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D8.4 Communication Roadmap & Activities Report

Deliverable Editor:	**Romaios Bratskas, Asimina Kasioni (ADITESS LTD)**
Other contributors:	**All partners**
Deliverable Reviewers:	**Birgit Helbig (SOFTWARE AG)** **Marija Kokelj (CVS Mobile)**
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Change Log

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0.1	28/2/2017	Romaios Bratskas (ADITESS)	1rst version
0.2	02/3/2017	Birgit Helbig (SOFTWARE AG)	First comments
0.3	21/3/2017	All partners	Inputs in all sections
0.4	29/3/2017	Romaios Bratskas (ADITESS)	Consolidated version
1.0	31/3/2017	Birgit Helbig (SOFTWARE AG)	Submission of the deliverable

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List of Abbreviations

The following table presents the acronyms used in the deliverable.

Abbreviation	Description
EC	European Commission
EU	European Union
CC	Consortium Coordinator
STM	Scientific & Technical Manager
CM	Communication Manager
DM	Dissemination Manager
QM	Quality Manager
IM	Innovation Manager
KPI	Key Performance Indicator
SME	Small and Medium Enterprise
PoC	Point of Contact
CT	Communications Team

1. Executive Summary

Deliverable D8.4 "Communication Roadmap & Activities Report "is the outcome of the work that has been conducted so far within Task 8.1: Dissemination and awareness creation since the beginning of the project, among other activities. In addition, D8.4 constitutes the strategic document in which all project communication activities are defined with specific timelines, responsibilities and measured results.

Therefore, in the first part of this document we define the main elements of the project communication plan that is to be followed by the consortium management structures and partners throughout the lifetime of the project. These elements include the identification of target groups, the definition of main messages for the identified target groups and the communication channels to pass these messages to the target groups. The PRESTOCLOUD communication plan is based on previous work, EC publications related to project communication activities and best practices from other research projects.

In the second part, we define the communication roadmap, based on the expected project outputs, and assigning relevant partners to produce supporting documentation such as project posters, presentations, newsletters, brochures and publications along with specific timelines and responsibilities. An additional part of the communication roadmap is related to dissemination project activities such as workshops and linking with related projects, which also offer great communication opportunities.

Evaluation and reporting is an important part of all communication activities. To this end, we define the main Key Performance Indicators (KPIs) in order to monitor and evaluate the effectiveness of the planned activities along with reporting responsibilities.

Finally, we need to point out that communication is a continuous activity that exceeds the duration of the project. The least the consortium can assure is that the PRESTOCLOUD website, publications, newsletters and any other materials that are classified as public will be available on line, for several years after the end of the project.

2. Introduction

2.1 Scope

The aim of this document is twofold. Within the *communication plan* we define the target groups, the main messages to pass to the identified target groups, responsibilities at the project, partner and individual levels along with the various communication channels to be used. The project *communication roadmap* defines the documentation to be used by the consortium and the project partners to present the project scope and results in various communication and dissemination activities along with specific timelines, responsibilities and budget provisions. This roadmap covers the whole duration of the project. A set of Key Performance Indicators (KPIs) is also defined in this document for monitoring and evaluating the communication activities. Timelines and responsibilities for the production of the project communication reports are also defined.

2.2 Audience

While the deliverable is intended for internal usage by the PRESTOCLOUD consortium, the dissemination level is classified as public according to the work description.

2.3 Structure

The rest of the document is structured as follows:

- Section 3 provides an overview of the communication plan and outlines its phases.
- Section 4 presents the analysis of the various target groups, the main messages and guidance on how to communicate the project objectives and results.

- Section 5 presents the main communication channels with responsibilities for development and management.
- Section 6 presents the communication roadmap with the description of the documentation to be used in order to support the various project communication activities.
- Section 7 provides the KPIs for the evaluation of the communication plan and defines the tasks for the production of annual reports based on communication activities and results.
- Finally, in Section 8 we conclude the document.

3. Communication Plan

3.1 **Overview**

EC decision C (2014)4995 [1] states that "Activities to disseminate information and exploit research and innovation results as well as carry out communication activities will be an important and integral part of Horizon 2020".

To this direction, the effort of PRESTOCLOUD consortium is to maximise the popularity of the project, set up the needed communication links to attract and interact with a wide audience, including stakeholders from both the public and private sectors, and communicate the project results in a variety of activities and actions. Therefore, a well-defined communication plan is necessary for becoming a guide that will lead the consortium communication efforts to the maximum level, taking into account existing capabilities, resources and budget constraints, as well.

The PRESTOCLOUD communication plan is the key strategy paper for all communication activities within the project. It defines a clear strategy in terms of responsibility, timing, tools and communication channels, as well. This plan is based on best practices and guidance, available in [2], [3], [4] and [5].

To this end, the **main objectives** of the PRESTOCLOUD communication plan are to:

- draw the attention at the local, National and International levels on the project scope and results
- increase the reputation and visibility of the project partners
- seek for industrial implementers of the project results
- help the search for possible financial support via available research funding
- generate market demand for the project products
- attract the interest of potential partners for future collaboration
- encourage talented scientists to join the consortium institutions and enterprises.

Therefore, bearing in mind the above objectives, the PRESTOCLOUD communication plan is based on four phases and outlines the tasks associated with each single phase (*Figure 1*).

In the Plan Analysis phase, we analyse the main objectives of the communication plan, the target groups and the partners' responsibilities associated with the communication plan workload. This action will be completed by M3 of the project with the submission of this deliverable.

In the Plan Design phase, we define the communications tools and the means to pass through the project messages and results. In this phase, we plan the PRESTOCLOUD web site to be up and running by M3 while supporting documentation (newsletters, brochures, presentations etc.) will follow in an iterative development cycle in order to include the most up to date information, based on the project outcomes, and being in line with the global project management plan.

In the Plan Implementation phase, we put in action a number of activities including organisation of project workshops, participation in International Conferences and linking PRESTOCLOUD with National, European and International related projects.

An overarching phase is related to continuous monitoring of results, as well as reporting procedures and responsibilities. This feedback will be used for undertaking corrective based on the predefined set of KPIs.
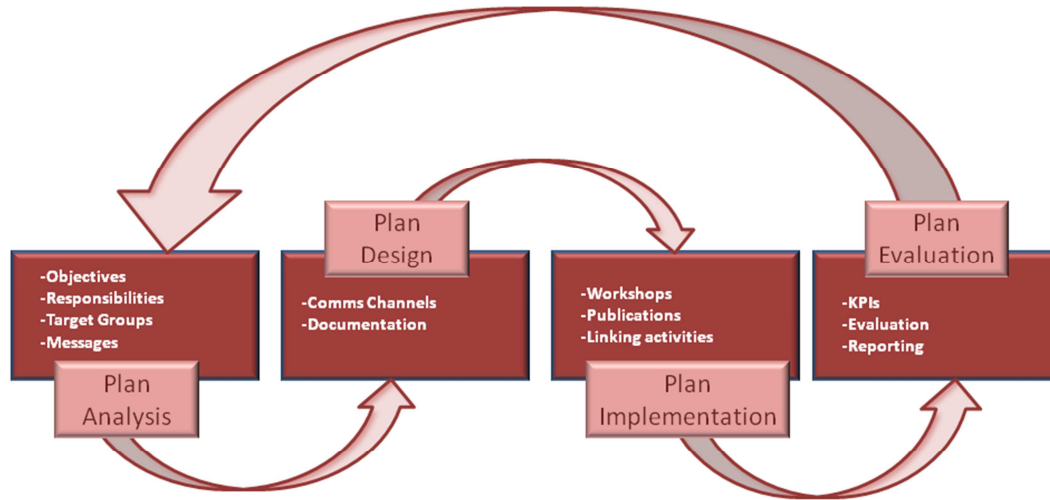

Figure 1: PRESTOCLOUD Communication plan phases

Responsibilities

The realisation of this plan requires the assignment of specific responsibilities to project partners. As a matter of fact, the following tasks are assigned:

ADITESS is the primary point of contact for all communication activities. ADITESS is responsible for the overall management of all communications activities including the production of the project newsletters, the organisation of focused workshops and linking activities with related projects.

ICCS is responsible for the overall management of all dissemination activities including the organisation of scientific workshops and special sessions in conferences.

JSI is responsible for the production of the white papers and for providing technical advice so that all project communications channels (website, social media) and supporting documentation (posters, presentations etc.) illustrate in an optimal manner the scope and the technical innovations of the project.

Apart from the organisations themselves, the following individuals are assigned specific roles for the project communication efforts.

Birgit Helbig (Software AG) as the Consortium Coordinator (CC) provides advice on the overall communication efforts. She is the last approval authority prior to release of any supporting documentation.

Dimitris Apostolou (ICCS) is the project Dissemination Manager (DM), responsible for overseeing all project Dissemination activities. He is the first approval authority prior to release of any supporting documentation.

