

# D 7.3

## Data Management Plan

Action acronym	ConnectedFactories 2
Action Full Title	Global-leading smart manufacturing through digital platforms, cross-cutting features and skilled workforce
Grant Agreement Number	873086
Instrument	CSA: Coordination and Support Action
Project coordinator	VTT
Deliverable Number	7.3
Deliverable Title	Data Management Plan
Lead Beneficiary	VTT
Work package	7
Work package leader	VTT
Dissemination level <sup>1</sup>	Public
Type <sup>2</sup>	ORDP
Due date according to DoA	M6 – 31/05/2020
Actual submission date	M6 – 28/05/2020
Main editors and contributors:	VTT & EFFRA

<sup>1</sup> PU: Public, CO: Confidential, only for members of the consortium (including the Commission Services)

<sup>2</sup> RE: Report, OT: Other; ORDP: Open Research Data Pilot



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<b>Revision No.</b>	<b>Date</b>	<b>Description</b>	<b>Author</b>
1	21.4.2020	Template created	Heilala, J.
2	5.5.2020	First draft	Heilala, J.
3	13.5.2020	Input from EFFRA	Decubber, C.
4	13.5.2020	Interim review	Reiman, M.
5	15.5.2020	Ready for final review, input from EFFRA and VTT	
6	25.05.2020	Final review	Reimann, M.
7	28.05.2020	Final for submission	Granholm, G.

## Abbreviations and acronyms

TERMS, ABBREVIATIONS AND ACRONYMS	
<b>WPL</b>	Work Package Leader
<b>GA</b>	Grant Agreement / General Assembly
<b>EB</b>	Executive Board
<b>CO</b>	Coordinator
<b>DoA</b>	Description of Action
<b>EC</b>	European Commission
<b>WP</b>	Work package
<b>QM</b>	Quality Manager
<b>DPO</b>	Data Protection Officer
<b>QMP</b>	Quality Management Plan
<b>CA</b>	Consortium Agreement
<b>SyGMa</b>	System for Grant Management
<b>ORDP</b>	Open Research Data Pilot



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## 1 Introduction

This document represents the first version of the Data Management Plan (DMP) for the project ConnectedFactories 2. Being a Coordination and Support Action (CSA) the project does not create ‘research data’ as such, but gathers a lot of relevant data e.g. by developing the digitization pathways, as well as analysing and categorizing results from related projects and community feedbacks. The information and data gained will all be shared widely with the community or among a restricted number of projects, (such as the Digital Manufacturing Platform Cluster centred around the projects resulting from the DT-ICT-07-2018-2019 call topic).

The project ConnectedFactories 2 participates to the Pilot on Open Research Data in Horizon 2020 and accordingly, this DMP aims to address the relevant aspects of making data FAIR – findable, accessible, interoperable and re-usable, including what data the project will generate, whether and how it will be made accessible for verification and re-use, and how it will be curated and preserved.

This document is adapted from H2020 templates: Data Management Plan v1.0 – 13.10.2016, available at [https://ec.europa.eu/research/participants/data/ref/h2020/grants\\_manual/hi/oa\\_pilot/h2020-hi-oa-data-mgt\\_en.pdf#page=10](https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf#page=10)

This DMP contains details about the data expected to be generated by the project, how the Consortium intends to make them findable, accessible, interoperable and reusable. Considering that some personal data are to be collected, it details the principles to be adopted for ensuring their protection.

### 1.1 ConnectedFactories 2 objectives and main actions

The ConnectedFactories 2 project establishes a structured overview of available and upcoming technological approaches and best practices with regard to the digitalisation of manufacturing. The project identifies present and future needs, as well as challenges, of the manufacturing industries.

The project explores pathways to the digital integration and interoperability of manufacturing systems and processes and the benefits this will bring.

