

The public ACOSAR website has been designed for the general public and third parties who are interested in the progress and/or outcomes of ACOSAR. It provides a short and clear overview with the possibility to read extended information about this project. The partners involved in ACOSAR are detailed in brief, and all their logos are linked to their websites.

The objective of the website is to inform the general public of the ongoing and completed research activities through circulating the flyers and technical project publications. All the information displayed in the project website is updated on a regular basis.

1.1.1 ACOSAR: Home

In the Home site a short project description, an overview of news and events, some general facts & figures as well as the funding institutes are presented (cp. Figure 1). The picture shown above the description area is animated and changes over time. The lower part of the homepage, shown in Figure 2, includes the main objectives of the project, a timeline as well as some important links to background information and further related websites. Moreover, the lowermost snippet contains all partner logos with links to their websites, contact information to the project coordinator and the possibility to subscribe to the newsletter. This part is shown on all pages of the website. Last but not least, a link to the Disclaimer is provided, which content is shown in Figure 3.

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News & Events

- ACOSAR Kick-Off Meeting

Facts & Figures

- Acronym: ACOSAR
- Effort: 60 PY
- Costs: 7.9 m.€
- Start: September 2015
- End: August 2018

Description

Virtual system development ("frontloading") is getting more and more important in a plentitude of industrial domains to reduce development times, stranded costs and time-to-market. Co-simulation is a particularly promising approach for interoperable modular development. However, the coupling and integration of real-time systems into simulation environments (especially of systems of distributed HiL systems and simulations) still requires enormous effort. The aim of ACOSAR is to develop both a non-proprietary "Advanced Co-simulation Interface" (ACI) for RT-System integration and an according integration methodology, which shall be a substantial contribution to international standardization (FMI). The results of ACOSAR will lead to a modular, considerably more flexible as well as shorter system development process for numerous industrial domains and will enable the establishment of new business models.

Funding

ITEA3

SPONSORED BY THE
Federal Ministry of Education and Research

FFG
Austrian Research Promotion Agency

Figure 1: Homepage of public ACOSAR website (upper part)

Objectives
Provide a non-proprietary open RT-System interface for sharing information for efficient and safe operation of RT-Systems.

Background

- Overview
- Project Structure
- Result

About the Project

- Project Site @ ITEA 3
- ACOSAR on the Internet

Timeline

Legend: ● Project Events, ● Public Deliverables

Timeline markers: 09.2015, 2016, 2017, 2018, 08.2018

Logos: AVL, BOSCH, dSPACE, ETAS, TECHNISCHE UNIVERSITÄT ILMENAU, iti, Leibniz Universität Hannover, MEDS, PORSCHE, GROUPE RENAULT, RWTH AACHEN UNIVERSITY, SIEMENS, TWT, virtual vehicle, VW

Newsletter
 Newsletter
 Name:
 Company:
 Email:

Contact
 Contact
 Project Coordinator
 Virtual Vehicle Research Center
 Contact Person: Martin Benedikt
 Inffeldgasse 21/A, 8010 Graz, Austria
 Email: martin.benedikt@v2c2.at

Website Administration
 Leibniz Universität Hannover
 Contact Person: Desheng Fu
 Welfengarten 1, 30167 Hanover, Germany
 E-mail: fu@sim.uni-hannover.de

Disclaimer
 System hosted at Graz University of Technology. Copyright 2016 acosar.eu. All rights reserved.

Figure 2: Homepage of public ACOSAR website (lower part)

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Disclaimer

This site includes information, and the software and media on which it is operated or contained, (individually and collectively the "Information") which is made available by the ACOSAR Project consortium as an activity of its research & technological development programme. Our goal is to keep this information timely and accurate. If errors are brought to our attention, we will try to correct them.

However accepts no responsibility or liability whatsoever with regard to the material on this site. This material is:

- Information of a general nature only which is not intended to address the specific circumstances of any particular individual or entity.
- Not necessarily comprehensive, complete, accurate or up to date.
- Sometimes linked to external sites over which ACOSAR Project has no control and for which ACOSAR Project assumes no responsibility.

Not professional or legal advice (if you need specific advice, you should always consult a suitably qualified professional).

