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Trustable architectures with acceptable residual risk for the electric, connected and automated cars

Deliverable	**Report 1 on dissemination and exploitation of the foreground**		
Deliverable File	**D7.5**		
Project	ArchitectECA2030	**Grant Agreement Number**	877539
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Table of Contents

1. Executive Summary

This document is intended to give an overview of the types of dissemination, communication, and exploitation activities that were planned and undertaken during the first year's project, in order to valorise the results of the project and bring it to the public and to the market.

This deliverable "D7.5. Report 1 on dissemination and exploitation of the foreground" (RDEF) defines the project dissemination, exploitation and communication management processes, rules and tools to be applied throughout the ArchitechtECA2030 Project, and main results of the first 12 months of the project. This includes the following aspects:

- The detailed definition and description of target groups and communication - dissemination channels
- Rules and tools for communication and dissemination of project results, including open access
- Project exploitation activities and strategies

0 project's Report on dissemination and exploitation of the foreground will be systematically reviewed and updated on the occasion of each consortium meeting in a dedicated time-slot. This Report will serve as a live document each year published with new supplemental information, focusing on results and activities implemented during the project reporting period.

Keywords: communication, dissemination, exploitation, rules, tools, target groups

2. Introduction & Scope

3.1. Purpose and target group

ArchitechtECA2030 is a large and complex research and innovation project, requiring adequate information and dissemination management structures. The key characteristics of this ECSEL Joint Undertaking project are:

- 20 Partners from 8 countries.
- ~13,6 Mio Euro total budget.
- Total work effort of approximately 1440 person months.
- 8 Work Packages and 5 Supply Chains.
- 5 high-level objectives.

The objective of the dissemination and exploitation of ArchitechtECA2030 results is to create awareness about the project's research and development achievements in the scientific, industrial, and societal domains. Dissemination and communication activities will target not only the academic and specialist audiences, but also non-specialist broad audiences and the wide society; meanwhile exploitation activities will address industry-related bodies.

ArchitechtECA2030's plan on dissemination and exploitation of the foreground aims to provide support for increasing the awareness, recognition, and business prospects for the project outcomes. This Plan will act as the reference guide throughout the activities for using and disseminating project's foreground, while pursuing initiatives that focus on all strategic audiences, target markets, and societal processes.

This deliverable "D7.2. Report 1 on dissemination and exploitation of the foreground" (RDEF) defines the project communication, dissemination and exploitation management processes, rules and tools to be applied throughout the ArchitechtECA2030 Project, and main results of the first 12 months of the project. This includes the following aspects:

- The detailed definition and description of target groups and communication - dissemination channels
- Rules and tools for communication and dissemination of project results, including open access
- Project exploitation activities and strategies

The framework, consisting of the legal documents – Project Grant Agreement, Project Consortium Agreement, National Grant Agreement, and Management and Quality Assurance Handbook – and the Report on dissemination and exploitation of the foreground, form the basis for using, disseminating, and communicating the outcomes of the ArchitechtECA2030 project. In case of any conflicts, the rules defined in the legal documents supersede any rules or recommended practices in the RDEF. In particular, the PCA concerns the consortium internal obligations, while the RDEF complements the legal documents by a description of the project-wide dissemination and communication processes, rules and tools to be applied throughout the ArchitectECA2030 project. Thus, the RDEF will be the reference document collecting all project exploitation, dissemination, and communication elements.

The ArchitechtECA2030 project's Report on dissemination and exploitation of the foreground will be systematically reviewed and updated on the occasion of each consortium meeting in a dedicated time-slot. This Report will serve as a live document each year published with new supplemental information, focusing on results and activities implemented during the project reporting period.

3.3. Relation to other activities in the project

This document describes the overall communication, dissemination and exploitation activities of ArchitechtECA2030. In particular, it provides reporting on the activities related to WP7 "Twinning, dissemination, exploitation".

This document is considered as a 'living document', i.e. and therefore, it will be enhanced and adapted during the project as required.

4. Communication and dissemination target groups and concepts

4.1. Key concepts and objectives

Dissemination by the European Commission is described as:

The public disclosure of the results by any appropriate means, including by scientific publications in any medium[1].

The dissemination of ArchitechtECA2030 outputs to crucial stakeholders will aim at:

- Transferring of knowledge and results to the ones that can best make use of it
- Maximizing the impact of research, enabling the value of results to be potentially wider than the original focus
- Preventing results becoming sticky and effectively lost
- Strengthening and promoting the profile of the organization
- Being essential element of all good research practice.

Communication will, therefore, contribute to support dissemination and exploitation objectives while targeting stakeholders beyond the immediate interest groups, such as the public at large.

Communication by the European Commission is described as:

Taking strategic and targeted measures for promoting the action itself and its results to a multitude of audiences, including the media and the public, and possibly engaging in a two-way exchange.

The Communication of ArchitechtECA2030 is strategically planned and not only ad-hoc efforts. It identifies and sets clear communication objectives and uses pertinent messages, right medium and means. The Communication helps:

- Reach out to society as a whole and in particular to some specific audiences
- Demonstrate how EU funding contributes to tackling societal challenges.

The communication of ArchitechtECA2030 outputs to crucial stakeholders will aim at:

- making the results and knowledge developed through the project available to the broadest audience,
- enhancing project exploitation potential,
- and stimulating dialogue in the community.

Therefore, ArchitechtECA2030 project communication dissemination objectives are the following:

- To raise public awareness and ensure maximum visibility of the project's key facts, objectives, activities, and findings among EU and the global public at large;
- To announce and promote ArchitechtECA2030 events, contributing to upgrade its attendance and engagement potential;
- To support the dissemination objectives;
- To encourage EU research cooperation in the electronic components and systems domains.

[1] https://ec.europa.eu/research/participants/data/ref/h2020/other/events/2018-09-21/9_dissemination-exploitation-activities_en.pdf

The dissemination, communication, and exploitation efforts will be focused to scientific and industry communities' events as well as on events and channels whereby a much wider audience can be reached. ArchitechtECA2030 partners seek to use social media, TV appearances, radio interviews, university events, and other means to inform a broad audience about the benefits of automation, Electronic Components and Systems. Project partners will 'expand the message' so that more and more people become open to the idea of significantly safer and reliable highly automated vehicles.

The relation and differences between communication and dissemination is submitted in the figure 1. Both communication and dissemination activities and channels are essential for informing the stakeholders about the project.

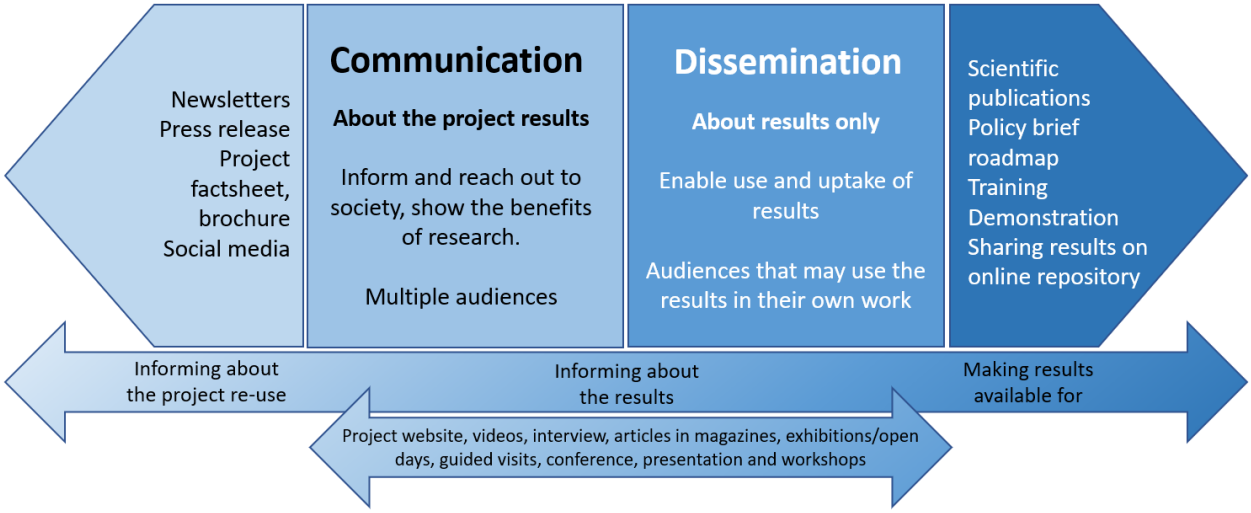

FIGURE 1 COMMUNICATION AND DISSEMINATION RELATION AND DIFFERENCES

Source: https://ec.europa.eu/research/participants/data/ref/h2020/other/events/2018-09-21/9_dissemination-exploitation-activities_en.pdf

Referring to what was mentioned before, one of the significant and first steps to build a successful communication dissemination strategy is to set up the objectives and targets. Therefore, the overall goals of the strategic plan are the following:

Communication objectives	Expected outcomes
To achieve European-level awareness raising and dissemination by providing information on the content and results of the ArchitechtECA2030 project as a whole via different channels.	More stakeholders (e.g., automotive industry, policymakers, research professionals, transport and energy professionals, citizens) across Europe become informed and adopt sustainable, sophisticated systems solutions, and more intelligence for vehicles. Use of specific channels to enlarge the dissemination of ArchitechtECA2030 results such as public opinion surveys, newsletters, social media presence, posters, etc.

