Dissemination and Exploitation plan

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1 EXECUTIVE SUMMARY

This document is the Dissemination and Exploitation plan of the FACTS4WORKERS project. Its purpose is to present the approach of dissemination, advertisement and exploitation strategy of the project results. It introduces into dissemination activities that have already been achieved and into those that are planned to be carried out by the FACTS4WORKERS project partners. It provides the all steps needed to be taken during and after the project to achieve maximum effect of the dissemination process and reach the relevant target audience.

This document presents the initial version of Dissemination and Exploitation plan. The strategy and plan of dissemination and exploitation will be continually monitored, updated and reported during the project. In a sense it is a living document that will develop through the project and it will change in accordance with the needs of the dissemination process.

Document is structured as follows:

- Section 2 provides the most important facts about the FACT4WORKERS project, its vision and objectives.
- Section 3 describes the objectives of the dissemination strategy.
- Section 4 describes the dissemination and communication strategy.
- Section 5 describes the primary and secondary targeted audience of the FACTS4WORKERS project.
- Section 6 describes the dissemination and communication tools intended to create corporate image of the project and raise awareness of the project.
- Section 7 describes the execution of the dissemination strategy, especially responsible partners for dissemination and cooperation of all consortium partners.
- Section 8 lists the already conducted dissemination activities.
- Section 9 lists the plan of potential dissemination activities.
- Section 10 states the exploitation strategy.

2 PROJECT OVERVIEW

PROJECT IMPORTANT FACTS AND KEY NUMBERS

Fifteen partners from eight different EU member states:

1. Kompetenzzentrum - Das Virtuelle Fahrzeug, Forschungsgesellschaft GmbH (AT)
2. Hidria TC Tehnološki center d.o.o. (SI)
3. Universita degli Studi di Firenze, Department of Industrial Engineering (IT)
4. TU Vienna, Institute for Engineering Design and Logistics Engineering (AT)
5. ThyssenKrupp Steel Europe AG (DE)
6. Hidria Rotomatika d.o.o., industrija rotacijskih sistemov (SI)
7. iMinds VZW (BE)
8. SiEVA d.o.o. (SI)
9. University of Zurich, Department of Informatics (CH)
10. Thermolympic S.L. (ES)
11. EMO - Orodjarna d.o.o. (SI)
12. Evolaris next level GmbH (AT)
13. ITAINNOVA/ Instituto Technologico de Aragon (ES)
14. Schaeffler Technologies AG & Co. KG (DE)
15. Lappeenranta University of Technology (FI)

Start date of the project:	01 December 2014
Finish date of the project:	30 November 2018
Total person month:	1081
Website:	http://facts4workers.eu

The high ambition of the project FACTS4WORKERS is to create Factories of the Future with a pervasive, networked information and communication technology that collects processes and presents large amounts of data. These smart factories will autonomously keep track of inventory, machine parameters, product quality and workforce activities. But at the same time, the worker will play the central role within the future form of production. The project goal is to create »FACTories for WORKERS« (FACTS4WORKERS), to strengthen human workforce on all levels from shop floor to management since it is the most skilled, flexible, sophisticated and productive asset of any production system and in this way ensure the long-term competitiveness of manufacturing industry. Therefore a serious effort will be put into integrating already available IT enablers into a seamless and flexible Smart Factory infrastructure based on work-centric and data-driven technology building blocks.

These solutions will be developed according to the following four industrial challenges which are generalise - able to manufacturing in general:

- **Personalized augmented operator,**
- **Worked - centric rich - media knowledge sharing management,**
- **Self - learning manufacturing workplaces,**
- **In - situ mobile learning in the production.**

FACTS4WORKER's objectives in terms of measurable indicators are:

- **To increase problem - solving and innovation skills of workers,**
- **To increase cognitive job satisfaction of workers participating in the pilots,**
- **To increase average worker productivity by 10% for workers participating in pilots,**
- **To achieve TRL 5 - 7 on a number of worker-centric solutions through which workers become the smart element in smart factories.**

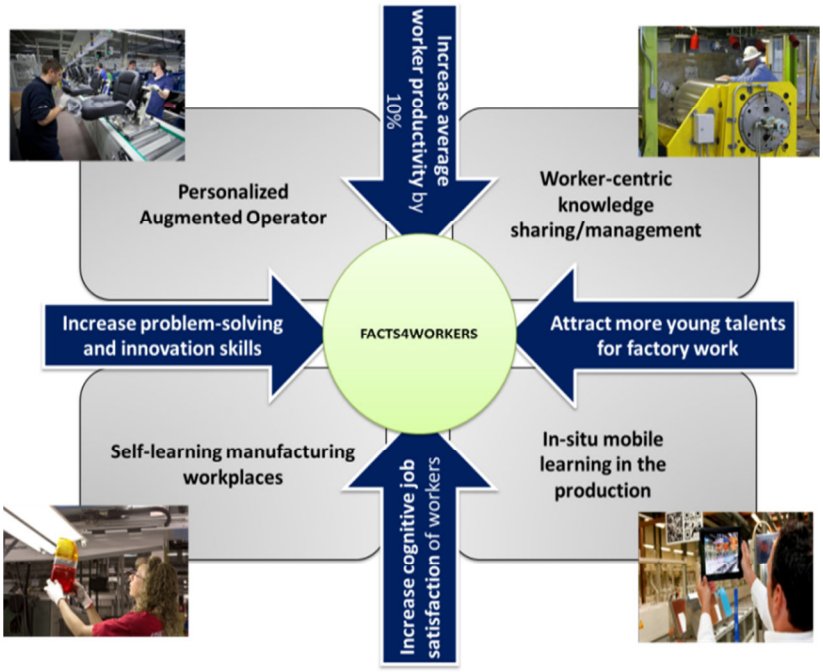

Figure 1: Project main objectives

The vision of FACTS4WORKERS is to **leverage the large potential added value of manufacturing data, information and knowledge in a worker - centered way** to achieve worker empowerment, resulting in higher worker satisfaction and increased worker productivity.

Experience has shown that empowered workers are highly motivated and make better decisions, both of which lead to increased productivity.

