DATA SPACE 4.0

A European Common Digital Manufacturing Infrastructure and Data Space Pathway for Connected Factories 4.0 Data Value Chain Governance

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FONDAZIONE POLITECNICO DI MILANO	FPM
COMMISARIAT A L'ENERGIE ATOMIQUE ET AUZ ENERGIE ALTERNATIVES	CEA
VDI TECHNOLOGIENZENTRUM GMBH	VDI TZ
BRAINPORT INDUSTRIE COOPERATIE UA	BPI
INDUSTRIE 4.0 OSTERREICH-DIE PLATFORM FUR INTELLIGENTE PRODUKTION	PIA
CHALMERS TEKNISKA HOGSKOLA AB	CHALMERS
INTERNATIONAL DATA SPACES EV	IDSA
ENGINEERING – INGEGNERIA INFORMATICA SPA	ENG
UNPARALLEL INNOVATION LDA	UNPARALLEL
SOFTWARE QUALITY SYSTEMS SA	SQS

Executive Summary

This document provides a detailed overview of the EU DATA SP4CE project activities about dissemination, communication and engagement. It is set to achieve one of the main objectives of EU DATA SP4CE which are related with the communication by putting together methodologies, assets, models and communities to maximize visibility, mobilization and a data space worldwide community.

To ensure the implementation of this strategy, the project consortium set up a professional PR office led by the DFA (Digital Factory Alliance – digitalfactoryalliance.eu) to identify six target audience groups which will be analyzed and studied in order to put in place the required communication and engagement actions.

Overall, the Plan develops a centralized approach to coordinate different sources, contacts and partner networks to make sure that external audience get the appropriate message of EU DATA SP4CE therefore crating synergies in all communication efforts. This approach relates to actions e.g. branding, communication materials, website, etc. In the meanwhile, it also provides flexibility and decentralization, allowing each partner to lead the communication in their networks as they see fit.

In addition, the Plan put the focus on the engagement activities that will need to be carried out with the purpose of building up a community synergy and widening the project outreach to new audience groups.

Keywords: Risk management, risks in the project, mitigation measures, risk assessment

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Abbreviations and Acronyms

Acronym	Meaning
CA	Consortium Agreement
CPPS	Cyber-Physical Production System
DoA	Description of Action
EC	European Commission
GA	General Assembly
IPR	Intellectual Property Regulations
KPI	Key Performance Indicator
REI	Responsible Exploitation & Innovation Board
RRI	Responsible Research & Innovation
TCC	Technical Coordination Committee
WP	Work Package

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1 Introduction

One of the EU DATA SP4CE objectives is to keep internal and external audiences, including media and the public, informed in a strategic and effective manner. Dissemination will be one of the key promoters of the creation of Communities and Interest Groups in order to propagate and multiply awareness and knowledge of the project.

1.1 Purpose and scope

Deliverable 7.1 is the first report of WP7 "Manufacturing Data Space Outreach, community scale up & sustainability", due on the first month of the project. This deliverable reports on the communication strategy and action plans to disseminate and deploy the future achievements and results of the tasks:

- T7.1: Dissemination and Communication
- T7.2: Training and Skills for Manufacturing Data Spaces
- T7.3: Standards and Interoperability Action Plan
- T7.4: Manufacturing EDIH and AI TEF Communities Engagement & Sustainability Models
- T7.5: Manufacturing Data Space Deployment Bootstrapping

2 Communication Strategy

EU DATA SP4CE addresses the full range of potential users and uses along with the related issues concerning the dissemination, exploitation and management of intellectual property rights (IPR), by proactive planning and agreements. The following sections describe in detail the programmed steps and the available tools of the dissemination and exploitation strategy.

The Communication objectives are:

(i) to reach to the public and raise awareness about the EU DATA SP4CE strategy to support the deployment of data spaces in the manufacturing sector and empower manufacturing industry 4.0 community. Therefore, the communication plan will focus on impacts within the defined target groups.

(ii) to make the project a valid source of information to approach the main data and data spaces challenges at European level

(iii) to create synergies and exchange experience with projects, groups and initiatives active in the field, to join efforts with national/regional/ local data spaces initiatives, national platforms, associations and knowledge and innovation communities, and maximize common potential and implementation timings.

On the other hand, the Dissemination and engagement objectives are:

(i) to create public awareness and generate scientific interest for manufacturing data ecosystems for data sharing and data operation

(ii) to directly involve stakeholders that could help bringing the gap between data spaces technologies, infrastructure and market demand

(iii) to maximize the impacts of the project achievements

(iv) to diffuse acquired knowledge, methodologies and technologies developed and tested during the project

(v) to facilitate the cooperation with the European manufacturing and digital community.

