FINAL DATA MANAGEMENT PLAN

FENIX

D10.4 Final Data Management Plan
WP 10, T 10.3

Authors: Petra Colantonio (FEN)

FOSTERING INDUSTRIAL SYMBIOSIS FOR A SUSTAINABLE RESOURCE
INTENSIVE INDUSTRY ACROSS THE EXTENDED CONSTRUCTION VALUE CHAIN

Technical References

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V	Date	Beneficiary	Author
1	28/02/20	FEN	Petra Colantonio

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[1] PU = Public

   PP = Restricted to other programme participants (including the Commission Services)
   RE = Restricted to a group specified by the consortium (including the Commission Services)
   CO = Confidential, only for members of the consortium (including the Commission Services)

0 **Summary**

According to the Guidelines on Open access to Scientific Publications and Research Data for projects funded or co-funded under Horizon 2020, Europe 2020 strategy underlines the central role of knowledge and innovation in growth generation. For these reasons the European Union strives to improve access to scientific information and to boost the benefits of public investment in the research funded under the EU Framework Programme Horizon 2020.

The project FISSAC participates in the Commission´s Open Pilot Open Research Data to research data policy for facilitating access, re-use and preservation of research data. Deliverable D10.4 Final Data Management Plan (DMP) was required for the FISSAC project and carried out in T10.3 Data Management (WP10 Management), as a structural activity that identified the results that were subject of dissemination and exploitation activities. The DMP also analysed the main data uses and users and explored the restrictions related to IPR according with the Consortium Agreement. This DMP deliverable was prepared in compliance with the template provided by the Commission in the Annex 1 of the "Guidelines on Data Management in Horizon 2020".

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Abbreviations and acronyms

WP	Work Package
DMP	Data Management Plan
GA	Grant Agreement
CA	Consortium Agreement
CMS	Content Management System
CMA	Content Management Application
CDA	Content Delivery Application
IM	Information Management
ECM	Enterprise Content Management
ERM	Electronic Records Management
BPM	Business Process Management
GMS	Government Metadata Standard
PU	Public
CO	Confidential
Cl	Classified
JPEG	Joint Photographic Experts Group
JFIF	JPEG File Interchange Format
PNG	Portable Network Graphics
AVI	Audio Video Interleaved
WAV	Waveform Audio File Format
RIFF	Resource Interchange File Format
LPCM	Linear Pulse-Code Modulation
AIFF	Audio Interchange File Format
MIME	Multipurpose Internet Mail Extensions
OA	Open Access

1 Introduction

This document constitutes the last issue of Data Management Plan (DMP) in the EU framework of the project FISSAC under Grant Agreement No. 642154. The objective of the DMP was to establish the measures for promoting the findings during the project's life. The DMP enhanced and ensured relevant project´s information transferability and took into account the restrictions established by the Consortium Agreement. In this framework, the DMP set the basis for both Dissemination Plan and Exploitation Plan. The first version of the DMP was delivered at M6 as the deliverable D10.3 First version of the Data Management Plan. It was acknowledged that not all data types were available at the start of the project. However and whenever important, if any changes occurred to the FISSAC project due to inclusion of new data sets, changes in consortium policies or external factors, the DMP was updated as well in order to fine-tune it to the actual data generated and the user requirements as identified by the FISSAC consortium participants.

FISSAC project comprised seven technical work packages (WP) as follows:
- WP1 - FROM CURRENT MODELS OF INDUSTRIAL SYMBIOSIS TO A NEW MODEL
- WP2 - CLOSED LOOP RECYCLING PROCESSES TO TRANSFORM WASTE INTO SECONDARY RAW MATERIALS
- WP3 - PRODUCT ECO-DESIGN AND CERTIFICATION
- WP4 - PRE-INDUSTRIAL SCALE DEMONSTRATION OF THE RECYCLING PROCESSES AND ECO-INNOVATIVE PRODUCTS
- WP5 - INDUSTRIAL PRODUCTION & REAL SCALE DEMONSTRATION
- WP6 - FISSAC MODEL FOR INDUSTRIAL SYMBIOSIS
- WP7 - INDUSTRIAL SYMBIOSIS REPLICABILITY AND SOCIAL ISSUES

To facilitate the technical work there were three transversal work packages to provide, structure, coordination, integration and communications across all the work packages.
- WP8 - EXPLOITATION AND BUSINESS MODELS FOR INDUSTRIAL SYMBIOSIS
- WP9 - DISSEMINATION
- WP10 - MANAGEMENT

This document has been prepared to describe the data management life cycle for all data sets that were collected, processed or generated by FISSAC project. It is a document outlining how research data were handled during FISSAC project, and after the project was completed. It also defines if and how this data will be shared and/or made open, and how it will be curated and preserved.

2 Open Access and Open Research Data Pilot

Open access can be defined as the practice of providing on-line access to scientific information that is free of charge to the reader and that is reusable. In the context of R&D, open access typically focuses on access to "scientific information", which refers to two main categories:
- Peer-reviewed scientific research articles (published in academic journals).
- Scientific research data (data underlying publications and/or raw data).

It is important to note that:
- Open access publications go through the same peer review process as non-open access publications.
- As an open access requirement comes after a decision to publish, it is not an obligation to publish: it is up to researchers whether they want to publish some results or not.
- As the decision on whether to commercially exploit results (e.g. through patents or otherwise) is made before the decision to publish (open access or not), open access does not interfere with the commercial exploitation of research results. [2]

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[2] *European Commission background note on open access to publications and data in Horizon 2020*

Benefits of open access:
- Unprecedented possibilities for the dissemination and exchange of information due to the advent of the internet and electronic publishing.
- Wider access to scientific publications and data can help to accelerate innovation, foster collaboration and avoid duplication of effort, build on previous research results, involve citizens and society.
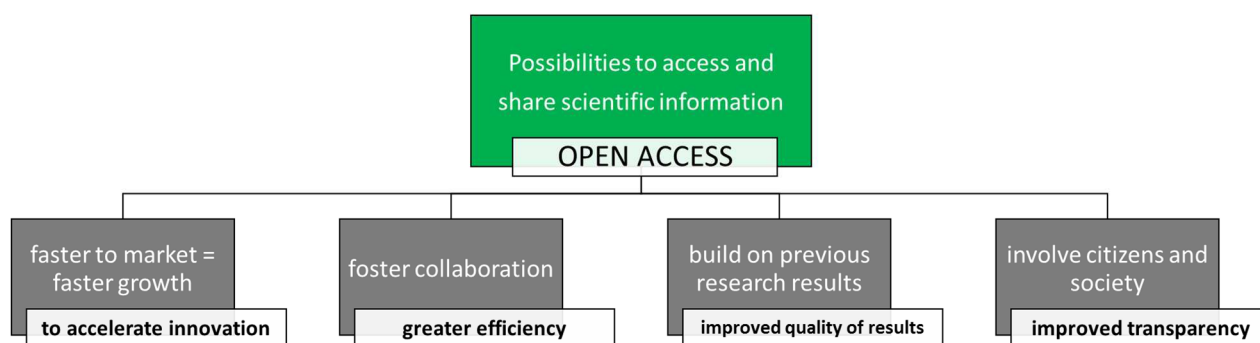

Figure 1. Open Access benefits

The EC capitalizes on open access and open science as it lowers barriers to accessing publicly-funded research. This increases research impact, the free-flow of ideas and facilitates a knowledge-driven society at the same time underpinning the EU Digital Agenda (OpenAIRE Guide for Research Administrators - EC funded projects). Open access policy of European Commission is not a goal in itself, but an element in promotion of affordable and easily accessible scientific information for the scientific community itself, but also for innovative small businesses.

2.1.   Dissemination, Communication and Open Access

For the implementation of FISSAC project, there was a complete dissemination and communication set of activities scheduled, with the objectives of raising awareness among non-expert citizens, but potential next users of the FISSAC knowledge and solutions. For instance, e-newsletters, e-brochures, poster or events, were foreseen for the dissemination of FISSAC to key groups potentially related to the project results' exploitation.

Likewise, FISSAC website, webinars, press releases or videos, for instance, were developed for a Communication to a wider audience. Details about all those dissemination and communication elements are provided in the Deliverable D9.3 "Final Dissemination Report".

