SOFIE - Secure Open Federation for Internet Everywhere

779984

DELIVERABLE D6.6

Updated Consolidated Communication and Dissemination Plan

Project title	SOFIE – Secure Open Federation for Internet Everywhere
Contract Number	H2020-IOT-2017-3 – 779984
Duration	1.1.2018 – 31.12.2020
Date of preparation	7.1.2019
Author(s)	Mirjam Kert (GT), Dmitrij Lagutin (AALTO), George Polyzos (AUEB), Mikael Jaatinen (LMF), Petri Laari (LMF)
Responsible person	Mirjam Kert (GT), mirjam.kert@guardtime.com
Target Dissemination Level	Public
Status of the Document	Completed
Version	1.00
Project web-site	https://www.sofie-iot.eu/

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 779984.

Table of Contents

1. Introduction

The SOFIE project work package 6 (WP6) runs during the whole project and consists of communication and dissemination activities as well as exploitation, business planning, and standardization. The core purpose of WP6 is to support the impact of information and communication technologies applied to three distinct domains: energy, food industry, and gaming. This plan describes the activities thus far and outlines the purpose and direction of the future efforts.

The aims of SOFIE communication activities are to ensure that the project's results reach the appropriate target audiences in varied sectors in industries, academia and governmental bodies. Additionally, it aims at informing distinct audiences of the possibilities of the IoT federation approach on data management.

SOFIE will actively participate in standardisation in its research areas. It will disseminate results through specialist venues: scientific journals, conferences, and developer communities, but also through the web, social media and workshops. This document continues on the definition and regulatory work initiated in the Grant Agreement regarding the SOFIE project's general dissemination and communication activities, channels and target audiences.

This Updated Consolidated Communication and Dissemination plan introduces the final communication and dissemination strategy, which includes specific steps to engage with the interest groups related to the project.

2. Strategy for Dissemination and Communication

The main purpose of the SOFIE communication and dissemination strategy is to maximise the impact created by the project. The strategy stems from the higher-level communication and dissemination goals listed below:

- Raising general awareness about the project and its output
- Supporting the engagement of stakeholders for participation in the work of WP2-WP5
- Gathering feedback from stakeholders that can be incorporated in SOFIE's scientific and development activities
- Attracting users from targeted sectors to start using SOFIE's results
- Ensuring high transparency and accessibility of the project output

Communication and dissemination activities aim to address both in-project and outreach communication needs. To support those activities, clear communication messages have been formulated. Also, highly accessible and transparent communication materials are compiled that can serve different audiences. Multiple different communication channels are utilised to reach the relevant stakeholders. The SOFIE project communicates with factual, structured content and concrete demos. In the Updated Consolidated Communication and Dissemination Plan the project key messages have been refined as well the as the target audiences have become more concrete. The main strategy of communication and dissemination activities has remained the same as defined in "D6.4 - Initial Communication and Dissemination plan".

2.1 Key Messages

The primary message of the project:

SOFIE will establish an essential framework for the smooth uptake of IoT technologies. During the project we will fill the present technological gap by developing a trailblazing blockchain driven federated platform, which will enable new data exchange paths between the highly fragmented IoT systems and legacy silos.

Project description to be used in external communication:

Problem description:

Big Data has been defined as the "black gold" of the 21st century. It is one of the key elements that make industries grow. The problem is that in many existing sectors (energy, logistics, insurance, machine manufacturing etc.) architecture and systems design does not support the massive use of big data and exchange of information. Legacy systems have been built as stand-alone solutions and their data silos are preventing the use of new opportunities on the market.

What we DO:

SOFIE addresses this problem directly by creating the means to exchange data not only between the data silos of legacy systems (SCADA, CRM, etc.), but also at a larger scale, between different Internet of Things (IoT) systems, in this way enabling new business models to prosper. Bringing down the barriers of data exchange and fostering trust between parties owning different IoT systems, while keeping the overhead of integration as low as possible, is SOFIE's way to contribute to the next generation digital market and industry matchmaking.

How this changes the world:

By enabling seamless data exchange through a federated approach and the use of flexible adapters between IoT systems, the benefits created from one industry to another are endless. Creating an ecosystem where energy consumption, all kinds of production, the myriad devices

with micro-controllers, and human activities are combined, for example, to provide a more efficient and flexible energy service, is one example. Tracking/controlling every food product and its environment from the farmland to the grocery store, to improve efficiency and ensure high quality, is another example. Matching these supply chains and services with customer behaviour and demand/response from other IoT systems creates the possibility to offer services at a higher level.