The overall timeline for the D&C activities is structured in four main phases according to the AIDA model (Awareness, Interest, Desire, Action). It is a model used by a wide spectrum of organizations and is suitable for attracting and building relation with stakeholders. The stages that D&C strategy will follow are:

- <u>Awareness</u> / **Initial Phase / M1-M3:** to build awareness for EU DATA SP4CE, making the project visible and recognizable, sharing its objectives, values and technological innovation(s). Visual identity and logotype, templates, website and social media accounts are set. ***Channels & Tools:*** *Website and social media.*

- <u>Interest</u> / **1st Intermediate Phase / M4-M8:** The early EU DATA SP4CE results will be disseminated via publications and scientific papers to journals, to increase the interest to researchers and scientific communities, presenting in conferences and events. Communication actions will continue leveraging the potentials of social media, website and newsletters. Partnering with other projects is another important pursue during this phase. ***Channels & Tools:*** *Website, newsletter, social media, networks, publications*

- <u>Desire</u> / **2nd Intermediate Phase / M9-M12:** This phase will focus on further engagement of the targeted audiences with the project. Dissemination of evolving results through events and publications will create additional interests in EU DATA SP4CE. Informing target markets about the technological breakthroughs and business benefits of EU DATA SP4CE is also an important part of this phase that works as a preparatory stage for the final mature phase. ***Channels & Tools:*** *Website, newsletter, social media, networks, publications.*

- <u>Action</u> / **Mature-Final Phase / M13-M15:** This phase will focus on maximizing target market and industry awareness about the EU DATA SP4CE. The results will be disseminated through the aforementioned channels. Communication and dissemination efforts will support the project sustainability and its effective exploitation and market replication. Al the efforts made in previous phases will be leveraged in this final stage. ***Channels & tools:*** *Website, newsletter, social media, events/conferences, videos, publications, articles, data.*

The consortium partners have important contact networks and communication channels that will help not only to give visibility to the project, but also to ensure the long-term sustainability of the initiative and the involvement of stakeholders, initiatives, organizations, alliances, etc. within the European digital and manufacturing community that can participate in and benefit from the data ecosystems.

2.1 Timing of dissemination activities

The dissemination activities will differ in intensity based on the evolution of the project. The dissemination activities will be carried out in four main phases, spanning throughout the project duration and extend beyond it, starting from the creation of general awareness and concluding with attracting potential supporters and customers/users of the project results. The dissemination activities of the EU DATA SP4CE project will be carried out in four main phases. The four phases are summarized below:

Table 1 Phases for dissemination activities

Phase / Aim /Intensity	Content disseminated	Main target audiences	Dissemination Channels
Phase I: First 3 Months · Awareness raising · Light	Approach-oriented content; project presentation; objectives; expected results	Industrial & Technological communities; Potential end-users.	Website, Exhibitions, Leaflet & Brochures, Conference, Workshops.
Phase II: Till end of Project · Customers &constituency attraction · Medium	Result-oriented content; project intermediate and final results	Potential supporters & end-users, strategic partners.	Exhibitions, Trade fairs, Workshops, Focused publications, Conferences.
Phase III: During the year after the Project · Mature & Commercialise · Strong	Result-oriented content; final results; integrated experiment; showcases & lessons learnt	Potential supporters & end-users, strategic partners	Exhibitions, Trade fairs, Partners leaflets, press releases and publications.

2.2 Main messages

Firstly, the main messages to be communicated are the vision and mission of EU DATA SP4CE and the concept of the project per se:

EU DATA SP4CE mission is to set a pan-European reference and sustainable data space 4.0 alliance counting with a data space 4.0 governance and guidelines in order to raise awareness on the importance of the collaborative data spaces for manufacturing industry. EU DATA SP4CE is an opportunity to engage stakeholders across the supply chain (product and process) and across industries to ensure that a more dynamic management of assets, more accurate predictive maintenance of products and assets and more efficient, agile, sustainable and resilient supply networks can be operated. This will provide a better understanding of motivation to build connected and collaborative DVC, concerns, interests, and explore approaches to create a functional cooperation to operationalize the deployment of a data space 4.0 continuum.

Secondly, other messages to be communicated, conforming to the strategy above, should be highly relevant to the following topics:

- What is EU DATA SP4CE about? (EU DATA SP4CE in a nutshell)
- What are EU DATA SP4CE impacts and added value to Industry 4.0?
- What is expected to be achieved by EU DATA SP4CE? (The main objectives and future outputs)
- What are EU DATA SP4CE activities to achieve such expectations?
- Industrial trends affecting EU DATA SP4CE progress.