Provide a unique online hub / platform to promote and sustain collaborative activities as well as knowledge sharing and access tailored to the needs of the ArchitechtECA2030 community.	The ArchitechtECA2030 website and data-sharing portal will become a single gateway to access project-related results for people seeking information, assistance and support through the deployment of intelligent systems in vehicles.
To Run and support the presentation of the project at smaller local, bigger national and wide international events, create a well-recognized ArchitechtECA2030 visual identity, create representative dissemination material and organize project planning, implementation and strategic workshops.	Design and production of visual identity and guidelines, design of templates. The visual identity (brand) of the project will be created to serve as a clear, memorable, scalable, flexible and easy to apply (intuitive and easy to use for project partners).

TABLE 1 EXPECTED COMMUNICATION OBJECTIVES AND OUTCOMES

To realize the aforesaid objectives, the following key ways of communication and dissemination activities are planned and employed:

FIGURE 2 COMMUNICATION AND DISSEMINATION CHANNELS AND ACTIVITIES

4.2. Target Audiences

The target audiences for ArchitechtECA2030 communication and dissemination include industry, regulatory bodies, policymakers, research/academic community, and the wider general public-citizens. The communication strategy aims to target all involved, interested, and potential audiences. It is expected to identify potentially interested members who could spread the word of ArchitechtECA2030 key messages, increasing and widening audience participation. A set of dedicated dissemination activities were planned at the beginning of the project according to the identification of target groups and the identification of appropriate communication channels.

The following target groups identified as the starting point for the ArchitechtECA2030 work:

- **Scientific communities:** Especially communities focusing on planning and control systems for highly automated driving, safety-critical applications, fail-operational platforms, AI approaches, and dependability are targeted. Mostly the research partners will address these groups for communicating the main technical and scientific results;
- **Technology users,** such as companies developing safety-critical applications for highly autonomous driving, are addressed by the application partners to communicate technical project outcomes;
- **Technology providers**, i.e., companies and institutions developing tools and methods for autonomous driving planning and control systems or perception, cognition control systems, are addressed by the application partners to communicate technical project outcomes and to synchronize technologies related to the project;
- **Public community**, the general public -city-dwellers;
- **The European Commission**, as the main stakeholder of the project and responsible for the set-up of research and development projects in line with project call will be addressed to communicate the project status as well as the project impact on scientific communities and on the market;
- **Other research and development projects related to ArchitechtECA2030** (see Deliverable 7.2 "*External Stakeholder Strategy")*, i.e., by similar targets, technologies or interests, are necessarily targeted for dedicated technical communication and synchronization on project results;

A mapping of target groups to the communication channels envisaged in the project is provided in the following table. The table provides the main overview. The website is deliberately not mentioned, as it is relevant for all target groups. The level of technical detail provided via the communication channel is typically increasing from press release to scientific publication. We do not claim that the European Commission and/or the public community is not interested in detailed technical information but the information provided over the communication channel is not specifically targeting these two target groups

<table>
<tr><th></th><th>Press release</th><th>Publication</th><th>Presentation</th><th>Public report</th><th>Demonstrator</th><th>Standardization activities</th><th>Open research data pilot</th></tr>
<tr><td>Scientific Community</td><td colspan="4">Public descriptions of selected project outcomes to enter detailed technical dialogue</td><td>Illustration of concepts applied to use cases</td><td rowspan="4">Disseminat ion and sustainabili ty of most relevant Architecht ECA2030 outcomes</td><td rowspan="4">Relevant application data (domain specific)</td></tr>
<tr><td>Technology users</td><td colspan="3" rowspan="3">Raising awareness on the project to enter dialogue</td><td colspan="2">Highlight the impact and end-user benefit generated by project findings</td></tr>
<tr><td>Technology providers</td><td colspan="2">Show the market potential for solutions adopting the ArchitechtECA2030 approach</td></tr>
<tr><td>Related projects</td><td colspan="2">Support synchronization of activities and exchange know-how, avoid duplication of efforts</td></tr>
</table>

European Commission	Providing public communication on main project outcome(s) and their impact	Increase visibility of project		Illustration of concepts applied to use cases		
Public community		Increase visibility of project				

TABLE 2 MAPPING OF TARGET GROUPS AND COMMUNICATION CHANNELS

6.1.1 Metrics for Dissemination

The ArchitectECA2030 dissemination activities will be monitored by WP7 lead. To distinguish between the different categories of dissemination activities, the monitoring is divided into "Non-scientific activities" and "Scientific activities".

The contribution of the ArchitectECA2030 partners will be recorded in different charts as well. The project results differs between academic, research centers and industrial partners.

We will check the following categories, note that these might be updated, the target number per category will be assessed in the next months:

Non scientific	***Scientific***
Organization of conferences	Journal papers
Organization of workshops / Webinars	Conference papers
Press release	Workshops papers
Newsletter	Scientific papers
Presentations	Bachelor thesis
Posters	Master thesis
Events	Articles / Abstracts
Webpage visitors	Books or Books chapters
Other	Scientific posters
	Other

6.1.2 Procedures for Innovation Management

The innovation manager (IM) together with WP7 leader is responsible for respecting the following tasks:

- Keep track of all developments made within the project
- Analyse the improvement with respect to the state of the art at the beginning of the project
- Investigate potential of innovations made to file for patent
- Investigate innovation results w.r.t. being used for conference papers and publications

- Support project wide publications, dissemination and exploitation and dissemination
- Install and maintain the project web site
- Install and maintain the project collaborative web space
- Liaise with other projects that are related in planned achievements or made developments where cooperation is promising.

4.2.1 Language

Structuring our audiences has real impacts on what communication we produce and how we write, design, and distribute them. For example:

- Language style: The language style used in the different products will vary, generally becoming more specialized at deeper levels. The statement that that jargon needs to be avoided at all costs is not true – specialized audiences understand the jargon, and become quickly tired of material explaining things to them, which they already know, in the language they would consider infantile. Technical communication, therefore, has its place – but not in products written for other audiences (public community);
- Design style: This is equally true for design issues. In essence, it may be counter-productive, as well as a waste of resources, to design a report aimed at highly specialized audiences as a glossy product, covered with a multitude of images and illustrations. In this case, the product type is inappropriate for both the audience and the message.

4.2.2 Content

Content is crucial in successful communication. Content has to align with audience classes, so for specific products, this fact will be considered before the production of the respective promotional material. Content differs for:

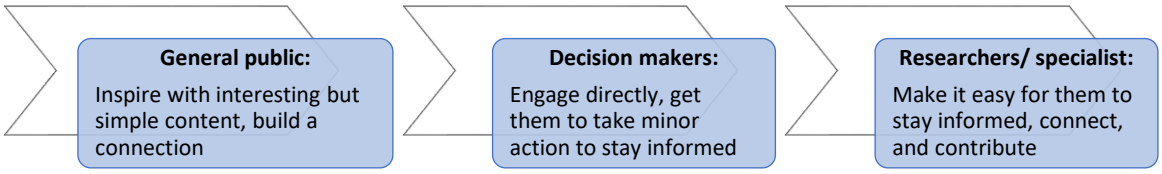

FIGURE 3 FLOW OF DIFFERENT CONTENT

Within this line:

The general public needs general information that is easy to understand, which would be inspiring, visionary, and attention-grabbing. Decision-makers need information that relates to their policy areas (e.g., how and to what level do the measures contribute to their policy goals), they need to be engaged directly and in a targeted-way. Highly specialized people have their own usual scientific/ industrial journals and publications that carry technical information. Therefore, ArchitechtECA2030s content must be presented there.