From the longer-term point of view, *creating industry specific and wider markets for data exchange and data reuse allows the society as a whole to streamline its operations, increasing efficiency, and decreasing materials use. The integrated digital ledgers also allow the digital market platforms to experiment with new forms of compensation, new value structures, such as reputation, and new ownership models, including data commons and perhaps data unions. These, together with the ongoing restructuring of the energy industry from a centralised, capital intensive one into a decentralised one that requires lower investment, are likely to bring fundamental changes into the way the whole economy works.*

How we do it:

SOFIE addresses the fragmentation of IoT through federation rather than integration. Virtually any IoT platform can join the federation by creating an adapter. Data remains in the respective IoT platforms and is usable by all the applications within the limits set by the applicable security and privacy policies. SOFIE exercises security and privacy by design, utilising DLTs where applicable. The user shall retain control over their data, even after the data have been stored in the Cloud or Fog in an EU GDPR (or other regulations) compliant manner.

SOFIE selects existing components, develops new ones, and collects them into an IoT federation framework for creating administratively decentralised, open, and secure IoT business platforms from existing IoT platforms. The practicality of the approach is demonstrated by using it in four pilots in three different sectors: food chain data, gaming, and energy market.

2.2 Target Audience

The dissemination and communication activities aim to ensure the project's impact, by engaging with the stakeholders that can gain most from the project's results and by leveraging the consortium members' strong relationships with a range of audiences: industrial, academic/research, governmental, and general public. The primary target audience will be the relevant industry IoT sectors, which include those directly related to SOFIE's pilots and sectors, such as energy, gaming industry, and food tech. In addition to disseminating the project's results, SOFIE's engagement with stakeholder communities will allow the project to gather feedback which it will incorporate in its scientific and development activities.

Below is an overview of the channels and dissemination goals in relation to the four large target groups.

Table 1. SOFIE Target groups and dissemination goals

Target group	Channels	Goal of Dissemination
Industry: Energy companies Agritech Gaming IoT device manufacturers/integrators	Existing business relationships and networks, policy reports, meetings, conferences, seminars/workshops, webinars and offline meetings with industry associations.	To engage relevant industry in the work of SOFIE. To demonstrate the IoT platform and to gather feedback for further exploitation as well as for further improvements. To engage them in the uptake of SOFIE's innovative solutions.

Logistics Food science Grocery stores Home Security Systems		
Academia/Research: Scientific community (Centres of research and universities)	Publications in journals, conferences and workshops, presentations, tutorials, course lectures. More detailed description of channels is provided in Section 2.3.	To engage participants in dialogue, to present them research results and ignite further research work.
Public sector: European Commission (ECSO, EIT Digital, AIOTA)	Policy reports, consultation meetings, conferences/workshops, social media. ICT, IoTweek, Annual Privacy Forum.	To create awareness of relevant parts of SOFIE's work that can be of use in the public sector.
General public: Open source community	Public reports, presentations, social media. Open source code released at GitHub. Fosdem conference.	To create general awareness of the advantages SOFIE's platform provides and to invite external contributors to the SOFIE platform.

2.3 Visual Identity

A visual identity for SOFIE was created at the beginning of the project. This visual identity is to be used in all the dissemination outputs, such as the project website, deliverables, presentations, leaflets, etc. The SOFIE logo combines IoT with the circle O around SOFIE and stopping at the I. As SOFIE stands for Secure Open Federation of Internet Everywhere, the circle in the logo is left open to symbolise the notion of openness of the SOFIE federation. The logo can be downloaded from the SOFIE website: https://www.sofie-iot.eu/assets/sofie-logo.svg.

Figure 1. The SOFIE Logo

2.4 SOFIE video

A short introductory video of SOFIE will be prepared in order to give an overview of the project and the problem that it is solving. The video will be available on the website as well as in YouTube. The video will be produced in the first quarter of 2019.