By leveraging this potential, FACTS4WORKERS will:

- improve the overall access of workers to manufacturing data, information and knowledge at the workplace through developed **worker - centric knowledge management technologies and practices** providing so an "intelligent information" where it is needed,
- **facilitate information and knowledge sharing and acquisition at the workplace** by integrating innovative worker centred and user - friendly technologies including Social Software, mobile devices, user profiling, augmented reality, and plug & play interfaces,
- analyse data patterns from manufacturing data for designing **self - learning and self-educating production systems for workers**, transforming information from data to knowledge level,
- **extract patterns of (un)successful production** by integrating innovative data-centred technologies like big data and linked data to empower the worker in decision making,
- assure the worker's uptake and understanding of information and knowledge at all levels supported by **worker-centric blended learning processes and technologies**,
- **increase the flexibility of workers** in and across production processes by using technology enhanced learning and manufacturing knowledge transfer at the workplace,
- **raise the level of attractiveness of manufacturing** work in general and for young workers in special by transferring concepts from the Social Web into new work models,
- **generate a significant increase in productivity** through more satisfied workers, by upgraded skills and a knowledge based utilisation of production technologies and
- **secure a sustainable strengthening of the European manufacturing industry** through advanced production concepts and technologies.

Figure 2: FACTS4WORKERS goals

3 OBJECTIVES OF THE DISSEMINATION STRATEGY

The main purpose of the dissemination strategy is to disseminate the generated knowledge to the largest extent as possible, develop exploitation strategies and activities to ensure a sustainable deployment of results. This includes the following objectives of the dissemination strategy:

- Set up the information dissemination mechanisms and strategies,
- Create a community composed by the project partners and interested stakeholders,
- Perform targeted communication activities for different stakeholders,
- Carry out dissemination activities to raise international awareness and interest in project activities and achieved results,
- Contribute the relevant project results to the corresponding standardisation bodies,
- Conduct liaison with other EU, regional and national projects to maximise the impact,
- Investigate the routes by which the partners can secure a successful downstream exploitation of the results,
- Develop a Business - Plan and a Data Management Plan.

4 COMMUNICATION AND DISSEMINATION STRATEGY

Dissemination activities aim to establish critical mass and commitment from different stakeholders. Results from project activities will be disseminated to the widest possible community through various channels and instruments. External participation and knowledge sharing will be encouraged through networking activities and events aimed at increasing the impact potential and enriching the scientific and industry contribution to the project.

FACTS4WORKERS dissemination strategy is divided into **internal and external** communication and dissemination. Both of them are presented below.

Internal communication and dissemination allows members of the FACTS4WORKERS consortium to be involved in every project activity and sharing their knowledge and experience. Internal communication will be conducted **via tele-conferences, e-mail messages** and **periodic physical meetings**. Share documents will **be stored on Extranet** (*VIRTUAL VEHICLE Secure Data Exchange*), ensuring all partners access and safety all the time.

The goals of external dissemination strategy are:

- Prepare strategy and plan of dissemination activities,
- Create a corporative image of the project,
- Establish, update and maintain the project website,
- Use social networking tools,
- Prepare articles, publications, press releases and brochures/flyers,
- Prepare video release,
- Participate in events.

5 COMMUNICATION TARGETED AUDIENCES

FACTS4WORKERS's dissemination activities will ensure wide reaching impact and use of project deliverables among two categories of the targeted audience:

- **Primary communication targets**: these are stakeholders of our high interest.
- **Secondary communication targets**: these are stakeholders of our less interest but still very important for the project.

We have prioritised the **primary communication targets**, which are organisations and individuals with whom we want to have an intensive dialogue on the content of our research and demonstration activities:

- Research initiatives covering synergistic subject matter,
- System developers, who constitute the route-to-market for the technology aspects of our work,
- Business consultants who can work with early end-users on training and organisational development,
- Organisations that set standards in our subject matter fields,
- Research communities in areas of direct, specific relevance to the project,
- National, regional and European funding bodies.

Secondary communication targets with whom we plan to have a less intensive dialogue about outcomes and user experiences include:

- Sector or geographical organisations of industrial end users, e.g. EARTO, EARPA, CLEPA, ERTRAC (automotive sector), ESTA (steel industry), VDI (German industry), EEF (UK), etc.,
- Vendors, integrators and sector organisations of industrial automation products (other than standards bodies - they are primary targets),
- Wider research community in areas related to our project activities,
- Manufacturing workers unions, e.g. Unite (UK), FNV (NL),
- Bodies involved in vocational training and worker development (EVTA, EFVET),
- Policy makers at European or national level.

Our communication priorities will shift during the course of the project:

- **In the first year** of the project, we are mainly interested in collecting information and knowledge on worker and management needs,
- **In the third and fourth year** we are mainly concerned with building momentum for system development and commercial installation initiatives. Communication efforts during the second half of the project execution will focus on potential commercial development partners, including system developers, system integrators and private funders.

We think we will be most effective in reaching the general public through collaboration with organisations, channels and content providers that are already established and effective in reaching this wide and fragmented audience. We believe this approach can maximise the impact we have on this audience at a moderate investment.

6 PLAN OF DISSEMINATION TOOLS

6.1 PROJECT CORPORATIVE IMAGE

PROJECT LOGO

The project logo is one of the most important elements of the project's identity. Its main purpose is to directly and effectively represent the core message of the project. That is why it is one of the basic means of the dissemination strategy. This logo captures the vision, mission and objectives of the FACTS4WORKERS project, and therefore the project logo has already been designed in the first month of the project.

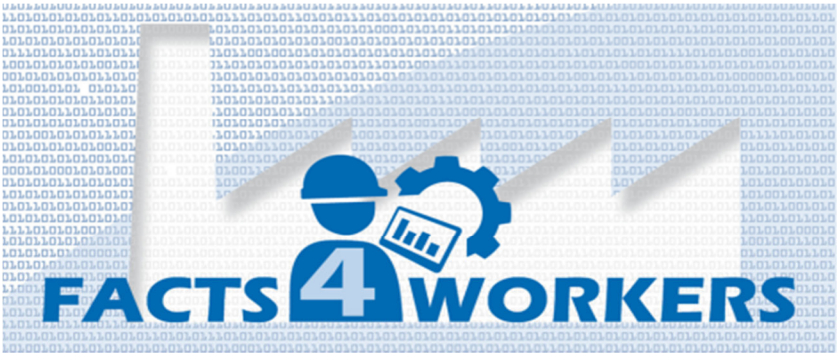

Figure 3: FACTS4WORKERS logo

PROJECT TEMPLATES

After the project logo has been designed, templates for different document types have been prepared (doc., exc., ppt). Templates enable the project to be represented in a uniform way. All templates will be available for the consortium partners on the Extranet.

Figure 4: Power point presentation template

Currently the following templates are available:

- General deliverable and document template (Microsoft Word),
- Deliverable review template for deliverable reviewers (Microsoft Word),
- Meeting template (agenda, minutes of meeting) (Microsoft Excel),
- Presentation template (Microsoft PowerPoint),
- Project - and Work Package Monthly - Status Template,
- FACST4WORKERS Logos (small, large, vector) and
- Risk Assessment Tool (Microsoft Excel).

