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Safe-DEED

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D8.7 Dissemination, Communication and Engagement Report v2

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Changes Summary

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13.11.2020	Patrick Ofner	Additions and review	0.5
26.11.2020	Alexandros Bampoulidis	Ready for submission	1.0

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1 Executive Summary

This deliverable titled "D8.7 – Dissemination, Communication and Engagement Report v2" of the European project "Safe-DEED: Safe Data Enabled Economic Development" (project reference: 825225) provides a detailed overview of the dissemination activities in the first two years of the project.

One of the goals of WP8 is to provide the tools to disseminate the knowledge generated in the project and engage the public and enterprises and enable them to adopt technologies developed in the project. For that purpose, a first step was the creation of the project website. At https://www.safe-deed.eu one can find elements of particular interest for dissemination.

To ensure that the project has a high profile through the internet, other electronic media were also employed and complement the website. In particular, social media channels were established to represent the project, its objectives, expected results and benefits to end-users. To reach the broadest target audience possible, profiles on some of the most popular social networks have been created like LinkedIn and Twitter. Furthermore, a regularly updated blog was set up on the website and advertised on social media to attract visitors. This was the most successful activity, driving the visits to the website and the social media, and generating significant feedback from the research and industry community.

Besides the mentioned online activities, 14 publications in internationally recognized journals and conferences contributed to disseminating the research results in Safe-DEED. Additionally, the Safe-DEED partners contributed to dissemination by participating and contributing to 33 international and European conferences and events.

It needs to be noted that the COVID-19 pandemic has had an impact on the project's dissemination activities, with the most crucial being the cancellation of a workshop in Month 18, the postponement of the online learning videos, and the lack of dissemination through networking in events.

In section 2 we summarise the activities to reach out to the scientific community (scientific publications and attendance of events), and the broader community and the industrial market. In section 3 we report on the outreach of our dissemination and communication channels, and in section 4 we summarise the KPIs defined in deliverable 8.2

2 Dissemination

2.1 Conferences and Events

To disseminate the research results of Safe-DEED and reach a broader audience, all project partners participated and contributed to international and European conferences and events. In the following, the table shows which events the members of the consortium have attended and contributed to over the first two years of the project (Table 1). Figure 1 shows a picture from the one of the series of public dissemination activities, where Safe-DEED was showcased as part of the Austrian Information and Communications Technology (ICT) delegation to China.

Title of event/conference	Date	Location	Type of activity	Type of audience reached	Estimated # persons reached	Additional information	Person(s) in charge	Related WP
Pricing and Revenue Management Summit	22.2.2019	Munich	Publication in Conference proceedings/Workshop	Industry, Customers	50	http://www.gor-ev.de/3923-2	Seula Lee (IFX)	7
AI Law & Ethics Conference	28.2.2019	Brussel	Publication in Conference proceedings/Workshop	Scientific Community, Policy Makers	50	https://www.law.kuleuven.be/citip/en/news/item/citip-conference-through-the-looking-glass-of-ai-platforms-between-global-governance-and-techno-regulation-28-02-2019-leuven	Alessandro Bruni (KUL)	3
Workshop "Towards Value-Centric Big Data: Connect People, Processes and Technology"	2.4.2019	Brussel	Publication in Conference proceedings/Workshop	Scientific Community, Policy Makers, Customers	50	https://www.eventbrite.com/e/towards-value-centric-big-data-connect-people-processes-and-technology-tickets-57526205429	Alessandro Bruni (KUL)	3
Kick-off Workshop: InDI - Industrial Data Initiative	3.4.2019	Linz	Other	Industry, Customers	50	https://www.biz-up.at/veranstaltungen/InDi_Kick-off/	Mihai Lupu (RSA)	8
Data Governance Conference	4.4.2019	Vienna	Other	Industry, Policy Makers, Customers	100	https://www.adv.at/Events/Event-Items/Data-Governance-2019	Mihai Lupu (RSA)	8
2nd International Data Science Conference 2019	22.-24.5.2019	Salzburg	Publication in Conference proceedings/Workshop	Scientific Community, Business Experts	100	https://idsc.at/recap-idsc19/	Mihai Lupu (RSA)	4
27th European Conference on	8.-14.06.2019	Stockholm	Publication in Conference	Scientific Community	>500	http://ecis2019.eu/	Mark de Reuver	2