Romaios Bratskas (ADITESS) is the project Communication Manager (CM), responsible for all project Communication activities. He will be responsible to monitor the communication KPIs and report them proactively during the quarterly technical board meetings. the CM actively triggers, steers and monitors all communication actions, in close collaboration with STM and CC.

Noam Amram (LiveU) is the primary Point of Contact (POC) for all the project communication channels (website, LinkedIn groups, Twitter, etc.) development and maintenance.

Apart from the above individuals, the project has set up a **Communications Team** for better coordination of the various activities, consisting of the following individuals. This team serves as the primary POC for all communication activities (*Table 1*). Regular meetings via electronic means will be arranged frequently in order to ensure that the objectives of the various communication efforts are met. The CM will lead the Communication Team.

Table 1: PRESTOCLOUD Communication Team

Partner Name	*POC Name*	*POC e-mail*
ADITESS (Team Leader)	Romaios Bratskas	rb@aditess.com
SOFTWARE AG	Birgit Helbig	birgit.belbig@softwareag.com
NISSATECH	Nenad Stojanovic	nenad.stojanovic@nissatech.com
ACTIVEEON	Iyad Alshabani	iyad.alshabani@activeeon.com
ICCS	Dimitris Apostolou	dapost@mail.ntua.gr
CNRS	Guillaume Urvoy-Keller	urvoy@i3s.unice.fr
UBITECH	Anastasios Zafeiropoulos	azafeiropoulos@ubitech.eu
LiveU	Noam Amram	noam@liveu.tv
N.AMRAM Technologies	Yevgeniya Sulema	sulema@pzks.fpm.kpi.ua
JSI	Blaz Novak	blaz.novak@ijs.si
CVS Mobile d.d	Marija Kokelj	mynewbrand@gmail.com

4 Target Groups and Messages

4.1 Target Groups

In marketing and advertising, a target audience "*is a specific group of people within the target market at which a product or the marketing message of a product is aimed at*" [6]. The people that form this group are defined via the product or message, and could be for example a certain age group, gender, type of work, educational level etc.

The identification and profiling of the targeted audience is the first step for any communication plan. After the identification of the target audience, the second step is the definition of messages that are going to be used to get through the main messages. After the identification of the target groups and the definition of messages, the selection of the most effective communication channels to use follows.

In the next paragraphs, we describe these main groups and provide specific action plans for communicating the project activities and results.

4.1.1 Primary Group of Interest

This group encompasses those organizations that are directly connected with the PRESTOCLOUD concept, objectives and expected outcomes. Communication activities with this group will be initiated at the beginning of the project and will continue throughout the project lifetime. Representatives of this group will be invited to participate in the PRESTOCLOUD planned Workshops and during the evaluation of the PRESTOCLOUD use cases. The consortium has identified as members of this group the following sectors:

- Enterprises with large datasets
- Logistics and Telecommunication companies
- Large enterprises with advanced IT infrastructures and implemented CPS
- Cloud computing providers
- Developer communities
- Start-ups
- Relevant EU bodies and clusters

4.1.2 Secondary Group of Interest

Within this group, the PRESTOCLOUD consortium will identify EU and National projects and organisations currently engaged in related research areas for communicating the PRESTOCLOUD activities and results. To date we have already identified related projects that provide linking opportunities. More details can be found in Section 6.2.2.

Standardisation bodies constitute another one sector in this group. Standardisation activities are covered within Task 8.1 "Dissemination and awareness creation".

4.1.3 Tertiary Group of Interest

Groups identified as very active in research areas in cloud computing, IoT, software development, communications networks, large datasets and logistics. Academia, researchers and experts are fallen within this group. Government bodies and organisations that could be potential customers of PRESTOCLOUD outcomes are also members of this group. The consortium will identify any opportunity with this group for communicating project results throughout the project lifetime.

4.2 Messages

It is important to bear in mind that the messages to spread must change during the development of the project. In the beginning of the project the important message to communicate includes the scope and the objectives to be achieved, but by the end of the project the focus changes and the information that must be spread is related to the actual results.

The messages must be designed taking into account the target audience that they are destined to. For some of them, general information about the project may only be needed, but for others, the information should be more specific. The messages must be designed not only taking into account the target groups and the phase of the project, but also its relevance to the expectations of the specific target group.

The messages must follow some general rules:

- must be clear and simple
- must be consistent
- must highlight the main points
- must have the proper tone to the audience
- must be truthful and inspire credibility
- must meet the audience needs.

Taking into account the above factors and the project objectives, the main messages to be spread are the following:

- PRESTOCLOUD aims to combine real-time Big Data, Cloud computing and Fog computing research in a unique way in order to provide an innovative solution for addressing the very complex requirement for cloud-based adaptive real-time Big Data processing.
- PRESTOCLOUD pilots will enhance the uptake of the cloud technology and provide end-users multiple means to offload critical computations and data to/from in-house infrastructures to cloud computing services, with financial, social and environmental benefits.

- PRESTOCLOUD is expected to have significant societal and environmental impacts.
- PRESTOCLOUD is focusing on a dynamic, distributed architecture for proactive cloud resources management reaching the extreme edge of the network for efficient real-time big data processing.
- PRESTOCLOUD will contribute to the evolution of real-time Big Data processing covering aspects like: adaptivity, processing on the edge, efficient and reliable orchestration of distributed processing nodes, proactivity.
- 1rst PRESTOCLOUD advanced R&D contribution is in the domain of real-time mobile stream processing, by providing a novel reactive event-driven architecture (EDA) that will enable more efficient real-time processing on edge resources, including the dynamic task offloading.
- 2nd PRESTOCLOUD advanced R&D contribution is in the domain of self-adaptive big data processing, by designing and deploying novel dynamic real-time processing architectures that will be able to sense autonomously the need for ad-hoc changes in the processing architecture.
- 3rd PRESTOCLOUD advanced R&D contribution is in the domain of spatial complex event processing, by designing new geo-fencing operators that will enable efficient location-aware event processing for detecting complex real-time situations.
- 4rth PRESTOCLOUD advanced R&D contribution is in the domain of proactive cloud computing, by developing new methods for predicting changes needed in the infrastructure in order to dynamically adapt the resources to the application needs.
- PRESTOCLOUD will be deployed, validated and evaluated in several challenging, complementary and commercially very promising use cases.

Related to project design, PRESTOCLOUD is divided into the following phases:

PHASE-1: Specification of the PRESTOCLOUD framework: During this phase the system specification will take place along with the requirements of the various components.

PHASE-2: Development of the project: Based on system specification and requirements identified in the previous phase, the project will develop the various components.

PHASE-3: Use case Implementation and Testing: In this phase, PRESTOCLOUD will be tested under three use cases in test-bed facilities provided by the project partners. This phase also includes the evaluation of the project results.

PHASE-4: Exploitation: This is the final phase of the project when the solution is available to the public. This phase will have its own Business Plan that will take care of the dissemination of project results to identified targets.

Since the key point for a message to be effective is ensuring its constant alignment with the project's objectives, especially if these objectives change over time, it is important to describe for each phase of the project, the fundamental elements of the messages to be communicated.

Specification of the PRESTOCLOUD framework

One of the key points of the PRESTOCLOUD project is to provide innovative software architectures for cloud applications that help to detect and correct deviations from their normal behavior at runtime, providing them with an optimal degree of autonomy. For that purpose, it is very important in this phase to spread the awareness of the project among the target groups and make it clear what PRESTOCLOUD solutions can offer. The message must highlight the main objectives of the project and must encourage the participation of relevant stakeholders in the project activities.

Development of the project

During this phase, it is important to keep the interest of the target groups and to continue building the awareness of the project. We need also to ensure that the project will communicate the research findings and the advances of the PRESTOCLOUD solutions, taking care however, not to disclose

confidential information. In this phase the message differs depending on the target audience, highlighting different parts of the project advances.

Use case Implementation and Testing

In this phase the message must communicate the objectives of the project that have been fulfilled, along with the important findings of testing and evaluation. Test-bed infrastructures provided by the project partners are a strong point for communication.

Exploitation

The exploitation of project results and possible market penetration will be covered in Task 8.2 "Exploitation and business plan".

Hereafter, the definition of the various phases, the main messages for the identified target groups are presented in (*Table 2*).