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This disclaimer is not intended to contravene any requirements laid down in applicable national law nor to exclude liability for matters which may not be excluded under that law.

Limitation of Liability

The ITEA3 project has been made possible by the financial contribution by the Austrian Research Promotion Agency (FFG) under the "Basisprogramm" and by the German Federal Ministry of Education and Research (BMBF).

Figure 3: ACOSAR website disclaimer

1.1.2 ACOSAR: Background

The Background site provides information about the project contents. More precisely it gives an overview about the research topics that will be addressed in ACOSAR, the project structure, the main project events and the expected results. Furthermore, a simple demo is shown.

1.1.2.1 Overview

The overview shows the idea of ACOSAR including the expected innovations, the transfer of knowledge within a company as well as the main goal to transfer the results to standardization committees (cp. Figure 4).

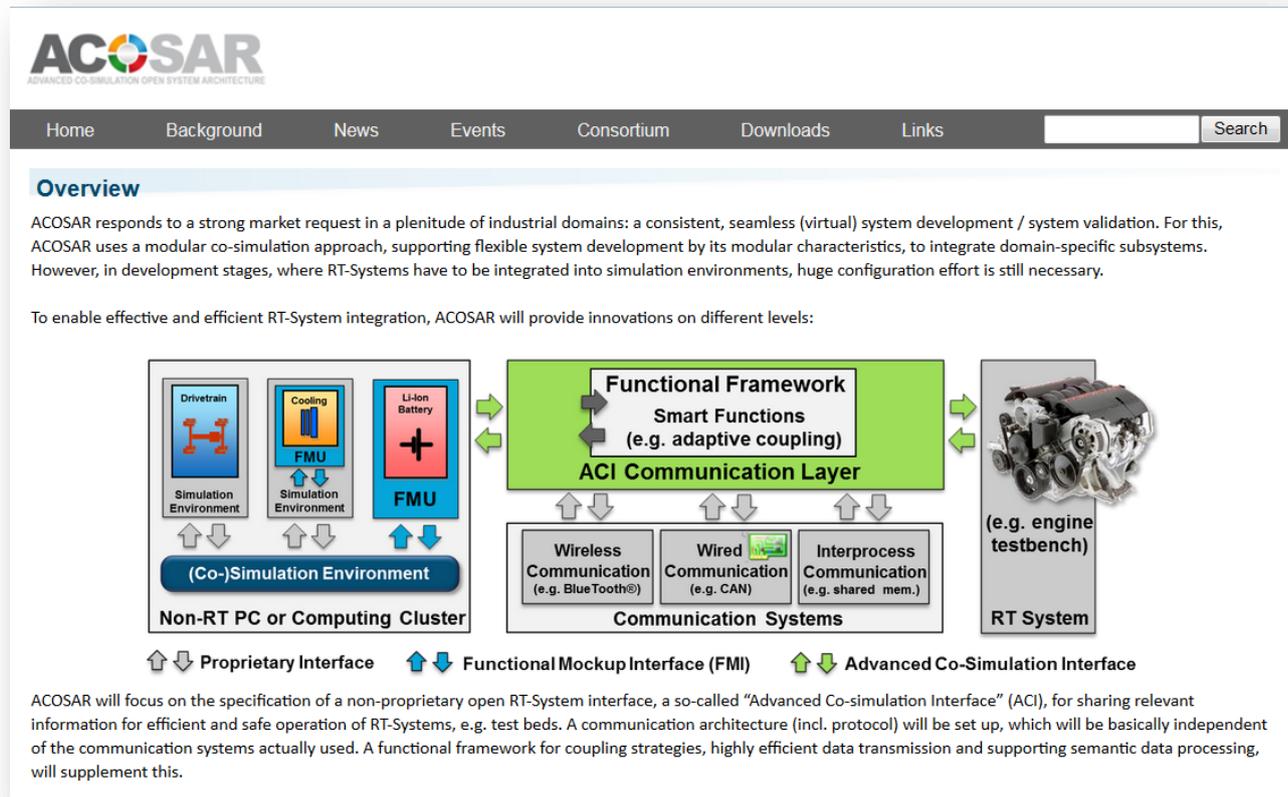


Figure 4: ACOSAR website project overview

1.1.2.2 Project Structure

The project management view is described with the general project structure. This includes a summary of the work packages and their relations to each other. Figure 10 presents a screenshot of the project structure page which includes a graphic that gives a good overview about the ACOSAR structure.