The ConnectedFactories 2 project (started on 1 December 2019) focuses on:

- Creating a common understanding of key enablers and cross-cutting factors for the development and deployment of digital technologies and digital platforms for manufacturing
- Deepening pathways by taking into account legacy systems, industrial requirements and challenges
- Situating inspiring research and industrial state-of-the-art cases, key enablers and cross-cutting factors along these pathways
- Matching of skills transfer offering with skills demand across Europe
- Engaging with the research and industrial actors in both European and local fora or ecosystems, bringing together manufacturing companies, technology and component suppliers, etc.
- Creating a broad awareness about the pathways, key enablers and cross-cutting factors, and about inspiring cases for SMEs
- Stimulating visibility and impact of Digital Manufacturing Platforms for Connected Smart Factories projects (call DT-ICT-07-2018-2018), in particular
  - ZDMP - Zero Defect Manufacturing Platform
  - QU4LITY - Digital Reality in Zero Defect Manufacturing



- eFactory - European Connected Factory Platform for Agile Manufacturing
- SHOP4CF - Smart Human Oriented Platform for Connected Factories
- DigiPrime - Digital Platform for Circular Economy in Cross-sectorial Sustainable Value Networks
- KYKLOS 4.0 - An Advanced Circular and Agile manufacturing Ecosystem based on rapid reconfigurable manufacturing process and individual consumer preferences
- see also <https://www.connectedfactories.eu/origin-project-outreach-and-impact>)

Project External communication:

- Communication with other projects, stakeholders and external audiences is a key function of the project. This includes European, national and regional workshops, presentations at conferences, newsletters, flyers, websites and direct contacts with companies and project consortia.
- According to the Grant Agreement, the beneficiaries must promote the action and its results, by providing targeted information to multiple audiences (including the media and the public) in a strategic and effective manner.
- External communication should be planned, executed to a standard appropriate with the action.
- The material used for communication should be of high quality and clearly indicate the relation to the ConnectedFactories 2 project.
- All external communication material should display the EU emblem and include the statement: “This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 873086”

## 2 Data Summary

**The purpose of the data collection/generation is related to the objectives of the project:**

The data collected/gathered are required to enable the achievement of the objectives of the project is shown in Chapter 1. Introduction and summarised as following:

- The ConnectedFactories 2 project establishes a structured overview of available and upcoming technological approaches and best practices with regard to the digitalisation of manufacturing. The project identifies present and future needs, as well as challenges, of the manufacturing industries.
- Data sharing and communication with other projects, stakeholders and external audiences is a key function of the project. This includes European, national and regional workshops, presentations at conferences, newsletters, flyers, websites and direct contacts with companies and project consortia.

**ConnectedFactories 2 project is expected to generate/gather:**

- a) Data from ConnectedFactories 2 own public documents, deliverables, reports
- b) Data from ConnectedFactories 2 dissemination events, EU, national/regional workshops, surveys and possible interviews
- c) Data from ConnectedFactories 2 webinars
- d) Data from other projects: public reports, deliverables, white papers, data from projects experiments, demonstrations, success stories and observational data;
- e) Data from commercial solutions, publications,



- f) Data from events, arranged by European Commission, EFFRA, other projects and other relevant stakeholders
- g) Multimedia documents; images, audio and video files

#### **Types and formats of data generated /collected:**

- Microsoft Office file format will be the reference for documents, spreadsheets and presentations (a, b, c, d, e, f) types as above defined).
- Documents intended for public distribution will be converted to pdf format.
- Images will be stored in JPEG compressed format (g), audio files will be stored in MP3 format (g), Videos in MPEG codec / AVI container (c, g).
- Data base format in the EFFRA Innovation portal

#### **Re-use of existing data:**

Existing data might be used to provide, for example, benchmarks for evaluations of benefits of chosen digitalization of manufacturing solutions. Such data will be gathered from public sources such as research and other papers, established industry publications, other studies of recognized value and/or clear reliability (e.g.: previous research undertaken by others, existing data at EFFRA Innovation portal from the past and current projects, other studies published by international organisations such as the BDVA, EFFRA, etc.). When relevant, also commercial product and service marketing data from solution providers are used. Wherever pre-existing data will be used, their source will be logged by the user, and clear reference made to it, including either a link to it (if available online) and/or publishing information (if no online reference existed).

#### **Origin of the new data:**

New data will be originated by the project activities, for example:

- Project own public deliverables, project workshops, dissemination events, presentation material
- Surveys and interviews will be conducted to people within and outside the project consortium; see Personal Data Management policy for details about consent and treatment,
- Multimedia documents: published or confidential reports, spread sheets, presentations; website contents, social media posts
- Images, e.g. photo to document the project progress,
- Audio files, e.g. interviews recordings,
- Videos, e.g. short movies, animations to document the activities, represent and communicate achievements, etc.
- Parallel other Factories of the Future projects public data, as well stakeholders, actors and other interest groups publicly available new data

#### **Size of data:**

Expected size of data is not known, however wherever possible, the best compromise between storage efficiency and accessibility of information will be sought. For example:

- Documents, reports and presentations are shared as pdf documents
- Photos will be most likely stored in JPEG compressed format unless high resolution is required e.g. for publishing purposes;



- Images will be included in documents (e.g. reports) in such a manner not to increase significantly the dimension of the files themselves;
- Compressed folders (e.g. .zip or .rar) might be used, mainly for sharing purposes, but an uncompressed version of the data will be archived for backup.