These messages will both be transmitted in visual (e.g., logos, design items, images and videos) and written form. (e.g., press releases, news items, reports, presentations…) Messages will be customized according to different circumstances and the need of partners in a decentralized manner, all serving to convince the target audiences about how EU DATA SP4CE can achieve its objectives, contribute to retain European manufacturing competitiveness and solve industry 4.0 challenges through its open transformative shared data-driven Factory 4.0 model.

Deliverables available for the public and milestones achieved can be other messages of interest to certain target groups.

Table 2 Audience of approach and message

Target Groups	Channel
European manufacturing and digital community main representatives: AIOTI, BDVA, GAIA-X, FIWARE FOUNDATION, IDSA, AI4EU, EFFRA, CECIMO, euROBOTICS, etc	Website, Events, LinkedIn, Publications
Networks of European SMEs and DIHs/TEFs: DIH4Industry, EDIH, EUHUBS4DATA, AI REGIO TERESA, LIFT Didactic Factory Networks, etc	Website, Newsletter, Events, LinkedIn, Twitter, Publications, Articles & Press Releases
National platforms: Platform Industrie 4.0, Alliance Industrie du Futur, Industria Conectada 4.0, etc	Website, LinkedIn, Twitter, Events
General Public and Media: EU citizens, online and offline Media, NGOs and others that have general interest in technology, innovation and engineering	Website, LinkedIn, Twitter, Publications, Videos, Articles & Press Releases
Associations and alliances: IDTA, Open Industry 4.0 Alliance, OPC-UA Foundation, AML, ProSTEP, EIT Manufacturing, EIT Digital, EFNMS, etc	Website, Newsletter, Events, LinkedIn, Twitter, Publications
Research & Scientific community: Universities and Research Institutes (fields on AI, Data, IoT, CPPS, Green Digital Production, etc)	Website, Events, LinkedIn, Publications, Articles & Press Releases
Standardisation Bodies	Website, LinkedIn, Twitter, Newsletter, Articles & Press Releases, Videos

KPIs: 1× Website / 4× Newsletter / 100+× Events / 1500× Followers: LinkedIn / 2000× Followers: Twitter / 10+× Publications / 2× Videos / 5+× Articles & Press Releases
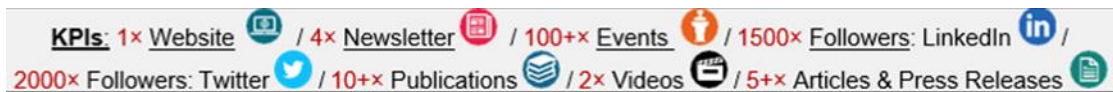
- **FPM** has a wide ecosystem of associations and initiatives. In particular for the Manufacturing side, it is in the Board of EFFRA and is a member of A.SPIRE for process industry. Close relationship with the "Made in Europe" and "Processes4Planet" Partnerships and their projects in HEP (Cluster 4 Destination 1 and 2) will be sought and nurtured.

- Regarding the Data Space side, **Politecnico** is co-chairing the BDVA group in Smart Manufacturing Industry and it is an active member of IDSA and DSBA. Dissemination actions to ADRA (AI Data and Robotics) Partnership are also foreseen in HEP (Cluster 4 Destinations 3 and 4).

- **VDI** is in the process of organizing a similar discussion in the Data Space Industrie 4.0 in Germany. Particularly, it wants to bring the heterogeneous stakeholders together

to identify the necessary interfaces to establish a common data space for Industry 4.0. The approaches and results of the CSA project will contribute to creating a structured discussion field through the planned blueprints for data spaces and will thereby exploited already while the project. The know-how gained by VDI within the CSA will also form the basis for future consulting projects for federal ministries in all areas.

- **BPI** has on the Brainport Industries Campus several DIH's, the upcoming EDIH is a Didactic Factory so through the network of RTO', SME's and Education workshops and whitepapers will be organized.

- **IDSA** will make the results known to all IDSA members (130+ companies and RTOs from 20+ countries) and relevant partner initiatives like the European Industrie 4.0 initiatives, various international initiatives concerning data economy and IoT. Results will be implemented in the IDSA roadmap and interactive exchanges with various stakeholder groups and organizations like EFFRA, ALICE, BDVA among others.

- **IDC** intends to directly exploit the assessment of technologies and pilots in their analytical research dossiers and custom research, offering clients testing and evaluation insight from the pilots, which are currently not in the IDC market offering. They will exploit the dissemination to reach new clients and increase their standing in the competitive technology assessment market.

2.3 DFA – Communication organization

The Public Relations and Communication Office (the PR office) has been established to be responsible for organizing and conducting communication activities. As mentioned, all activities related with communication will be carried out through the DFA channels.

The PR Office is led by DFA (https://digitalfactoryalliance.eu/), who are responsible for all the online presence, including website, social media networks, coordinates among partners, organizes webinars and teleconferences, and newsletters.