Table 2: Messages during the project lifetime for interest groups

	Primary interest group	*Secondary interest group*	*Tertiary interest group*
PHASE 1 (Framework specification)	-PRESTOCLOUD addresses current and future gaps in the Software Communities and Industry. -PRESTOCLOUD increases productivity in the Software Communities and Industry. - PRESTOCLOUD has high scientific value. - PRESTOCLOUD is an interesting project to get involved with.	-PRESTOCLOUD framework is an innovative solution. -PRESTOCLOUD is a promising project. -PRESTOCLOUD can further contribute in building networking with interested parties.	- PRESTOCLOUD is an interesting project to interact with. -PRESTOCLOUD solutions apply in both the private and the public sector. -PRESTOCLOUD concept provides new research opportunities for Academia.
PHASE 2 (Development of the project)	-PRESTOCLOUD components have been successfully developed. -PRESTOCLOUD is focusing on a dynamic, distributed architecture for proactive cloud resources management reaching the extreme edge of the network for efficient real-time big data processing.	-PRESTOCLOUD solutions promote the area of IoT and cloud computing. -PRESTOCLOUD solutions can be used to build new ecosystems.	- PRESTOCLOUD solutions are innovative. - PRESTOCLOUD development methodology can be used for proactive cloud resources management reaching the extreme edge of the network for efficient real-time big data processing.
PHASE 3 (Use case Implementation and Testing)	-PRESTOCLOUD components, tools and mechanisms are validated and evaluated on three use cases that regard diverse functionalities and domains. -PRESTOCLOUD has reached Technology Readiness Level 6 (TRL6).	-PRESTOCLOUD solutions are successfully tested and evaluated. -PRESTOCLOUD test-beds span diverse domains. -PRESTOCLOUD test-beds can be used by other projects /initiatives.	-PRESTOCLOUD solutions are successfully tested and evaluated. -PRESTOCLOUD test-beds span diverse domains. -PRESTOCLOUD test-beds are evaluated under strict requirements based to meet operational requirements of public organisations.

| PHASE 4 (Exploitation) | -PRESTOCLOUD solutions can boost Software development companies. -PRESTOCLOUD increases productivity . - PRESTOCLOUD makes optimal use of infrastructure resources. | -PRESTOCLOUD contributes to standards. -PRESTOCLOUD results can be used as follow-up for other projects. | -PRESTOCLOUD provides effective solutions in different application areas spanning from public services to a number of business models in the public and private sector. |

5   Communication Channels

In the previous sections, we have defined the main target groups and the content of messages that will be spread throughout the project lifetime. In this section, we define the main communication channels considering project resources and duration. The PRESTOCLOUD communication channels will serve as means to demonstrate tangible project achievements by making use of the project internal resources as well as resources provided by EC.

5.1   Website

The PRESTOCLOUD public website www.prestocloud-project.eu is one of the key communication tools. It serves as a public window, in which the project communicates relevant information about its goals, progress, etc. Please see (***Appendix III - External Project Website***) for the initial setup of the site.

The initial site will constantly be enhanced and will include features like search and article categorization for improved content discovery. As another means for increasing communication between the consortium and third parties, a news section is also maintained as a section within the webpage. News posts should involve aspects or conventions related to the project, including more extensive descriptions about project achievements and demo versions. Additionally, the news section may serve as a means of increasing the traffic of the page and a reason for visitors to check back the website at a later stage.

A number of available plugins will be deployed for this website to offer the following features:

- Google Maps
- Photo Gallery
- Accessibility Tool
- Web Analytics Service

Google Maps: This plugin allows the developer to represent key addresses in a map. This feature provides a better insight on the location of interest; also, increases interactivity between the user and the presented material.

Photo Gallery: The incorporation of images in posts is critical and this plugin adds the dynamic aspect of animated transitioning between images.

Accessibility: This plugin adds a menu on the page and provides an enhanced experience for people who confront issues with the contrast and colour of images as well as the size of text.

Web Analytics Service for the provision of visitation information. This plugin allows the administrator to track visitors from all referrers, including search engines and social networks, direct visits and referring sites.

There will be a dedicated page for the distribution of the PRESTOCLOUD newsletters (managed by ACTIVEEON) where users can register to receive the periodical newsletter regarding project updates and more. The registration process is very simple and it is completed once the visitor inserts an e-mail

address in the form that is located inside this dedicated page. This page also allows the visitor to access a complete archive of all newsletters produced by the project in a downloadable form (PDF).

The PRESTOCLOUD website will also deploy mechanisms for easily sharing content via email and the social media; easily accomplished with a click of a button located under the main section of each post and page. The presence of the project on key social media websites is considered critical as it allows the engagement of large audiences who consistently check in their social media profiles. Links to the project's social accounts exist on the footer of the website and are visible throughout navigation.

The primary Point of Contact (PoC) for the management of the PRESTOCLOUD Website is Software AG.

5.2 Social Networks

The consortium recognizes the significance of spreading the progress of the project to a wider community. On this line and in order to increase project visibility and create room for exchange of experiences, among professionals and stakeholders we have created a LinkedIn group (PRESTOCLOUD EU) where the members of the consortium may exchange ideas and knowledge not only between them but also with the greater scientific and industrial community.

It becomes imperative for all project partners to invite stakeholders in this group and communicate PRESTOCLOUD advances within this group. Additionally, to the LinkedIn group, a Twitter account has also been created. Twitter is an excellent medium for conveying short messages to your followers. The twitter account is considered essential, especially during workshops and conference, where the activity of the consortium is advantageous to be populated instantly; the use of hashtags will also allow our vision to reach more people.

The primary Point of Contact (PoC) for the management of the LinkedIn group and twitter is Noam Amram (LiveU). The main tasks of the PoC are to maintain the LinkedIn group, provide updates on the project events, invite members to elaborate on specific issues and respond to any post made in the group.

5.3 Press Releases

Local press is another communication channel that will be used in the project. All partners will put additional effort to release the project concept, scope, objectives and expected outcomes in local press in partners' countries. NISSATECH together with SOFTWARE AG are responsible to develop press releases in the English language. In accordance with the Communication roadmap, press releases will be prepared in M9, M18 and M36. All partners will translate the press releases in their local language. Any expenses will be covered by the project budget.

5.4 EC Communication Mechanisms

To pursue communication and maximum networking with other ongoing related activities, we will make maximum use of the EC supported communication mechanisms, such as publication of project information on the official sites of EC. In addition, networking activities organized by European Commission are included in the EC communication mechanisms.

CORDIS Wire[1] enables users to advertise events or publish press releases relevant to Research, Technological Development and Innovation activities on the CORDIS News and Events service. PRESTOCLOUD will periodically share significant project milestones that would be interesting for the community. CORDIS Wire will help us publicize important news and events and categorizing it properly per programme or country or subject so that we can get better online visibility.

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[1] http://cordis.europa.eu/home_en.html

Apart from CORDIS Wire, we will explore functionalities in platforms like the OpenAIRE[2] project and ZENODO[3] like publications or software deposit for open access. This will boost the discoverability of the project and will help us share and showcase our research results.

6 Communication Roadmap

The main scope of the PRESTOCLOUD communication roadmap is to define a comprehensive set of supporting documentation, based on the expected project outputs, that will be used to communicate the project activities and results and assigning relevant partners for the production of this documentation. Therefore, in this section we provide the plan for the production of project posters, presentations, newsletters, brochures and publications along with timelines and responsibilities for the production of these materials.

A second part of the PRESTOCLOUD communication roadmap describes events and activities that will diffuse information about the project, its development and results, and maximizing the visibility of PRESTOCLOUD. This way, potential end-users and stakeholders will be attracted, and their contribution and feedback would be considered and evaluated in order to improve the PRESTOCLOUD system itself, while at the same time exploitation opportunities will be investigated.

6.1 Documentation

In this Section, we describe the identified supporting documentation that will be used during the project. In addition to these "classic" materials described in more details below, the project will produce a high number of public deliverables. These deliverables will be released to the identified target groups and to the general public. This is of outmost importance for the project itself and it fully complies with HORIZON 2020 guidance related to the openness of project results.

6.1.1 Poster

The PRESTOCLOUD poster will be prepared by ACTIVEEON and released by July 2017. A second version of the poster will be released after the end of the development phase in December 2018. The poster will provide information about:

- What is PRESTOCLOUD: brief introduction to the PRESTOCLOUD project and proposed solutions.
- Overview: including expected results of the project.
- Partners and project details: including duration, Grant Agreement number, Call, budget, and contact details.
- Benefits: segments of society and foreseen benefits.
- Conceptual diagram of the PRESTOCLOUD solution.

6.1.2 Presentation

The PRESTOCLOUD presentation is a document with the aim to be used by the project partners to provide an overview of the project scope, objectives and expected results in various events (e.g., workshops, conferences, etc.).

A first version of the PRESTOCLOUD Presentation will be developed by ACTIVEEON by March 2017. The presentation will include at least the following content:

- What is PRESTOCLOUD
- Partners

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[2] https://www.openaire.eu/

[3] http://zenodo.org/

- Objectives
- Concept Diagram
- System Architecture
- Use cases
- Contact details.

The plan is to create new versions of the presentation based on the planned research activities as well as on new materials available. Therefore, it is expected to have two versions, which will be released at the start of the project (March 2017) and after the end of the development phase (December 2018). Screen shots of the draft version of the PRESTOCLOUD presentation can be found in (***Appendix I - PRESTOCLOUD Presentation***).