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Product Structure

The aim of the ACOSAR project is to elaborate a standard for integration of RT-Systems into (co-) simulation environments. The overall work to be performed is separated into seven technical work-packages (WP1-7) and two organizational related work-packages (WP8-9). The Work Breakdown Structure including the major work-package interactions are illustrated in the figure.

For a holistic analysis of the problem at hand all project partners embracing (co-) simulation tool vendors, RT-System providers, system/software suppliers, engineering service providers, end-users, research institutes and members involved in standardization committees (e.g. FMI) are coming together in WP1 in order to find a common consensus on open system architecture requirements for an advanced co-simulation interface (ACI). On this solid basis methodologies for low-effort integration of RT-Systems (WP2) into (co-) simulation environments will be established, mainly driven by end-users, engineering service providers and model-based system engineering experts. Additionally, resulting WP1 ACI requirements are mapped to the individual component work-packages to elaborate specifications for an interoperable standardized simulation tool interface (WP3), an interoperable standardized RT-System interface (WP4) and an interoperable communication protocol (WP5) for sharing relevant information in a standardized way. Simulation tool vendors (mainly involved in WP3), RT-System providers (mainly involved in WP4) and partners, which work on the communication protocol (in WP5), specify and prototypically implement application programming interfaces (APIs) in accordance to standardization committees (e.g. FMI) to enable a seamless integration into existing standards. Assembling the results out of WP2-5 in WP6 will lead to the overall advanced co-simulation interface (ACI), which serves as basis for application to industrial and scientific use-cases and the elaboration of an ACI pre-standard. ACOSAR project partners along the value-chain are involved in specific ACI application use-case scenarios in WP7.

From a project management point of view the work is separated in domain-specific parts to foster an efficient and slim progress of work. To keep a manageable communication and organizational effort cross work-package interactions are not envisaged, except for project management WP9. The work packages WP1, WP6-8 are of integrating character - smaller cross-country working groups are planned within WP2-5.

Figure 5: ACOSAR website project consortium

1.1.2.3 Project Timeline

The project timeline completes the project structure with timing information of the work packages, the start and end time of the work packages more precisely. Further, important project meetings are listed on this site. Figure 6 shows a screenshot of this site.



Figure 6: ACOSAR website Timeline

1.1.2.4 Results

This section presents a short description of the expected results of ACOSAR.

1.1.2.5 CPS Demo

The ACOSAR DEMO site illustrates a demo example of a vehicle simulation that uses a TCP/IP connection for integrating the system models. It is an interactive demonstration where the user can input a reference velocity and the simulation results are shown in a diagram. Figure 7 illustrates the ACOSAR Demo site showing the architecture of the demonstration and the simulation results depending on the user input (reference velocity, activation/deactivation of MBC).