Open Access (OA) to scientific information is a complementary element to dissemination and communication, and how this issue is specifically tackled by FISSAC project is described in the present document.

2.2. Open Access to peer-reviewed scientific publications

Open access to scientific peer-reviewed publications has been anchored as an underlying principle in the Horizon 2020 Regulation and the Rules of Participation and is consequently implemented through the relevant provisions in the Grant Agreement.
More specifically, Article 29: "Dissemination of results, Open Access, Visibility of EU Funding" of FISSAC Grant Agreement establishes the obligation to ensure open access to all peer-reviewed articles produced by FISSAC.

Article 29.2 Open access to scientific publications in FISSAC GA
Each beneficiary must ensure open access (free of charge online access for any user) to all peer reviewed scientific publications relating to its results.

In particular, it must:
   (a) as soon as possible and at the latest on publication, deposit a machine-readable electronic copy of the published version or final peer-reviewed manuscript accepted for publication in a repository for scientific publications;

Moreover, the beneficiary must aim to deposit at the same time the research data needed to validate the results presented in the deposited scientific publications.

   (b) ensure open access to the deposited publication — via the repository — at the latest:
       (i) on publication, if an electronic version is available for free via the publisher, or
       (ii) within six months of publication (twelve months for publications in the social sciences and humanities) in any other case.
   (c) ensure open access — via the repository — to the bibliographic metadata that identify the deposited publication.

The bibliographic metadata must be in a standard format and must include all of the following:
   - the terms "European Union (EU)" and "Horizon 2020";
   - the name of the action, acronym and grant number;
   - the publication date, and length of embargo period if applicable;
   - a persistent identifier.

1.1.1 Green open access

The green open access is also called self-archiving and means that the published article or the final peer-reviewed manuscript is archived by the researcher in an online repository before, after or alongside its publication. Access to this article is often delayed (embargo period). Publishers recoup their investment by selling subscriptions and charging pay-per-download/view fees during this period during an exclusivity period. This model is promoted alongside the "Gold" route by the open access community of researchers and librarians, and is often preferred.

1.1.2 Gold open access

This type of open access is sometimes called open access publishing, or author pays publishing and means that a publication is immediately provided in open access mode by the scientific publisher. Associate costs are shifted from readers to the university or research institute to which the researcher is affiliated, or to the funding agency supporting the research. This model is usually the one promoted by the community of well-established scientific publishers in the business.

2.3. Open Access to research data

"Research data" refers to information, in particular facts or numbers, collected to be examined and considered and as a basis for reasoning, discussion, or calculation. In a research context, examples of data include statistics, results of experiments, measurements, observations resulting from fieldwork, survey results, interview recordings and images. The focus is on research data that is available in digital form.

Article 29.3 Open access to research data in FISSAC GA
Regarding the digital research data generated in the action ('data'), the beneficiaries must:
   (a) deposit in a research data repository and take measures to make it possible for third parties to access, mine, exploit, reproduce and disseminate — free of charge for any user — the following:
       (i) the data, including associated metadata, needed to validate the results presented in scientific publications as soon as possible;
       (ii) other data, including associated metadata, as specified and within the deadlines laid down in the 'data management plan' (see Annex 1 of FISSAC GA);
   (b) provide information — via the repository — about tools and instruments at the disposal of the beneficiaries and necessary for validating the results (and — where possible — provide the tools and instruments themselves).

This does not change the obligation to protect results in Article 27, the confidentiality obligations in Article 36, the security obligations in Article 37 or the obligations to protect personal data in Article 39, all of which still apply.

The beneficiaries do not have to ensure open access to specific parts of their research data if the achievement of the action's main objective, as described in Annex 1, would be jeopardized by making those specific parts of the research data openly accessible. In this case, the data management plan must contain the reasons for not giving access to third parties.

3. DMP Objective

The purpose of FISSAC Data Management Plan (DMP) was to provide a management assurance framework and processes that fulfil the data management policy that were used by the FISSAC project participants with regard to all the dataset types that were generated by the FISSAC project.

The aim of the DMP was to control and ensure quality of project activities, and to effectively/efficiently manage the material/data generated within the FISSAC project. It also describes how data were collected, processed, stored and managed holistically from the perspective of external accessibility and long term archiving.

All aspects of procedures that were associated with the quality control of data management internal to the project were the subject of a separate deliverable, D10.2 Quality Assurance Plan.
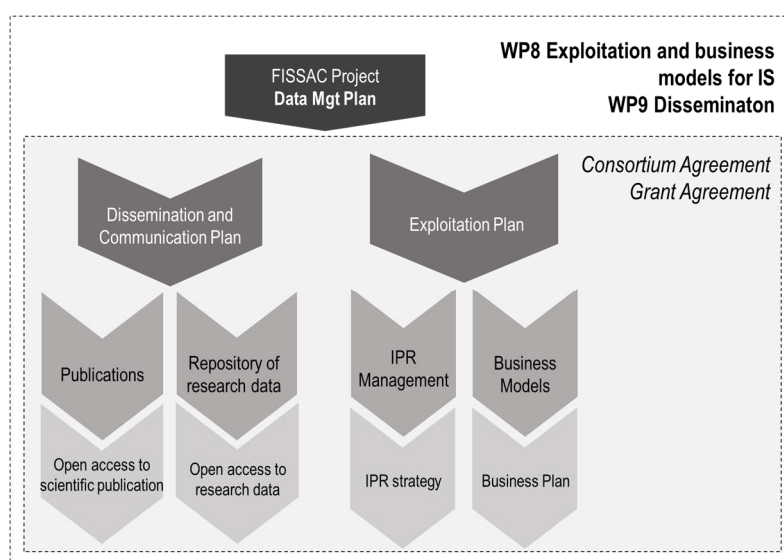

Figure 2 Data Management Plan overview

4. FISSAC project website

Project website was used for storing both public and private documents related to project and dissemination, the website was meant to be live for the whole project duration and minimum 2 years after the project ends.

Public section of the website contains mainly public deliverables, brochure, poster, presentations, publications, newsletters, videos, photos, etc. Private section of the project website includes confidential deliverables, work packages related documentation, and is used as the main exchange of information among the Project partners.

The website www.fissacproject.eu was launched on 15th of January 2016. The website is dynamic and interactive in order to ensure a clear communication and wide dissemination of project news, activities and results. The website is of primary importance due to the expected impact on the target audiences. It was designed to give quick, simple and neat information. The website was regularly updated by ACR+ with news and articles. It also provided access to the FISSAC

platform and FISSAC model. All partners were responsible for feeding the project website with news and relevant information. The website is available in English and in the languages of the project partners (Czech, French, German, Hungarian, Italian, Spanish, Swedish and Turkish).
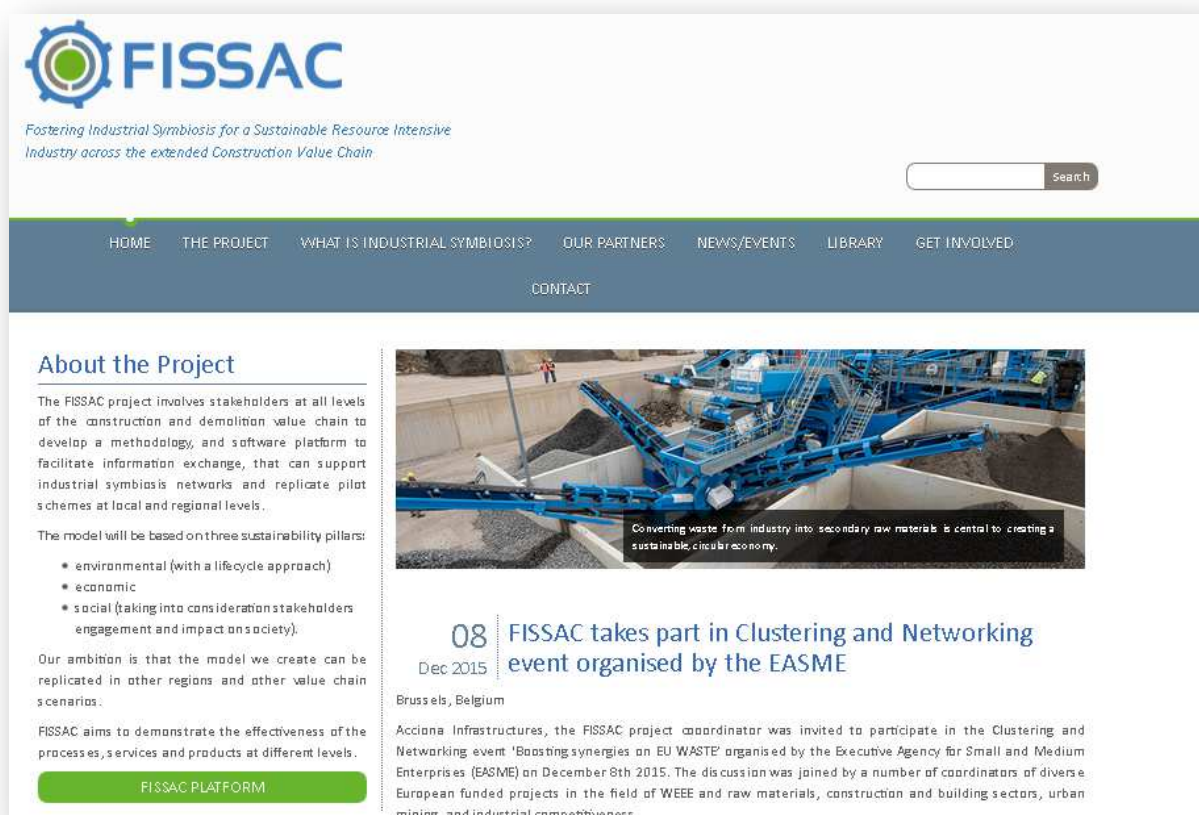