6.1.3 Newsletters

Following the newsletter release plan (***Table 3***), five Periodic newsletters will be produced during the project life, providing news, articles, and in-depth information about the project progress and outcomes, and any other relevant information that applies at the time of the publication. The newsletters will present the several activities undertaken by PRESTOCLOUD, describing the project developments, the deliverables' findings and the results that will be reached step-by-step, and they will provide suggestions coming from the project's meetings and the partners' collaboration. In any case, a preliminary discussion on the content of each of the newsletter will be done in close cooperation with all PRESTOCLOUD partners.

The process of the newsletter production will be based on the following steps:

- ACTIVEEON will design the newsletter template.
- All partners will provide suggested content for the newsletter to ACTIVEEON.
- ACTIVEEON will review/edit and develop the final draft version that will be sent to LiveU.
- LiveU will review/edit and approve the content of the issue and provide authorisation for publication.
- ACTIVEEON will fit the content to the newsletter template and forward the final version to SOFTWARE AG to publish the newsletter in the PRESTOCLOUD website.
- All partners will disseminate the newsletter in National and International interest groups.

The newsletter will be A4-sized, and it is supposed to be constituted by 2 to 4 pages, in order to be printable in a single leaf, and to be easily folded. However, the length of the newsletter may exceed the 4-pages limit, depending on the number of news and articles to be published.

The newsletters will be produced in **English.** Language should be clear and as simple as possible, in order to be attractive to readers and easily understood also by non-technical experts. When available, articles will be enriched by relevant photos and images.

Graphically, the visual design will be arranged to be attractive, and conveying a strong recognition value, based on the logo and colours already chosen at the beginning of the project to characterize PRESTOCLOUD.

All the newsletter's issues will contain at least the following elements:

- The PRESTOCLOUD logo and logos of all the project's partners.
- The project details, i.e., start/end date and project duration, the specific HORIZON call and the Grant Agreement reference, the budget and EU funding.
- The web address of the PRESTOCLOUD website.
- The contact details of the PRESTOCLOUD project.
- The standard disclaimer for the HORIZON Programme.

The newsletters will be mainly released electronically, through the PRESTOCLOUD website to a wide audience of all target groups and also via all partners' existing websites. Newsletters will be printed in a number of hard copies and distributed on the occasion of events (e.g. conferences, workshops, etc.) participated by the project partners, and at any other dissemination opportunity.

Table 3: Newsletter release plan

Newsletter Issue	PublicationDate
PRESTOCLOUD Newsletter #1	September 2017
PRESTOCLOUD Newsletter #2	February 2018
PRESTOCLOUD Newsletter #3	September 2018
PRESTOCLOUD Newsletter #4	March 2019
PRESTOCLOUD Newsletter #5	December 2019

6.1.4 Brochure

The PRESTOCLOUD brochure will serve as a communication means to get through the main messages of the project. The brochure will be available as both a soft copy on the PRESTOCLOUD website and a hard copy to be disseminated by the partners on any dissemination event. The brochure provides information about:

- Concept: Brief introduction to the PRESTOCLOUD project and the architecture.
- Overview: Including expected results of the project.
- Partners and project details: Including duration, Grant Agreement number, budget, and contact details.
- Benefits: Segments of society and foreseen benefits.
- Conceptual diagram of the PRESTOCLOUD solution.

JSI and ACTIVEEON will prepare and release the project brochure by M7.

6.1.5 Publications

The scientific publications of the project can be classified into two groups:

Conference papers and Journals: They describe a particular technology or advances, written by a single partner or a subset of partners reflecting one or more tasks of the project. Conference papers and journals will illustrate the most advanced and innovative aspects of project results.

White Papers: The scope of the white papers is to promote the PRESTOCLOUD concept, architecture and solutions and to show how these solutions can address the specific challenges in main application domains including SW development paradigms and optimal utilisation of existing computing and network infrastructures. The consortium is planning to issue at least one white paper at M36.

JSI is the partner that will act as the editor of the white paper with the contribution of all partners.

Apart from the above, each partner, however, is free to select and publish their scientific papers according to their own specific objectives. The detailed plan to prepare and submit scientific papers is not finished yet at the time of writing this deliverable. However, each partner has already provided an initial plan for publications.

Publications will be further elaborated and reported in the deliverables D8.1, D8.2, D8.3: Dissemination and Standardisation plan and actions - Iterations 1-3 (in M12, M24, M36).

6.1.6 Logo

PrEstoCloud's logo (*Figure 2*) strictly focuses on the research project topic. It depicts the idea of a cloud being connected to multiple mobile devices in a stylized manner. The mobile devices could be of any type.

The project name is part of the logo's message in that the term "PrEsto" intrudes the cloud.

In addition to the abbreviation of the project topic ("Proactive Cloud Resources Management at the Edge for efficient real-time big data processing"), the term "presto" potentially holds two associations:

1. It expresses the Italian meanings "fast" or "early", thus symbolizing by its placement in the picture the fast and proactive cloud management.
2. In the musical world, "presto" stands for a fast flow of notes which can be associated with a fast and facilitated deployment of the edge resource data.

Figure 2: PRESTOCLOUD Logo

6.2 Activities

Workshops and linking with other related National and EU research project provide great opportunities for attracting organisations and individuals and communicate the project objectives, and outcomes. In the next sections, we describe the planned Workshops and linking activities with related projects. Participation in International exhibitions is another one activity that can contribute to the project communication efforts. However, this activity is mostly related to project exploitation activities and market awareness of project results and as such only briefly is described here.

6.2.1 Workshops

Apart from the dissemination of project presentations and newsletters to identified target groups, the workshops are an excellent opportunity for communicating the project results. To this direction, the consortium is planning to participate in five Workshops and to organize two Workshops / Special Sessions in Conferences. The results of these workshops will be reported with the Deliverables D8.1, D8.2, D8.3 and relevant information will be also provided in the PRESTOCLOUD website and newsletters.

6.2.2 Linking with Related Projects

Up to now, the following related projects have been identified that provide linking opportunities with PRESTOCLOUD. Linking activities will be initiated primarily by the PRESTOCLOUD PC and supported by the PRESTOCLOUD DM.

ICS, NAM, UBITECH and ADITESS are already partners in most of the related projects and the consortium will make use of the established links between the partners and related projects.

ARCADIA: The vision of ARCADIA is to provide a novel reconfigurable by design Highly Distributed Applications' development paradigm over programmable Infrastructure. PrEstoCloud introduces the notion of edge computing and security in ARCADIA.

- PRESTOCLOUD partners involved: UBITECH, ADITESS
- Website: http://arcadia-framework.eu
- Project's full name: A Novel Reconfigurable by Design Highly Distributed Applications Development Paradigm Over Programmable Infrastructure.

DC4Cities: DC4Cities goal is to tune the data centre software execution load in such a way that the data centre power consumption matches the renewable energy source availability in compliance to energy/power goals, set by an Energy Management Authority (in the context of a Smart City). BtrPlace expects to know in detail the data centre architecture and the available resources. PrEstoCloud addresses hybrid cloud infrastructure.

- Website: http://www.dc4cities.eu
- Project's full name: Data Centres in an energy -efficient and environmentally friendly Internet.

INPUT: The INPUT technologies will enable next-generation cloud applications to go beyond classical service models, and even to replace physical Smart Devices, usually placed in users' homes (e.g., set-top-boxes, etc.) or deployed around for monitoring purposes (e.g., sensors), with their virtual images, providing them to users "as a Service". Virtual and physical SDs will be made available to users at any time and at any place by means of virtual cloud-powered Personal Networks, which will constitute an underlying service model. The INPUT Project will foster future-proof Internet infrastructures that will be "smarter", fully virtualized, power vs. performance optimized, and vertically integrated with cloud computing, with a clear impact on OPEX and CAPEX of Telecoms, of Service Providers, and of end-users. At the same time, it will extend the programmability of network devices to make them able to host cloud service applications, which will cooperate with the ones in users' terminals and datacenters to realize the aforementioned cloud services.

- PRESTOCLOUD partners involved: UBITECH,
- Website: http://input-project.eu/
- Project's full name: In-Network Programmability for next-generation personal cloUd service support.

PLAY: PrEstoCloud will extend context analysis and situation awareness considering both cloud resources and network nodes at the edge, in a unified way. PrEstoCloud will not focus on application adaptation only at the functional level (as PLAY did) but it will contribute towards their efficient fragmentation and reconfigurable deployment.

- PRESTOCLOUD partners involved: ICCS
- Website: n/a
- Project's full name: Pushing dynamic and ubiquitous interaction between services Leveraged in the Future Internet by ApplYing complex event processing.

MONROE / PoWeR: MONROE proposes to design, build and operate an open, European-scale, and flexible platform with multi-homing capabilities to run experiments on operational 3G/4G Mobile Broadband networks. One of the main objectives of MONROE is to use the platform for the identification of key MBB performance parameters, thus enabling accurate, realistic and meaningful monitoring and assessment of the performance of MBB networks. PoWeR is a part of MONROE. It is devoted to investigation of the performance of Web RTC-enabled services on the MONROE platform.