Information Systems			Proceedings	(higher education, Research)			(TUD)	
Annual Privacy Forum	13.-14.6.2019	Rome	Other	Industry, Customers	100	https://privacyforum.eu/	Evangelos Kotsifakos (LST)	8
4th IEEE European Symposium on Security and Privacy	17.-19.6.2019	Stockholm	Other	Researchers and practitioners in computer security and electronic privacy	100-150	https://www.ieee-security.org/TC/EuroSP2019/index.php	Sebastian Ramacher (KNOW)	5
Theory and Practice of Multi-Party Computation (TPMPC) 2019	17.-20.6.2019	Tel Aviv	Other	Scientific Community, Customers, Industry	150-200	http://www.multipartycomputation.com/tpmpc-2019	Lukas Helminger (KNOW)	5
EURO 2019 – 30th EUROPEAN CONFERENCE ON OPERATIONAL RESEARCH	23.-26.6.2019	Dublin	Other	other	>100	https://www.euro2019dublin.com	Hans Ehm (IFX)	7
Big Data Value PPP	26.-28.6.2019	Riga	Other	Research, Industry	100	http://www.bdva.eu/	Ioannis Markopoulos (FNET) / Noreen Berger / Patrick Ofner (KNOW)	8
e-SIDES Workshop at	27.06.2019	Riga	Other	Other	50	http://www.bdva.eu/node/1217	Ioannis Markopoulos	

BDV PPP Summit							(FNET)	
Data-Driven Future Forum 2019	4.7.2019	Graz	Other	Industry, Customers	100	https://www.know-center.tugraz.at/reger-austausch-data-driven-future-forum-2019-rund-um-aktuelle-big-data-und-ki-trends-und-entwicklungen/	Patrick Ofner (KNOW)	8
32nd Bled eConference – Humanizing Technology for a Sustainable Society	16.-19.07.2019	Bled	Publication in Conference Proceedings	Scientific Community (higher education, Research)	>200	http://press.um.si/index.php/ump/catalog/book/418	Gert Breitfuss (KNOW)	2
42nd International ACM SIGIR Conference on Research and Development in Information Retrieval	21.-25.07.2019	Paris	Publication in Conference proceedings/Workshop	Scientific Community (higher education, Research)	75	https://sigir.org/sigir2019/	Mihai Lupu (RSA)	5
Data Science International Summer School	16.-24.8.2019	Bucharest	Other	Scientific Community (higher education, Research)	30	https://datascience.ase.ro/	Mihai Lupu (RSA)	8
9th IFAC Conference MIM 2019	28.-30.8.2019	Berlin	Other	other	>100	https://blog.hwr-berlin.de/mim2019/	Hans Ehm (IFX)	7
Handeln mit Big Data. Vom Technologie-Showcase zur Profitablen Wertschöpfung	18.9.2019	Vienna	Other	General Public	170	https://conferences.dataintelligence.at/	Mihai Lupu (RSA)	8
6th Innovation in Information Infrastructure workshop	18.-20.09.2019	Surrey	Publication in Conference Proceedings	Scientific Community (higher education, Research)	>70	https://www.surrey.ac.uk/events/20190918-6th-innovation-information-infrastructures-iii-workshop	Mark de Reuver / Wirawan Agahari (TUD)	2