Figure 3: FISSAC website

5. Storage and access

To ensure the safety of the data, the partners used their available local file servers to periodically create backups of the relevant materials. The FISSAC Project website itself already has its own backup procedures.

In addition to the FISSAC Project website, the Project Coordinator established a temporary ftp access for the first period of the Project to all project partners. The Project Coordinator (ACCIONA) of the FISSAC along with the Dissemination and Exploitation Committee (FENIX) were in charge for data management and all the relevant issues.

6. DMP Implementation

The organizational structure of the FISSAC project was created in order to address an effective project direction and management through the communication flow and methods for reporting, monitoring, management of intellectual properties, background and foreground generated among the project. Moreover, according to Project Quality Assurance Plan (see WP 10 Management), communication aspects and information generated in the project were monitored taking also into consideration management of gender equality and risks analysis regarding financial, legal, administrative and technical co-ordination and mitigation actions aspects. If new risks appear along the project, new mitigation actions were launched.

The FISSAC project was partly coordinated by the Scientific and Technical Committee and Innovation Management Committee. The project had a structured governance and management framework that controlled and directed decisions during the project. This was organised as shown in Figure 4 below.
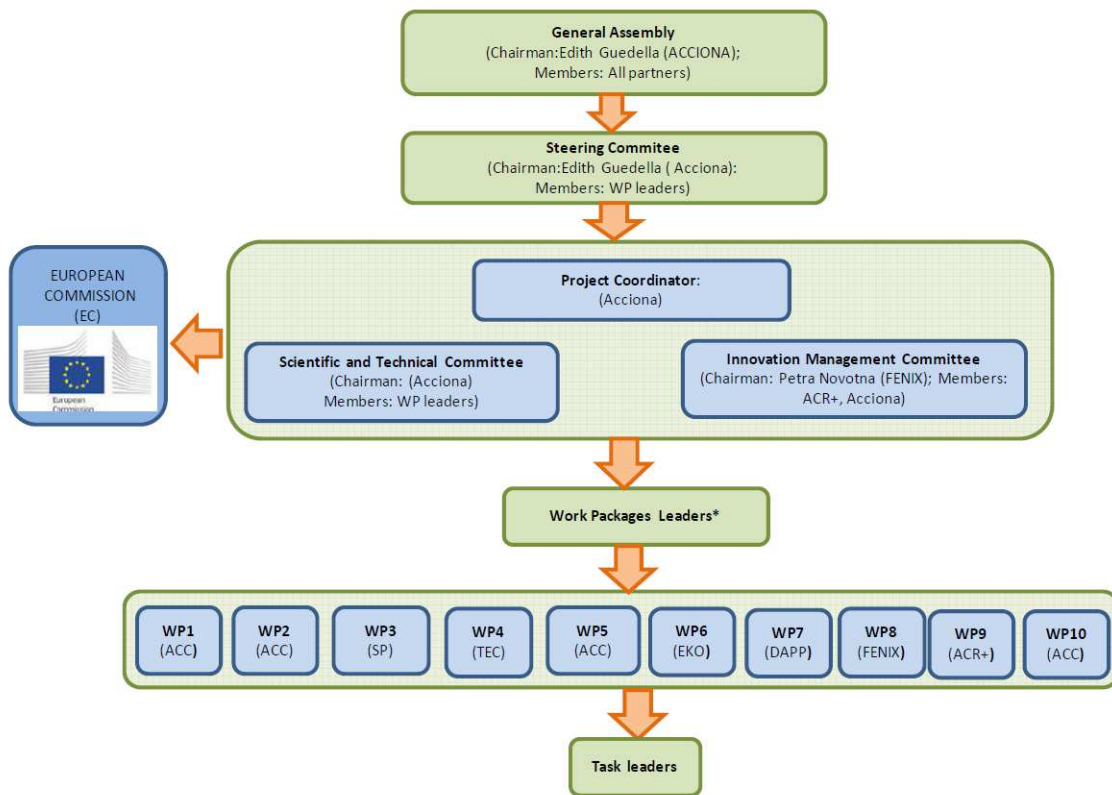

Figure 4: FISSAC organization structure

Table 1: FISSAC project partners and their roles

Partner short name		Partner legal name	Partner's role in FISSAC project
1.	ACC	ACCIONA INFRAESTRUCTURAS S.A.	Project coordinator, participating in the development and demonstration of FISSAC implemented technologies and FISSAC model.
2.	ACR+	ASSOCIATION DES CITES ET DES REGIONS POUR LE RECYCLAGE ET LA GESTION DURABLE DES RESSOURCES	Dissemination leader, Stakeholders network, analysis of IS model and social aspects.
3.	AEN	ASOCIACION ESPAÑOLA DE NORMALIZACION Y CERTIFICACION	Standardization tasks
4.	CSIC	AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	Re-formulation of ceramic tiles composition and determination of measurable reduction of raw materials consumption by introducing waste in the ceramic tiles composition formula, participation in the design of new materials able to provide practical demonstration of FISSAC implemented technologies and FISSAC model.
5.	AKG	AKG GAZBETON ISLETMELERI SANAYI VETICARETCARET AS	Participation in the development of new products based on secondary raw materials and demonstration of FISSAC implemented technologies and products.
6.	BEF	BEFESA SALZCHALACKE GMBH	Active industrial partner as secondary raw material supplier.
7.	BGM	BRITISH GLASS MANUFACTURERS CONFEDERATION LIMITED	Contribution to IS replicability activities and social issues.
8.	CBI	CBI Betonginstitutet AB	Contribution in pre-industrial demonstration and real scale demonstration.
9.	CSM	CENTRO SVILUPPO MATERIALI SPA	Contribution in eco-design and certification activities.
10.	DAP	D'APPOLONIA SPA	Participation in development of the software platform, FISSAC methodology and business model for IS, and will lead demonstration of the replication of FISSAC model.