Additional templates will be added as required.

All kind of documents, presentations etc. in FACTS4WORKERS have to be created by using the appropriate templates.

6.2 DISSEMINATION AND COMMUNICATION TOOLS

WEBSITE

The Website is one of the most effective sources of dissemination. It enables communication with the general public as well as communication among the consortium partners.

The website domain has been already reserved before the start of the project. The project website *http://facts4workers.eu* has been established quickly after the kick - off meeting and will be maintained after the end of the project.

The project website will act as a dissemination hub, central repository and news broadcast channel for all public information.

It will contain documents and dissemination material produced as a part of the FACTS4WORKERS project, such as press releases, a project brochure, conferences presentations, etc.

The website will be continually updated throughout the project so that it will constantly present update source of information for the interested stakeholders.

The website will also serve for constantly publishing all news and publications related to the project.

Until now the following news have been already published:

- Project presentation to high school students.
- Second project meeting: The Kick - off meeting of the WP2, WP3, WP4 and WP5.
- 1st Official FACTS4WORKERS press release.
- 1st General assembly meeting.
- 1st Project workshop - work package 1 (WP1).
- Kick - off meeting.

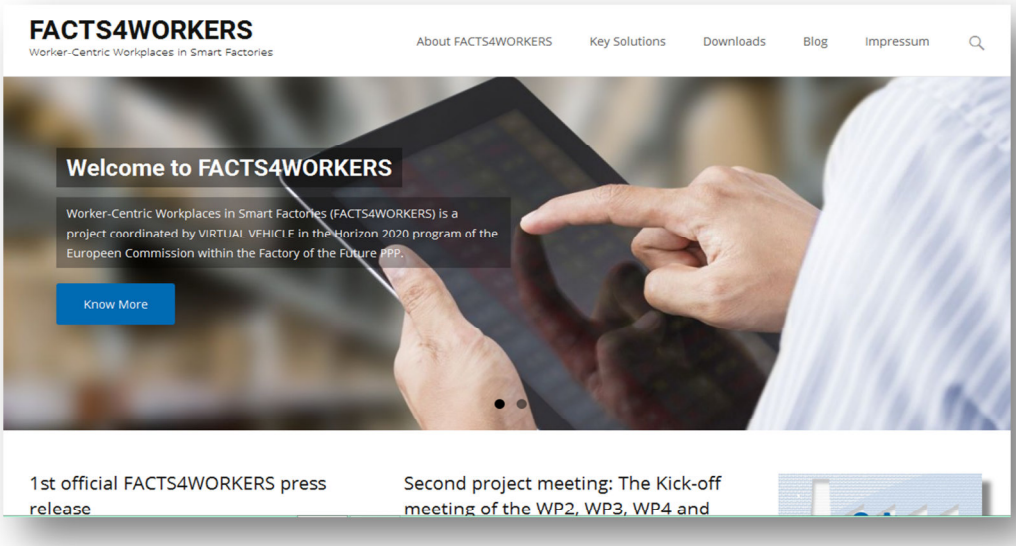

Figure 5: FACTS4WORKERS website, first page

FACTS4WORKERS website contains all important facts about the project that are divided in five sections (see in the picture below):

- Impact,
- Key facts,
- Goals,
- News and
- Partners.

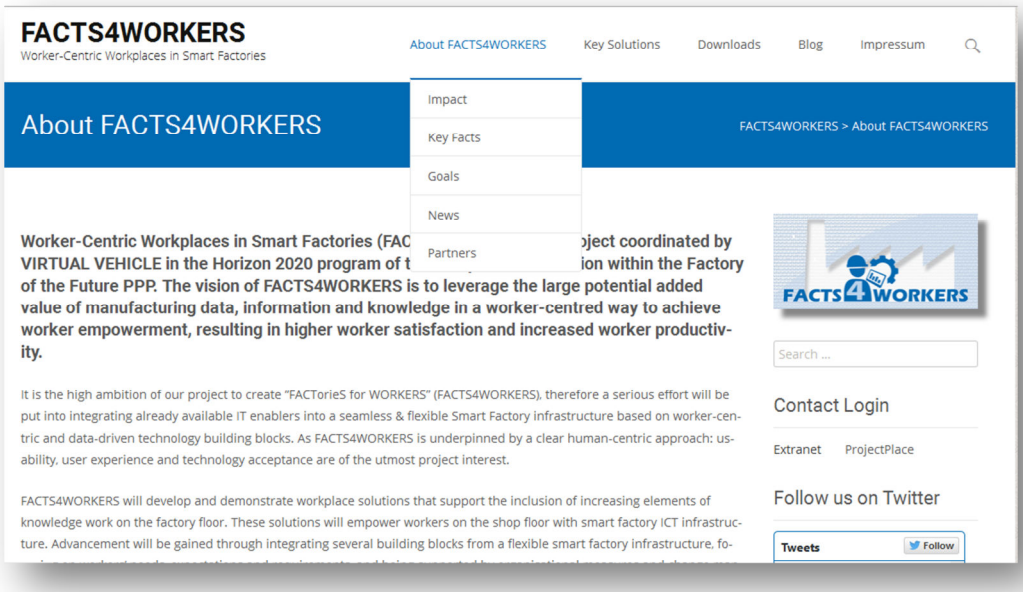

Figure 6: FACTS4WORKERS website

DELIVERABLES

Public FACTS4WORKERS project deliverables will be published on the project website and available for download. In this way all interested stakeholders will be informed about the achieved project results. Partners are responsible to notify the project coordinator and dissemination WP leader to publish the deliverables on the website.

FLYER/ BROCHURE

In order to inform a wide range of audience of the FACTS4WORKERS project and enhance its visibility, different dissemination materials will be prepared. Dissemination materials will contain FACTS4WORKERS logo, brief description of the project, and list of the partners.

Dissemination materials will be published on the website and will be available for download. They will be also distributed at the events attended by the partners in order to increase the visibility of the project and extend our network and contacts.

VIDEO RELEASE

To provide an audio - visual support to the whole project achievements and objectives, the video - record will be released in the main stages of the project and at the end of the project life cycle. The video - record will be uploaded on the project website and on social media. This is the new but powerful medium for dissemination of the project results in particular in reaching specific targeted audience (such as unions and wider research community).

PROJECT PRESENTATION AT EXTERNAL EVENTS

The partners will participate at external events relevant to the project in order to:

- present the project and project results to the audience,
- promote the project,
- increase the project visibility and
- establish new contacts.