3. Communication and Dissemination Channels

SOFIE has been utilizing communication channels which are as interactive as possible in order to stimulate interest and target global, European, and local markets/communities. To reach out to relevant stakeholders, SOFIE will continue to utilize online and offline communication channels and participate in events and workshops. In addition to creating specific communication materials, it will also continue to use the existing networks of participants to increase the project's visibility and impact, and to gather any valuable feedback.

Table 2. SOFIE dissemination channels and respective target groups

Dissemination tools	Industry - IoT sector	Academia / research audience	Public sector	General public
SOFIE project website	x	x	x	x
Social media	x	x	x	x
Scientific publications and presentations	x	x	x	
Business presentations	x			
Policy presentations			x	
Liaisons establishment with other projects, EC events			x	
Promotional materials	x	x	x	
Networking, direct meetings	x	x	x	
Workshops	x	x		

3.1 Sofie Project Website

The SOFIE website is the project's key dissemination tool and the main source of information about the project, especially for the wider IoT community and the general public. It is available at https://www.sofie-iot.eu.The site contains several sections: general information about the project, news items, contact information and publicly available publications and project deliverables. The website will be updated in the first quarter of 2019 with more up to date information about the project as well as more specific messages to various target audiences.

Figure 2. SOFIE Website

3.2 Social Media

As set out in the original plan, Twitter and LinkedIn profiles were created at the outset of the project. The profile pages have unified design elements, e.g. SOFIE logo.

- Twitter (@EU_Sofie), https://twitter.com/EU_Sofie
- LinkedIn, https://www.linkedin.com/company/sofie-project

Social media accounts help to enlarge the project's followers and reach wide and targeted audiences in a fast and efficient manner. The Twitter account is being used for sharing short messages, making announcements and retweeting relevant messages. LinkedIn is used for networking with other professionals. Twitter is also being used to target relevant industries which the SOFIE project aims to involve.