11.	EKO	EKODENGE MUHENDISLIK MIMARLIK DANISMANLIK TICARET ANONIM SIRKETI	Development of the software platform tool.
12.	FAB	FUNDACION AGUSTIN DE BETANCOURT	Participation in the development and demonstration of FISSAC implemented technologies and products.
13.	FEN	FENIX TNT SRO	Exploitation leader, business modelling, IPR management, Data Management.
14.	FER	FERALPI SIDERURGICA S.p.A.	Active industrial partner as secondary raw material supplier.
15.	GEO	GEONARDO ENVIRONMENTAL TECHNOLOGIES LTD	Participation in developing the software platform tool.
16.	GTS	GLASS TECHNOLOGY SERVICES LIMITED	Active R&D partner as secondary raw material supplier.
17.	TRI	INGENIEURBUERO TRINIUS GMBH	Eco-design and certification activities.
18.	HIF	HIFAB AB	Contribution in the demonstration of the replication of FISSAC model, exploitation & business model for IS.
19.	KER	KERABEN GRUPO SA	Participation in the development of new products based on secondary raw materials and demonstration of FISSAC implemented technologies and products.
20.	OVA	OPENBARE VLAAMSE AFVALSTOFFENMAATSCHAPPIJ	Member of ACR+. As a competent (regional) government body with experience in the development and follow-up of policies, business models, partnerships offers insight and steering during the research process.
21.	RIN	RINA SERVICES SPA	Contribute in Environmental Technology Verification tasks.
22.	SP	SP SVERIGES TEKNISKA FORSKNINGSINSTITUT AB	Eco-design and certification activities leader, LCA and LCC methods, responsible for ecological and economic evaluation of the developed processes. Evaluation of non-technical opportunities and obstacles for different business models in order to create better instruments and development towards greater sustainability. Contribution with the analysis of circular business models.
23.	SYM	SIMBIOSY SIMBIOSI INDUSTRIAL SL	Demonstration of the replication of FISSAC model, exploitation & business model for IS, IS model trends.
24.	TCM	TURKIYE CIMENTO MUSTAHSILLERI BIRLIGI	Participation in the development of new products based on secondary raw materials and demonstration of FISSAC implemented technologies and products.
25.	TEC	FUNDACION TECNALIA RESEARCH & INNOVATION	Active R&D partner participating in setting the basis for the IS concerning innovative solutions for the use of by-products of steel and ceramic industries in environmental-friendly products and efficient applications for the construction sector. Validation at pre-industrial scale to demonstrate the efficiency of the solutions and products.
26.	VAN	VANNPLASTIC LTD	Participation in the development of new products based on secondary raw materials and demonstration of FISSAC implemented technologies and products.

7. Research data

'Research data' refers to information, in particular facts or numbers, collected to be examined and considered as a basis for reasoning, discussion, or calculation. In a research context, examples of data include statistics, results of experiments, measurements, observations resulting from fieldwork, survey results, interview recordings and images. The focus is on research data that is available in digital form.

As indicated in the Guidelines on Data Management in Horizon 2020 (European Commission, Research & Innovation, October 2015), scientific research data should be easily:

1. DISCOVERABLE
The data and associated software produced and/or used in the project should be discoverable (and readily located), identifiable by means of a standard identification mechanism (e.g. Digital Object Identifier).

2. ACCESSIBLE
Information about the modalities, scope, licenses (e.g. licencing framework for research and education, embargo periods, commercial exploitation, etc.) in which the data and associated software produced and/or used in the project is accessible should be provided.

3. ASSESSABLE and INTELLIGIBLE
The data and associated software produced and/or used in the project should be easily assessable for and intelligible to third parties in contexts such as scientific scrutiny and peer review (e.g. the minimal datasets are handled together with scientific papers for the purpose of peer review, data is provided in a way that judgments can be made about their reliability and the competence of those who created them).

4. USEABLE beyond the original purpose for which it was collected The data and associated software produced and/or used in the project should be useable by third parties even long time after the collection of the data (e.g. the data is safely stored in certified repositories for long term preservation and curation; it is stored together with the minimum software, metadata and documentation to make it useful; the data is useful for the wider public needs and usable for the likely purposes of non-specialists).

5. INTEROPERABLE to specific quality standards
The data and associated software produced and/or used in the project should be interoperable allowing data exchange between researchers, institutions, organisations, countries, etc.

Some examples of research data include:
–   Documents (text, Word), spreadsheets
–   Questionnaires, transcripts, codebooks
–   Laboratory notebooks, field notebooks, diaries
–   Audiotapes, videotapes
–   Photographs, films
–   Test responses, slides, artifacts, specimens, samples
–   Collection of digital objects acquired and generated during the process of research
–   Database contents (video, audio, text, images)
–   Models, algorithms, scripts
–   Contents of an application (input, output, logfiles for analysis software, simulation software, schemas)
–   Methodologies and workflows
–   Standard operating procedures and protocols.

In addition to the other records to manage, some kinds of data may not be sharable due to the nature of the records themselves, or to ethical and privacy concerns (e.g. preliminary analyses, drafts of scientific papers, plans for future research, peer reviews, communication with partners, etc.). Research data also do not include trade secrets, commercial information, materials necessary to be held confidential by researcher until they are published, or information that could invades personal privacy. Research records that may also be important to manage during and beyond the project are: correspondence, project files, technical reports, research reports, etc.

8.   FISSAC Data Sets

Projects are required to deposit the research data - the data, including associated metadata, needed to validate the results presented in scientific publications as soon as possible; and other data, including associated metadata, as specified and within the deadlines laid down in a data management plan (DMP).
At the same time, projects should provide information (via the chosen repository) about tools and instruments at the disposal of the beneficiaries and necessary for validating the results, for instance specialised software(s) or software code(s), algorithms, analysis protocols, etc. Where possible, they should provide the tools and instruments themselves.

The types of data to be included within the scope of the FISSAC Data Management Plan a minimum covers the types of data that is considered complementary to material already contained within declared project deliverables. The responsibility to define and describe all non-generic data sets specific to an individual work package was with the WP leader.

Data set reference and name
Identifier for the data set to be produced. All data sets within this DMP have been given a unique field identifier and are listed in the Section 12 (FISSAC Data Management Plan in practice).

Data Set Description
A data set is defined as a structured collection of data in a declared format. Most commonly a data set corresponds to the contents of a single database table, or a single statistical data matrix, where every column of the table represents a particular variable, and each row corresponds to a given member of the data set in question. The data set may comprise data for one or more fields. For the purposes of this DMP data sets have been defined by generic data types that are considered applicable to the FISSAC project. For each data set, the characteristics of the data set have been captured in a tabular format as enclosed in Section 12 (FISSAC Data Management Plan in practice).

Standards & Metadata
Metadata is defined as "data about data". It is "structured information that describes, explains, locates, and facilitates the means to make it easier to retrieve, use or manage an information resource".

Metadata can be categorised in three types:
- Descriptive metadata describes an information resource for identification and retrieval through elements such as title, author, and abstract.
- Structural metadata documents relationships within and among objects through elements such as links to other components (e.g., how pages are put together to form chapters).
- Administrative metadata manages information resources through elements such as version number, archiving date, and other technical information for the purposes of file management, rights management and preservation.

There are a large number of metadata standards which address the needs of particular user communities.

Data Sharing
During the period, when the Project is live, the sharing of data was defined by the configuration rules defined in the access profiles for the project participants. Each individual project data set item was allocated a 3 character "dissemination classification" for the purposes of defining the data sharing restrictions. The classification was an expansion of the system of confidentiality applied to deliverables reports provided under the FISSAC Grant Agreement.

PU: Public
RE: restricted to a group specified by the consortium
CO: Confidential, only for members of the consortium; Commission services always included.

The three above levels are linked to the "Dissemination Level" specified for all FISSAC deliverables. All material designated with a PU dissemination level is deemed uncontrolled. In case the dataset cannot be shared, the reasons for this is mentioned (e.g. ethical, rules of personal data, intellectual property, commercial, privacy-related, or security-related).

Data were shared when the related deliverable or paper was made available at an open access repository. The expectation was that data related to a publication will be openly shared. However, to allow the exploitation of any opportunities arising from the raw data and tools, data sharing proceeded only if all co-authors of the related publication agreed. The Lead author was responsible for getting approvals and then sharing the data and metadata on Zenodo (www.zenodo.org), a popular repository for research data. The Lead Author was also supposed to create an entry on OpenAIRE (www.openaire.eu) in order to link the publication to the data.
OpenAIRE is a service that implements the Horizon 2020 Open Access mandate for publications and its Open Research Data Pilot and may be used to reference both the publication and the data.