▷ *Trade shows and exhibitions*

Consortium partners who will have a presence at international, national or regional events will where appropriate represent the project.

Events where partners plan to exhibit:

- Hannover Fair - Hannover, Germany: annual event. HID, HIR, THK, SCA, VUT will have stands there. This is the primary event with the widest manufacturing industry, and industrial automation reach. As it is an annual event we expect to have presence in 2015, 2016 and 2017.
- Cebit - Hannover, Germany: Annual event. Partners will certainly attend in 2015 as visitors, and we will contemplate stand presence if we find opportunities with other projects or research bodies in this.
- International Motor Show - Frankfurt, Germany: Annual

▷ *Conferences*

Industry of specific conferences will be excellent platform for disseminate our findings and start direct conversations with the audience.

The conferences we aim to get speaking slots at include:

- IAICT (International Conferences on Industrial Automation, Information and Communication Technology),
- CSCW (Conference on Computer-Supported Cooperative Work and Social Computing),
- COLLA (International Conference on Advanced Collaborative Networks, Systems and Applications),
- CIRP Conferences (CIRP Conference on Manufacturing Systems, Intelligent Computation in Manufacturing Engineering, CIRP Design, CIRP LCE – Life Cycle Engineering),
- DET (International Conference on Digital Enterprise Technology),
- CARV (International Conference on Changeable, Agile, Reconfigurable and Virtual Production),
- ICIPSE (International Conference on Industrial and Production System Engineering),
- IPROMS (Intelligent Production Machines and System Conference),
- WWW (World Wide Web Conference),
- ISWC (International Semantic Web Conference),
- ESWC (Extended Semantic Web Conference),
- International Conference on Production Research (ICPR),
- ILERA World Congress, The International Labour and Employment Relations Association (ILERA),
- International Interdisciplinary Conference on Research on Work (WORK),
- International Conference on Knowledge Technologies and Data-driven business (I-KNOW),
- Mensch und Computer (largest German- speaking HCI conference),
- Wirtschaftsinformatik (WI) and Multikonferenz Wirtschaftsinformatik (MKWI) (large German-speaking conferences on the topic of Business Information Systems),
- International conference on information systems (ICIS),
- European Conference on Information Systems.

Some of the consortium partners are very active in their research and business communities, and co-organise well - visited conferences.

All participations on conferences have to be justified.

BASIC PRESENTATION

The basic project presentation has been made, and all partners can use it for dissemination purposes. It is available on the extranet. This presentation will be constantly updated. All partners can additionally upload it with their contents.

PERSONAL COMMUNICATION

One of the primary, quickest and easiest means of being in contact with all partners in FACTS4WORKERS project will be via:

- e-mail,
- telephone,
- tele-conference (WebEx).

To make communication easier, a mailing and contact list has been created and is available on the Extranet. For designing timetables and determining dates of meetings we will use the Google application Doodle (www.doodle.com).

Tele - conferences between partners via Webex will be held at least once per month, so all partners will be informed about events and activities during the project.

Personal communication will take place also in face to face meetings during the project. Important meetings should be held face to face, especially GA meetings.

We will engage in direct conversations with a number of relevant research communities, industry bodies, other projects in the field, and other organisations.

The project also has its own e-mail: FACTS4WORKERS@v2c2.at.

MEETINGS AND MEETING PLAN

In the table below planned schedule of meetings during the overall project duration is shown. WP specific meetings can always be scheduled by request. Important meetings will be held face - to - face, especially GA meetings. The GA meetings will always be combined with the opportunity to have working meetings on WP level to save costs and reduce overall effort for travel. Because of the same reasons, several meetings will also be held as telephone conferences (telco, Webex, Skype).

MEETING	DATE / FREQUENCY	INVOLVED	TYPE
Kick Off Meeting	2015-01-12/13	All partners	F2F
Executive Board	10-12 per year	WP-leaders, scientific responsible, coordinator, other partners upon request and/or interest	Webex
General Assembly	1-2 per year	GA representatives	F2F
WP-specific Workshops	On request (by WP leader)	All WP partners	F2F, Webex
Advisory Board	1 per year (from year 2 on), combined with GA meeting	All partners	F2F
Mid-Term meeting	Month 25-26, combined with GA meeting	All Partners	F2F
Closing Event	November 2018	All partners	F2F

Table 1: Meeting plan

At virtual meetings, it might be useful to record the meeting and provide a link to the recording to all (absent) partners; however, the meeting should only be recorded after announcement at the start of the meeting and only if there are no objections.

PUBLICATIONS:

- ***Scientific publications***

Journal articles are a broad based dissemination tool. The consortium partners will cement the impact of dissemination activities by preparing and publishing reports and scientific articles in open access journals. This will ensure the long lasting impact beyond project duration, particularly in relation to academic discourse in the area.

We will make all specific publications stemming from FACTS4WORKERS research available through the gold open access in accordance with the call. We will select the most appropriate journal(s) for each specific paper.

Preliminary list of potential titles of specific papers for Scientific publications:

- Journal of Intelligent Manufacturing,
- Journal of Manufacturing Systems,
- Journal of Manufacturing Processes,
- Advances in Internet of Things,
- The CIRP Journal of Manufacturing Science and Technology,
- Procedia CIRP,
- Procedia – Social and Behaviour Sciences,
- Procedia Computer Science,
- International Journal of Information Management,
- MTAP (Multimedia Tools & Applications),
- JoWS (Journal of Web Semantics),
- IJoDSN (International Journal of Distributed Sensor Networks),
- HMD Praxis der Wirtschaftsinformatik,
- Business Information Systems Engineering,
- Journal of Information Management.

The plan of specific scientific publications will be established in line with the first project results and evaluations.

- ***Other publications***

Apart from peer review scientific papers we will also publish in more popular industry magazines and newsletters, such as:

- The Engineer in the United Kingdom,
- VDI Nachrichten and IT - production in Germany,
- Industriemagazin in Austria,

- Wing Business in Austria,
- Elektrotechnik und Informationstechnik in Austria,
- Computerwelt in Austria.

As these publications have a broader readership they do not contribute much to reaching our primary communication targets. The articles we write for these more generic publications will try to re-purpose content e.g. by summarizing one of our scientific publications and combining it with storyline elements of previous blog posts. This will reduce the publishing effort required.

LIBRARY OF RE-USABLE MEDIA ASSETS

The library of re-usable media assets will be created and will include photographs, videos, deliverables, templates, etc. We will use these materials as guidance when writing blog posts, conference presentations and other dialogue support material. Allowing others to use our assets with attribution will increase project exposure. Media assets will be made available for download from the project website.