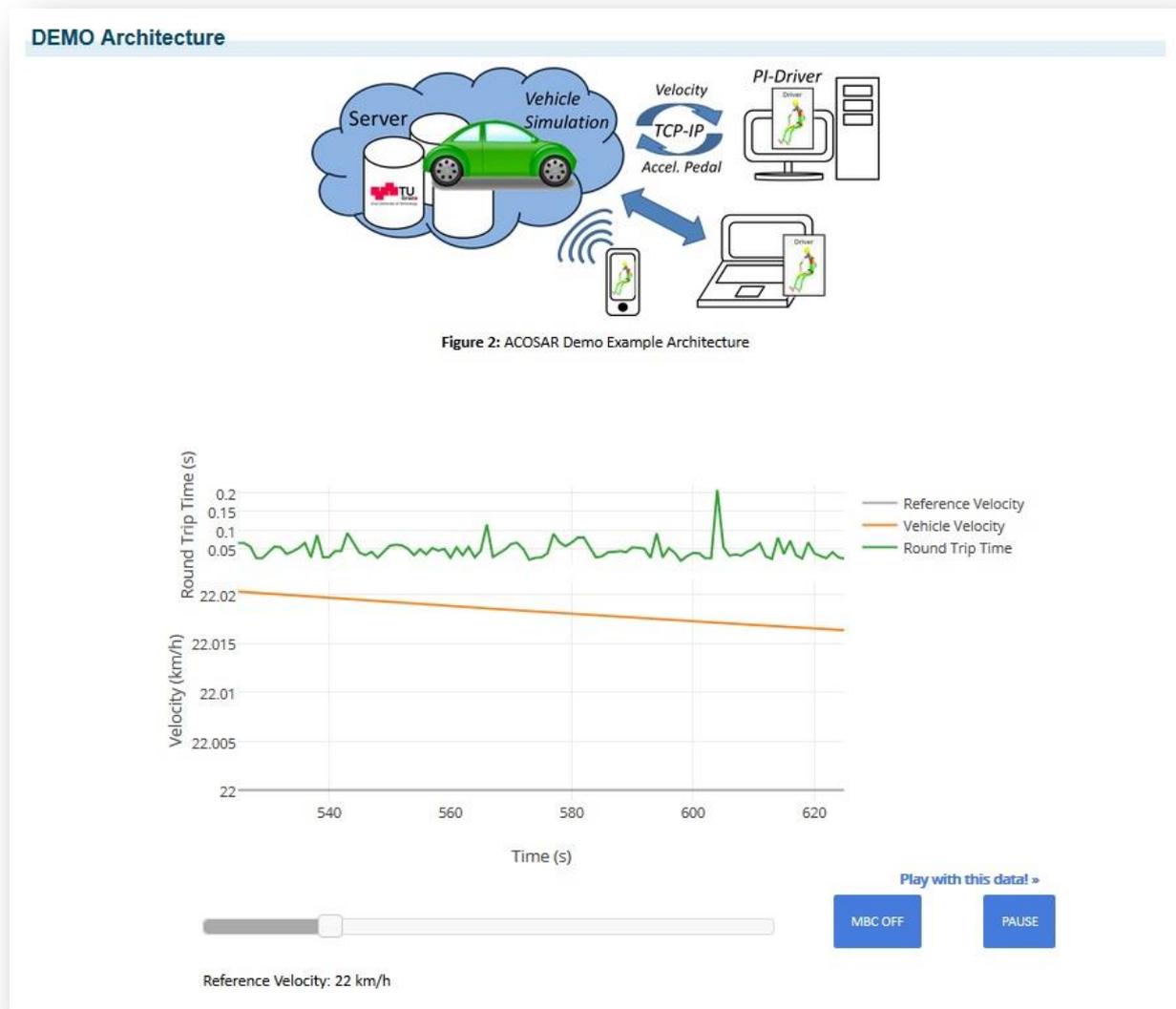


Figure 7: ACOSAR website DEMO

1.1.3 ACOSAR: News

ACOSAR News reports about project news, innovative actions on non-RT and RT simulation, standardization activities and further project advancements.

1.1.4 ACOSAR: Events

This site shows the upcoming forums, conferences, meetings, initiatives and demonstrations related to ACOSAR.

1.1.5 ACOSAR: Consortium

This section presents a short description of all the project beneficiaries, and allows the guests to be directed to their official website (cp. Figure 8).

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A - G
AVL List GmbH Robert Bosch GmbH dSPACE GmbH ETAS GmbH

H - N
Ilmenau University of Technology ITI GmbH Leibniz Universität Hannover Spath MicroElectronicDesign GmbH

O - T
Dr. Ing. h.c. F. Porsche AG Groupe Renault Rwth Aachen University Siemens AG TWT GmbH

U - Z
Virtual Vehicela Research Center Volkswagen Group

■ **AVL List GmbH** 
Website: www.avl.com

AVL is the world's largest independent company for the development and testing of conventional and electrified powertrain technology. Integrated, open software and testing solutions support the processes of model based vehicle development in the areas of simulation, testing, test life cycle and data management.