Data archiving and preservation
Both Zenodo and OpenAIRE are purpose-built services that aim to provide archiving and preservation of long-tail research data. In addition, the FISSAC website, linking back to OpenAIRE, is expected to be available for at least 2 years after the end of the Project. At the formal project closure all the data material that has been collated or generated within the Project and classified for archiving shall be copied and transferred to a digital archive (coordinator responsibility).
The document structure and type definition will be preserved as defined in the document breakdown structure and work package groupings specified. At the time of document creation the document will be designated as a candidate data item for future archiving. This process is performed by the use of codification within the file naming convention

(see Section 10). The process of archiving will be based on a data extract performed within 12 weeks of the formal closure of the FISSAC Project.

The archiving process shall create unique file identifiers by the concatenation of "metadata" parameters for each data type. The metadata index structure shall be formatted in the metadata order. This index file shall be used as an inventory record of the extracted files and shall be validated by the associated WP leader.
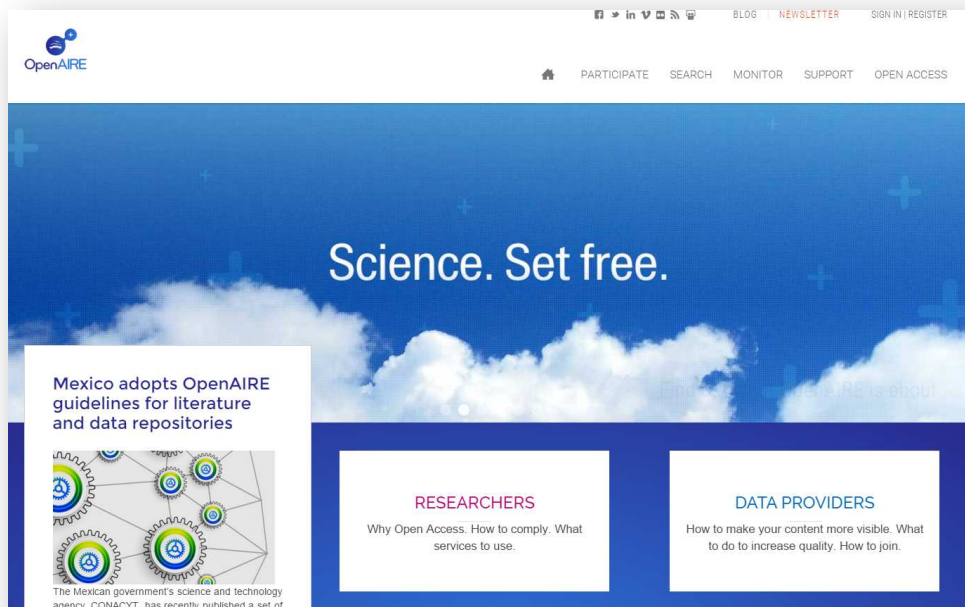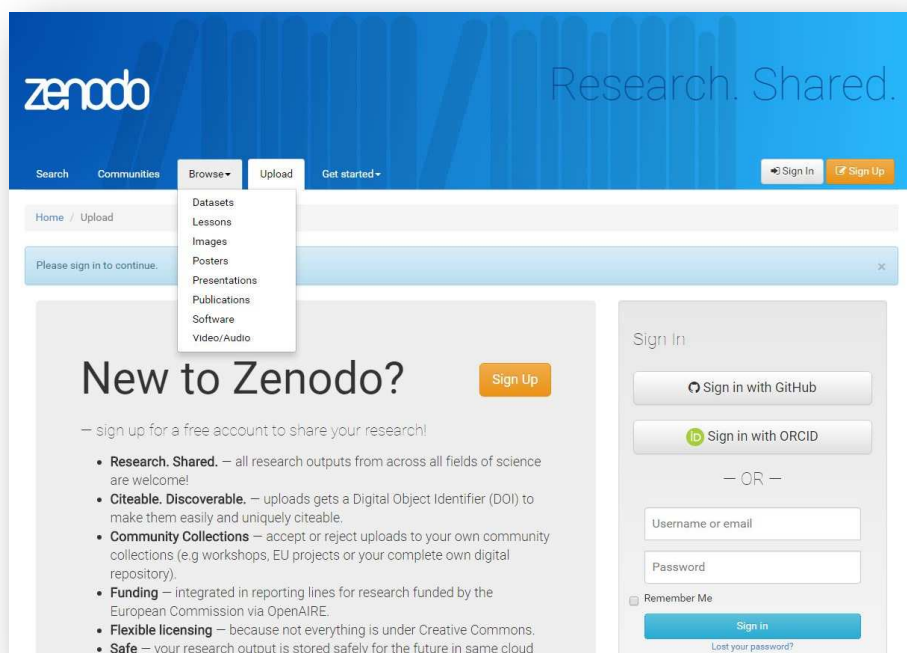

Figure 5: OpenAIRE website

Figure 6: ZENODO repository

9. Data Sets Technical Requirements

The applicable data sets are restricted to the following data types for the purposes of archiving. The technical characteristics of each data set are described in the following sections. The copy rights with respect to all data types are subject to IPR clauses in the GA, but are considered to be royalty free. The use of file compression utilities, such as "WinZip" is prohibited. No data files are encrypted.

Engineering CAD drawings
The .dwg file format is one of the most commonly used design data formats, found in nearly every design environment. It signifies compatibility with AutoCAD technology. Autodesk created .dwg in 1982 with the launch of its first version of AutoCAD software. It contains all the pieces of information a user enters, such as: Designs, Geometric data, Maps, Photos.

Static graphical images

Graphical images are defined as any digital image irrespective of the capture source or subject matter. Images should be composed such to contain only objects that are directly related to FISSAC activity and do not breach IPR of any third parties. Image files are composed of digital data and can be of two primary formats of "raster" or "vector". It is necessary to represent data in the rastered state for use on a computer displays or for printing. Once rasterized, an image becomes a grid of pixels, each of which has a number of bits to designate its colour equal to the colour depth of the device displaying it. The FISSAC project only used raster based image files. The allowable static image file formats are JPEG and PNG. There is normally a direct positive correlation between image file size and the number of pixels in an image, the colour depth, or bits per pixel used in the image. Compression algorithms can create an approximate representation of the original image in a smaller number of bytes that can be expanded back to its uncompressed form with a corresponding decompression algorithm. The use of compression tools are not used unless absolutely necessary.

Animated graphical images

Graphic animation is a variation of stop motion and possibly more conceptually associated with traditional flat cell animation and paper drawing animation, but still technically qualifying as stop motion consisting of the animation of photographs (in whole or in parts) and other non-drawn flat visual graphic material. The allowable animated graphical image file formats are AVI, MPEG, MP4, and MOV. The WP leader shall determine the most suitable choice of format based on equipment availability and any other factors. This is mainly valid for the FISSAC project promo video and consortium video, which contain animated graphical images, infographics and on site interviews.

Table 2: Video formats

Format	File	Description
MPEG	.mpg .mpeg	MPEG. Developed by the Moving Pictures Expert Group. The first popular video format on the web. Used to be supported by all browsers, but it is not supported in HTML5 (See MP4).
AVI	.avi	AVI (Audio Video Interleave). Developed by Microsoft. Commonly used in video cameras and TV hardware. Plays well on Windows computers, but not in web browsers.
WMV	.wmv	WMV (Windows Media Video). Developed by Microsoft. Commonly used in video cameras and TV hardware. Plays well on Windows computers, but not in web browsers.
QuickTime	.mov	QuickTime. Developed by Apple. Commonly used in video cameras and TV hardware. Plays well on Apple computers, but not in web browsers. (See MP4)
RealVideo	.rm .ram	RealVideo. Developed by Real Media to allow video streaming with low bandwidths. It is still used for online video and Internet TV, but does not play in web browsers.
Flash	.swf .flv	Flash. Developed by Macromedia. Often requires an extra component (plug-in) to play in web browsers.
Ogg	.ogg	Theora Ogg. Developed by the Xiph.Org Foundation. Supported by HTML5.
WebM	.webm	WebM. Developed by the web giants, Mozilla, Opera, Adobe, and Google. Supported by HTML5.