SOCIAL MEDIA AND BLOGS

The project will activate also social channels in order to promote the finding of the project and foster the creation of a bi-directional collaborative community of interested stakeholder.

Social media are a very dynamic environment and one of the most popular and fastest ways to promote the project and enhance its visibility; therefore we have created a **Twitter account, blog account-** *http://facts4workers.tumblr.com/*, **Facebook account and LinkedIn account.**

Figure 7: Twitter page

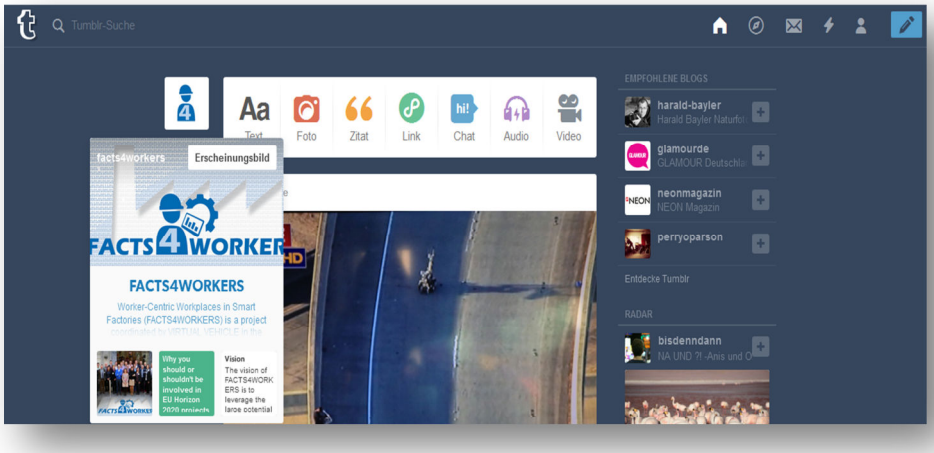

Figure 8: Blog (Tumblr) page

Figure 9: Facebook page

Playing an active role in social media is a far more effective way of engaging in conversation than merely posting something on the project website and hoping that one of our conversation targets will find it - and respond on it. The good thing about using the social web is that it does not require us to share only full formed ideas or complete pieces of research - we can share work in progress and get feedback that will improve results.

REACH-THROUGH COMMUNICATIONS

With reach - through communications we mean the re - packaging of our content by others who will integrate it into their communication activities with their target audiences - audiences that are of secondary importance to us and difficult to reach directly. This is especially true for the general public.

DIRECT PRIVATE CONVERSATION

We will engage in direct conversations with a number of relevant research communities, industry bodies, other projects in the field, and other organisations.

6.3 SUMMARY OF COMMUNICATION CHANNELS

The following table summarizes communication channels and key performance indicators, which are relevant for the consortium partners with respect to the targeted audience:

CHANNEL	TARGETS	METRICS
Project website	Everyone	# visitors > 300/month # subscribers > 1,000
Blogs and social media	Exploitation partners, research community, end user	# blog posts > 10/month # conversations > 3/month
Private conversations	Exploitation partners, other projects, standards bodies, policy makers, trade organisations.	# conversations
Scientific publications	Research community, exploitation partners.	# papers > 20 # citations
Other publications	End users, exploitation partners	# articles > 16 Audience > 100,000
Conferences	Research community, end users, exploitation partners.	# presentations > 15 Audience > 1,000
Trade shows	Exploitation partners, end users	# interacting visitors visitor profile # mentions in press
Research-through communications	Other projects, trade organisations	Reach - through audience

Table 2: Summary of communication channels

7 EXECUTION OF DISSEMINATION STRATEGY

SiEVA will lead the execution of the dissemination strategy. However all consortium partners will make a significant contribution to its full and effective implementation. Virtual Vehicle Research Center (VIF) will play an especially important role as the coordinator of consortium activities in aligning them to support SiEVA's objectives.

There are three deliverables associated with the dissemination strategy:

- Deliverable 7.1: Project website and Public Networking by the end of the month of May 2015. The leading partner is SIA)
- Deliverable 7.2: Dissemination and Exploitation Plan by the end of the month of May 2015. The leading partner is SIA)
- Deliverable 7.3: Activities report: regular updates: Papers, brochures, newsletter and other material produced for the dissemination purposes by the end of the month of November 2015, 2016, 2017 and 2018. (The leading partner is SIA).

DELIVERABLE	DISCRIPTION	MILESTONE	RESPONSIBLE PARTNER
D7.1	Project website and Public Networking	M6	SiEVA (SIA)
D7.2	Dissemination and Exploitation Plan	M6	SiEVA (SIA)
D7.3	Activities reports: regular updates	M12, M24, M36, M48	SiEVA (SIA)

Table 3: Table of deliverables

7.1 CONSORTIUM PARTNERS CONTRIBUTION

Interaction and communication with all consortium partners and interaction with all WP are necessary to successfully disseminate the results of the project, especially because WP7 retrieves results and contents of WP 1-6 for dissemination and exploitation.

Poor communication between partners and interaction between WPs can consequently bring poor dissemination and exploitation results.

All involved partners have to participate in dissemination activities by:

- Contributing the contents of their particular work packages: press releases, presentations, pictures, video releases, articles, publications, etc.,
- Informing about dissemination opportunities and treats,
- Participating and presenting the project at relevant events: conferences, workshops, trade shows, etc.,
- Regularly filling the tracking list of the planned and done dissemination activities,
- Reporting about done dissemination activities.

In order to successfully pursuit and comply with the objectives of the project and dissemination and exploitation strategy, we must track the dissemination activities of all partners and record them in our database. The database should present activities with details and arranged in chronological order. Because of that we designed a tracking list, where all partners should fill their planned and done dissemination activities.

To unify and simplify reporting of dissemination activities, consortium partners shall use one of the following forms we designed to report about dissemination activities:

- Conference report,
- Newsletter report,
- Meeting report,
- Press release report,
- Publication report,
- Workshop report,
- Trade shows report,
- Video release report.

7.2 PERSON MONTHS PER PARTNERS IN WP 7

PARTICIPANT NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SHORT NAME OF PARTICIPANT	VIF	HID	UFI	VUT	THK	HIR	IMI	SIA	UZH	THO	EMO	EVO	ITA	SCA	LUT
PERSON MONTHS PER PARTICIPANT	23	6	8	10	15	15	7	30	8	12	10	10	12	9	8

Table 4: Table of participants involvement in the dissemination and exploitation

7.3 RULES OF DISSEMINATION

Rules of dissemination are described in a detailed way in the Project handbook and include the following chapters: *General information, publications, publications announcement, review period, publication accepted and open access.*

7.4 AKNOWLEDGEMENT OF EUROPEAN UNIONS'S FUNDING

All dissemination material needs to include the EU emblem and the following acknowledgement:

»This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 636778.«

When the EU emblem is displayed together with other logos, it must have appropriate prominence.