Quote: *Real-time co-simulation is a key component of AVL's IODP-strategy for Integrated and Open Development Platforms. The cooperation within the ACOSAR project will help us to support the future development process of our customers - based on continuous simulation and testing.*

■ **Robert Bosch GmbH** 
Website: www.bosch.com

Figure 8: ACOSAR website project consortium

1.1.6 ACOSAR: Downloads

Downloads provides information about all kinds of ACOSAR publications. This includes public ACOSAR newsletters and leaflets, white papers, public deliverables, publishable summaries, images and videos.

1.1.7 ACOSAR: Links

This site presents links to organizations or initiatives that are related to ACOSAR as well as articles that report about ACOSAR.

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Links

- ITEA 3
- Federal Ministry of Education and Research (BMBF, Germany)
- Austrian Research Promotion Agency (FFG, Austria)

ACOSAR on the Internet

- Projekt Acosar: Weltweiter Standard für die Echtzeit-Co-Simulation (Springer, German)
- ACOSAR: Die Verschmelzung von numerischer Simulation und realen Tests wird standardisiert (Innovations Report, German)
- Verschmelzung von numerischer Simulation und realen Tests wird standardisiert (Virtual Reality, German)
- Standards für Co-Simulation mit Echtzeit-Elementen (AutomotiveIT, German)

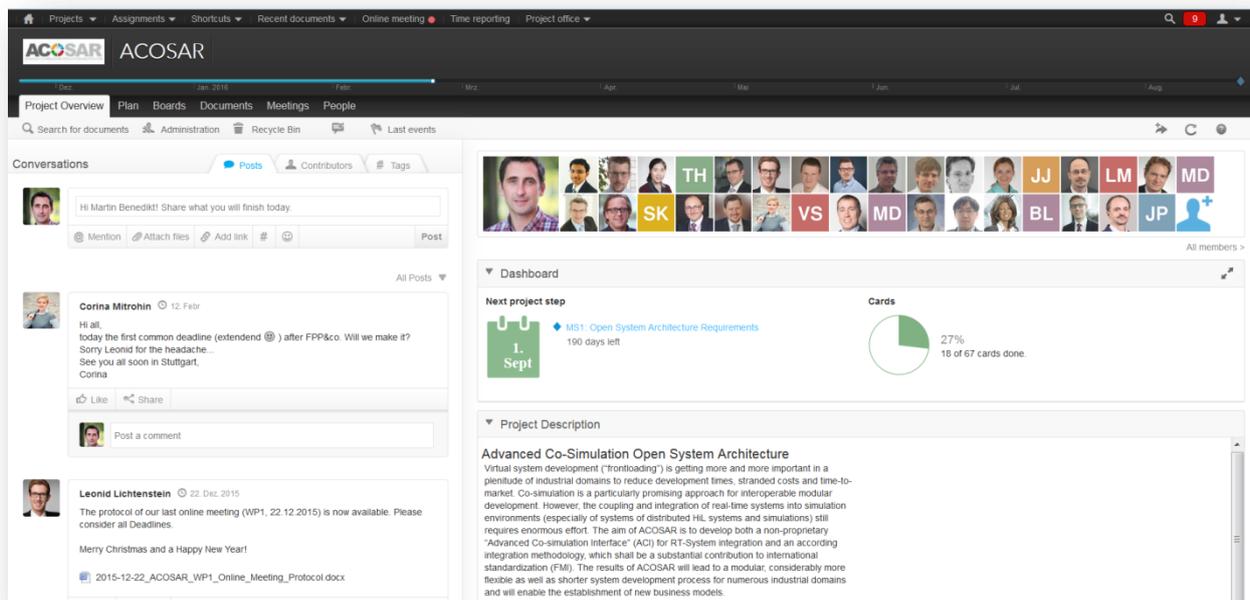
Figure 9: ACOSAR website relevant external links

1.2 ACOSAR partner restricted website

The partners' restricted project website, for which ProjectPlace is used, only is accessible for registered project partners. Following the link www.projectplace.com, the partners have to login with username and password that is provided by the ACOSAR coordinator. ProjectPlace provides the possibility to plan the project, share documents, organize meetings and discuss with other project partners by posting messages or commenting documents, for example. Hence, it is a very interactive project platform.

1.2.1 Project Overview

Project Overview shows a short project description, the latest conversations, a list of people working in ACOSAR and tasks that have to be done. Figure 10 shows the project overview after the login at ProjectPlace.