The PR office constructed a mailing list used in internal communication for reporting as well as coordination activities. It also motivates advisory board to become ambassadors for the project, generating word of mouth effect.

2.3.1 What is the DFA

Industry is slowly and painfully learning that Industrial Internet, AI and big data can bring business value to factory operations. However, the replication of such pilots to other factories is still a very limited, complex, time consuming and expensive process. Initiatives like BOOST 4.0 and Qu4lity evidenced that Industry 4.0 lacks from a common global knowledge platform which facilitates the community to learn from and with the best, accelerating digital transformation leverage.

The Digital Factory Alliance is born under the umbrella of groundbreaking European Commission projects aiming at modernizing and digitalizing the assets of the factories of the future, with the strong conviction thath these actions will have a critical influence in the way these factories will be operated and managed in the years to come, by promoting the use of Artificial Intelligence Technologies and Data Intelligence to strive for Zero X Manufacturing Environments.

This initiative allows its members to get access to the most updated knowledge, trends and "ready-to-deploy" products in the digital manufacturing field, gaining exposure to a growing Zero X Manufacturing marketplace, with the added brand recognition and access to new business opportunities. One of the DFA's most important objectives is to provide an opportunity to be part of a business network, providing to its participants effective tools and knowledge to respond to crisis scenarios and critical manufacturing demands.

The DFA is based on four main pillars that represent and sustain the mission of the Alliance and allows the participants to find exactly what they need for their smart manufacturing needs.

The four main pillars of the DFA are:

- **Body of knowledge-search for knowledge:** get access to information on the main topics, trends and uses cases in the digital manufacturing field.

- **Innovation campus-be part of a community:** get open access to the DFA Innovation Catalogue and find information on innovation pilots and use cases.

- **Flagship initiatives-search for solutions:** get access to the ZX MarketPlace, that supports the digitalization of factories in a standardized and readily way.

- **Business network-search for business:** get access to Manufacturing as a Service Network ready to be used in crisis scenarios.

BODY OF KNOWLEDGE – SEARCH FOR KNOWLEDGE
Get access to information on the main topics, trends and use cases in the digital manufacturing field.

INNOVATION CAMPUS - BE PART OF A COMMUNITY
Get open access to the DFA Innovation Catalogue and find information on innovation pilots and use cases.

FLAGSHIP INITIATIVES – SEARCH FOR SOLUTIONS
Get access to the ZX Marketplace, that supports the digitalization of factories in a standardized and readily way.

BUSINESS NETWORK – SEARCH FOR BUSINESS
Get access to Manufacturing as a Service Network ready to be used in crisis scenarios.

Figure 1 DFA main pillars

2.3.2 DFA communication activities

One of the DFA most important pillars is the communication throughout the individual factories, the intention is to maintain a data-driven network to support the digital development of its members.

INNO and ENG, as founding members of the DFA, described above will make use of this powerful communication channel (not only for the manufacturing sector, but also for the general public), through its website, newsletters, events and social media (+1900 followers on LinkedIn and +1100 on Twitter). The DFA has experience in organizing events of high interest for the manufacturing and digital sectors, involving European projects (EUR3KA, QU4lLITY, SERENA, UPTIME, PROGRAMS, PRECOM, Z-BRE4K, PROPHESY, imPURE, RESERVIST, CO-VERSATILE, INTERQ, DAT4ZERO, OPTIMAI, I4Q, PENELOPE, etc.), clusters (ForeSee, 4ZDM), people from the EC (HaDEA, DG-RTDI), alliances, associations and organizations (e.g. EFFRA), for very diverse topics (predictive maintenance for optimized manufacturing, zero-defect manufacturing (ZDM), ML and AI for Quality 4.0, manufacturing repurposing, digital innovations, advanced metrology, standardization needs for Autonomous Quality (AQ) and ZDM, AI and Robotics for smart manufacturing, AI approaches towards Industry 4.0, etc.).

The DFA that will host EU DATA SP4CE national I4.0 initiatives and EU data space 4.0 innovation community activities, is the result of Boost 4.0 activities and will ensure that all activities; including publications acknowledge the EC support. The EC will be invited to participate to the national I4.0 initiatives council and each national initiative will explicit acknowledge the EC funding during the 100+ events and activities that will be organized.

With this approach, the DFA will serve as a multiplier for the project's dissemination and (pre)marketing activities being the only and unique communication and dissemination channel of results and information. The results obtained will be shown in the DFA marketplace.

2.4 Engagement plan

As part of the communication strategy an Engagement Plan has been defined. This plan aims to establish the guidelines on how to approach the different stakeholders according to their influence and interest as well as the actions that must be considered, in order to maximize the outreach among the data space community.