- PRESTOCLOUD partners involved: N.Amram Technologies (NAM)
- Website: https://www.monroe-project.eu/, https://www.monroe-project.eu/firstopencall/
- Project's full name: Measuring Mobile Broadband Networks in Europe.

NUBOMEDIA: LiveU participating in NUBOMEDIA FP7 project which is developing an elastic media cloud infrastructure for media services. The NUBOMEDIA Research Project is with the objective of creating a PaaS specifically devoted to WebRTC applications and services. This objective has been fully achieved and today NUBOMEDIA is the first worldwide WebRTC PaaS being really a PaaS. This means that NUBOMEDIA is strictly a Platform as a Service understood as a cloud service exposing to developers the ability of uploading, deploying and executing applications under the restrictions and leveraging the facilities of a development platform.

- PRESTOCLOUD partners involved: LiveU (LiveU)
- Website: http://www.nubomedia.eu
- Project's full name: an elastic Platform as a Service (PaaS) cloud for interactive social multimedia.

M2MGrids: LiveU participating in M2MGrids project under the ITEA 3 framework, The Smart M2M grids project is focused on creating enablers for a dynamic cyber-physical information business ecosystem connecting the physical world with the business processes of companies in real-time. The first goal is to connect physical world sensors, actuators and various embedded devices and machines (physical M2M objects) with IT systems automatically/ semi-automatically by applying and extending horizontal open standards based M2M infrastructures for communication and services. The second goal is to enable information management for embedded and distributed application for smart interaction with physical M2M objects and IT back-office systems. The third goal is enabling smart information exchange between selected business cases related to energy, buildings, transportation and consumer M2M products and services to make the future world smart, smooth and secure for consumers/prosumers. The resulting system is aimed at boosting transfer towards a more sustainable society and a novel real-time service economy within selected industrial business cases.

- PRESTOCLOUD partners involved: LiveU (LiveU)
- Website: https://itea3.org/project/m2mgrids.html
- Project's full name: machine to machine grids.

6.2.3 Participation in International Exhibitions

The participation in international exhibitions is a combined action that engages both dissemination and exploitation activities. Therefore, all project partners will seek any opportunity for participating in International exhibitions, based on existing experience and budget constraints. In fact, within PRESTOCLOUD there is not any provision for participation in International exhibitions. Therefore, each one partner, especially participant SMEs will make their own assessment for their participation in International exhibitions, based on company's business plans.

7 Evaluation and Reporting

In order to measure the impact of the planned communication activities, spanning the whole duration of the project, and to be able to adjust the communication strategy for achieving the expected outcomes and maximized visibility, distinct metrics and indicators have to be defined per type of activity, which will constantly be measured and monitored. In order to evaluate the communication activities, a number of KPIs will be used, as well as various diagrams that will be included in the periodic reports. The following paragraphs describe the KPIs, diagrams and the respective reports that are to be developed.

7.1 Key Performance Indicators

The KPI's that will be used for evaluating the planned communication activities within PRESTOCLOUD are presented in (*Table 4*).

Table 4: Key Performance Indicators

Communication Means	Target audience / Delivery	KPIs (Target values)
Website	All target audiences / Set up at M2, maintained and curated throughout the project duration	Year1: 1000 sessions, 500 unique visitors Year 2: 2000/1000 Year 3: 3000/1500
Marketing Material	All target audiences / Delivered at M2: Project presentation	Updated in year 2
Social media	All target audiences / Twitter, LinkedIn, SlideShare	Tweeter: 200 tweets, 200 followers LinkedIn: Group formation with >50 followers, >5 discussion topics
Industry Events	Customers, Developers, Communities, Early Adopters / Booth with distribution of marketing material and presentations	1 industry expo per year 1 hackathon 1 use case contest
Scientific Events	Scientific Community	3-4 events per year
Project Workshop	Early adopters, Industry, Developer Communities, other EU-funded projects	1 in year 2 1 in year 3
Press releases	All target audiences / One press release for each major announcement	4 press releases

7.2 Analysing Results

Communication results will be analysed and evaluated with respect to the overall communication plan. In order to better overview and evaluate the effectiveness of the planned communication activities, a number of diagrams will be used.

An example of a visual overview of the PRESTOCLOUD LinkedIn group membership is depicted in (*Figure 3*). With this diagram, we can illustrate and monitor the evolution of the group and the penetration among the LinkedIn members within a reporting period over twelve months. This will provide a visualisation of whether or not we have reached the defined KPIs.
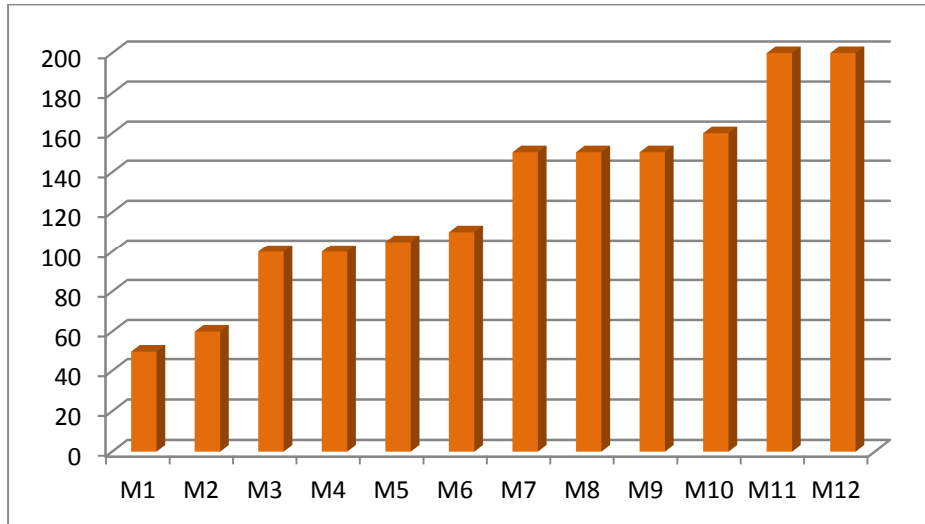
Figure 3: Membership evolution of PRESTOCLOUD LinkedIn group

We will measure website visits on a monthly basis as illustrated in (*Figure 4*). Results will be used to monitor the effectiveness of the web site design and the effect of the multilingual environment. A high number of the PRESTOCLOUD web site visits along with the download on-line materials will provide strong indications on the effectiveness of the website and the quality of on-line materials.
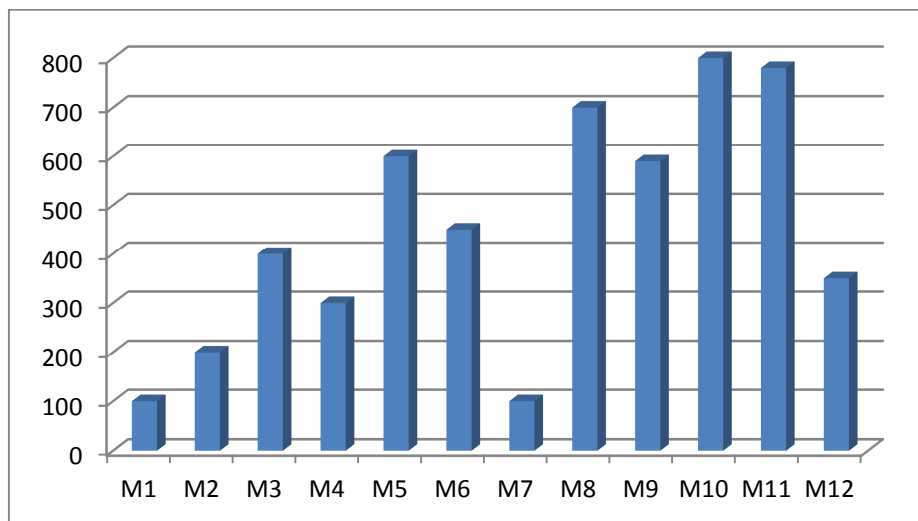

Figure 4: Website visits

The project will also focus on balancing international and national activities, aiming at increasing the outreach of the PRESTOCLOUD results while ensuring the creation of an exploitation potential both in the countries involved in the project as well as at an international level. Results will be visualized using the example diagram shown in (*Figure 5*).
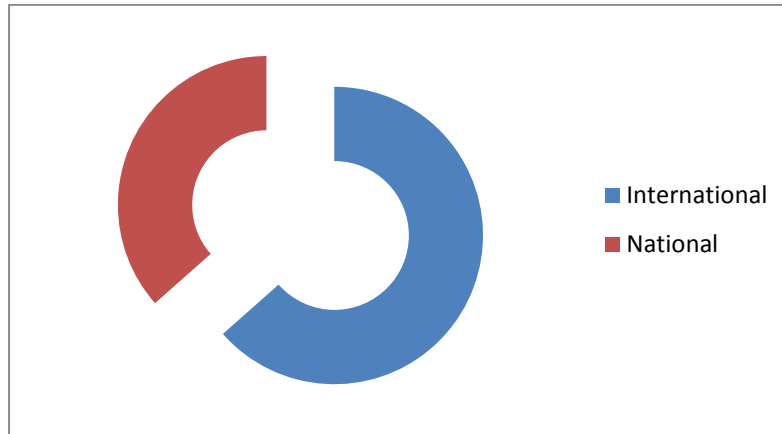
Figure 5: National vs. International Activities