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| | | MP4. Developed by the Moving Pictures Expert Group. Based on QuickTime. Commonly used in newer video cameras and TV hardware. Supported by all HTML5 browsers. Recommended by YouTube. |

Audio data

An audio file format is a file format for storing digital audio data on a computer system. The bit layout of the audio data (excluding metadata) is called the audio coding format and can be uncompressed, or compressed to reduce the file size, often using lossy compression. The data can be a raw bitstream in an audio coding format, but it is usually embedded in a container format or an audio data format with defined storage layer. The allowable animated audio file formats is MP3 or MP4. This is mainly valid for the FISSAC Project promo video and consortium video, which contain interviews with partners, voice over and music.

Table 3: Audio formats

Format	File	Description
MIDI	.midi .mid	MIDI (Musical Instrument Digital Interface). Main format for all electronic music devices like synthesizers and PC sound cards. MIDI files do not contain sound, but digital notes that can be played by electronics. Plays well on all computers and music hardware, but not in web browsers.
RealAudio	.rm .ram	RealAudio. Developed by Real Media to allow streaming of audio with low bandwidths. Does not play in web browsers.
WMA	.wma	WMA (Windows Media Audio). Developed by Microsoft. Commonly used in music players. Plays well on Windows computers, but not in web browsers.
AAC	.aac	AAC (Advanced Audio Coding). Developed by Apple as the default format for iTunes. Plays well on Apple computers, but not in web browsers.
WAV	.wav	WAV. Developed by IBM and Microsoft. Plays well on Windows, Macintosh, and Linux operating systems. Supported by HTML5.
Ogg	.ogg	Theora Ogg. Developed by the Xiph.Org Foundation. Supported by HTML5.
MP3	.mp3	MP3 files are actually the sound part of MPEG files. MP3 is the most popular format for music players. Combines good compression (small files) with high quality. Supported by all browsers.
MPEG-4 or MP4	.mp4	MP4. Developed by the Moving Pictures Expert Group. Based on QuickTime. Commonly used in newer video cameras and TV hardware. Supported by all HTML5 browsers. Recommended by YouTube.

Textual data

A text file is structured as a sequence of lines of electronic text. These text files do not contain any control characters including end-of-file marker. In principle the least complicated form of textual file format was used as the first choice. On Microsoft Windows operating systems, a file is regarded as a text file if the suffix of the name of the file is "txt". However, many other suffixes are used for text files with specific purposes. For example, source code for computer programs is usually kept in text files that have file name suffixes indicating the programming language in which the source is written. Most Windows text files use "ANSI", "OEM", "Unicode" or "UTF-8" encoding.

Prior to the advent of Mac OS X, the classic Mac OS system regarded the content of a file to be a text file when its resource fork indicated that the type of the file was "TEXT". Lines of Macintosh text files are terminated with CR characters. Being certified Unix, macOS uses POSIX format for text files. Uniform Type Identifier (UTI) used for text files in macOS is "public.plain-text".

Numeric data

Numerical Data is information that often represents a measured physical parameter. It was always captured in number form. Other types of data can appear to be in number form i.e. telephone number, however this should not be confused with true numerical data that can be processed using mathematical operators.

Process and test data

Standard Test Data Format (STDF) is a proprietary file format originating within the semiconductor industry for test information, but it is now a Standard widely used throughout many industries. It is a commonly used format produced for/by automatic test equipment (ATE). STDF is a binary format, but can be converted either to an ASCII format known as ATDF or to a tab delimited text file. Software tools exist for processing STDF generated files and performing statistical analysis on a population of tested devices. FISSAC innovation development made use of this file type for system testing.

Microsoft Office Application Suite

FISSAC Project partners used the currently MS supported operating system and convert from any previous obsolete releases. The types of specific applications available within the current Microsoft Windows operating system was used to support all project activities in preference to any other software solutions. The data file types associated with these applications were saved in the default format and in accordance with the file naming convention as specified in Section 10. At the Microsoft Office Application level the "file properties" are configured using the "document properties" feature. This is accessed via "Info" dropdown within the "File" menu. The "properties" and "advanced properties" present a data entry box under the "Summary" as shown in the figure below.

Figure 7. Data Entry Box – Summary

Title: Duplication of the name used for the data file name
Subject: Identifier for FISSAC work package discrimination and shall be of the following format FISSAC_WPxx where xx is the work package number in the range 01 to 10.
Author: Name of the person creating the document and be formatted to have the surname stated first as follows: surname_firstname_secondname
Manager: Name of the author's immediate line manager and be formatted to have the surname stated first as follows: surname_firstname_secondname
Company: Company name of the author to be stated as follows: companyname_FISSAC participant number
Keywords: Free format text and should contain key words that would be relevant and useful to future data searches. The keywords should all be in lower case and separated with commas
Comments: Description of file contents in free format text
Hyperlink base: Blank

The tickbox indicating "Save Thumbnails for All Word Documents" untagged.

Adobe Systems

Portable Document Format (PDF) is a file format developed by Adobe Systems for representing documents in a manner that is independent of the original application software, hardware, and operating system used to create those documents. A PDF file can describe documents containing any combination of text, graphics, and images in a device independent and resolution independent format. These documents can be one page or thousands of pages, very simple or extremely complex with a rich use of fonts, graphics, colour, and images. PDF is an open standard, and anyone may write applications that can read or write PDFs royalty-free. PDF files are especially useful for documents such as magazine articles, product brochures, or flyers in which you want to preserve the original graphic appearance online.

10. Naming Convention

All files irrespective of the data type shall be named in accordance with the following document file naming convention:
FISSAC_Dx.x_Deliverable short title_Px_yyyymmdd_Status

"Dx.x": Deliverable number according to the DoA
"Px": Lead beneficiary number
"yyyymmdd": Year/month/day
"Status": Short name of the last reviewer (beneficiary short name)

Example: FISSAC_D10.2_Quality Plan_P1_20150511_Acc

Appendix files will be referred to the main document according to the following rule:

FISSAC_Dx.x_Deliverable short title_Appx_Px_yyyymmdd_Status

Where "Appx" is the Appendix letter

Example: FISSAC_D10.2_Quality Plan_AppA_P1_20150511_Acc

When the document has been approved by the EC, the status in the file name will be changed to "Final" while a copy of the file in PDF format will be uploaded on the webpage.

The file naming convention contains the 7 following sections:
[PROJECT]_[WORKPACKAGE]_[TASK]_[TITLE]_[VERSION]_[DISSEMINATIONCLASS]_[ARCHIVE]

Where:
- [PROJECT] is FISSAC for all document types;
- [WORKPACKAGE] is the FISSAC project work package number, with WP as a prefix;
- [TASK] is the FISSAC project task number, this is two numbers where numbers less than 10 have a leading zero;
- [TITLE] represents the description of the data item contents excluding capitalisation and punctuation characters;
- [VERSION] is the version number consisting of integer numbers only without leading zeros, prefixed with V;
- [DISSEMINATIONCLASS] is the dissemination classification allocated to a document type that define the data access post archiving, consists of the characters CO and a suffix of a single number in the range 1 to 3;
- [ARCHIVE] this is a single character defining the allocation of the data item for future archiving and is represented by a Y or N ;

11. GDPR Compliance

At every stage, the FISSAC Project Management and Project Consortium ensured that the Data Management Plan is in line with the norms of the EU and Commission [as expressed in the General Data Protection Regulation (GDPR) (Regulation (EU) 2016/679)] and will promote best practice in Data Management. The GDPR came into force on 25th May 2018.

The responsibility of protection and use of personal data is on the Project partner collecting data. The questionnaire answers are anonymized in as early stage of the process, and data making it possible to connect the answers to individual persons are destroyed. The consent of the questionnaire participant is asked in all questionnaires conducted within the FISSAC project. This includes a description of how and why the data is to be used. The consent must be clear and distinguishable from other matters and provided in an intelligible and easily accessible form, using clear and plain language. It must be as easy to withdraw consent as it is to give it.

The questionnaire participants did not include children or other groups requiring a supervisor. Also, when asking for somebody's contact information, the asking party should explain why this information is asked and for what purposes it will be used.

Controller and Processor
Controller means the natural or legal person, public authority, agency or other body which, alone or jointly with others, determines the purposes and means of the processing of personal data.
Processor refers to a natural or legal person, public authority, agency or other body which processes personal data on behalf of the controller.