2.4.1 Target groups mapping criteria

One of the main steps into the engagement plan of the project is to know where the target groups interests and influence are. The mapping of the different target audience will help to take specific engagement actions and create a data space 4.0 community.

For this purpose, the following tool has been considered in order to map and analyze the EU DATA SP4CE audience based on the interest on these stakeholders and their capacity of influence. The map sets four-way criteria with the generic bullet points which will guide the specific engagement actions.
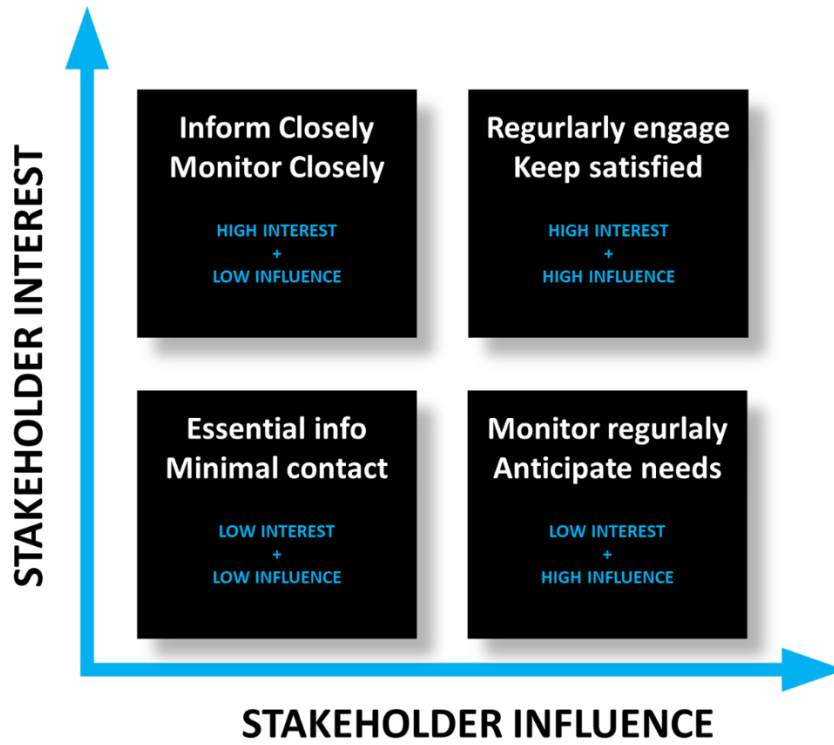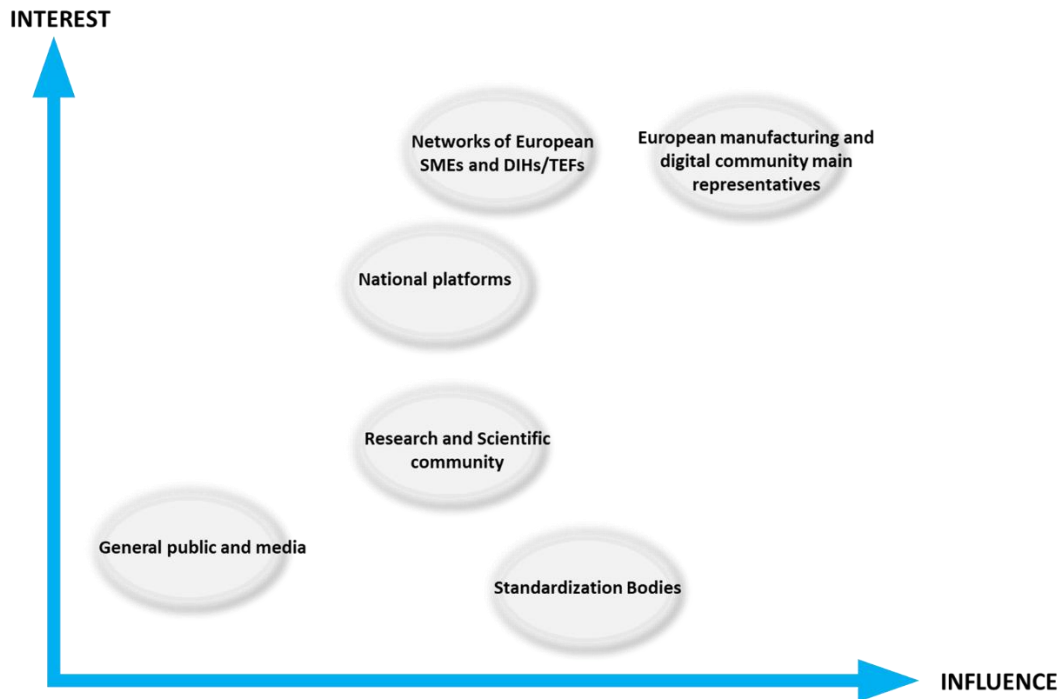
*Figure 2 Mapping stakeholder's diagram*

As shown in the mapping diagram most of EU DATA SP4CE target audience is place on the upper right corner, this is due to the importance on the communication activities of these groups, it will be of high importance that all these representatives are aware of the results and project progress.