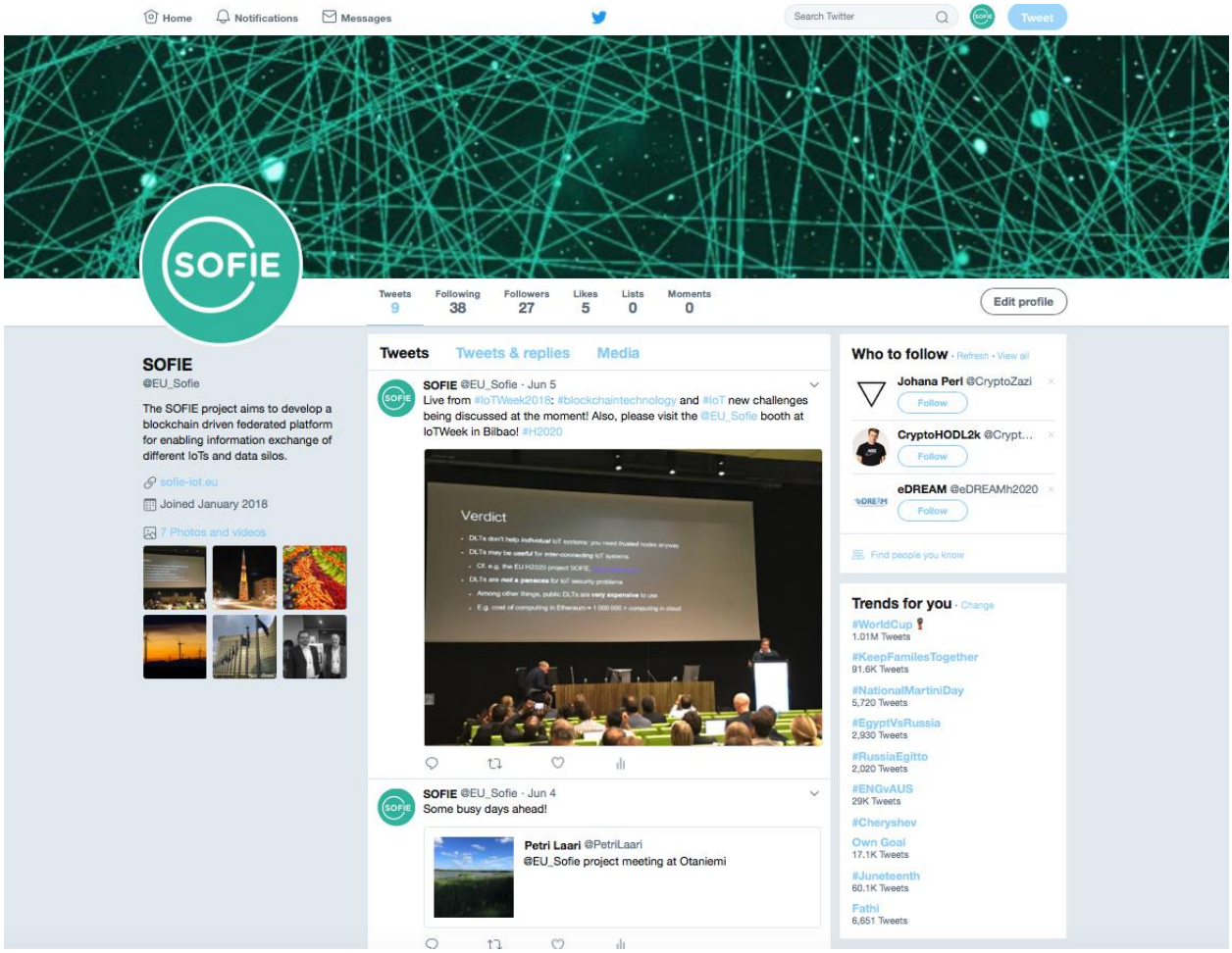

Figure 3. SOFIE Twitter page

3.3 Scientific Publications and Presentations

In order to generate visibility for SOFIE in the scientific community and to receive feedback, active participation in academic dissemination channels is important. Such dissemination includes submission of scientific articles to key peer-reviewed conferences and journals, and submission of demonstration and tutorial proposals on the SOFIE approach and technologies in the main conferences in the field. Relevant conferences and journals include: International Journal of Internet of Things, Internet of Things (Elsevier), ACM Transactions on Internet of Things, IEEE Access, IEEE WF-IoT, IEEE INFOCOM Workshop on Cryptocurrencies and Blockchains for Distributed Systems (CryBlock), IEEE ICC, IEEE GLOBECOM, ISOC NDSS, NDSS Symposium's workshop on Decentralized IoT Systems and Security (DISS), International Symposium on Security and Privacy on Internet of Things, and The Global IoT Summit (GIoTS). The project's goal is to publish at least 14 scientific articles during the lifetime of the project. Most publications will come in the latter half of the project when the project results will be more mature. The consortium has established the basic publication processes and rules, which have been documented in the "D1.1 - Quality Plan" deliverable. The academic partners have an extensive track record of publishing their results in high-level venues and will lead this activity. Industrial partners will also contribute to the scientific publications.

3.3.1 Open Data Publishing

The main objective of open data publishing is to ensure open access to a scientific publication at the time that publication is presented in a conference or published in a journal. In cases where this is not possible (for example due to an embargo period imposed by the publisher) open

access will be provided within six months following publication. Open data related to the pilots will be published according to the schedule described in the deliverable Data Management Plan (D6.5). This includes: scientific publications under green open access model, relevant data related to scientific publications, and data related to SOFIE pilots.

For scientific publications, the Lead Author is responsible for preparing a version of the manuscript for open access publication, respecting the requirements of both the ultimate publication venue as well as the open access repository used. Only recognized open access repositories indexed by major services such as Google Scholar will be used. A link to the open access version will be submitted to the SOFIE Website Administrator by the Lead Author, once the paper in question is available in the open access repository. The Lead Author is also responsible for publishing relevant datasets related to the publication.

For open data related to the pilots, the process is described in more detail in D6.5. Each pilot has a responsible partner, which will also be responsible for open data publishing.

3.4 Business Presentations

SOFIE consortium members have a strong presence in their industry circles. Exploitable results of the project will be presented at applicable business venues and general IoT and distributed ledger technology events. The aim of this is to keep the relevant industry circles updated about the aims and progress of the SOFIE project. This is an ongoing activity. Presentations are made throughout the project when suitable opportunities arise. As of 2019, an additional KPI will be added which will measure the interaction with the industry.

A commercial SOFIE slide deck will be drawn up by the WP6 leader in the first quarter of 2019. This may be used for introducing the project to various business audiences by all consortium members. The events that are of interest to SOFIE are for example: CONSENSUS, Blockchain Week, Global IoT Day Events, IoT Built Environment & Smart City, Nordic IoT Hackathon, IoT Startup Soiree, IoT World Forum (IoTWF), Mobile World Congress, CEBIT, M2M & Connected Objects Show, M2M World Congress, IoT Privacy Summit, IoT Expo, Internet of Things Developers Conference.