5. Dissemination and communication guidelines

To ensure that ArchitectECA2030 consortium partners are familiar with, and follow the correct procedures when disseminating and communicating information about the project, common Guidelines were prepared. ArchitectECA2030 Dissemination and Communication Guidelines were developed in a form of a ppt presentation, uploaded onto partner's data-share ownCloud, and presented to the consortium during conference call meetings.

Firstly, the Guidelines describe the concepts of Communication and Dissemination, in the framework of ECSEL JU funding and Horizon 2020 programme. Then the subsequent information follows:

5.1. Acknowledgement of funding and disclaimer

The appropriate ways of acknowledging funding and funding programmes are described in the ArchitectECA2030 Dissemination and Communication Guidelines. Partners are able to choose the most appropriate form to use to insert into their publications, presentations, and other dissemination and communication means. The following acknowledgement of funding information is used by the consortium:

- Acknowledgement of funding must be included in all ArchitectECA2030 -related publications and other dissemination material:

  "ArchitectECA2030 receives funding within the Electronic Components and Systems For European Leadership Joint Undertaking (ESCEL JU) in collaboration with the European Union's Horizon2020 Framework Programme and National Authorities, under grant agreement n° 877539."

  Or

  "ArchitectECA2030 project has received funding from the ECSEL Joint Undertaking (JU) under grant agreement No 877539. The JU receives support from the European Union's Horizon 2020 research and innovation programme. It is co-funded by the consortium members and grants from Germany, Netherlands, Czech Republic, Austria and Norway."

- ECSEL JU logo and the European Union flag must be visible next to the acknowledgement of the funding sources:

  ECSEL Joint Undertaking
  Electronic Components and Systems for European Leadership

- National or regional funding authorities must be acknowledged, and their logos included where possible.

- Furthermore, any dissemination and communication activities need to adhere to the specific conditions of EU funding and disclaimer according to Article 38.1.3, which is excluding [Agency and] Commission responsibility. Thus, the following disclaimer must be included in the communication material:

"All ArchitectECA2030-related communication reflects only the author's view and the [Agency and the] Commission are not responsible for any use that may be made of the information it contains."

5.2. Social media posting guidelines

After information about acknowledgement of funding, the ArchitectECA2030 Dissemination and Communication Guidelines describe where partners can find the dissemination materials (such as presentations, templates, posters). This is followed by **social media posting guidelines**, described below:

ArchitectECA2030 consortium uses Twitter and LinkedIn accounts @architectECA2030 and @eca2030 for social media presence.

What we post: Texts of up to **280** characters. This excludes media attachments (photos, images, videos, etc.) and quoted tweets (displaying someone else's tweet within your own) but includes links (a URL is always altered to 23 characters).

How we use it: To share short comments, make announcements that can instantaneously reach a large audience or retweet relevant content, post pictures from events and videos of demonstrators.

Twitter account is also embedded in the project website https://architect-eca2030.eu/ .

The following terminology is important:

Hashtag # - a hashtag is added in front of any word or phrase in a post, this makes it easier for users to locate our specific content. Examples of applicable hashtags are the following: #Innovation, #autonomousdriving, #mobility, #futuretechnologies, #industry, #H2020, #ECSELJU. Using a hashtag makes the keyword or phrase in the post searchable. It is like a label that clusters and links similar content, the same way keywords do when scientific papers are published. They are used to increase outreach – enabling us to join bigger, topic-specific conversations, to capitalize on existing trends, to consolidate and group content – helping those who took part in an event search for related coverage using the event's hashtag, to encourage interaction.

Handle @ - unique handle / user name used to identify ArchitectECA2030 project's account. It always starts with the @ symbol, followed by a name to identify the accounts: **@architectECA2030 and @eca2030**. We use handles to mention partner organizations, funding organizations, and related projects, to send a direct reply to someone, by starting our message with their handle, and to link to someone else's account (known as a 'mention') by using their handle in our post.

Tone and general notes that our consortium takes into account when posting in social media:

- Never post pictures or text containing confidential information from consortium's internal meetings;
- Use appropriate, inoffensive language (to ensure we get responses and stimulate debate);
- Be receptive to our readers' arguments – if we don't agree, we can defend our position without being rude;
- Gain/maintain credibility by sharing worthwhile, relevant content and show respect for other cultures and ideas, online as well as offline;
- We must be aware that libel and defamation laws apply;

- We created our **project handle** and use it consistently throughout the overall project implementation;
- If the partners, researchers, team members or other relevant organizations already have a strong, well established social media presence, we encourage them to **communicate information about our** project;
- Use handles, such as **@ECSELJU** and **@EU_H2020** in our tweets to maximize visibility and be recognized as part of the ECSEL JU and H2020 community;
- Twitter is becoming increasingly **visual** – we post pictures, videos or data visualizations to spark interest;
- Share images and **tag other Twitter accounts** (up to 10), to build a relationship with your audience and make them aware (the account tagged receives a notification) of content that might interest them, in the hope that they might want to retweet it.

The following posting schedule is observed for ArchitectECA2030 Twitter, LinkedIn and website posts:

TABLE 3 ARCHITECTECA2030 SOCIAL MEDIA AND WEBSITE POSTING SCHEDULE

	Twitter/LinkedIn	Website
ON THE DAY OF REGISTRATION TO EVENT	HEADLINE, EVENT DETAILS, LINK	
2 DAYS PRIOR TO EVENT	HEADLINE, EVENT DETAILS, LINK	
DURING EVENT	PHOTOS, LIVE DETAILS	
2 DAYS AFTER EVENT		SUMMARY OF EVENT, RESULTS, PHOTOS
PUBLIC PROJECT RESULTS	HEADLINE, DETAILS, PARTNER INFORMATION	HEADLINE, DETAILS, PARTNER INFORMATION
PROJECT NEWSLETTER	HEADLINE, NEWSLETTER	HEADLINE, NEWSLETTER

5.3. Open Access publishing guidelines

The ArchitectECA2030 consortium embraces the vision that large and unrestricted access to knowledge is essential not only for the central role of knowledge and innovation in generating growth but also as a fundamental human value of scientific knowledge progress and dissemination. In line with the "Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020", the project beneficiaries will aim to ensure open access ('gold', or 'green') to all peer-reviewed publications relating to the project results. Authors copyrights agreements will determine whether scientific publications, resulted from the project, will adopt the gold or the green model. However, in the case copyright agreements are not violated (e.g. in the case of peer reviewed journals and international conference proceedings), the consortium will favour whichever model guarantees wider dissemination of the project results. Therefore, the Dissemination and Communication Guidelines describe the principles of Open Access Publishing. To comply with the ArchitectECA2030 project's Grant Agreement, consortium partners must make their papers and presentations available to the entire

consortium ahead of publication; they must be emailed to consortium's Dissemination Manager or the Core Team.

According to AchitectECA2030 Consortium Agreement: 8.4.2.1, during the Project and for a period of a minimum 2 year after the end of the Project, the dissemination of own results by one or several Parties, shall be governed to the following provisions.

- Prior notice of any planned publication shall be given to the other Parties at least **35 calendar** days before the publication (email to zina@teraglobus.lt or members@architect-eca2030.eu)
- Any objection to the planned publication shall be made in accordance with the GA in writing to the Coordinator and to the Party or Parties proposing the dissemination within **25 calendar** days after receipt of the notice.
- If no objection is made within the time limit stated above, the publication is permitted.