The screenshot displays the ACOSAR internal website interface. At the top, there is a navigation bar with tabs for 'Project Overview', 'Plan', 'Boards', 'Documents', 'Meetings', and 'People'. Below this, a search bar and utility icons are visible. The main content area is divided into several sections:

- Conversations:** A list of recent posts. The first post is from Martin Benedikt, and the second is from Corina Mitrohin, dated 12 Feb.
- Dashboard:** A section titled 'Next project step' showing 'MS1. Open System Architecture Requirements' with '190 days left'. A 'Cards' progress indicator shows '27%' completion, with '18 of 67 cards done'.
- Project Description:** A section titled 'Advanced Co-Simulation Open System Architecture' providing a detailed overview of the project's goals and methodology.

The interface also features a grid of member avatars at the top right and a 'Post a comment' field in the conversation section.

Figure 10: ACOSAR internal website – Project Overview

1.2.2 Plan

Plan shows the overall project plan that has to be followed, cp. Figure 11.

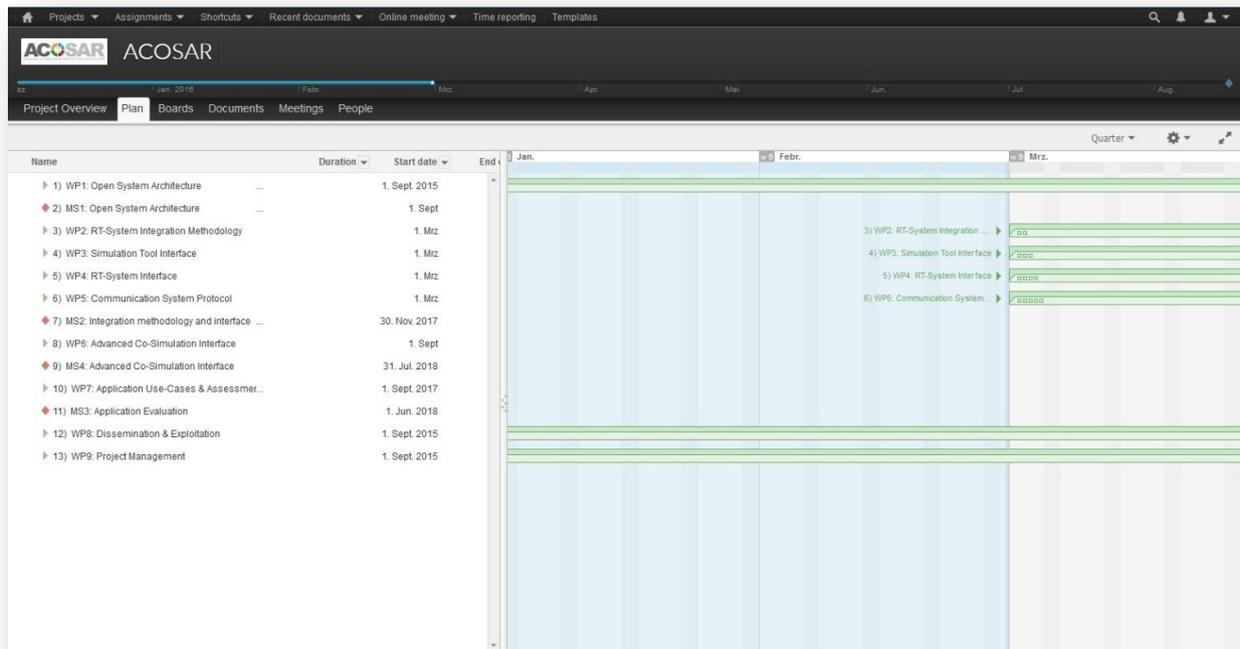


Figure 11: ACOSAR internal website - Plan

1.2.3 Boards

Boards represent tasks that are necessary to achieve project goals. They can be assigned to project partners who are then responsible for the respective task. Further, it is possible to set the status of the task/deliverable to planned, working on, delayed, and done. This facilitates interaction with people involved and getting information about the progress. Figure 12 shows some boards that represent deliverables.