### Who will make use of the data

Data might be useful (data utility) to following: Companies interested in digitalization of manufacturing, users, providers and developers, Researchers on same field, European Commission, national authorities, other Legal entities.

## 3 Fair Data

### 3.1 Making data findable, including provisions for metadata

As an aid to identify and making searchable files, the data repository folders and file naming will be developed to include most of the following information, as applicable:

- Project or deliverable name or acronym
- Location or event data
- Type of data
- Version number of file

Data is findable via the Project Website and the EFFRA Innovation Portal, which have easy accessible structure. Partially EFFRA own cloud is used as data repository for public document sharing or for sharing documents among the DMP Cluster. The Project Website provides links to document folder.

The EFFRA Innovation portal is equipped with a quite powerful search engine, which supports the free text search. The quality of the search and the returned information is dependent on the quality of the short descriptions of the projects and the associated results and demonstrators. The quality can also be significantly raised by providing specific information via the structured lists (also accessible via the EFFRA Innovation Portal structured wiki).

### 3.2 Making data openly accessible

#### Project website

The majority of project deliverables are public and made available at project website <https://www.connectedfactories.eu/> and CORDIS library (public reports).

All files will be available in the format (extension) most readable/ most used, such as .pdf. No special tools are required, just normal office tools, free Adobe Acrobat reader, web browser and internet access are enough.