Consortium partners must follow the review and approval process described in the subsequent process illustration:

FIGURE 4 ARCHITECTECA2030 PUBLICATION AND PRESENTATION REVIEW AND APPROVAL PROCESS

Under Horizon2020, each beneficiary must ensure open access to all peer-reviewed scientific publications relating to its results, and ArchitectECA2030 consortium partners are all expected and informed to follow these rules. Each partner must - at the very least - ensure that their publications can be read online, downloaded and printed. Partners should make every effort to have additional rights such as the right to copy, distribute, search, link, crawl, and mine increase the utility of the accessible publication. Consortium partners follow the ArchitectECA2030 **Open Access Guideline Presentation,** which was presented to the entire consortium and is available on the projects file-share ownCloud. More information is also available at: Open access & Data management – SEDIA Guide

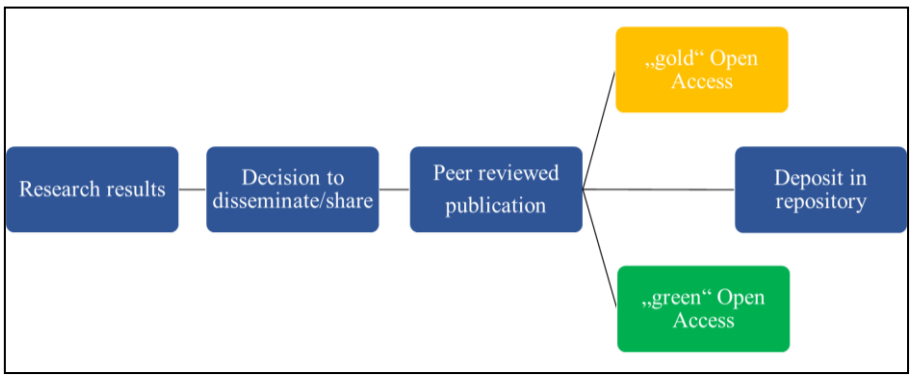

FIGURE 5 OA IN H2020

All scientific, peer reviewed publications constitute project deliverables and must hence be tracked and reported to the funding agencies. Following the procedure, outlined Consortium will enable this reporting, as well as making sure that provisions of the ArchitectECA2030 Consortium Agreement are observed.

5.4. Data Management Plan

It is important to enable a smooth operation, safe data exchange and effective management of data among the ArchitectECA2030 members. To reach these goals, the ArchitectECA2030 consortium uses a cloud platform for the data-exchange, where the confidential sharing of files is possible without restrictions.

5.4.1 Data Exchange Platform Nextcloud

The uses cloud software is the so-called “Nextcloud” [**Error! Reference source not found.**], (see Figure below: Screenshot of the ArchitectECA2030 data share Nextcloud), installed on a server and hosted from the OTH-AW.

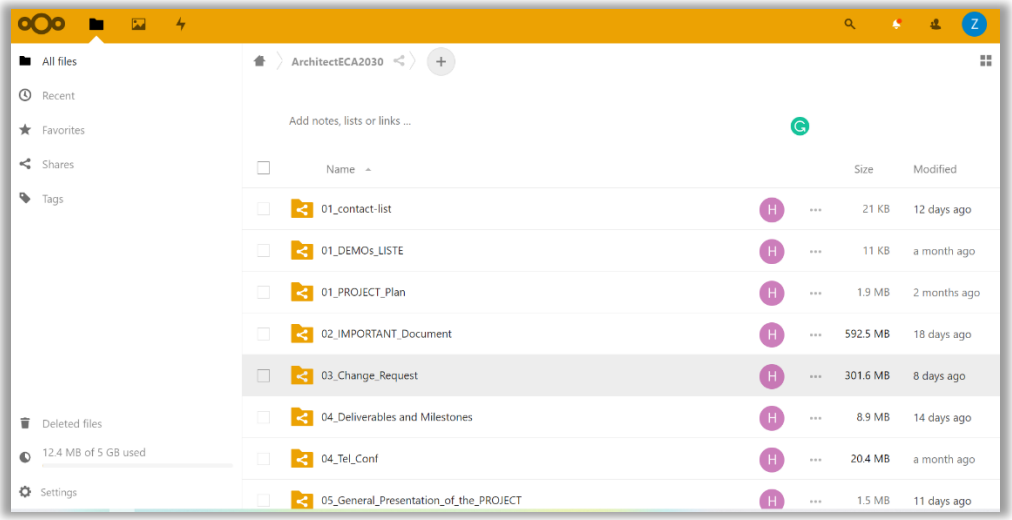

FIGURE 6 ARCHITECTECA2030 DATA SHARE NEXTCLOUD

Access

The Nextcloud-server software supports fully the WebDAV protocol, so users can connect to the server and synchronize there working data. This is possible with every standard browser through the link, so no additional software is needed to install for the users. It is also possible to access by client applications, which are available for all common Windows, Mac and Linux and furthermore by mobile apps for iOS and Android.

Safety and Security

Within the Nextcloud a version control allows to access to older versions of the files. The Nextcloud software is updated frequently to keep the system up-do-date.

A daily backup is made from all data, which are physically separated from the server. The server is located in Germany at the OTH-AW.

The access to the files is only allowed through the https-protocol [HTTPS]. After the login to the Nextcloud all communication is protected through an SSL encrypted access, verified by a CA-certificate.

6. Strategy deployment

6.1. Visual identity

6.1.1 The logo

The ArchitechtECA2030 logo reflects the core content of the project. The ArchitectECA2030 logo depicts a stylized vehicle accompanied by coloured cubes and cuboids. The different colours and shapes depict the different component and modules examined within the ArchitectECA2030 project. The colours appear consistently in the website layout.

FIGURE 7 ARCHITECHTECA2030 LOGO

The logo must always be reproduced from a master reference, to be found in the intranet area of the ArchitechtECA2030 website.

6.2. Print-based dissemination

ArchitechtECA2030's approach is to use the appropriate content and style as well as the consortium's experience and knowledge of individual groups' needs to develop promotional material that can reflect the project's central message and reach its target audiences through the right channels. The dissemination material will carry the ECSEL JU and ArchitechtECA2030 project logos, which will create awareness across the target audiences along with the visual identity.

A careful combination of text and design are essential elements to maximize the impact of all communication activities to raise awareness about the ArchitechtECA2030 in planned and targeted audiences and stakeholders.

Developing posters, brochures, leaflets, and other promotional products in an attractive and high-quality manner requires careful organization and the inclusion of several sub-processes such as information gathering, analysis, and translation into understandable langue and style for the target communication groups. Leaflets and handouts for fairs and conferences, posters presenting results to the interested audiences as well as contact information will be produced. The project summary

information prepared by project partners and used as the basis for information for the leaflets, flyers, and posters. The first issue of project poster shown below:

FIGURE 8 ARCHITECHTECA2030 POSTER

The communication material in paper or digital forms will be adopted to every event, and the information will be up-to-date. The poster shown in Fig 6. was created and adjusted for the EFECS 2020 event (which will be described later in this document).

We believe that the impact of the leaflets and the promotional material and their appeal will be maximized through a combination of easy-to-understand language, avoiding technical jargon and by selecting designs/graphical elements/images that are clear and get the messages across quickly.

FIGURE 9 ARCHITECHTECA2030 NEWSLETTER

The contributions to the newsletter will be collected from the SC and WP leaders. Project partner TeraGlobus will be coordinating the activity of content collection, design, editing, and layout. It is planned to release newsletter twice per year or even quarterly if needed.

6.3. Events- based dissemination

Awareness-raising regarding ArchitechtECA2030 is expected to be impacted positively by project representation in relevant events. Consortium intends to present ArchitechtECA2030 at key European, word-wide and national events aiming to promote the project outputs and to disseminate by all appropriate means and tools all relevant information that will raise public awareness about the consortium's work. Participation in events is also an opportunity to increase and strengthen the network of relevant parties interested in further collaborations and business agreements.

The knowledge management team of the consortium (Project Management Team (PMT)) in agreement with the innovation-providing partners, will promote the innovations developed during the project at workshops, exhibitions, trade shows, conferences, and all other dissemination and exploitation events. Thus, the PMT and Dissemination leader TeraGlobus are in charge of an overall coordination of

dissemination and exploitation matters, suggesting to partners the best ways to communicate, and selecting the key events where project presence is especially important.

6.3.1 ArchitechtECA2030 at events during the first project year

During the first year of ArchitechtECA2030 the project was represented at number of events. The most notable dissemination events are illustrated in sections below.

Making Industry 4.0 Real

ArchitectECA2030 was presented in Making Industry 4.0 Real conference. The fifth international conference Making Industry 4.0 Real, organized by LINPRA, AHK and INFOBALT, took place in 2020. October 27 live in Kaunas, Lithuania. Also, the event was broadcasted live on the Internet, on the conference website www.industrie40.lt.

The conference included presentations and discussions by European industry international organizations and business representatives, presenting today's digital transformation trends and the experience of real companies in digitizing industry.