3.5 Policy Presentations

The project's results will be disseminated at the relevant European fora, such as the cybersecurity public-private partnership hosted by the European Organisation for Cyber Security, as well as other relevant public private partnerships and industry forums related to IoT such as the European Alliance of Internet of Things Innovation (AIOTI) and the IoT European Research Cluster (IERC). The objective of such dissemination is providing input towards common activities and receiving feedback, offering advice and guidance, and receiving information related to standards, policy/regulatory activities, national or international initiatives**.**

The policy presentations will mostly take place in the second half of the project, when the project outcomes are more mature.

A slide deck for policy presentations will be prepared in the second half of the project. Various policy recommendations will be discussed internally within the consortium and then will be proposed to various public-private partnership organisations.

3.6 Liaisons Establishment with Other Projects, European Commission Events

We aim to collaborate with external projects, aiming to strengthen the impact of all the collaborating projects. This is an ongoing activity, with the goal to collaborate at least with 5 projects. SOFIE is a member of the EC IoT security cluster where we are constantly looking for joint activities with other projects. The consortium members are constantly informed when new

collaboration options arise, and it is internally decided which of these are taken. We aim to work together with projects on IoT interoperability and privacy, more general security and privacy research projects.

3.7 Promotional Material

The SOFIE promotional flyer is a double-sided sheet that was created in March 2018 (https://www.sofie-iot.eu/results/project-deliverables). SOFIE also has a roll-up that can be used at conferences. The flyer and roll-up provide a compact overview of the project.

As the project has progressed an updated version with the project results will be created in mid 2019. In addition, more specific flyers will be created for the pilots.

3.8 Newsletter

Starting from January 2019, the SOFIE newsletter will be sent out quarterly. It gives an overview of the deliverables, publications and other relevant events that have occurred during this time period. Everybody can sign up for the newsletter on the SOFIE website: https://www.sofie-iot.eu. The newsletter will provide a compact overview of the project and it is a good way to summarise the project to its followers.

3.9 Events and Workshops

The SOFIE consortium members actively participate in external events relevant to the field of IoT. Participation in the events and workshops ensures the involvement of relevant stakeholders and also raises their awareness of the project.

The SOFIE consortium will engage with the different stakeholders of the different use case communities by collaborating in organising 3 workshops.

The project will organize three workshops:

● Workshop 1 is dedicated to disseminating SOFIE's research results in the second half of the project. The workshop is planned for May-June 2019 and it will aim to disseminate SOFIE's scientific results.

● Workshop 2 is dedicated to presenting and demonstrating SOFIE's use cases to specific target audiences and to gather relevant feedback. This will also occur in the second half of the project. This workshop is planned for the end of 2019/beginning of 2020.

● Workshop 3 is dedicated to SOFIE's exploitation activities and will involve expert interviews and focus groups. This workshop is planned for the final year of the project.

4. Monitoring and Evaluation

The results of the communication and dissemination strategy are constantly being monitored in order to assess its effectiveness and progresses, as well as to formulate changes to requirements where necessary. In D6.6 the KPIs are adjusted to better reflect the communication and dissemination activities.

Table 3. SOFIE KPIs

KPI	Actual 2018	Planned 2019	Planned 2020	Total
Publications in peer-reviewed journals and conferences	6	4	4	14
Website visitors	1931	5000	5000	12,000 visitors
Events attended representing the project	10 conferences, 2 exhibitions	13 2 exhibitions	12 conferences, 2 exhibitions	35 Conferences 6 exhibitions
Workshops of the project	0	1	2	3 project workshops, 15 external participants per workshop
Business/industry events and communication (this includes communication with industry and end users)	6	15	20	41 (this includes communication with industry and end users)
Blog posts	7	12	12	31

Followers on social media	87	300	200	600
Liaison and organization of cluster activities	4	4	4	12 projects (meeting attendance and joint publications)
News items on website	3	6	8	17
Mentions of SOFIE in other websites /news items	2	10	10	22

5. Measures of Standardisation

IoT related standardisation suffers from a fragmentation similar to that of the field in general, with tens of competing standardisation organisations and well over a hundred different standards. As often, proper end-to-end security and privacy remain areas with the least amount of interoperability. In SOFIE, we have identified W3C Web of Things (WoT), the various IETF/IRTF groups, oneM2M, and ETSI M2M as the main forum of interest, in addition to the EU initiated AIOTI (European Alliance of IoT Innovation) and IoT Large Scale Pilots (LSPs). ENG is a founding member of AIOTI, while Synelixis is already active member in WG 06 “Smart Farming and Food Security”. The SOFIE project intends to actively contribute to the standardisation processes.