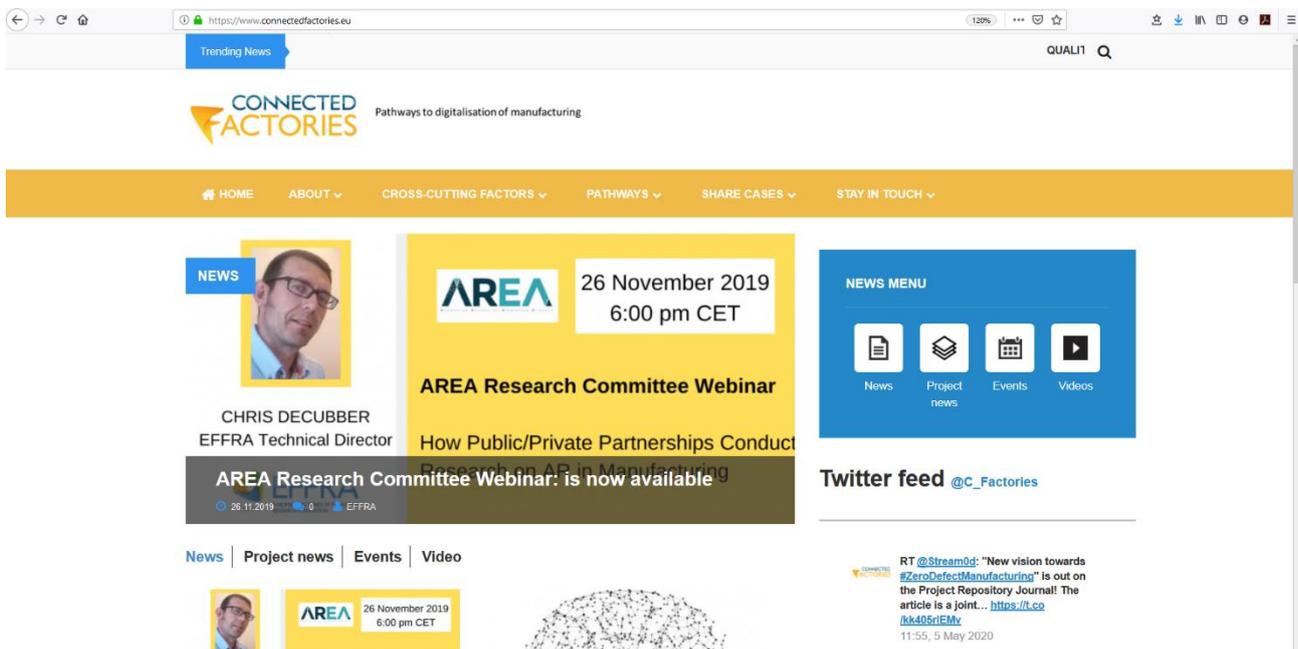


Figure 1. Project website has easy access structure

### EFFRA Innovation Portal

In addition, the project uses the EFFRA Innovation Portal, <https://www.effra.eu/effra-innovation-portal>. EFFRA Innovation Portal is an online resource for sharing information regarding projects and its results and demonstrators. It features all Factories of the Future PPP projects, but also includes other projects.

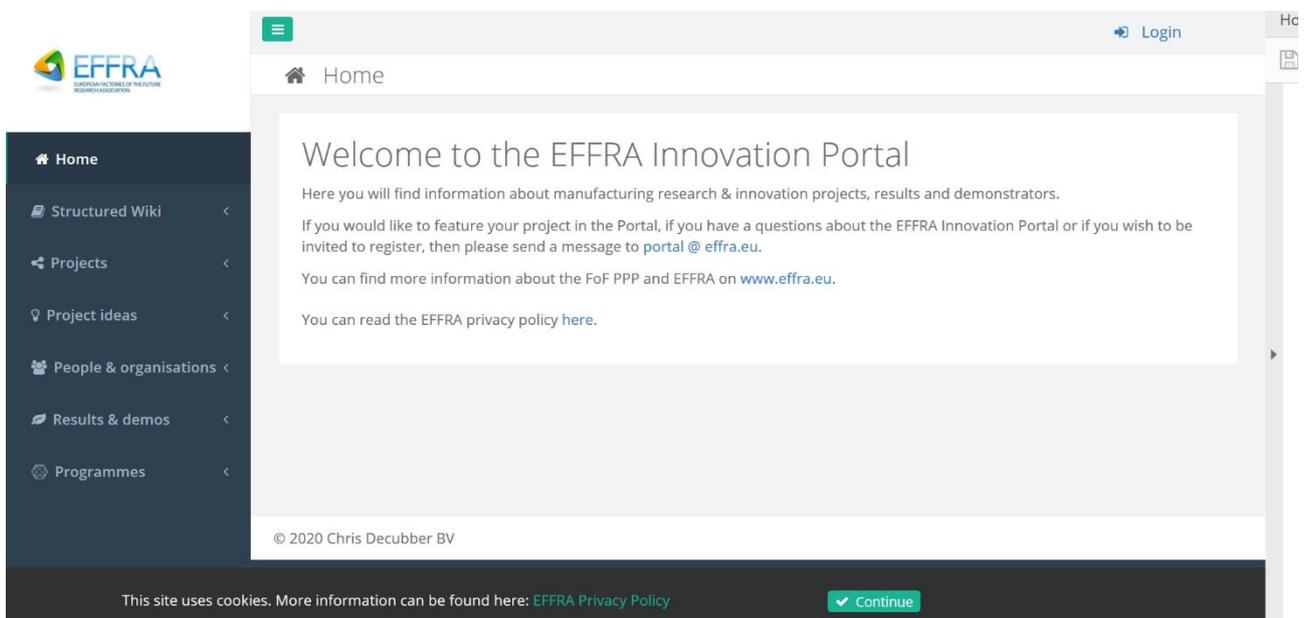


Figure 2. In the EFFRA Innovation Portal, data is both collected, enhanced with additional information and disseminated.

Use of EFFRA Innovation Portal is free and for browsing data, there is no need to register.

The backend of the ConnectedFactories 2 website is communicating with the backend of the EFFRA website in order to create a maximum synergy for the creation of connect. Content that is created on the EFFRA website, which is also relevant for the ConnectedFactories 2 website (project news, event news....) can be transferred easily to the ConnectedFactories 2 website and vice-versa. (See D6.1 Website and Flyer). Also EFFRA Newsletters are used to disseminate project results.

#### **Guidelines for use of the EFFRA Innovation Portal - data input**

The EFFRA Innovation Portal is intended to provide information to anybody that has an interest in this information. Its content that for the biggest part is generated by the project consortia. Experts entering data to the Portal need to be registered. In order to reduce spam or robot registration, one can register on the EFFRA Innovation Portal by requesting an invitation to the EFFRA office (sending a message to [portal@effra.eu](mailto:portal@effra.eu)). If trusted, one will receive a link that provides access to the registration page and experts are granted editing permissions to their projects. These experts can then grant permissions to other users that have an account in order to share the editing work.