FIGURE 10 ARCHITECHTECA2030 AT MAKING INDUSTRY 4.0 REAL CONFERENCE

EFECS 2020- European Forum for Electronics and Systems

The organizers of EFECS have joined forces to bring all stakeholders together online in the virtual event on 25-26 November 2020. EFECS 2020 gave participants a unique opportunity to engage with the leaders and enablers of Europe's Digital Economy by hosting a virtual exhibition to spaces, concentrated on learning about calls and funding landscape developments, latest technology trends and applications of Electronic Components and Systems, development of new project ideas and workshops.

ArchitechtECA2030 project was represented in a virtual booth (figure 10). The exhibition visitors could find out the main project goals, objectives, current stage and expected results. The project partner

Virtual Vehicle Research represented the video – Validation Building Bricks at Virtual Vehicle. Moreover, there was an opportunity to communicate and to discuss with project partners representatives from Infineon Technologies AG, Virtual Vehicle Research GMBH, and Teraglobus JSC.

FIGURE 11 ARCHITECHTECA2030 VIRTUAL BOOTH IN THE EFECS 2020

EFECS event helps to understand the challenges and to jointly develop the required roadmaps and strategic priorities addressing each key theme. EFECS encourages "cross thematic" interaction to help address innovation along the full electronic components and systems value chain and highlights key developments affecting the ECS Community. During this 2-day event, the impact and results of various European funding instruments were demonstrated and disseminated.

EUCAD conference on Connected and Automated Driving

The third virtual European Conference on Connected and Automated Driving, organized by European Commission took place from 20 to 22 April 2021.

EUCAD 2021 is a high-level and evidence-based conference where policy challenges meet innovative solutions to deliver on societal benefits. The event is the only conference in Europe that brings together political leaders from the European Commission and Member States with high-level representatives of industry, knowledge institutes and road authorities to exchange knowledge and experience on the most recent technological developments and policies in the area of CCAM.

Participants could join a blend of policy-oriented plenary sessions, as well as thematic breakout sessions to discuss specific R&I challenges. A virtual exhibition of exciting and interesting projects was accessible throughout the three-day event. ArchitechtECA2030 was presented in this virtual exhibition between other Mobility E. Lighthouse projects. Visitors had an opportunity to review ArchitechtECA2030 poster, directly view the website and obtain all public information.

FIGURE 12 ARCHITECHTECA2030 IN EUCAD 2021

Moreover, there is a generated list with scheduled events where the project is planned to be presented in the upcoming period, of course the list is not exhaustive and may change:

No	Name of the event	Location	Date	Participation
1	13 CONFERENCE GSVF2020	Graz, Austria	September 1-2, 2020	
2	IEEE Radar Conference 2020	Florence, Italy	September, 21-25, 2020	
3	27th ITS (Intelligent Transport Systems) World Congress	Los Angeles, CA, USA	October 4-8, 2020	
4	MAKING INDUSTRY 4.0 REAL conference	Kaunas, Lithuania	October 27, 2020	Poster
5	ECA2030 Virtual Conference	online	October 27-28, 2020	
6	EFECS 2020 (European Forum for Electronic Components and Systems)	online	November 24-26, 2020	Virtual booth, posters, video
7	The 32nd IFIP International Conference on Testing Software and Systems	online	December 9-11, 2020	Publication
8	ECS Brokerage Event 2021	online	January 12-13, 2021	
9	HiPEAC 2021	online	January 18-20, 2021	
10	AI Safety 2020	online	January 7-8, 2021	
11	Design, Automation, and Test in Europe (DATE) Conference 2020	online	February, 2021	
12	2021 Global Symposium on Connected & Automated Vehicles and Infrastructure	online	April 12-13, 2021	
13	EUCAD 2021	online	April 20-22, 2021	Poster, website
14	Industry Strategy Symposium Europe (ISS Europe)	online	April 20-22, 2021	
15	ESI Symposium	online	April 20, 2021	
16	Smart Systems Integration Conference and Exhibition 2021	online	April 27-29, 2021	
17	ECSEL JU Symposium 2021		2021	
18	5th International Conference nanoFIS 2021	Wuhan, China	May 29-31, 2021	

No	Name of the event	Location	Date	Participation
19	The 24th IEEE International Conference on Intelligent Transportation Systems	Indianapolis, US	September 19-21, 2021	
20	EFECS 2021	Amsterdam, Netherlands	November 23-25, 2021	

TABLE 4 LIST OF SCHEDULED DISSEMINATION COMMUNICATION PROJECT EVENTS

The consortium will make use of the dissemination activities undertaken by the EC, ECSEL JU, and by EC-funded projects within Horizon2020. All offered possibilities for dissemination will be analysed and the project will join every opportunity which is promising to enable an effective dissemination of the project's experiences and results.

All partners, particularly the large industrial companies, will use their business contacts and organize workshops to inform internal and external business partners about the project activities and underlying technology and prototype development. Workshops and tutorials on the project's topics will be held at fairs and conferences. There, potential users and interested parties can be reached and discussion can be opened to a broad scientific and industrial community, which also gives input to further development.

6.4. Web-based dissemination

6.4.1. Project Website

At the very beginning of the project, the project's website was created by OTH-AW. The ArchitechtECA2030 website is a useful tool for presenting project work and dissemination material practically and conveniently. Using the www (World Wide Web) gives each project member access and gives the public audience a quick and easy way to access project information. The public website is reachable via the URL www.architect-eca2030.eu.

The website is determined by the project participants and is often updated with new input, e.g. project news, meetings, event attendance, and other related info and changes. This site also is used to download the distribution material.

Website design

Web design is created based on the project's visual identity. Design, colour palette, and other elements that were created to achieve a unified style and presentation of the project used to reach this goal. Such as project logo, colour gamut, presentation and poster templates used for internal and external project communication. This is important for the recognition factor and the continued strong public image. The ArchitechtECA2030 website mainly is used for the communication of project information and results to the public. It will include materials useful to disseminate the project work to non-experts, such as informative and enjoyable project photos and videos. All public deliverables will be available on the website after EC approval, including the project presentation, leaflets, newsletters, brochures, and posters.

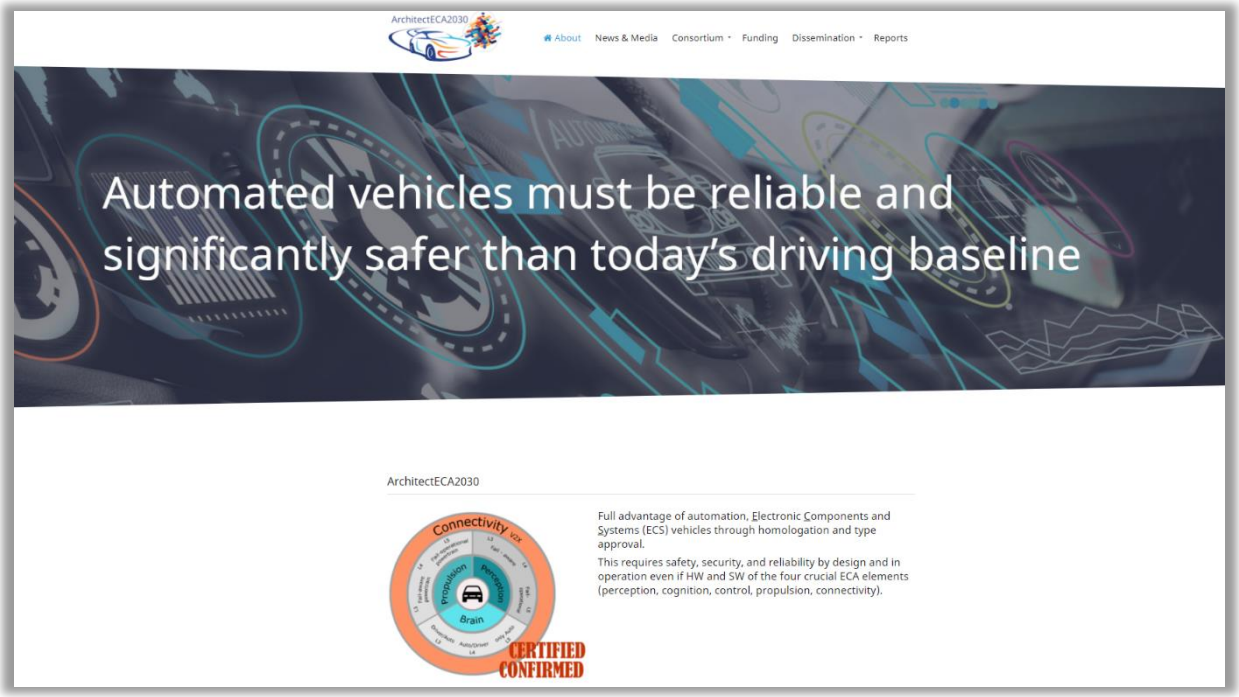

FIGURE 13 ARCHITECHTECA2030 WEBSITE (HOME)