Data Protection Officer
The Data Protection Officer (DPO) is responsible for overseeing data protection strategy and implementation to ensure compliance with GDPR requirements. Under the GDPR, there are three main scenarios where the appointment of a DPO by a controller or processor is mandatory:

- The processing is carried out by a public authority
- The core activities of the controller or processor of processing operations which require regular and systematic processing of data subjects on a large scale; or
- The core activities of the controller or processor consist of processing on a large scale of sensitive data or data relating to criminal convictions / offences.

Each FISSAC partner assesses its own data processing activities to understand whether they fall within the scope of the requirements set out above. If they do, then it is important to either fulfil the DPO position internally or from an external source. For those organisations to whom the requirements do not apply, they may still choose to appoint a DPO. If they choose not to appoint a DPO, then it is recommended to document the reasoning behind that decision.

Data protection
European citizens have a fundamental right to privacy. In order to protect this right of individual data subject, the anonymisation and pseudonymisation can be used.

Anonymisation refers to personal data processing with the aim of irreversibly preventing the identification of the individual to whom it relates. For the anonymized types of data, the GDPR does not apply, as long as the data subject cannot be re-identified, even by matching his/her data with other information held by third parties.

Pseudonymisation refers to the personal data processing in such a manner that the data can no longer be attributed to a specific data subject without the use of additional information. To pseudonymize a data set, the additional information must be kept separately and subject to technical and organizational measures to ensure non/attribution to an identified or identifiable person. In other words, the pseudonymized data constitutes the basic privacy-preserving level allowing for some data sharing and represent data where direct identifiers (e.g. names) or quasi-identifiers (e.g. unique combinations of date and zip codes) are removed and data are mismatched with a substitution algorithm, impeding correlation of readily associated data to the individual's identity. For such data, GDPR applies and appropriate compliance must be ensured.

Due to the limited amount and less harmful nature of the personal data collected within the FISSAC project, neither pseudonymisation nor anonymisation is used.

Breach Notification

Under the GDPR, breach notification will become mandatory in all member states where a data breach is likely to "result in a risk for the rights and freedoms of individuals". This must be done within 72 hours of first having become aware of the breach. Data processors are also required to notify the data subjects and the controllers, "without undue delay" after first becoming aware of a data breach.

Right to be Forgotten

Also known as Data Erasure, the right to be forgotten entitles the data subject to have the data controller erase his/her personal data, cease further dissemination of the data, and potentially have third parties halt processing of the data. The conditions for erasure include the data no longer being relevant to original purposes for processing, or a data subjects withdrawing consent. It should also be noted that this right requires controllers to compare the subjects' rights to "the public interest in the availability of the data" when considering such requests. If a data subject wants his/her personal data to be removed from a questionnaire, the non-personal data remains in the analysis of the questionnaire.

Data portability

GDPR introduces data portability, which refers to the right for a data subject to receive the personal data concerning them, which they have previously provided in a 'commonly use and machine-readable format' and have the right to transmit that data to another controller.

The personal data collected within FISSAC project are in electronic form, mostly in Microsoft Excel file forms .xls or .xlsx. In case the data subject requests to transmit his/her data to another controller there should be no technical limitations for providing them.

Privacy by design and by default

Privacy by design refers to the obligation of the controller to implement appropriate technical and organisational measures, such as pseudonymisation, which are designed to implement data protection principles, such as data minimisation, in an effective manner and to integrate the necessary safeguards into the processing.

Privacy by default means that the controller implements appropriate technical and organisational measures for ensuring that only personal data which are necessary for each specific purpose of the processing are processed. That obligation applies to:

- the amount of personal data collected,
- the extent of personal data processing,
- the period of personal data storage, and
- the accessibility of personal data.

In particular, such measures ensure that by default personal data are not made accessible without the individual's intervention to an indefinite number of natural persons.

Personal data collected during the FISSAC project were used only by project partners, including linked third parties, and only for purposes needed for the implementation of the project. Also, within the FISSAC project, if someone of the project consortium asks for personal data, the partner holding the data should consider whether those data are needed for the implementation of the Project. If personal data are provided, the data shall not be distributed further within or outside the Project.

Records of processing activities

Records of data processing and plans for the use of data will be kept by the WP Leaders of those work packages that collect personal data.

12. FISSAC Data Management Plan in practice

The Table 4 lists datasets shared publicly till month 54. In order to obtain the best results related to the data sharing, partners uploaded all the public deliverables on the FISSAC website.

Table 4: Datasets shared publicly

	Dataset name	Lead partner	Format	Type	Data sharing	Open access	DOI	Links
WP1	FISSAC_D1.1_Stakeholders Network setting up_P2_20151130	ACR+	pdf	Deliverable	FISSAC website, Zenodo	YES	10.5281/zenodo.3690557	http://fissacproject.eu/en/library/
	FISSAC_D1.4_Social strategies for FISSAC. Definition of target social groups_P2_20160229	ACR+	pdf	Deliverable	FISSAC website, Zenodo	YES	10.5281/zenodo.3690651	http://fissacproject.eu/en/library/
	FISSAC_D1.6_Industrial Symbiosis Indicators_P11_20160831	EKO	pdf	Deliverable	FISSAC website, Zenodo	YES	10.5281/zenodo.3690653	http://fissacproject.eu/en/library/
	FISSAC_D1.7_Strategies for social engagement and acceptance_P2_20170228	ACR+	pdf	Deliverable	FISSAC website, Zenodo	YES	10.5281/zenodo.3690657	http://fissacproject.eu/en/library/
	FISSAC_D1.8_Initial outline of FISSAC Industrial Symbiosis Model and Methodology_P1_20170228	ACCIONA	pdf	Deliverable	FISSAC website, Zenodo	YES	10.5281/zenodo.3690673	http://fissacproject.eu/en/library/
	Dataset name	**Lead partner**	**Format**	**Type**	**Data sharing**	**Open access**	**DOI**	**Links**
WP2	FISSAC_D2.6_Report on the contribution to the Standardisation System regarding FISSAC technologies_P3_20170831	UNE	pdf	Deliverable	FISSAC website, Zenodo	YES	10.5281/zenodo.3690703	http://fissacproject.eu/en/library/
WP3	**Dataset name**	**Lead partner**	**Format**	**Type**	**Data sharing**	**Open access**	**DOI**	**Links**

	Dataset name	Lead partner	Format	Type	Data sharing	Open access	DOI	Links
	FISSAC_D3.9_ETV: Specific Guideline for the application of ETV in the sector_P21_20170831	RINA	pdf	Deliverable	FISSAC website, Zenodo	YES	10.5281/zenodo.369070 9	http://fissacproject.eu/en/library/
	FISSAC_D3.12_Report on the contribution to the Standardisation System regarding FISSAC products_P3_20200229	UNE	pdf	Deliverable	-	YES	To be uploaded on Zenodo once submitted and approved by EC	To be uploaded on FISSAC website once submitted and approved by EC
WP6	**Dataset name**	**Lead partner**	**Format**	**Type**	**Data sharing**	**Open access**	**DOI**	**Links**
	FISSAC_D6.4_FISSAC Platform Final Version_P11_20190228	EKO	pdf	Deliverable	-	YES	To be uploaded on Zenodo once approved by EC	To be uploaded on FISSAC website once approved by EC
	FISSAC_D6.5_FISSAC IS Performance Evaluation Report_P11_20200229	EKO	pdf	Deliverable	FISSAC website	YES	To be uploaded on Zenodo once submitted and approved by EC	To be uploaded on FISSAC website once submitted and approved by EC
WP7	**Dataset name**	**Lead partner**	**Format**	**Type**	**Data sharing**	**Open access**	**DOI**	**Links**
	FISSAC_D7.1_First Publications regarding living lab for FISSAC model_P22_20190228	SP	pdf	Deliverable	FISSAC website, Zenodo	YES	10.5281/zenodo.369071 3	http://fissacproject.eu/en/library/
	FISSAC_D7.2_Report on Industrial Segmentation, criteria and correlation to the FISSAC first application_P10_20190228	RINA	pdf	Deliverable	FISSAC website	YES	To be uploaded on Zenodo once approved by EC	To be uploaded on FISSAC website once approved by EC
	FISSAC_D7.3_Final Publications regarding living lab for FISSAC model_P22_20200229	SP	pdf	Deliverable	FISSAC website	YES	To be uploaded on Zenodo once submitted and approved by EC	To be uploaded on FISSAC website once submitted and approved by EC
	FISSAC_D7.4_A process for the transition from linear to circular business models for industrial symbiosis_P22_20200229	SP	pdf	Deliverable	FISSAC website	YES	To be uploaded on Zenodo once submitted and approved by EC	To be uploaded on FISSAC website once submitted and approved by EC
	FISSAC_D7.5_Project Validation, SWOT and Concept replicability_P10_20200229	RINA	pdf	Deliverable	FISSAC website	YES	To be uploaded on Zenodo once submitted and approved by EC	To be uploaded on FISSAC website once submitted and approved by EC