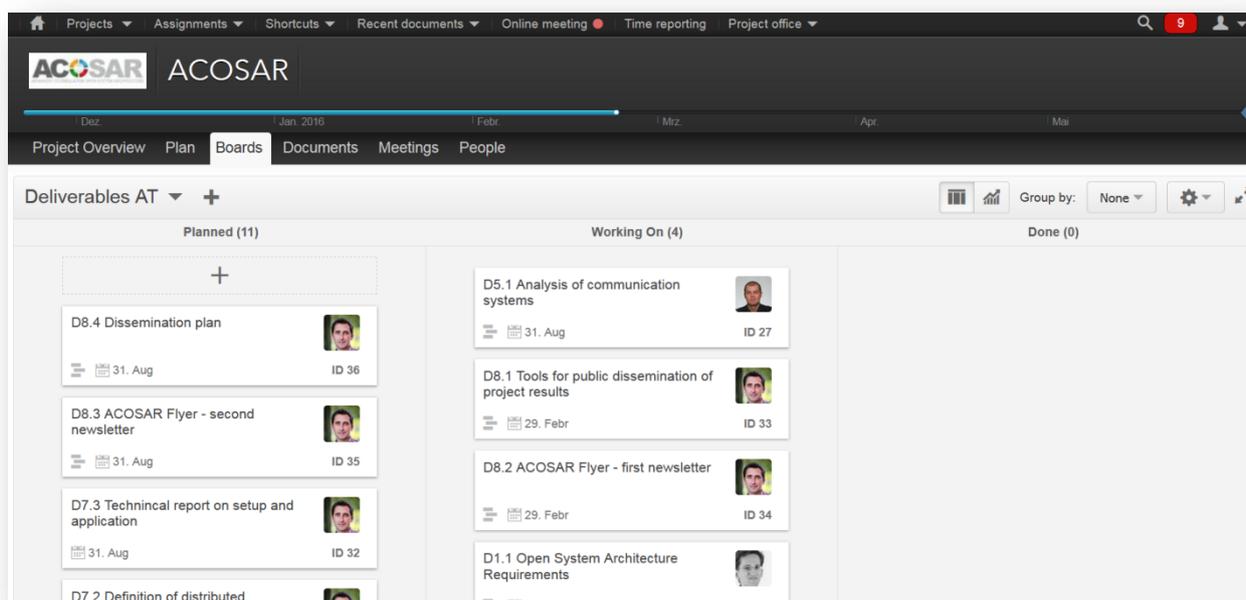


Figure 12: ACOSAR internal website - Boards

1.2.4 Documents

An important feature of the project internal website is the document exchange area. Partners can upload and download working documents, comment on documents and easily share them with other partners. In ACOSAR, there is a folder for each work package, whose access can be restricted if it is required. This part also acts as a project archive area where all versions of documents are stored. Figure 13 shows a screenshot of the ACOSAR Documents site.