6.4.2. Projects' social media

Today, social media is a very powerful tool, people are sharing knowledge, organizing and forming opinions on their activities assisted by social media. At the same time, the concise nature of social media exchanges presents challenges with more sophisticated, scientific knowledge. With this in mind, social media can be used to create an online buzz around specific events or publications, through the use of tags and the provision of links to more detailed information materials. Taking this into account the ArchitechtECA2030 project currently has three main project social media accounts to reach various target groups. Social media is an important feed of ArchitechtECA2030 results therefore project has: Twitter and Linked accounts. Which enables project to:

- To create awareness;
- Promote ArchitechtECA2030 identity and build a strong reputation
- Engage and encourage stakeholders and the public in dialogue;
- Disseminate project news, results, actions and events

7. Exploitation

Exploitation by the European Commission is described as

The utilization of results in further research activities other than those covered by the action concerned, or in developing, creating and marketing a product or process, or in creating and providing a service, or in standardization activities[2].

The exploitation is essential in recognising exploitable results and their stakeholders. It concretises the value and impact of the R&I activity for societal challenges. Exploitation can be commercial, societal, political, or for improving public knowledge and action. Project partners can exploit results themselves, or facilitate exploitation by others (e.g. through making results available under open licenses).

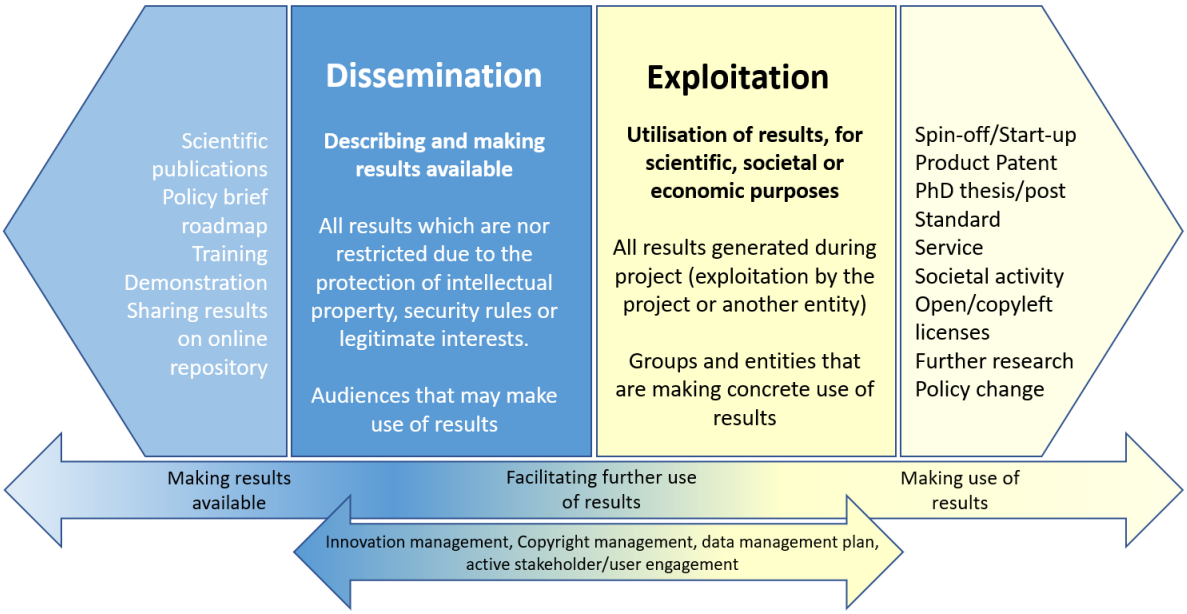

FIGURE 14 DISSEMINATION AND EXPLOITATION RELATIONS AND DIFFERENCES

Source: https://ec.europa.eu/research/participants/data/ref/h2020/other/events/2018-09-21/9_dissemination-exploitation-activities_en.pdf

The mission of ArchitectECA2030 is a harmonized pan-European and American certification procedure with periodical re-certification of automated vehicles. Accordingly, most of the project results will be published and need to be communicated to the relevant international stakeholders for homologation and certification (see Deliverable 7.2 *"External Stakeholder Strategy")*. Thus the ArchitectECA2030 exploitation and dissemination activities are a central part of the project work and will need significant efforts. The project's exploitation plan is aligned with the main project objectives.

7.1 Exploitation strategy

The project will use a four-step operating strategy that will be based on dialogue, reflection, and consensus on what products and/or services can be used as a legacy of the project. Conversations will

[2] file:///C:/Users/zina/OneDrive/Stalinis%20kompiuteris/AI4CSM/8_result-dissemination-exploitation.pdf

be started in the second half of the project when some tangible results already will be achieved to estimate. The monitoring and evaluation of every step of the progress will be executed with a sound methodology and activities.

Projects' exploitation strategy consists of the following steps:

1) Project partners will identify key project use products at the level of Supply Chains and project partnership as a whole to support the development of their current operations and to enable new releases where possible. This will be done by identifying potential valuable and exploitable results, explaining the types of results and potential users.

2) The measures to ensure the exploitation of projects results will be identified as:

- Usable in further research activities (outside the action);
- Products, Process Designs, Services etc.

3) Consortium will discuss how the use of ArchitechtECA2030 results could be carried out directly by individual partners (e.g., for further research or commercial or industrial use in its own activities) or by others (other beneficiaries or third parties, such as by licensing or transferring ownership of the results).

4) Project will seek expert advice on how to get to the most appropriate routes for the expected results and how to deploy it.

7.2 Exploitation target groups

The following target groups have been identified as starting point for the ArchitectECA2030 work, a more extensive description is available in Deliverable 7.2 "*External Stakeholder Strategy" (m12)*:

- **Scientific communities**, especially communities focusing on automated/autonomous driving, functional safety, cyber security and electric vehicles including all their components and technologies. Mainly, the research partners will address these groups for communicating the main technical and scientific results.
- **Industrial stakeholders**, mainly automotive OEMs and Tier1s, but also component manufacturers, are addressed by the industrial partners to communicate technical project outcomes. Further, the project will establish contacts to stakeholders of the **aviation industry** to examine synergies between the automotive and aviation sectors w.r.t. certification, system architectures and safety concepts.
- **Technology providers**, i.e. companies and institutions developing tools and methods for certification, functional safety and security are addressed by the industrial and partly also research partners, to communicate essential project outcomes and to synchronize technologies related to the project.
- **Standardization bodies and certification authorities,** mainly driven by the industrial partners, supported by participating association SafeTRANS and its experience in standardization, to gain requirements as basis for the project's work and vice versa to contribute to future safety requirements and standards.

- **The European Commission**, as the main stakeholder of the project and responsible for the set-up of R&D projects in line with project call will be addressed to communicate the project status as well as the project impact on scientific communities and on the market.
- **Other R&D projects** related to ArchitectECA2030, i.e. those under the ECSEL Lighthouse Mobility4.E umbrella, are necessarily targeted for a dedicated technical communication and synchronization on project results.
- **The public community** is addressed to communicate important project impacts on the public sector.

7.3 Key Exploitation Activities

During the exploitation survey it will be checked the key exploitable results in the project per each demonstrator and partner: products, processes and methods and expected timeline.

7.4 Intellectual Property Rights

During the project runtime and beyond, the consortium partners will appear on the market in order to evaluate means of commercially exploiting the full potential of the research output. Exploitation measures will include also intellectual property rights (IPR).

ArchitectECA2030 addresses highly competitive markets. Consequently, Intellectual Property Rights management of the developments made and the technical goals achieved will be one of the central challenges. Thus it is of utmost importance to establish a strong IPR management and policies to also defend IPR against project internal/external competitors. It is very important that Europe benefits from the added value that might result from the ArchitectECA2030 work. The competitive advantage shall be with European companies and shall contribute to sustainably strengthen European industry and research organizations on the market. Thus the central “dogma” in ArchitectECA2030 will require keeping the IPR of the ArchitectECA2030 inventions and developments/research results with the Partners/Beneficiaries that have conducted such work.