7.5 DISSEMINATION GUIDELINES

Dissemination guidelines related to the open access are available on the extranet in order to successfully implement dissemination activities.

8 ALREADY DONE DISSEMINATION ACTIVITIES

The most dissemination activities started at the start of the project.

There are some dissemination activities that have been already achieved:

- **CONFERENCE, PROJECT PRESENTATION**

NO	TYPE OF DISSEMINATION ACTIVITY	NAME OF EVENT / TITLE	PERIOD	PARTNER
1	Invited conference talk	International Conference on Knowledge Technologies and Data - Driven Business. Title: Worker - Centric Workplaces in Smart Factory.	September 2014	VIF
2	Invited conference talk	CMG - AE Convention; Computer Measurement Group - Austria & Eastern Europe - "Industrie 4.0: Revolutionäre Anforderungen an die IT oder Business as Usual? Title: Worker Centric Workplaces in Smart Factories - Introduction.	February 2015	VIF
3	Project presentation	Title: Project presentation to high - school students (with participants in computer informatics and programming classes).	March 2015	HIR
4	Invited conference talk	4. Wissensmanagement - Tage Krems. Title: Mensch - zentrierte IKT in Smart Factories Anwendungsfälle aus dem Industrie - 4.0 -Projekt FACTS4WORKERS.	April 2015	VIF
5	Invited conference talk	Mensch-zentrierte IKT in Smart Factories Anwendungsfälle aus dem Industrie - 4.0 -Projekt FACTS4WORKERS. Title: Human Resources - Expertenforum: "Arbeiten in der digitalen Welt - Was bedeutet Industrie 4.0 für die Mitarbeiter konkret" at Strategische Partnerschaft Sensorik e.V.	April 2015	VIF

Table 5: Already achieved dissemination activities

- **EXTERNAL PRESS RELEASES:**

1. Reviewed Journal, E&I Elektrotechnik und Informationstechnik, 2014. Title: Mensch-zentrierte IKT-Lösungen in einer Smart Factory.
   Link: http://link.springer.com/article/10.1007%2Fs00502-014-0215-z
2. Non reviewed journal, Virtual Vehicle Magazine, 2014. Title: Informations – und Kommunikationstechnologie für Smart Worker.
   Link: http://www.v2c2.at/fileadmin/user_upload/pdfs/VVM20_Area-A_v18-FINAL-LR.pdf
3. myScience: Smart Factories. Link: http://www.myscience.at/wire/smart_factories-2015-tuwien
4. Electronic Specificer: Project aims to boost Europe as a production location.
   Link: http://production.electronicspecifier.com/around-the-industry/project-aims-to-boost-europe-as-a-production-location
5. DigitalManufacturing: Smart Factories: Forschungsprojekt stellt Menschen in den Mittelpunkt der Produktion.
   Link: http://www.digital-manufacturing-magazin.de/smart-factories-forschungsprojekt-stellt-menschen-den-mittelpunkt-der-produktion
6. TU Wien website: Smart Factories: European research project focuses on the human component in tomorrow's production.
   Link:http://www.ikl.tuwien.ac.at/mechanical_engineering_informatics_and_virtual_product_development/research/facts4workers/EN/
7. Inventor magazine: Forschungsprojekt stellt Menschen in den Mittelpunkt der Produktion.
   Link: http://www.inventor-magazin.de/smart-factories-forschungsprojekt-stellt-menschen-den-mittelpunkt-der-produktion
8. PQRM TD: Facts 4 Workers.
   Link: http://www.pqrm.at/2015/02/27/industrie-4-0-facts-4-workers/
9. SCIAM: Europäisches Forschungsprojekt stellt den Menschen in den Mittelpunkt der Produktion von morgen.
   Link: http://www.sciam-online.at/europaeisches-forschungsprojekt-stellt-den-menschen-den-mittelpunkt-der-produktion-von-morgen/
10. Computerwelt: Aktuelle IT-News Österreich: Smart Factories: Europäisches Forschungsprojekt stellt Menschen in den Mittelpunkt.
    Link: http://www.computerwelt.at/news/wirtschaft-politik/forschung-wissenschaft/detail/artikel/110367-smart-factories-europaeisches-forschungsprojekt-stellt-menschen-in-den-mittelpunkt/
11. Kooperation-International: Smart Factories: Europäisches Forschungsprojekt stellt Menschen in den Mittelpunkt der Produktion.
    Link: http://www.kooperation-international.de/detail/info/smart-factories-europaeisches-forschungsprojekt-stellt-menschen-in-den-mittelpunkt-der-produktion.html
12. SiEVA Website: Meeting of the partners of the European consortium FACTS4WORKERS /Srečanje partnerjev evropskega konzorcija FACTS4WORKERS.
    Link: http://www.sieva.si/en/news/#news-43/
13. HIDRIA Website: Prvo srečanje evropskega konzorcija FACTS4WORKERS.
    Link: http://si.hidria.com/si/o-nas/novice-dogodki/8948/detail.html

14. TM MARTES 20.ENE.2015 HERALDO DE ARAGÓN: FACTS4WORKERS>EMPLEADOS SATISFECHOS VÍA TIC.
    Link: http://prensa.unizar.es/noticias/1501/150120_z0_HE-TM01.pdf
15. SFG: FACTS4WORKERS.
    Link: http://www.sfg.at/cms/371/8216/FACTS4WORKERS/
16. LUT Research Portal: Worker-Centric Workplaces in Smart Factories (FACTS4WORKERS).
    Link: http://research.lut.fi/converis-lut/publicweb/project/17452
17. HERLADO.es: Facts4workers,empleados satisfechos vía tic.
    Link:http://www.heraldo.es/noticias/suplementos/2015/01/24/facts4workers_empleados_satisfechos_via_tic_334878_314.html
18. IMC-International M2M Council: Human centred smart workplaces increase smart factory productivity.
    Link: http://www.im2mc.org/humancentred
19. Itainnova website: Smart Factories: Itainnova participa en el proyecto de investigación europeo centrado en el componente humano de la fábrica del future.
    Link: http://www.itainnova.es/tag/facts4workers
20. Non reviewed brochure: Razvojni dosežki 2011-2014. Project presentation in the brochure of the company SiEVA, page 38.
    Link: http://www.sieva.si/userfiles/files/sieva-razvojni-dosezki-2011-2014.pdf

9 PLANNED DISSEMINATION ACTIVITIES

The table below shows the plan of potential dissemination activities. The plan will be constantly updated.