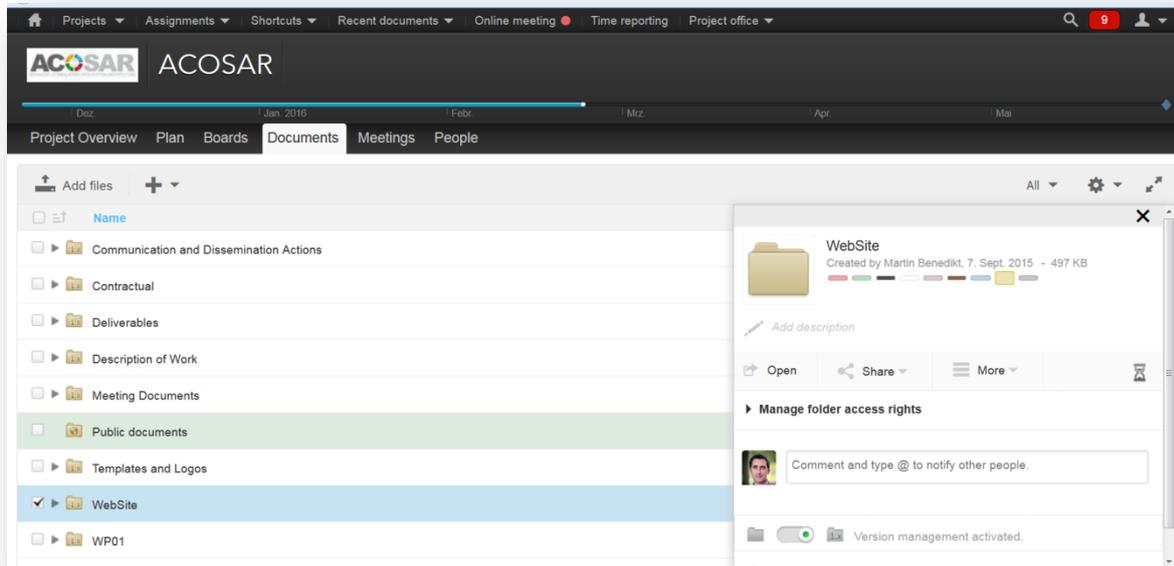


Figure 13: ACOSAR internal website - Documents

1.2.5 Meetings

In the meetings section all online meetings can be planned and executed as ProjectPlace supports the execution of online meetings. Hence, ProjectPlace provides functionality such as finding a meeting time (meeting requests) and sending invitations and reminders. Figure 14 shows the ACOSAR overview site of the Meetings area.

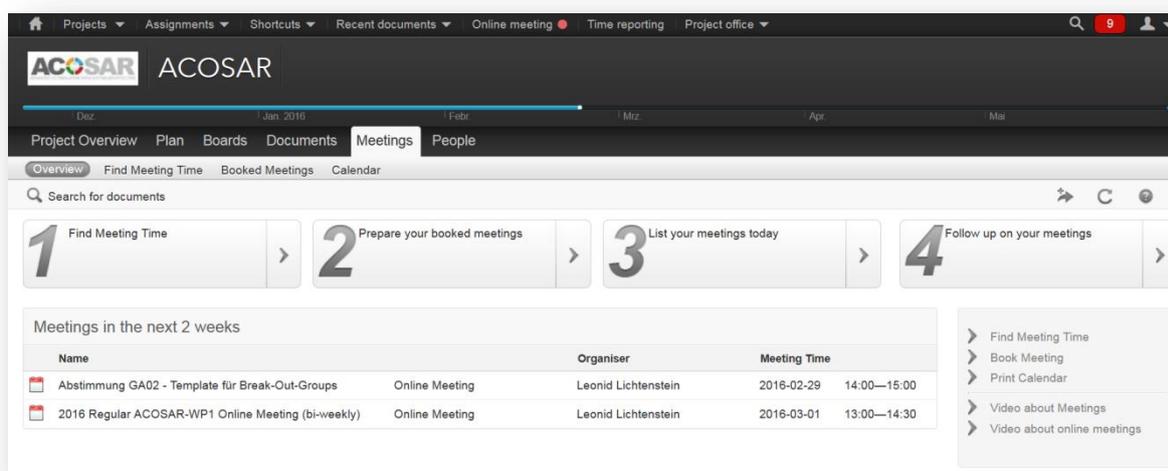


Figure 14: ACOSAR internal website - Meetings

1.2.6 People

The people section provides contact information of all participating people. It is possible to directly contact them via ProjectPlace, easily send them a mail or call them.

2 Project Logo

VIRTUAL VEHICLE Research Center has created an exclusive logo for the ACOSAR project – we’ve tried to capture what the project is about in a simplistic but clarifying way:



Figure 15: ACOSAR Logo

3 Acknowledgment



This project is co-funded by the Austrian Research Promotion Agency (FFG)



This project is co-funded by the Federal Ministry of Education and Research (BMBWF)

PROJECT PARTICIPANTS:

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AVL List GmbH (AT)
Spath MicroElectronicDesign GmbH (AT)

Dr. Ing. h.c. F. Porsche AG (DE)
Volkswagen AG (DE)
Robert Bosch GmbH (DE)
ETAS GmbH (DE)
dSPACE GmbH (DE)
ESI ITI GmbH (DE)
TWT GmbH Science & Innovation (DE)
RWTH Aachen University (DE)
Technische Universität Ilmenau (DE)
Leibniz University of Hannover (DE)

Renault SAS (FR)
Siemens Industry Software SAS (FR)

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