Nevertheless, the general public and the research and scientific community need to be taken into account as well, they represent the first step to spread the information in data spaces to new audience generating new discussions and stakeholders as well as growing the interest of researching into the data spaces field.

2.4.2 Specific actions

The specific engagement actions will be directed depending on where the target group has been stablished on the diagram above. Considering the four quadrants defined in the mapping criteria, a series of different engagement actions will be set depending in which of these quadrants the target audience is. The actions to be carried out must maximize the outreach of each target group given one of the main purposes of the project is to create a data space community and make the knowledge a data spaces technologies tools reachable, useful and understandable.
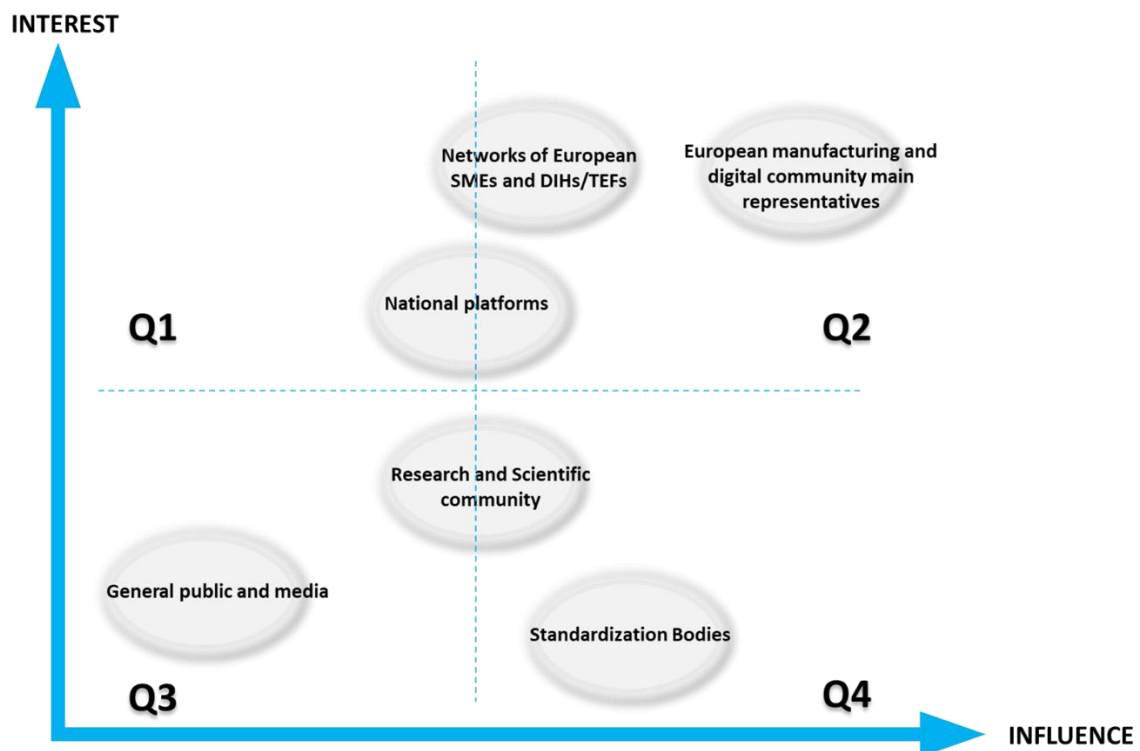
	ENGAGEMENT ACTIVITIES					
QUADRANT	Events	Workshops	Periodic meetings and reviews	Dissemination materials	Social media interactions	Newsletters
Q1	X			X	X	X
Q2	X	X	X	X	X	X
Q3					X	X
Q4				X	X	X

As already mentioned, each group will be approached according to their specific communication and impact resources. **Q1** stakeholders mainly need to be informed about the project progress and the fulfilment of its milestones although is a group with no much influence so its outreach will be limited, the importance lays on its high interest given they will represent one of the pillars on the creation of the data space community. **Q2** groups are definitively key, this quadrant need to be not only engaged and actively involved on the project but also satisfied with its progress. They represent the collaborators and contributors and at the same time the final users which will leverage of the EU DATA SP4CE community. **Q3** audience will support on the dissemination and outreach of the project, they need to be informed in a comprehensive way in order to spread the EU DATA SP4CE vision and message and engage new groups for widening the community for those which haven't been involved. **Q4** stakeholders gather the power of engagement of Q3 groups but adding a higher influence level, they will be able not only to support the engagement actions but also, they are close to the companies so they will have the tools to collect the companies' feedback when implementing the EU DATA SP4CE approach serving for future developments and enhancements.