NO	NAME OF EVENT / TITLE	LOCATION	PERIOD	TYPE OF DISSEMINATION ACTIVITY
1	MOTSP2015; International Conference Management of Technology - Step to Sustainable Production (MOTSP 2015)	Brela, Croatia	June 2015	Conference: Paper and talk
2	Zukunftstag der steirischen Wirtschaft - Smart Production & Services	Graz, Austria	June 2015	Invited talk with workshop
3	ESWC EU Networking Event	Portoroz, Slovenia	June 2015	Conference: Poster & Brainstorm
4	ITAINNOVA event/workshop.	Zaragoza, Spain	June 2015	Event/workshop
5	IMAGINE15	Vienna, Austria	June 2015	Project presentation
6	1. Wissensmanagement - Tage für Industrie und Produktion 4.0	Stuttgart, Germany	June 2015	Invited talk
7	International Conference on Production Research (ICPR)	Manila, Philippines	August 2015	Conference: Paper and talk
8	ILERA World Congress	South Africa	September 2015	Conference: Paper and talk
9	HMD	Germany	October 2015	Presentation of FACTS4WORKERS Project, general description of possible use-cases

Table 6: Plan of potential dissemination activities

10 EXPLOITATION

Our exploitation strategy is broken down into tasks:

- Successful exploitation implies turning scientific results and prototypes into sustainable, user optimised, ready for use applications and services.
- To ensure this, activities during the project have to be aware of possible exploitation routes. This will be cared for establishing a detailed exploitation plan following tactical objectives defined before and accordingly to measures described.

10.1 REPORTING OF EXPLOITATION

Every partner needs to report exploitable foreground and any IP protection measures such as patents or trademarks. For this purpose the reporting forms will be elaborated. Forms will be available on FACTS4WORKERS Extranet.

These reporting forms need to be maintained continuously to:

- show the impact of FACTS4WORKERS,
- ensure proper handling of the rules stated in the consortium agreement and
- feed the lists needed for the project reporting.

10.2 INTELLECTUAL PROPERTY RIGHTS

We do not a priori expect that we will create IPR in the form of patents. Unless we consider patent application, we will publish the results of our research under the gold open access scheme. This will make scientific papers freely available for all to build on.

Detailed instructions regarding intellectual property rights are available in the Grant Agreement No 636778.

10.3 CONSORTIUM PARTNERS' EXPLOITATION INTERESTS

Consortium partners have various interests in exploiting:

- intellectual property rights (in case that they will be created),
- know - how and
- implicit knowledge resulting from their participation.

The particular consortium partners' exploitation interests are summarized in the following table:

PARTNER	EXPLOITATION ROLE	PRIMARY INTEREST
VIF	Research, consultant, spin-out	VIF's main interests lie in the link between (virtual) product development and the continuous product/process/plant innovation taking place in smart factories. They will exploit the knowledge gained—especially on Big Data analysis, AR and Knowledge Management through their consultancy work for the automotive industry.
HID	End user	HID will play a direct, active role in the commercial development of project results into industrial practice. They are looking to integrate solutions in the production lines they develop, sell and install within the group and at external clients, contributing to substantial growth in sales.
UFI	Research	UNIFI expects to gain competencies in data analysis and decision support system design that it will use to augment teaching aspects in their engineering curriculum. Through technology transfer activities they will also promote the IC solution concepts to their industrial networks in Tuscany and the rest of Italy region.
VUT	Research	For VUT as research institution, the more generic results predominantly with respect to augmented operator assistance, semantic content/knowledge management on shop floor level, and in-situ mobile self-educating systems contribute to a further extension of research know how and can be exploited within subsequent projects covering similar fields of expertise. Through the scientific lead of this project, VUT expects to advance its research and consultation capabilities for the heavily multi-disciplinary Industry 4.0 related topics towards enterprises, generating additional third-party incomes for the institute.
THK, HIR SCA	End user	Our large industrial partners THK, HIR and SCA are public companies and are very careful in issuing forward-looking statements. As is evidenced by their interest in piloting our solutions to the industrial challenges, they see strong application potential throughout their organisations, and expressed willingness to roll out the solutions widely and swiftly provided ROI is as foreseen.
IMI	Consultant, spin-out	IMI will exploit their advances to the semantic workflow engine components through co-development and consultancy within the field of manufacturing, and will be able to contribute to further standardisation of functional workflow descriptions within the W3C standardisation committee.
SIA	Consultant	SiEVA will lead the project's dissemination efforts (WP7), responsible for transferring the piloted technology and solutions to industrial and scientific partners on the national and European levels. This will strengthen SiEVA's own R&D capabilities (to the benefit of its member companies in Slovenia) and its R&D networking potential.
UZH	Research	UZH is looking to gain better understanding of working practices of factory workers and appropriation of IS. They plan to leverage the knowledge gained of measuring success of ICT implementation projects into a commercial service offering.
THO	End user	THO manufactures and markets thermally insulating containers. They operate injection moulding and other forming machines and are looking to roll out the Augmented Operator and In-Situ Learning solutions throughout their plant, working closely with ITA. THO will act as a showcase to SMEs who are looking at implementing Smart Factory principles. THO expects to gain both direct productivity and quality improvements, as well as generate additional sales through increased exposure.
EMO	End user	Toolmaker SME EMO is looking to roll out the piloted solutions throughout their factory, and expect to increase quality, decrease production costs, reduce errors and improve their speed of innovation. EMO will furthermore leverage the exposure they will get as an example "Smart SME" in their sales & marketing efforts.
EVO	Consultant, innovation provider	EVO is looking to expand its experience and know-how in the design and implementation of mobile, AR-enhanced decision support systems in industrial environments. EVO serves industrial clients (e.g. Infineon) and is active in EU and national projects, most importantly Assist 4.0. EVO is looking to roll out implementation among its regional network in Styria.
ITA	Consultant, research, spin-out	ITA supports hundreds of industrial SMEs inside its Aragon region as well as outside of it and has the ambition to apply the results of the project into many of these in some way. It has discussed pathways to roll out mplementation with industrial consultants in its ecosystem and the creation of a joint venture with one or more of these actors is considered. More tangible plans will be developed in parallel to the project and also inside it (WP7)
LUT	Research	LUT is looking to expand its knowledge on collaborative working practices among workers—including knowledge acceptance and innovation skills development—and on organisational knowledge processes. LUT is looking to exploit this knowledge through research- and consultancy contracts with industry.