Guidance and the described mechanisms are not specific to the ConnectedFactories 2 CSA, but are relevant for the collection of all information from all FoF projects and even beyond (since the portal covers all FoF projects, but it is not limited to FoF projects).

Guidelines, tutorials and videos are available

<https://www.effra.eu/promote-your-projects-results-and-demonstrators-effra-innovation-portal>

<https://www.effra.eu/tutorials>

### 3.3 Making data interoperable

The degree of interoperability of data generated is expected to be high as e.g. common formats of files e.g. report and presentation is used. English language will be used for all published and internally shared data, considering the international make up of the consortium. If languages other than English are used, e.g. for interviews of local stakeholders, English transcripts/translations will be made available.

It could be of relevance here that the EFFRA Innovation Portal is subject to imports using the Open Data Portal from the EU, making that such data should not be uploaded by the project consortia twice.

### 3.4 Increase data re-use (through clarifying licences)

Project results, public deliverables are open access. All information that is included on the EFFRA Innovation Portal should be considered as public information.

Both for internally shared data and for published data, every partner generating data will be responsible for the quality of their data in terms of content and formalities for example elimination of outliers from numerical data; formatting, internal referencing, correct use of pictures, etc. in project reports.

Data quality is part of the project quality plan, Deliverable D7.2. The Steering Group is responsible for monitoring the performance of the project and ensuring the quality of the procedures and results.



## 4 Allocation of resources

Cost related project data management are include in the project fixed and overhead cost during the lifetime of the project as written in Grand Agreement. VTT as coordinator, supported by EFFRA are responsible for project data management activities.

The preservation of the media that are used for storing and sharing data is guaranteed for the EFFRA Innovation Portal and the document repository managed via the EFFRA Owncloud facility. Any files that are stored elsewhere could be moved there when this would be required at the end of the project.

## 5 Data security

For all data, every partner will be responsible for ensuring the data generated by him or her (raw or elaborated from other partner's data) are regularly backed up and stored safely according to internal safe keeping procedures. If such data is also shared internally at the Consortium, the data owner will be responsible also for the methods used to share information, and all do it in a GDPR conform way.

Project has Security Manager (LSEC), and Quality Manager (VTT) as shown in D7.2 Project Quality Plan.

Most of data will be stored centrally. Data repositories used by the project; the EFFRA Innovation Portal and the project web site (for the most part containing public information) are hosted using state of the art security and backup mechanisms and compliant with GDPR (see also point 6).

Personal data handling is shown in Chapter 6.

## 6 Ethical aspects

### **Impartiality**

Project partners aims to impartiality. No endorsement of any commercial product by the ConnectedFactories 2 project is intended or implied. While sharing findings from industrial use cases to facilitate better understanding, certain commercial solutions are shown as examples for digitalization of manufacturing. Data shown are based on public data from tool, software, service provider's website, commercial leaflet or similar or direct input from vendor. The reader should bear in mind the commercial objectives e.g. marketing of the solution.

### **Respect for anonymity, confidentiality and privacy.**

This project implements a participative approach in terms of involvement of end users of the manufacturing digitalization, related service and tools providers, and experts in the field. Their opinion and their interest in the solution is gathered through national workshops, interviews and questionnaires. Interviews might be audio and, in some cases, video- recorded. These are personal data with a character of sensitivity.

### **Responsibilities**

According to the definitions of the GDPR, the partners collecting personal data are the processors, while the controller, who is ultimately responsible for the data treatment, remains the Coordinator of the



project. Every processor is given by the controller the responsibility for implementing every measure for ensuring the protection of the personal data.

### **Consent to collect and treat the data**

The consent to video and audio-record the interviews has been asked and obtained before/at the beginning of each interview; similarly, for the questionnaires, the respondents have given their written consent to the treatment of the data.

### **Protection**

The personal data are to be collected as much as possible in an anonymous form, and where that is not possible, they will be anonymized before any sharing. The processor undertaking such anonymization is required to keep separated any files containing trace of the personal details (name, contacts etc) from the anonymized data. This is to avoid that images, opinions, statements etc. are reconducted to a specific person.