Finally, a comparison chart of the online and offline communication activities will be used as depicted in (*Figure 6*)*.* We need, however, to point out that all the above diagrams will be used as a guide for the communication periodic reports. Additional and/or different graphs could be used to better illustrate the project communication results.
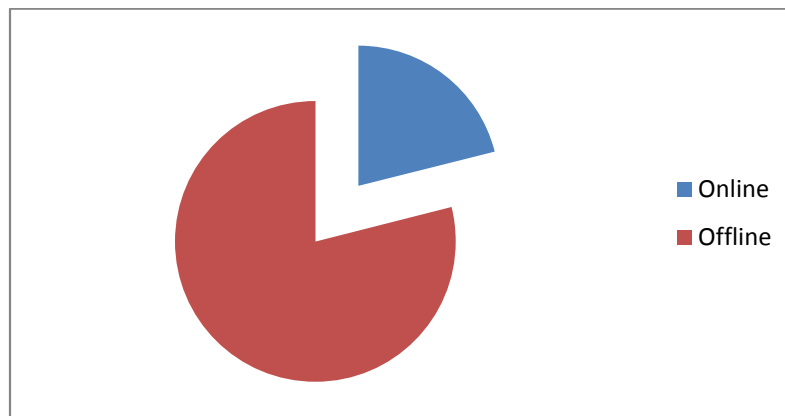

Figure 6: On-line vs. off-line dissemination activities' effectiveness

7.3 Reporting

Reports are a major part of the PRESTOCLOUD communication plan. The aim of these reports is twofold. Firstly, the reports will be used to inform consortium members and the Project Officer about the development of the project communication activities. Secondly, the reports will be used to assess the effectiveness of the communication plan based on specific quantitative metrics, as defined in Section 7.1.

Therefore, these reports should include all communication activities that have been carried out, during a reporting period, by the consortium as a whole and by individual partners. The reports will include communication results, corrective actions for improvements and updates on this plan. An outline of the project communication report is illustrated below:

- List of dissemination and communication activities (workshop, scientific publications, press releases…).
- Description of communication activities and the main outcomes.
- List of on-line communication activities (e.g. LinkedIn, Twitter, online discussions, website).
- Analytics and statistics for communication activities conducted during the reporting period.
- Assessment on the performance of PRESTOCLOUD communication plan.
- Updates and corrective actions on the communication plan.
- Conclusions.

During the project lifetime two reports will be delivered (in M18 and M36). Communication results will be analyzed and provided by ADITESS based on on-line statistics. The primary PoC for the production of these reports is ADITESS with the contribution of all partners. All project partners are also responsible to prepare short reports covering the two project periods by using the (***Appendix II - Reporting Templates***).

8 Conclusions

In this deliverable, we provided the main components of the PRESTOCLOUD communication plan along with the PRESTOCLOUD communication roadmap. Within the communication plan we defined its main components and the actions to take place for the realisation of the plan. The main target groups were identified based on PRESTOCLOUD concept, objectives and application areas. Different sets of messages for the identified target groups were defined by taking into account the project phases.

The importance of choosing the proper communication channels for the communication of project scope and results was assessed. To this end, we decided to make use of available open source on-line tools and mechanisms along with the ones provided by EC via the CORDIS services. A project website has been developed and launched before the end of M3. In the same direction a project LinkedIn group and twitter account have been created to increase the project visibility within the professional community.

The PRESTOCLOUD communication roadmap was defined, consisting of two major parts. In the first part, we defined the supporting documentation that would be used for communicating the project activities and results along with timelines and production responsibilities. Those supporting documentation include the project poster, presentation, newsletters, brochure, and scheduled publications in International Conferences and journals. The main plan related to the organisation of the PRESTOCLOUD Workshops was illustrated by assigning responsibilities and taking into account available budget.

Participation in International conferences and publication of project results are major drivers for the PRESTOCLOUD communication efforts. Therefore, an initial plan was issued for the submission of scientific and technical papers in relevant conferences. That list would be maintained and updated throughout the project lifetime by the PRESTOCLOUD Scientific & Technical Manager.

Concerning the participation to International exhibitions it was pointed out that those actions are more relevant to be carried out by the industrial and SME partners. The major obstacle for the consortium is the lack of budget to support those activities. Therefore, it was argued that participation to International exhibitions would fall under the judgement of the project partners.

Linking PRESTOCLOUD to related on-going projects seemed to be an easy task as PRESTOCLOUD partners have already participated in those projects. However, a formal communication would be needed to be started the soonest possible by the PRESTOCLOUD PC and be supported by the PRESTOCLOUD DM.

Apart from the global communication efforts, the PRESTOCLOUD partners would need to seek any opportunity for communicating the project results during the project lifetime.

Performance evaluation of the PRESTOCLOUD communication plan was identified as an important element of the plan itself. Therefore, a number of relevant Key Performance Indicators (KPIs) were defined along with the procedures for evaluation and reporting.

9   References

[1] European Commission Decision C (2014)4995 of 22 July 2014.

[2] Communicating EU Research & Innovation (A guide for project participants), European Commission, Directorate-General for Research and Innovation, Directorate A, Unit A.1 — External & Internal Communication, 2012, ISBN 978-92-79-25639-4, doi:10.2777/7985.

[3] Fact Sheet Exploitation channels for public research results, European IPR Helpdesk, January 2014.

[4] EU international cooperation in R&I, Transition to Horizon 2020, Communication of EU funded Projects: A Strategic Approach, Tomas Matraia Policy Officer – European Commission DG Research and Innovation (available online at: http://www.ncp-incontact.eu/nkswiki/images/a/a4/Matraia_EU_Communication.pdf.

[5] Enhanced visibility and awareness in eHealth, Active Ageing and Independent Living projects- haiviso EU Project, http://haivisio.eu/

[6] Marketing Management Millennium Edition, Tenth Edition, Philip Kotler, Copyright © 2000 by Prentice-Hall.

[7] WordPress: available on-line at https://wordpress.org/

10 Appendices

Appendix I - PRESTOCLOUD Presentation

PrEstoCloud factsheet

Partners

➤ Management
- Software AG (DE)

➤ Research
- **ICCS (GR)**
- CNRS –I3S (FR)
- JSI (SI)

➤ Technology Providers
- **ActiveEon (FR)**
- **NISSA Tech (SR)**
- UBITECH (GR)

➤ Uses Case providers
- LiveU (IL)
- CVS Mobile (SI)
- ADITESS (CY)
- N.AMRAM tech. (IL)

Pole SCS

Organization

➤ Start on January 2017
➤ 3 years
➤ 518 MM (42 MY)
➤ Budget : 4,2 M€
➤ 12 partners
➤ 7 countries

H2020 Program

➤ ICT-06 Cloud Computing
- Cloud
- Edge
- Virtualization, software defined
- Big Data on the Edge

Objectives

➤ Lambda-like framework for Real-time big data processing
- Resource provisioning in new cloud computing paradigm
  - Extended to Edge
  - Tight interaction between computing and networking infrastructure
  - Hybrid multi-clouds
  - Data-centric
  - Monitoring cloud resources
- Application and resource deployment and management
- Adaptive scheduling of IoT Big Data processing
- ProActive Cloud adaptation

Challenges

➤ Business driven
- Personalized innovative and superior user-experience
  - Edge analytics
  - Stream mining
  - Processing and exploitation for QoS
- Limitation of the traditional Big Data architectures

➤ Evolution of Real-time big data processing
- Distributed processing network
- Real-time mobile processing
- Spatial complex event processing
- Self-adaptive big data processing

➤ Efficient cloud resource utilization
- Adaptivity
- Proactivity
- Efficient and Scalable Process Scheduling
- Edge processing