Table 7: Partners' exploitation interests

10.4 ROUTE TO MARKET

The development and diffusion of our pilot concepts into industry solutions will go through three phases. Phases in development and diffusion of solutions are summarized in the following table

TIMELINE	2015-2018	2018-2020	2021-2025	2026-2030
Phase	Project execution	Commercial solutions development	Market penetration	Mainstream adoption
Users	Industrial partners	Industrial partners + few others	Ecosystems	Smart industry[1]
# User companies	6 pilots	<100 co-developers	1,000's	10,000's
# Workers	100's	1,000's	100,000's	millions
Technology implementation	Research partners	System developers	Systems integrators	Systems integrators & end users
Training[2]	Partners	Organisational development consultants	Systems integrators, Trainers	Trainers & end users
# Implementation consultants	Partners only	< 25 FTE	100's FTE	1,000's FTE

Table 8: Summary: Phases in development and diffusion of solutions

The first phase of route to market process consists of implementation of 6 use cases (UC). The concepts will be implemented at UC partners' shop floors and evaluated. In case of positive feedback research and development partners will explore the options to widen the use of UCs within partners' companies but on a wider scale and also search interested companies outside the consortium. This period from 2018-2020 will explore the commercialization possibilities of the solutions, via new product offering or entry through industrial links. Market penetration will be made by contacting possible industrial customers in a wide

[1] With "Smart industry" we mean factories that have implemented smart ICT infrastructure, i.e. those that can technically implement our solutions.

[2] Under "Training" we include skills training and organisational/cultural development.

arrange of industries, but firstly tapping possibilities in the automotive sector due to good links of the consortium with this sphere. After establishing the state of the industry and market penetration possibilities, the development partners' solutions will be marketed and disseminated by them separately for the industry or with cooperation with industrial partners (mentioned above) in the following 2021-2025 period. Technological cooperation and consultancy between the two is expected to continue in different forms, also in forms of new development projects on European level. Market cooperation between FACTS4WORKERS industrial partners and development partners will be crucial for success or failure for new solutions to enter the market or to make an impact in the industry. The final period of market uptake - 2026 - 2030 - is expected to continue living on its own with new solutions, new upgrades in new projects and partnerships.

10.5 EXPLOITATION OF RESULTS

During our project we will develop and demonstrate an integrated smart factory workplace pilot based on **four distinct solutions to industrial challenges**:

- **IC1 - Personalised Augmented Operator,**
- **IC2 - Worker - centric knowledge sharing / management,**
- **IC3 - Self - Learning manufacturing workplaces,**
- **IC4 - In - Situ mobile learning in the production.**

These solutions will be developed to a level that they can be demonstrated in our industrial pilots, and allow us to measure their impact on productivity and job satisfaction among workers participating in those pilots.

▷ IC1 - Personalised Augmented Operator

Objectives:

- To increase cognitive job satisfaction of workers participating in the pilots,
- To increase average worker productivity by 10% for workers participating in pilots,
- To achieve TRL 5-7 on a number of worker-centric solutions through which workers become the smart element in smart factories.

Industry challenge specific requirements:

- Better information visualisation for hands - free operation in production lines,
- Combination of intelligent data with seamless interaction / interfaces,
- Assistance of workers by Augmented Reality (AR) content displayed in smart digital, glasses / head - mounted display in changing production settings,
- Personalisation of information.

▷ IC2 - Worker - centric knowledge sharing / management

Objectives:

- To increase problem - solving and innovation skills of workers,
- To increase cognitive job satisfaction of workers participating in the pilots,
- To achieve TRL 5-7 on a number of worker-centric solutions through which workers become the smart element in smart factories.

Industry challenge specific requirements:

- Enable production workers to interact and share knowledge while adding value to raw materials,
- Introduce Web 2.0 and Open Innovation into the shop - floor,
- Allow know - how exchange, especially between younger and senior workers.

▷ IC3 - Self - Learning manufacturing workplaces

Objectives:

- To increase problem-solving and innovation skills of workers,
- To increase cognitive job satisfaction of workers participating in the pilots,
- To increase average worker productivity by 10% for workers participating in pilots,
- To achieve TRL 5-7 on a number of worker-centric solutions through which workers become the smart element in smart factories.

Industry challenge specific requirements:

- Predictive decision support for workers and services,
- Integration of MES, SCADA, ERP data for shop floor assistance,
- Suitable visualisation of context-aware information by adaptive HCI/HMI concepts,
- Creation of a self-learning workplace based on predictive data analysis,
- Automated, adaptive control of the services involved in the process.

▷ IC4 - In - Situ mobile learning in the production

Objectives:

- To increase cognitive job satisfaction of workers participating in the pilots,
- To achieve TRL 5-7 on a number of worker-centric solutions through which workers become the smart element in smart factories.

Industry challenge specific requirements:

- Unlock the potential of mobile learning for work-based training in the right time and right place directly in the situation and work context (in-situ),
- Contextual learning especially for younger workers, based on the previously prepared learning material with experienced staff,
- Learning content and interaction models taking into account worker roles, experience & gender aspects and multilingual learning system.

11 CONCLUSION

The Dissemination and exploitation plan is the key tool, which we will use for dissemination and exploitation of the project and project results. This plan presents dissemination tools for particular targeted audience and draft of the exploitation strategy. It is a living document, which will be continually monitored, updated and reported during the project.

12 REFERENCES

1. FACTS4WORKERS Project's Consortium Agreement.
2. FACTS4WORKERS Project - Handbook, Version 1, 30.01.2015.
3. Grant Agreement Number 636778 - FACTS4WORKERS.

A. ABBREVIATIONS AND DEFINITIONS

TERM	DEFINITION
WP	Work package
SIA	SiEVA d.o.o.
VIF	Virtual Vehicle Research Center
UC	Use case
HID	Hidria TC Tehnološki center d.o.o.
UFI	Universita degli Studi di Firenze, Department of Industrial Engineering
VUT	TU Vienna, Institute for Engineering Design and Logistics Engineering
THK	ThyssenKrupp Steel Europe AG
HIR	Hidria Rotomatika d.o.o.
IMI	iMinds VZW
UZH	University of Zurich, Department of Informatics
THO	Thermolympic S.L.
EMO	EMO-Orodjarna d.o.o.
EVO	Evolaris next level Gmbh
ITA	ITAINNOVA/ Instituto Technologico de Aragon
SCA	Schaeffler Technologies AG & Co. KG
LUT	Lappeenranta University of Technology