Such files should be kept in a safe location to minimize data breach, and destroyed after the time that will be stipulated within the informative. Password protection and encrypting might be used to enhance security of data. No personal details shall be shared with other partners of the project.

**Privacy** EFFRA Privacy Policy <https://www.effra.eu/effra-privacy-policy> (Published: 23/05/2018) Applies.

The European Factories of the Future Research Association (hereafter referred to as EFFRA) takes personal data protection very seriously. They comply with the EU General Data Protection Regulation and e-Privacy Regulation. Please read the respective privacy policy carefully for a clear understanding of how they collect, use, protect or otherwise handle personal data.

EFFRA Website, <https://www.effra.eu/> and this also applies to the ConnectedFactories 2 website - [www.connectedfactories.eu](http://www.connectedfactories.eu) (see Section 3.2)

### **Cookies & Analytics**

- The EFFRA website uses ‘technical’ cookies that do not track users and serve the website’s normal functionality.
- This EFFRA website uses Google Analytics, a web analysis service of Google Inc. (‘Google’). Google Analytics uses cookies stored on your computer that enable analysis of your usage of the website by you.
  - Google Analytics captures your IP address anonymously.
  - Further information on the conditions of use and data protection of Google Analytics can be found here <https://support.google.com/analytics/answer/6004245>.

Hyperlinks to third party websites on this site are provided solely to provide additional information to you. By using these links, you will leave the EFFRA website.

The EFFRA Innovation Portal, <https://portal.effra.eu>

### **Cookies & Analytics**

The EFFRA Innovation Portal uses ‘technical’ cookies that do not track users and serve the website’s normal functionality. Cookies identify which account you are signed in with, and if you are allowed access to a



particular service (such as editing information, adding results, accessing search pages, etc). It also allows the portal to associate any comments or information that you post with your account.

This EFFRA Innovation Portal uses Google Analytics, a web analysis service of Google Inc. ('Google'). Google Analytics uses cookies stored on your computer that enable analysis of your usage of the website by you. Google Analytics captures your IP address anonymously. Further information on the conditions of use and data protection of Google Analytics can be at <https://support.google.com/analytics/answer/6004245>.

### Third Parties

- EFFRA does not sell or trade personal information, nor transfers personal information to third parties except where transfers are inevitably necessary for our legitimate association assignment.
- Hyperlinks to third party websites on this site are provided solely to provide additional information to you. By using these links, you will leave the EFFRA website.

### Personal Data Breaches

To comply with the General Data Protection Regulation, if a personal data breach is likely to result in a high risk to the rights and freedoms of natural persons, we will communicate the personal data breach to the data subject as soon as possible via email.

### Newsletters

If you voluntarily sign up for newsletters provided by EFFRA, we will treat your data according to the General Data Protection Regulation.

You may unsubscribe from a newsletter at any time. To do so, use the unsubscribe link in the newsletter, or send an email to [info@effra.eu](mailto:info@effra.eu).

EFFRA uses MailChimp to share our newsletters. Further information on MailChimp's conditions of use and data protection can be found here: <https://mailchimp.com/legal/privacy/>. The use of other mailing systems during the project duration is however not excluded.

### Contacting Us

Should you have any questions concerning this policy, you may contact us directly via email to [info@effra.eu](mailto:info@effra.eu) or via letter to EFFRA, BluePoint Centre, Bld. Auguste Reyers 80, Brussels BE 1080. EU Transparency Registration Number: [147908916864-59](https://ec.europa.eu/transparency/regexp14/index.cfm?do=home.home&byLang=en).

Should any changes to this data protection declaration occur, they will be published on this website together with the date of the change.

## 7 Other issues

Changes and updates to this Data Management Plan are part of the continuous improvement process. Suggestions for improvement can be made by any partner at any time by notifying the Coordinator or Quality Manager.

Changes to the Data Management Plan are approved by the General Assembly.



## 8 Conclusion

The ConnectedFactories 2 project is Coordination and Support Action (CSA) and does not create 'research data' by nature. The ConnectedFactories 2 project establishes a structured overview of available and upcoming technological approaches and best practices with regard to the digitalisation of manufacturing. The project identifies present and future needs, as well as challenges, of the manufacturing industries.

Data sharing and communication with other projects, stakeholders and external audiences is a key function of the project. A lot of interesting data which will all be shared widely with the community.