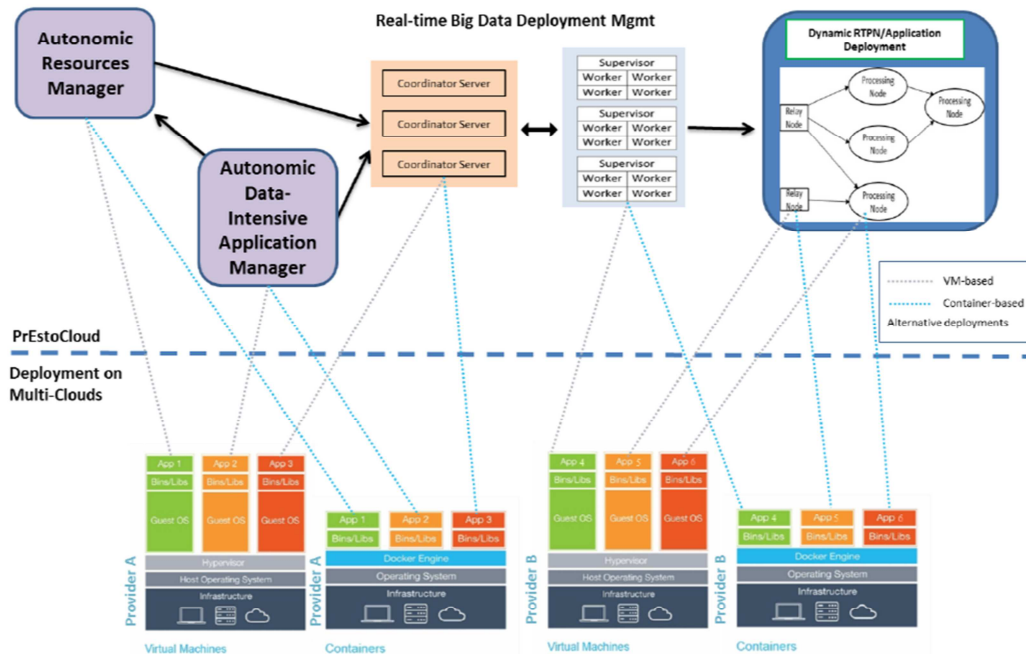# Challenges

➤ Evolution of real-time Big Data Processing
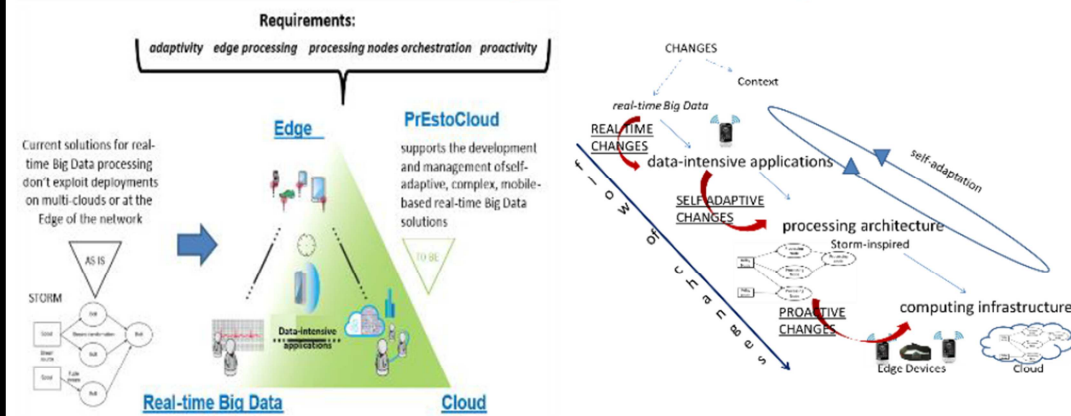
➤ Self adaptation
➤ Multi-Clouds
➤ Mobile&Edge based Processing

➤ Change: 4th V (variety of velocity)
- Sensing the change, analyze and predict resource availability
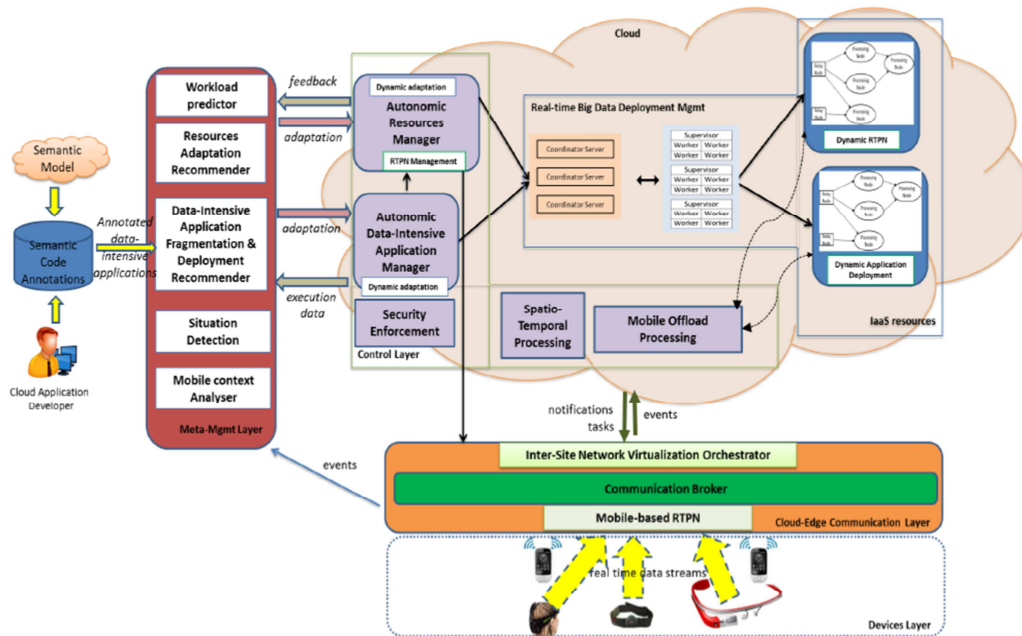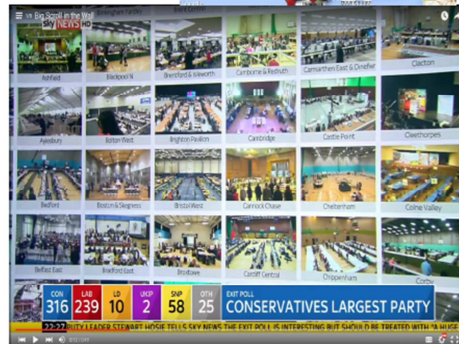
Use-case: Logistic - Transport

➤ Pilot
- Vehicle telematic data sources

➤ Processing Requirement
- Complex event detection
- Smart sampling of Data
- Situation awareness unsupervised
- Abnormality detection; complex data
- Visualization

➤ Success critiria
- Applicability
- Performance
- Cost effectiveness

Use-case 2: Media - Journalisme

➤ Pilot
- Mobile journalism over Mediacube contribution and consumption service

➤ Processing Requirement
- Video transcoding
- Point to multipoint WebRTC streaming
- Authentication of the content
- Augmented reality oriented processing

➤ Success criteria
- Applicability
- Performance
- User /broadcasters acceptance

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Appendix II - Reporting Templates

Book Chapters

One table per each book/book chapter

Title:		
Author(s):		
Book Title:		
Editors:		
Date:		Pages:
Abstract:		
Comments:		

Conferences/Journals Papers

One table per each conference or journal paper

Title:			
Author(s):			
Conference/Journal:			
Place:		Date:	Pages:
Abstract:			
Comments:			

Presentations / Talks

One table per each talk, not related to papers

Title:		
Presenter:		
Event:		
Place:		Date:
Short Description:		
Comments:	.	

Appendix III - External Project Website

About   Who we are   News   Contact Us

PROACTIVE CLOUD RESOURCES MANAGEMENT

The **PrEstoCloud** research project targets a dynamic and distributed software architecture that manages cloud and fog resources proactively. Reaching for the extreme edge of the network will ensure an optimized usage of cloud resources while a facilitated deployment of critical applications and services in the fog overcomes cloud limitations and restrictions.

Three use cases will demonstrate pro-activeness, self-adaptation, orchestration of distributed processing nodes and processing on the edge:

- A *vehicle/fleet management* via fast extraction of useful information and alerts - based on data streams from GPS, on-board-diagnostics, tire sensors, live weather data, road conditions, speed limits and social media - will help the drivers, fleet managers and policy makers to take immediate actions or decisions based on cost-efficient real-time data.

- A *media prosumer platform* will combine news publications from traditional broadcasting, freelance reporting and social media streams for a personalized, flexible and cost-efficient consumption view of a real-time story.

- A *security and surveillance solution* combines data streams from CCTV systems (close-circuit television) and pre-processing results from groups of UAVs (Unmanned Aerial Vehicles) in a way that reduces transmission and processing needs on the cloud, overcomes efficiency drops during sudden peaks of real-time data and high network load and allows for an improved security-oriented data processing.

The PrEstoCloud platform will serve end users who seek for personalized innovative services and superior user experience in a Big Data-driven environment, which can be achieved by combining edge analytics, stream mining, processing and exploitation for Quality of Service (QoS). In addition, PrEstoCloud will serve IT solution providers who seek to overcome the limitations of the traditional real-time Big Data processing architectures.

PrEstoCloud will serve Europe's digital sovereignty and competitiveness through development of advanced cloud solutions which increase trust in clouds through stronger security and data protection practices. Predictable performance of cloud offerings, together with an enhanced Quality of Experience will also contribute to standardization and interoperability.