3 Communication actions and early results

The communication actions in the first-year hammer into disseminating project concepts through branding kit logos, initial communication materials e.g., fact-sheet leaflets, press exposures, events organization and participation, as well as full online presence (website, twitter, YouTube and LinkedIn Group). This set of communication actions pave the way for further impacts in project achievements, products and business potential.

3.1 Branding logo kit and communication materials

A set of logos and designs items has been created to be used for website, social media accounts, leaflets, rollups, events setting and other occasions.

By the first month into the project, the following communication materials are generated:

- Logo kit
- Social network resources
- PowerPoint Presentation template
- Word template
- Newsletter template

The logos and set of communication materials are the fundamentals for future communication activities. Partners should regard them as communication standards set by the Work Package 1 leader and comply with the visual identity guidelines for all relevant dissemination activities.

The chart below shows some of the most relevant events which are already planned and where the partners will attend.

DATE	EVENT	EVENT TYPE	CITY, COUNTRY	PARTNER(S)	LINK TO EVENT
9-10 Nov 2022	Greener Manufacturing Show	Exhibition/Trade show	Cologne, Germany	FF	https://www.greener-manufacturing.com/
31 Jan - 3 Feb 2023	IoT Solutions World Congress	Exhibition/Trade show	Barcelona, Spain	FF	https://www.iotsworldcongress.com/?utm_medium=search&utm_source=paidsearch&utm_campaign=acreditacion
17-21 April 2023	Hannovermesse	Exhibition/Trade show	Hannover, Germany	FF, VDI, BPI, IDSA	https://www.hannovermesse.de/en
12-13 June 2023	FIWARE Global Summit	Other	Vienna, Austria	FF	https://www.fiware.org/event/fiware-global-summit-2023/
21-23 Nov 2022	EBDVF	Conference	Prague	ENG	https://european-big-data-value-forum.eu/
June-July 2023	Industrial Technologies IndTech 2023	Conference	Sweden/Spain	ENG	https://indtech2022.eu/
	AI event 2023, TBC	Conference	tbc	ENG	
March 2023	Data Forum 2023	Conference	tbc	ENG	
12-15 June 2023	Data Week 2023	Conference	Luleå, Sweden	ENG, INNO	https://www.bdva.eu/data-week-2023
nov-23	EBDVF 2023	Conference	Valencia, Spain	ENG, INNO	https://european-big-data-value-forum.eu/
March 2023	International Conference on Safety and Security	Conference	Madrid, Spain	SQS	https://safety.qatest.org/

19-20 April 2023	MetroMeet	Conference	Bilbao, Spain	SQS	https://metromeet.org/?lang=es
June 2023	IoT Week	Conference	Berlin, Germany	INNO	https://iotweek.org/
25-26 Nov 2022	World Manufacturing Forum	Conference	Bargnana, Italy	INNO	https://worldmanufacturing.org/
06 February 2023	Data Space manufacturing Day of Gaia-X Aisbl	Workshop	virtual	PIA, BPI	
October 2023	Annual General Meeting of Plattform Industrie 4.0	Workshop	Berlin, Germany	VDI, BPI	

3.2 Science Journals/Seminars

Scientific community is one of the most important target audience groups in the communication strategy. Research partners are encouraged to provide infrastructures and learning materials for higher education and training in the industrialists. Scientific essays and publications in scientific journals are expected as the project develops and shows results.

3.3 Earned media coverage

The PR office deliberately plans and organizes to work with media, to cover EU DATA SP4CE and its campaign in regional and national press, magazines and web-based news media. Media coverage lends added to project credibility and its messages communicated, broaden the reach to general public audiences and enhance campaign visibility.

3.4 Website

The first version of the EU DATA SP4CE website will is already available. The website will have a responsive design therefore the display will adapt to all devices. The website will serve as the information hub and ultimate reference for all the project activities updates, playing a key role in the online campaign and for communicating online performance evaluation.

The home page will be structured to demonstrate the mission statement, project basic information, EU DATA SP4CE network map, events and news items, an interactive part to attract webpage visitors to subscribe to newsletters and contact information.

Figure 3 Main page of EU DATA SP4CE website

3.5 Social Media

The PR office designs and implements an integrated social media strategy to maximize the performance and engagement from the target audience, where Twitter, LinkedIn Group and YouTube actively contributes to EU DATA SP4CE visibility throughout and beyond the project lifecycle. All actions in social media seek to generate synergies to bridge the gaps of communication as to connect the values of the project and related stakeholders on line with the values of target audience specified in the former chapter.