	Dataset name	Lead partner	Format	Type	Data sharing	Open access	DOI	Links
WP9	FISSAC_D9.1_Dissemination plan_P2_20160229	ACR+	pdf	Deliverable	FISSAC website	YES	N/A	http://fissacproject.eu/en/library/
	FISSAC_D9.2_Conclusions of final International Conference_P2_20200229	ACR+	pdf	Deliverable	-	YES	N/A	To be uploaded on FISSAC website once submitted and approved by EC
	FISSAC_D9.3_Final Dissemination report_P2_20200229	ACR+	pdf	Deliverable	-	YES	N/A	To be uploaded on FISSAC website once submitted and approved by EC
	Project leaflet	ACR+	pdf	Leaflet	FISSAC website	YES	N/A	http://fissacproject.eu/wp-content/uploads/2015/12/FISSAC-Leaflet.pdf
	Project rollup banner	ACR+	pdf	Poster	FISSAC website	YES	N/A	http://fissacproject.eu/wp-content/uploads/2019/01/FISSAC-Banner-1x2-v3.pdf
	Industrial Symbiosis Tools and Best practices (23 February 2017)	ACR+	pdf	Webinar	FISSAC website	YES	N/A	http://fissacproject.eu/en/2017/01/19/fissac-webinar/
	Social aspects and impact of Industrial Symbiosis (31 May 2018)	ACR+	pdf	Webinar	FISSAC website	YES	N/A	http://fissacproject.eu/en/2018/05/31/webinar-on-social-aspects-of-industrial-symbiosis-recording-now-available/
	Pre-industrial and Industrial scale Demonstrations (15 October 2019)	ACR+	pdf	Webinar	FISSAC website	YES	N/A	http://fissacproject.eu/en/2019/09/23/3rdwebinar/
	A new industrial symbiosis platform (26 February 2020)	ACR+	pdf	Webinar	FISSAC website	YES	N/A	https://attendee.gotowebinar.com/recording/8518439253577064194
	FISSAC graphical promo video	ACR+	Mp4	Video	FISSAC website	YES	N/A	http://fissacproject.eu/en/library/videos/
	The partnership behind the FISSAC project	ACR+	Mp4	Video	FISSAC website	YES	N/A	http://fissacproject.eu/en/library/videos/
WP 10	**Dataset name**	**Lead partner**	**Format**	**Type**	**Data sharing**	**Open access**	**DOI**	**Links**

FISSAC_D10.1_Governance structure, communication flow and methods_P1_20151130	ACCIONA	pdf	Deliverable	FISSAC website	YES	N/A	http://fissacproject.eu/en/library/
FISSAC_D10.2_Quality Assurance Plan_P1_20151130	ACCIONA	pdf	Deliverable	FISSAC website	YES	N/A	http://fissacproject.eu/en/library/
FISSAC_D10.3_First version of the Data Management Plan_P13_20160229	FENIX	pdf	Deliverable	FISSAC website	YES	N/A	http://fissacproject.eu/en/library/
FISSAC_D10.4_Final Data Management Plan_P13_0200229	FENIX	pdf	Deliverable	FISSAC website	YES	N/A	To be uploaded on FISSAC website once submitted and approved by EC
FISSAC_D10.5_Report of social engagement and acceptance_P2_0200229	ACR+	pdf	Deliverable	-	YES	To be uploaded on Zenodo once submitted and approved by EC	To be uploaded on FISSAC website once submitted and approved by EC

	Dataset name	Lead partner	Format	Type	Details	Open access	DOI	Repository link/Link to the publication
Publications	Effect of high-alumina ladle furnace slag as cement substitution in masonry mortars	Tecnalia	pdf	Article in journal	Construction and Building Materials, Elsevier Volume 123, Pages 404-413 ISBN 9500618 Netherlands 2016	YES (Green)	10.1016/j.conbuildmat.2016.07.014	http://www.sciencedirect.com/science/article/pii/S0950061816311138
	Towards a More Sustainable Construction Value Chain for Sustainble Cities	Ekodenge	pdf	Conference proceedings	SBE16 Smart Metropoles, Proceedings Book, Pages 574-576 IMSAD Turkey 2016	YES (Gold)	-	http://www.sbeistanbul.com/assets/SBE16_Papers_ing-24-10-2016.pdf
	Türkiye Yapı Malzemeleri ve İnşaat Sektörü Değer Zincirinde Ulusal/Bölgesel Endüstriyel Simbiyoz Ağ Yapısı Kurulması Projesi	Ekodenge	pdf	Conference proceedings	Poster BEBKA Turkey 2017	NO	-	https://www.facebook.com/ekodengeas/photos/pcb.1210794812290593/1210794722290602/?type=3&theater
	Endüstriyel Atıkların Değerlendirilmesi	AKG	pdf	Conference proceedings	Poster 3.Ulusal Çevre Kongresi Özet Kitabı Page 97 Nobel Abstracts Turkey 2016	YES (Green)	-	http://www.cevrekongresi.gen.tr/

Fostering Industrial Symbiosis for a Sustainable Resource Intensive Industry Across the Extended Construction value Chain	AKG	pdf	Conference proceedings	Poster ISSBN 978-605-66262-9-6 ICOEST Serbia 2016	YES (Gold)	-	https://www.icoest.eu/sites/default/files/icoest_2016_-book-of-abstracts_v3.pdf
Industrial symbiosis and disassembly for reuse in the construction industry	Hifab	pdf	Thesis	2016: BOMX03-16-10 Chalmers University Sweden2016	YES (Green)	-	http://publications.lib.chalmers.se/records/fulltext/245194/245194.pdf
Circularity through industrial symbiosis: Drivers, obstacles	Rise	pdf	Other	Posters, LCM2017	NO	-	http://lcm-conferences.org/wp-content/uploads/2017/09/LCM2017-posters-list-2017-08-31_10-13-27-full.pdf
LCA/LCC - Methods' development and learnings from the FISSAC project	Rise	pdf	Other	Presentation at the Paper Province conference Paper Province 2018	NO	-	-
Presentation to the Swedish Government Offices. Diversity and norm criticism in the construction industry. FISSAC and the Living Lab concept used in the project.	Rise	pdf	Other	Meeting with the Swedish Government Offices 2018	NO	-	-
Projet européen FISSAC : des innovations porteuses pour la déconstruction	ACR+	html	Article in the "Assises nationales des déchets" newsletter and website.	15e Assises des Déchets Actu' Assises n°3 - mai 2019 Assises Nationales des Déchets Actu' Assises n°3 - mai 2019	NO	-	https://www.assises-dechets.org/index.php?option=com_content&view=article&id=452:projet-europeen-fissac-des-innovations-porteuses-pour-la-deconstruction&catid=56:assises-2019&lang=fr
A novel cloud-based platform helps industries minimise waste and enhance sustainability	Acciona	pdf	Article in journal		YES	-	https://cordis.europa.eu/project/rcn/196821/brief/en

13. Conclusions

This deliverable contains the last and final release of the FISSAC Data Management Plan and represents the status of the mandatory quality requirements at the month 54. This report should be read in association with all the referenced documents, appendices and including the EC Grant and Consortium Agreement, annexes and guidelines.

At month 54 more detailed information about the dataset description, sharing, archiving, preservation and responsibilities was updated by each WP leader and outcomes can be seen in the Section 12 (FISSAC Data Management Plan in practice). FISSAC data which were already shared publicly including data with open access are listed in the table 4 (FISSAC Datasets shared publicly) with links where they can be accessed and downloaded.

14. References

Guidelines on Data Management in Horizon 2020:
https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf

15. Appendixes

N/A