PrEstoCloud is a **European funded research project** which runs for three years, from January 2017 to December 2019. The **consortium partners** are Software AG (Germany, consortium coordinator), Centre National de la Recherche Scientifique in association with the Université Nice Sophia Antipolis (France), ActiveEon (France), Nissatech (Serbia), Jozef Stefan Institute (Slovenia), CVS Mobile (Slovenia), Institute of Communication and Computer Systems in association with the National Technical University of Athens (Greece), Ubitech (Greece), Aditess (Cyprus), LiveU (Israel) and N.Amram Technologies (Israel).

CONTACT US

The PrEstoCloud project is titled "Proactive Cloud Resources Management at the Edge for efficient Real-Time Big Data Processing" and has received funding from the European Union's Horizon 2020 research and innovation programme (lautet H2020-ICT-2016-2017/H2020-ICT-2016-1) under grant agreement No 732339.
The project started on January 2017 and will last for 36 months.

Project Coordinator
Birgit Helbig
Software AG
Contact: **info@prestocloud-project.eu**

PRIVACY STATEMENT

Effective February 17th, 2017

Software AG (Uhlandstr. 12, 64297 Darmstadt, Germany) in its role as data controller appreciates your visit on our websites and is grateful for your interest in our company, our products and our services. The protection of your privacy and personal data is an important matter for us. To ensure a high level of transparency and security, our privacy statement as set forth below will inform you about the nature, scope and purpose of any collection, use and processing of personal data recorded by us.

Be aware that our Cloud offering, the ARIS Community and the E-Recruiting have separate privacy statements.

1. External Links

Our websites also reference and include links to third-party websites. As a rule, these are identified by stating the respective third-party internet address or the company/product logo. Software AG has no influence whatsoever on the contents and design of websites of other providers. By referencing/linking these external websites we do not adopt their contents as our own.

2. Cookies

Information about our usage of cookies, especially for marketing purposes, can be found in our Cookie Policy.

3. Purposes of the Data Processing

Software AG collects, processes, and uses your personal data to the extent required to fulfill the respective purpose or for purposes which you have consented to; these purposes being: providing the services that you want to make use of while using our websites, including but not limited to downloads, discussion boards, online job applications, individual requests (e.g. using our contact form), blogs, registration to our courses and other offerings, the creation of statistics and the improvement of our websites and the offered services in order to ensure the security of our websites, and if you have consented to it, for marketing purposes especially sending our email newsletters. Software AG also uses the personal data provided for purposes of contract management and processing your enquiries and requests.

Moreover, the information provided to us may be combined with data on you that has already been stored by us. Such data combination allows us to keep the data collected by us updated, in order to provide for the accuracy of the collected information and to optimize our service to you.

Beyond these purposes, we use and process your data only if you have expressly granted your prior consent thereto and if you have been informed about such purposes. Thus, for example, you may stipulate in an online job application whether we may also review such application with respect to other positions in our company. Only if this is the case, we will use such data for the respective purpose.

4. Categories of Personal Data

Personal data means any information relating to an identified or identifiable natural person. Software AG collects, processes, or uses the following personal data, if you provide it to us:

- first name, last name, date of birth, email address, postal address, country, job title, telephone number, fax number, company, products of Software AG that are in use,
- other data that you have provided while contacting us, especially using the contact forms on our website,
- other data that you have provided in comments on out websites, especially using the forms of the discussion boards or the comment functions of the blogs,
- data that you have sent to us during an online job application, including your CV, certificates, reports, job references etc. (job application data).

For marketing purposes and to improve our websites and services we also collect the data that is sent by your web browser, e.g. information about your browser and your operating system.

For statistical purposes and internal system specific purposes, Software AG also collects, processes, and uses your usage data in combination with your IP address and information about the amount of transmitted data stored in log files. The log files are used to statistically analyze visits on our websites. The data is being deleted after it has been analyzed for statistical purposes.

5. Data recipients

Software AG has contracted external data processing service providers to collect, process, or use personal data on behalf and according to the instructions of Software AG. Such service providers support Software AG, especially relating to hosting and operating the websites and blogs, marketing purposes, statistical analysis, improving the websites and sending our email newsletters. These service providers may be located outside the European Union or the European Economic Area which means that the level of protection in respect to data protection law might differ from the level of protection provided by European data protection legislation.

Software AG is a globally operating corporation. In order to better process your matter, it might be necessary to forward your data to local subsidiaries or to local distribution partners, whose registered office might also be located in countries outside the European Union. However, such transmission takes place only within Software AG group companies and only for the aforementioned purposes.

Beyond that, we do not forward your data to other third parties, unless we are obliged to do so by virtue of statutory provisions or order of any judicial or other public authorities.

In particular, your personal data shall not be sold, leased or exchanged.

6. Information sent by Email

If you have provided us with your email address for purposes of communication or promotion, we will use your data to communicate with you or send you promotional emails based on your interests. Our E-mail communication includes the possibility to revoke your consent at any time, should you no longer desire to receive such information. Please visit our Email Subscription Center to change your subscription settings.

7. Participation in Discussion Boards and Blogs

On our websites we offer you the possibility to participate in discussion boards and blogs. For these purposes we require certain personal information from you (email address, first name, last name, company, country), as we are legally obliged to uniquely identify users retroactively in case they have posted unlawful content. Please keep in mind that the texts published by you may potentially be viewed by everyone on the internet without limitation.

When participating in the discussion boards of the *TECHcommunity* your personal data is not disclosed to other participants unless you have consented thereto in your user profile. In this context, our Discussion Board Guidelines including the Terms of Use apply when registering for the *TECHcommunity*.

The Software AG blog *Beyond B2B – Digital Reality Check* is based on technology by HubSpot, Inc.; 25 First St, 2nd Floor, Cambridge, MA 02141, USA. HubSpot is certified based on the EU-U.S. Privacy Shield Framework and the U.S.-Swiss Safe Harbor Framework. More details about privacy provisions of HubSpot and about their privacy certifications can be found here.

8. Data Protection for Minors

The offers and services on this website are not directed at children. We therefore assume that we will not become aware of any personal data pertaining to children.

9. Technical and Organizational Data Protection

Software AG implements the technical and organizational measures that are commercially reasonable in relation to the respective purpose of data protection, in order to protect the information provided by you against abuse and loss. Such data is stored in a secure operating environment that is not accessible to the public. In addition, each of our employees is instructed on data protection and obliged to enter into a confidentiality agreement.

10. Emails sent to Software AG

For tax reasons, emails sent to Software AG and other members of the Software AG group will be archived for ten years. The email systems of Software AG and other members of the Software AG group are meant to be to be used for business purposes.

11. Records of Processing Activities
You may obtain a general overview of the purposes for which and the categories of data subjects on which Software AG collects, processes, and uses personal data in the public Records of Processing Activities shown on this website.

12. Information and Other Rights, Contact

Upon request, our Data Protection Officer would be happy to provide you with information as to whether – and if so, which – personal data we store in relation to you. Should your personal data be incorrect, you may have this rectified immediately. Any such information or modification is free of charge.

Moreover, you are entitled to revoke your consent to use your personal data in the future, in whole or in parts. Should you desire to do so, we will delete or block your relevant data. In order to assert such rights, please contact Software AG's data protection officer.

Please feel free to direct any questions, comments, or complaints regarding this privacy statement or the privacy practices of Software AG to our Data Protection Officer:

Software AG
Data Protection Officer
Uhlandstraße 12
64297 Darmstadt
Germany
Email: dataprotection (at) softwareag.com

You can send encrypted emails using S/MIME:

- X.509 certificate (zip file, contains dataprotection.cer)
- Software AG root certificate (zip file, contains SoftwareAGinternalCa2.cer).

IMPRESSUM / PUBLICATION DATA

CONTACT AND REGULATORY INFORMATION

deutsche Version

Software AG is committed to transparency and open communication both inside and outside the company. Important information on Software AG and how to contact us can be found here.

Software AG is a stock corporation under German law with headquarters in Darmstadt, Germany.

Chairman of the Supervisory Board:	Dr. Ing. Andreas Bereczky
Chairman of the Board of Management:	Karl-Heinz Streibich
Board of Management:	Arnd Zinnhardt
	Dr. Wolfram Jost
	Eric Duffaut
Postal address:	Uhlandstrasse 12,
	D-64297 Darmstadt
	or
	Postfach 13 02 51,
	D-64242 Darmstadt
Phone:	+49-6151-92-0
Fax:	+49-6151-92-1191
Email:	webinfo@softwareag.com
Internet:	www.softwareag.com

Software AG is entered in the Register of Companies of Darmstadt Local Court under the No. **HRB 1562**.

The VAT identification number of Software AG is **DE 111 660 314**.

Implementation and Design:
Software AG
Uhlandstrasse 12
D-64297 Darmstadt

Responsibility in accordance

with §§ 55 RStV:
Byung-Hun Park
Uhlandstrasse 12
D-64297 Darmstadt

Procedural list of Software AG

Procedural list of SAG Deutschland GmbH (german only)

Procedural list of SAG Consulting Services GmbH (german only)