For the success of the ArchitectECA2030 project it is essential that all project partners agree on explicit rules concerning IP ownership, access rights to any Background and Foreground IP for the execution of the project and the protection of IPRs and confidential information before the project starts (IPR will in detail be included in the PCA). The following activities will be made to secure rights of the knowledge and IP generated in ArchitectECA2030:

a) Determine the Background IPR and formalize what can/needs to be made available to the project (the CO is in charge to support this activity, it will be raised by the Partner/Beneficiary claiming IPR),

b) The coordinator together with WP7 Leader will provide a formalized approval process for publications and dissemination to avoid putting into the public domain information compromising IP,

c) The coordinator will incorporate suitable IPR regulations into the Consortium Agreement

d) The coordinator and co-coordinator will trace the development of Foreground IPR as it becomes available and making recommendations for its protection.

7.5 Exploitation by Partners (reviewed)

All partners in the proposal preparation phase prepared the initial exploitation plan. At the end of the first reporting period, partners updated the plan according to the last year's achievements - the results provided in table 5. Next year TERA will implement a comprehensive survey. The expanded exploitable results will be provided in the deliverables D7.6 and D7.7.

Partner	Innovation and benefits introduced	Category of exploitable result	Sector of application	TRL at project start	Intended TRL at project end	Exploitation strategy
IFAG	Automatic application of known fault detection and correction methods into micro-controller digital SoCs and their components for automated vehicles. Provision of new and already gathered test data and scenarios to constantly assess the ECS performance during operation.	Models, simulation demonstrator and methodology	Autonomous driving vehicles	2	4	The monitoring device and the safety-based design methodology can be applied in electronic systems for many applications. The application focus is in the area of autonomous driving where security and safety issues are of utmost importance. The corresponding results achieved in this project will be exploited both in the Digital Security Systems division and in the Automotive Business Unit of IFAG together with its related lead customers.
AVL	A method to create a test program that supports homologation of ECA vehicles partially in a virtual environment, vehicle in the loop testbeds, and test tracks.	The exploitable result will be a SW-toolchain that supports the development and execution of a test program.	The tools and test programs are applicable in the field of HAD.	1-2	4	Consulting, engineering.

BUT	The condition monitoring running inside of the inverter, the utilization of existing measured data and components and thus keeping price low.	Algorithms converted into SW tool	e-mobility, HAD – highly reliable powertrains	TRL2	TRL4	The designed tool will be demonstrated on state-of-the-art powertrain connected to dynamometer to industrial partners as a TRL4 level product validated in laboratory conditions.
IFAT	New models are needed to complete PHM (prognostics and health management) for discrete parameters and allow prediction about residual lifetimes. This will strongly support the development of devices according to the needed mission profiles and avoid under- and over-design.	Methodology	Design of semiconductors for HAD	TRL2	TRL4-5	Introduction of the models directly in the production of semiconductors supporting higher throughput and yield of automotive sensors and microcontrollers.
IFAT	New algorithms for detection and mitigation of interference of radar sensors will help in assessing the reliability of the sensor signals and to estimate the situation specific residual risk.	SW algorithms and methodology	Design of algorithms and semiconductors for radar sensors	TRL3	TRL5	Inclusion of the research results in radar chips.
IMA	Standardized test code, code review and validation.	SW tool	e-mobility	3	4-5	Stakeholders involvement, workshop.
NXT	It is important to stay ahead of the development to avoid fatal mistakes. The residual risk framework prepared for the upcoming generation of electric, connected and automated vehicles are aiming the arise of new safety and security challenges in the future, and to have a positive impact on	Framework, Methodology, Architecture, Connectivity HW and SW tools.	HAD, e-mobility, Connectivity, Requirements and Standardisation.	TRL3	TRL5	The residual risk framework for safety and security in connectivity systems for electric, connected and automated vehicles will be presented, demonstrated and distributed in/for

	requirements, specifications and standardisation.					relevant forums/stakeholders.
NXP	The digital twin will allow for health monitoring, which is not available at the moment.	Sensor/ HW component	HAD	3	5	Design-in for the next generation of products.
TSENSE	The highlighted novelty is that the proposed sensor provides a real-time road surface evaluation, with significantly higher accuracy compared to competing technologies. This makes the technology suitable for automotive applications.	Sensor, hardware/software and validation methodology and framework.	HAD, e-mobility.	TRL4	TRL6	To make the technology commercially available. The proposed project provides its participants with the opportunity to obtain valuable insights, while simultaneously giving the opportunity to experiment with beyond-state-of-the-art technologies. The company aims to get a better insight of its system performance in relation to residual risk reduction methods such as described in this proposal. The research results will be used to improve the usability, both in context of sensor fusion setups, as well as stand-alone setups. The proposed study is particularly interesting for the company as it explores novel methods of system validation. TSENSE believes

						that such undertakings and methodologies are essential in the maturing of the self-driving and connected vehicle technology.
SAFE	Overall, there is yet no processes and methods to show safety of highly automated cars, although proposals for various sub-challenges within this field have already been introduced by existing projects and other activities of industry and certification bodies. ArchitectECA2030 will contribute additional methods to solve this challenge, most importantly the computation and handling of residual risk methodologies. SafeTRANS will ensure that these methods are compatible within the overall processes.	Harmonized Processes and Methods	Automotive, Highly Automated Driving, Certification/Homologation	-	-	Introducing the results in various R&D roadmaps (German national, European, International); using them as results for future R&D projects.
SBA	Testing approach that is based on abstract combinatorial models of the system and can provide efficient test data for validation purposes in terms of reliability. Providing minimal size test sets including the capabilities to detect faults is a very challenging problem.	SW tool	The tool and test data are applicable to virtual vehicles simulations.	1-2	3-4	Making the tool publicly available using public libraries like GitHub.
SINTEF	It is important to stay ahead of the development to avoid fatal mistakes. The residual risk framework prepared for the upcoming generation of electric, connected and automated vehicles are aiming the arise of new safety and security challenges in the future, and to have a positive impact on	Framework, Methodology, Architecture.	HAD, e-mobility, Connectivity, Requirements and Standardisation.	TRL3	TRL5	The residual risk framework for safety and security in connectivity systems for electric, connected and automated vehicles will be presented, demonstrated and distributed in/for

	requirements, specifications and standardisation.					relevant forums/stakeholders.
TERA	During ArchitectECA2030, TERA will adapt the template questionnaire to meet the needs and requirements of the specific connected and automated vehicles industry, and use this questionnaire to gather end-users' opinions about acceptance of electric, connected and automated vehicles.	SW tool	Academic, society at large	4	7	TERA seeks to use the collaborative projects as means for identifying exploitable technologies and prototypes, and to assist consortium partners in creating go-to-market plans and strategies. Apart from the prototypes and technical know-how gained within the project, which will form the basis for commercial products, exploitation opportunities will include the protection of results through patents and IPR agreements, dissemination of results, and know-how into further collaborative projects, and development of new services based on the prototypes, methods and tools developed by the consortium. TERA will be responsible for collection of information about partners' exploitation plans and results.
TUG	Diagnosis approach that is based on models of the system and is able to provide diagnoses and repair actions online during operation meeting at least week real-time constraints.	SW tool	Production, e-mobility	4	5	Making the tool public available using public libraries like GitHub