Social media actions aim to lay the groundwork for a future "EU DATA SP4CE online community" that will be engaging enough to move the project forward, dynamic enough to keep the conversations going among key stakeholders and effective enough to have its members stay in the upfront of the trend of big data in factories, smart engineering, big data pipelines, fog computing and other hot topics in Industry 4.0, etc.

In addition, the social media network also serves as an extension of the reach of the website. Each news published in the website will be re-referenced to social media accounts, attracting more traffic back to the website, thus generating more project visibility.

3.5.1 Twitter Account

The dynamic Twitter presents the potential number of followers it can attract make it a principal online channel to disseminate EU DATA SP4CE messages.

Table 3 Twitter main accounts

Twitter Account	# Of followers	Description
EFFRA	3483	Transforming manufacturing in Europe through the Factories of the Future partnership.
BDVA/DARIO	3822	Big Data Value is the Public Private ecosystem around Big Data in Europe.
AIOTI	1934	The European Alliance for Internet of Things Innovation.
CECIMO	2147	CECIMO represents globally the common position of European Machine Tool Industries and related Manufacturing Technologies, and promotes co-operation with other organisations worldwide
DFA	1160	International Trusted Community for Digital Factories to foster Knowledge Sharing and Industrial Collaboration to Achieve Data Driven Digital Transformation
GAIA-X	3814	Initiative that develops a software framework of control and governance and implements a common set of policies and rules that can be applied to any existing cloud/ edge technology stack to obtain transparency, controllability, portability and interoperability across data and services.
IDSA	2217	The International Data Spaces Association (IDSA) is a coalition of more than 130 member companies that share a vision of a world where all companies self-determine usage rules and realize the full value of their data in secure, trusted, equal partnerships; and we are making that vision a reality.
FIWARE FOUNDATION	12300	The FIWARE Foundation is the legal independent body providing shared resources to help achieve the FIWARE mission by promoting, augmenting, protecting, and validating the FIWARE technologies as well as the activities of the FIWARE community, empowering its members including end-users, developers and rest of stakeholders in the entire ecosystem.

The objective of twitter is to generate as much engagement as possible through likes, retweets, replies, profile links, etc. It aims to create a dynamic and fast-moving environment for target audience to always stay up to the trend of EU DATA SP4CE activities and industry 4.0.

Figure 4 Twitter EU DATA SP4CE

The twitter activities will be monitored and measured using Twitter analytics. Tweet impressions, number of followers, likes, engagement rate, follower demographic, region, profession will be the metrics and KPIs. General data analytics in twitter account performance will be reported in the upcoming versions of communication plan and actions.

3.5.2 LinkedIn Group

LinkedIn Group functions as a professional online networking platform where EU DATA SP4CE can address very specific and professional target groups. Different from Twitter account, the group does not aim to generate dynamic conversations, nor fast-pace post updates. Its main objective is to create a shared network for members, mainly our target audiences, to find each other and to get access to professional networking and share project outcomes.

3.5.3 YouTube Channel

A YouTube channel will be created in order to upload videos presenting the project profile and general concept and to give visibility to EU DATA SP4CE activities and facilities. It will represent one of the information pillars with focused messages, being the ad-hoc multimedia material to support presence in booths, fairs and events, enriching the forms of EU DATA SP4CE representation.

4 Key Performance Indicators

The Plan includes relevant Key Performance Indicators (KPIs) as described in the Table below, these KPIs are established as a success criterion of the project communication progress.

Type of Dissemination Activities	Key Performance Indicators (KPIs)	
Events	Industry events/fairs	20
	EU Networking events	10
	EU DATA SP4CE workshops	25
Website	Average month visits	1000
	Page views	1500
Twitter	Twitter followers	1000
	Average month impressions	8000
	Engagement rate	5%
News items	Published in media	20
	Published in EU DATA SP4CE website	20
	Published in partner website	60
YouTube	Video	5
	Views per video	50
LinkedIn Group	# Of Members	100
	Logo branding set	1
	Presentation template	1
Dissemination materials	Project factsheet	3
	Poster	15
	Roll up	2
	Infographic design	2
Newsletter	Subscribers	200
	Newsletter post	2

5 Conclusion

Work Package 7 is strategically set to raise awareness and maximize visibility of EU DATA SP4CE and its vision to facilitate a framework that will leverage a harmonized and continuous data space 4.0 across the various national, European and international efforts, interests and technological developments.

To accomplish the objective, a communication strategy through DFA is defined, with a timeline and main messages. In accordance, communication actions are planned to reach the target audience and achieve impacts.

In addition, an engagement plan has been defined, the main purpose will be to build up a community oriented to data spaces 4.0, which will bring new initiatives and opportunities across different sectors.