Measuring the standardisation contribution is not trivial. The amount of contributions does not tell the real value of the contributions. Many of the mechanisms that we are using in SOFIE are already being standardized. The most crucial thing when looking at the standardisation from the SOFIE point of view, is identifying the specific missing items in standardisation that would make the whole SOFIE platform to be based on standards in the future.

In February 2018, George Polyzos from AUEB participated in an IRTF pre-standardisation workshop on Decentralized Internet Infrastructure (DINRG, https://trac.ietf.org/trac/dinrg/wiki) and presented SOFIE’s ideas on a secure, open, decentralized IoT. The meeting’s outcome was that Internet decentralization is a timely topic of interest to the community and thus further meetings of the DINRG were planned. We are also actively participating in IETF and W3C standardisation activities.

In SOFIE, we are going to identify the potential enhancements to the existing standards and current standardisation working items that have been done during the specification and piloting work. The identified potential additions to existing standardisation activities will be contributed to the appropriate standardisation bodies. The preliminary planned standardisation activities along with the responsible partner are shown in the table below.

Table 4. SOFIE standardisation activities

Activity	Responsible Partners	Area of contribution
W3C	AALTO, LMF	Active contributions in security and privacy to WoT IG and WG Participating to the Blockchain and Interledger CGs
IETF/IRTF	LMF, AALTO, SYN	Continue co-chairing the IoT directorate and T2TRG Continuing contributions to IRTF T2TRG and IETF CoRE WG Active contribution to any future IoT security & privacy work
AIOTI	ENG, SYN	ENG is a founding member of AIOTI SYN will contribute to WG 06 Smart Farming and Food Security ENG will contribute to the WG12 Smart Energy

ETSI M2M / one M2M. ETSI ISG PDL	LMF	Protocols/APIs/standard objects based on oneM2M architecture. Security and privacy aspects. Interoperability, including test and conformance specifications Permissioned adaptations of SOFIE architecture and principles
ISO	AALTO	ISO TC307, contributions to SG3 security and privacy

6. Conclusion

The SOFIE project will make a significant contribution to improving information exchange in secure manner between different IoT clusters and data silos by developing a blockchain driven federated platform. SOFIE will demonstrate the wide applicability of the approach through four pilots. The SOFIE consortium is aware of the significance of dissemination and communications tasks since there is a need to demonstrate the technical solutions which the SOFIE project can offer.

It is crucial to build awareness, social and business acceptance through a number of communication and participatory measures. Therefore, all partners are committed to maximising the potential impact of the outputs of the SOFIE project in terms of its dissemination to relevant stakeholders including society, industry, technology providers, regulatory bodies, etc., and thus all will be an active part of the dissemination activities proposed. The support of the EC will be recognised in all the publications resulting from the project.

SOFIE's "Communication, Dissemination and Exploitation" work package (WP6) has been designed to cope with dissemination and exploitation issues to ensure the use and deep impact of project results across Europe. The work package will also produce following deliverables during the project:

D6.7 (January 2019) - Initial Report on Communication, Dissemination and Exploitation. Achievements of communication, dissemination, and exploitation during the reporting period.

D6.8 (January 2020) - Interim Report on Communication, Dissemination and Exploitation. Achievements of communication, dissemination, and exploitation during the reporting period.

D6.9 (December 2020) - Exploitation strategy and roadmap. Report includes the main aspects of projects exploitation during the duration of the project and beyond.

D6.10 (December 2020) - Business planning. Outlines the main business plans for the three use cases as well as for the general platform for potential other uses.

D6.11 (December 2020) - Final Report on Communication, Dissemination and Exploitation. Achievements of communication, dissemination, and exploitation during the reporting period.