	Providing diagnostic solutions including repair actions at runtime is still a challenge.					
UNEV	Tool for monitoring faults in distributed sensor systems.	Software tool	Academic, public transit	5	7	Making the system available via an open source release on public websites such as GitHub.
VIF	In ArchitectECA2030, VIF wants to develop fault detection and monitoring methods for automotive perception systems. VIF further wants to provide a virtual simulation architecture including environment modelling, vehicle dynamics and realistic sensor modelling considering different weather, light conditions etc. to support testing and validation of perception systems.	SW tools and products	HAD	TRL 2	TRL 4-5	ArchitectECA2030 will create the base for further investments in research and development in the field of failure modes, fault detection, risk assessment and monitoring of automotive perception systems development, virtual testing and validation of perception systems in the order of several 100kEUR. The scientific results shall be published in peer-review journals, presented at relevant conferences and support teaching activities at TU Graz. The virtual simulation architecture including sensor modelling and sensor fusion shall support the efficient development of automated vehicles and be a first step

						towards virtual homologation of automated vehicles. VIF wants to exploit the results and knowledge to strengthen its position as bridge between automotive and semiconductor industry.
TUDR	Mechanical faults of electric motors: Usually the inverter is used to measures and calculate the electrical parameters, like voltage and/or current, to detect if the electric motor is running correctly. With respect to fully automated vehicles that achieve SAE level 3 and higher it very probably becomes necessary to monitor the state of health of the motor directly to enable fail-operational as well as fail-aware electric motors. By analysing typical faults of electric motors and their possibilities to track them with a health-monitoring system and the related (AI based) methods it will become possible to continuously monitor the state of health of the motors and therewith increase the availability of the system while enabling a new level of functional safety. Wireless charger: Today wireless power transfer systems are able to detect foreign objects which are	Hardware and software prototypes	Charging infrastructure, electrical motors, health monitoring systems, electro mobility	Detection and prediction of mechanical faults: TRL 3 Foreign object detection and communication: TRL 2	Detection and prediction of mechanical faults: TRL 4 Foreign object detection and communication: TRL 4	The exploitation will be performed in several ways: ▪ IP generation and licensing ▪ Further research projects on funding basis ▪ Bilateral technology developments with industry partners

	located directly on the surface of the power source. This is done by calculating the performance of the system (Wireless Power Consortium), by measuring system parameters like temperature and/or quality factor of resonance circuits (Robert Bosch GmbH) or by using special magnetic field sensors (WiTricity Corporation). In the case of charging a vehicle's traction battery the surface of the power source and the surface of the road where obstacles are placed is not necessarily identical, especially if the power source is recessed in ground. The result of our work should be a sensor technology that is able to detect foreign objects even if they only weakly interact with the magnetic field and are located with some distance to the power source.					
DATA	OSAM security middleware and the virtualization tool suite "Keystone" simplify functional safe security enabled implementations. Developers can now simply use transparent services instead of focusing to research on how to implement security enabled code for a multitude of various target systems. By achieving 100% design re-use of code, security enabled software becomes platform independent from microprocessor architecture, operating systems and hardware peripherals. It is significant, that software modules running such as WinNT or Linux kernel mode driver can get re-used in hardware-oriented embedded periphery driver	Embedded System Level Software Design Methode, Cross Platform Security Gateway Stack, Cross Platform Software Virtualization Tool Suite to automate validation processes.	Automotive, Telecom/Datacom, Industrial, Aerospace, Avionics, Medical, Military, M2M	2	4	Introduction of each exploitable result directly to the market together with Semiconductors, OEM's and ODM's, Operating Systems- and EDA tool manufacturers.

	without code change. Due to this, porting is eliminated.					
INRIA	Model based conformance testing methods for concurrent systems achieving a high-level behavioural coverage, combined with an automated generation of exhaustive test suites for related coverage criteria. This is still a research challenge for concurrent asynchronous systems.	Methods and algorithms	Design, production	3	4	Precise documentation (e.g., by scientific publications) of the methodology and algorithms, suitable for subsequent implementations.
TUDE	Currently, product qualification is based on standardized testing with pass criteria only. System-level health monitoring will provide a technique able to track the level of product degradation. As such, it can be used to schedule maintenance activities more efficiently.	SW and HW	Design	1	5	TUDE aims to develop the digital twinning technology and provide that to the European semiconductor industry.
VW	By analysing real measurement data from radar, lidar and camera with focus on scenarios that are particularly challenging for the environment perception system, VW wants to establish simulation tools and methods to increase the reliability and reduce the development effort for automotive perception systems.	SW tools and products	HAD	TRL2	TRL 4-5	The virtual simulation architecture including sensor modelling shall support the efficient development of automated vehicles and be a first step towards virtual homologation of automated vehicles.

TABLE 5 EXPLOITATION BY PARTNERS

8. Communication and dissemination strategy evaluation

The evaluation of a communication strategy covers both qualitative and quantitative indicators. The process evaluation will include an examination of the progress made in implementing the plan. It will relate to outreach activities, which can be measured by the number of scientific articles, material distributed, a number of events attended, production and dissemination of messages and documents, media presence, and flow on social media.

There are several critical issues with measuring and controlling our advertising strategy and plan. The objectives chosen must be realistic, clearly defined, relevant, and coherent; measuring instruments must be objective, clearly defined and quantifiable, and the measurement process must not involve high costs concerning the objectives themselves. The evaluation shall be as continuous or gradual as possible, in particular non-repetitive. Finally, when measuring different actions, it must be possible to compare them slightly with other activities and/or alternatives.

Useful measurement of "impact" is vital for maintaining proper control of operations and for cost-effectiveness.

Achievement is often more challenging to measure and compare and therefore needs to be carefully evaluated for a specific type of action. In ArchitechtECA2030, scientific articles and patents are potential success indicators.

Relationships will be judged based on whether or not we reached our target audience. The evaluation will focus on process and outcome indicators and tools. Process evaluation refers to outreach activities that can be measured by the number of visitors involved in the amount of material distributed from the audience, the production and distribution of messages and materials, and efforts to work with the media. Outcome Measurement investigates campaign results that have a direct or short-term impact on the target audience.

The tools, products, and activities described in this document will be continuously monitored, measured, evaluated, and re-adjusted.

9. Conclusions

The ArchitechtECA2030 Consortium has developed this first blueprint for the use and dissemination of the foreground to ensure widespread distribution and communication and to exploit the results of the project successfully. It will continue to update this document throughout the project life. According to the plan, the project created a collective visual identity and presence on the Internet, and a print and publication dissemination plan.

The ArchitechtECA2030 project will be presented at exhibitions, conferences, and seminars where members of the consortium will actively promote the project and participate in the networking. In addition to the activities already mentioned, consortium partners are active in many industry federations, research groups, and standardization bodies and will actively assist in disseminating project information.

The communication strategy covers scientific results, technological advancements, and success stories in industrial applications and therefore reaches out to industry, regulatory authorities, the research community, and the public by organizing dissemination events, seminars, publications, and presentations.

The combination of channels and tools will ensure that we reach a broad audience and target a variety of stakeholders. Communication about the ArchitechtECA2030 project will be tailored to the needs of many different audiences, beyond the project community itself.

Dissemination and exploitation events will also be used not just to present specific project results, but also to represent the whole project itself. Fairs and exhibitions where any interest group could be reached and learn more about project developments and technologies will be exploited.

By addressing these dissemination and exploitation channels, we will make full use of the results of the project, as each partner of the consortium will be actively involved in this activity, thus ensuring wide dissemination of information.

The ArchitechtECA2030 Consortium has the knowledge, communication, and technology value to develop and implement a plan that ensures proper and wide dissemination, exploitation, and communication of the project and its results.

The RDEF document is a "live document," and the consortium intends to adapt and update this document during the project as required.

10. References

[1] Funding & tender opportunities Single Electronic Data Interchange Area (SEDIA), Glossary (http://ec.europa.eu/research/participants/portal/desktop/en/support/reference_terms.html), accessed 2021/05/04

[2] European Commission H2020 Common Support Centre/J5, Dissemination and Exploitation Activities in Horizon 2020 (https://ec.europa.eu/research/participants/data/ref/h2020/other/events/2018-09_21/9_dissemination-exploitation-activities_en.pdf), accessed 2021/05/04

[3] European IPR helpdesk (https://intellectual-property-helpdesk.ec.europa.eu/regional-helpdesks/european-ip-helpdesk_en), accessed 2021/05/04

11. List of figures

12. List of tables

13. Internal Review

Reviewer 1: Cristina De Luca	Reviewer 2:

1. Is the deliverable in accordance with:

		Answer	*Comments*	*Type**	*Answer*	*Comments*	*Type**
(i)	the description of work?	yes		M/m/a	yes/no		M/m/a
(ii)	the international state of the Art?	yes		M/m/a	yes/no		M/m/a

2. Is the quality of the deliverable in a status that:

		Answer	*Comments*	*Type**	*Answer*	*Comments*	*Type**
	allows to send it to ECSEL JU?	Yes		M/m/a	yes/no		M/m/a
(ii)	needs improvement of the writing by the authors of the deliverable?	no		M/m/a	yes/no		M/m/a
(iii)	needs further work by the partners responsible for the deliverable?	no		M/m/a	yes/no		M/m/a
(iv)	Needs to fulfil the following suggestions?	no		M/m/a	yes/no		M/m/a

* Type of comments: M = major comment; m = minor comment; a = advise

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