Imagine19 – Artificial Intelligence Fachkonferenz (Workshop)	22.10.2019	Vienna	other	General Public	35	https://www.seidlerconsulting.at/veranstaltungen/a-intelligence-22-10-2019/	Mihai Lupu (RSA)	8
NIEDERÖSTERREICH-DATE MIT BIG DATA EXPERTEN	3.10.2019	St. Pölten	Other	General Public	30	https://www.dataintelligence.at/	Mihai Lupu (RSA)	8
THREE DECADES @ THE CROSSROADS OF IP, ICT AND LAW	4.10.2019	Leuven	Other	Academia, Lawyers, Public Servants	>120	https://www.law.kuleuven.be/citip/en/30-years-icri-cir-citip/agenda	Alessandro Bruni (KUL)	3
European Big Data Value Forum 2019	14.-16.10.2019	Helsinki	Other	Scientific Community (higher education, Research)	200	https://www.european-big-data-value-forum.eu/	Mihai Lupu (RSA)	8
IEEE/WIC/ACM International Conference on Web Intelligence	14-17.10.2019	Thessaloniki	Publication in Conference proceedings/Workshop	Scientific Community (higher education, Research)	50	https://dl.acm.org/citation.cfm?id=3360918	Alexandros Bampoulidis (RSA)	5
Austrian ICT delegation to China	17-22.11.2019	Hangzhou, Jiaxia, Shanghai, Nanjing, Beijing China	Other	Scientific Community, Business community	100	Part of the ICT Delegation of the Austrian Ministry of Transport, Innovation, and Technology, visiting research centres and companies across China.	Mihai Lupu / Peter A. Bruck (RSA)	8
15th International Conference on Modeling and Analysis of Semiconductor	8.-11.12.2019	Maryland	Other	Other	100	http://meetings2.informs.org/wordpress/wsc2019/masm/	Hans Ehm (IFX)	8

Manufacturing (MASM) 2019								
TRUSTS kick-off meeting	23.-24.01.2020	Hannover	Other	Business & Scientific community	20	https://www.trusts-data.eu/kickoff-meeting-hannover/	Evangelos Kotsifakos (LST) / Mark de Reuver (TUD) / Alexandros Bampoulidis (RSA) / Ioannis Markopoulos (FNET) / Patrick Ofner (KNOW)	8
KRAKEN (BroKeRage and MArKet platform for pErsoNal data)	05.03.2020	Graz	Other	Business & Scientific community	10	https://www.krakenh2020.eu/	Lukas Helminger (KNOW)	5
42nd European Conference on Information Retrieval (ECIR)	14-17.04.2020	Online	Publication in Conference proceedings/Workshop	Scientific Community (higher education, Research)	100	https://ecir2020.org/	Alexandros Bampoulidis (RSA)	4
33rd Bled eConference – Enabling Technology for a Sustainable Society	28.-29.06.2020	Online	Publication in Conference proceedings/Workshop	[Scientific Community (higher education, Research)]	>200	https://press.um.si/index.php/ump/catalog/book/483	Wirawan Agahari (TUD) / Gert Breitfuss	2
The 14th International Conference on Research Challenges in	22.-25.09.2020	Online	Publication in Conference	Scientific Community (higher	100	http://www.rcis-conf.com/rcis2020/	Alexandros Bampoulidis	5

Information Science			proceedings/Workshop	education, Research)			(RSA)	
KNOW-Center Summer Academy: Privacy-Preserving Analytics and Quantum Computing	07.10.2020	Online	Other	Business & Scientific community	40	https://www.know-center.tugraz.at/academy-sessions/privacy-preserving-analytics/	Lukas Helminger (KNOW)	5
The core of TRUSTS: Innovating European data markets through trust, security, and federation	29.10.2020	Online	Other	Business & Scientific community, Journalists	50	https://www.trusts-data.eu/event/1555/	Ioannis Markopoulos (FNET)	8
European Big Data Value Forum 2020	3.-5.11.2020	Online	Other	Scientific Community (higher education, Research)	200	https://www.european-big-data-value-forum.eu/	Hosea Ofe (TUD)	8

Table 1 : Attended events and conferences

Figure 1: Safe-DEED presented at the Chinese Academy of Sciences institutes in Shenzhen, Nanjing, Jiaxia, Guangzhou, Shanghai, and Beijing

2.2 Scientific Publications

To increase the impact on the research and scientific communities, the members of the Safe-DEED consortium published papers in a variety of journals and conferences. To reach a broader audience and comply with the H2020 OA Policy requirements, all publications are/will be open access (OA), either Green or Gold OA. The following is the complete list of peer-reviewed publications:

- Taha A.A., Bampoulidis A., Lupu M. (2019) Chance influence in datasets with a large number of features. In: Haber P., Lampoltshammer T., Mayr M. (eds) Data Science – Analytics and Applications. Springer Vieweg, Wiesbaden. https://doi.org/10.1007/978-3-658-27495-5_2
- Mihai Lupu, Alexandros Bampoulidis, and Luca Papariello. 2019. A Horizontal Patent Test Collection. In Proceedings of the 42nd International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR' 19). Association for Computing Machinery, New York, NY, USA, 1213–1216. DOI: https://doi.org/10.1145/3331184.3331346
- Faber R., de Reuver M. (2019) Consumer Studies on Digital Platforms Adoption and Continuance: a Structured Literature Review, In Proceedings of the 27th European Conference on Information Systems (ECIS), Stockholm & Uppsala, Sweden, June 8-14, 2019. ISBN 978-1-7336325-0-8 Research Papers. https://aisel.aisnet.org/ecis2019_rp/121
- Albrecht M.R. et al. (2019) Feistel Structures for MPC, and More. In: Sako K., Schneider S., Ryan P. (eds) Computer Security – ESORICS 2019. ESORICS 2019. Lecture Notes in Computer Science, vol 11736. Springer, Cham. https://doi.org/10.1007/978-3-030-29962-0_8
- Agahari W.,de Reuver M., Fiebig T. (2019) Understanding how privacy-preserving technologies transform data marketplace platforms and ecosystems: the case of Multi-Party Computation. Presented at the 6th Innovation in Information Infrastructure Workshop, Surrey, UK.
- Alexandros Bampoulidis, Ioannis Markopoulos, and Mihai Lupu. 2019. PrioPrivacy: A Local Recoding K-Anonymity Tool for Prioritised Quasi-Identifiers. In IEEE/WIC/ACM International Conference on Web Intelligence - Companion Volume (WI '19 Companion). Association for Computing Machinery, New York, NY, USA, 314–317. DOI: https://doi.org/10.1145/3358695.3360918
- Papariello L., Bampoulidis A., Lupu M. (2020) On the Replicability of Combining Word Embeddings and Retrieval Models. In: Jose J. et al. (eds) Advances in Information Retrieval. ECIR 2020. Lecture Notes in Computer Science, vol 12036. Springer, Cham. https://doi.org/10.1007/978-3-030-45442-5_7
- F. De Prieëlle, M. De Reuver and J. Rezaei, "The Role of Ecosystem Data Governance in Adoption of Data Platforms by Internet-of-Things Data Providers: Case of Dutch Horticulture Industry," in IEEE Transactions on Engineering Management, doi: https://10.1109/TEM.2020.2966024.
- Breitfuss G., Fruhwirth M., Pammer-Schindler V., Stern H., Dennerlein S. (2019) The Data-Driven Business Value Matrix - A Classification Scheme for Data-Driven Business Models, In Proceedings of the 32nd Bled eConference – Humanizing Technology for a Sustainable Society, Bled, Slovenia. DOI: https://doi.org/10.18690/978-961-286-280-0
- Bouwman, H., de Reuver, M., Heikkilä, M. et al. Business model tooling: where research and practice meet. Electron Markets 30, 413–419 (2020). https://doi.org/10.1007/s12525-020-00424-5

- Breitfuss, Gert & Fruhwirth, Michael & Wolf-Brenner, Christof & Riedl, Angelika & Reuver, Mark & Ginthoer, Robert & Pimas, Oliver. (2020). Data Service Cards - A Supporting Tool for Data-Driven Business. In Proceedings of the 33nd Bled eConference. https://doi.org/10.18690/978-961-286-362-3.40.
- Agahari, Wirawan. (2020). Platformization of data sharing: Multi-party computation (MPC) as control mechanism and its effect on firms' participation in data sharing via data marketplaces. In Proceedings of the 33nd Bled eConference https://doi.org/10.18690/978-961-286-362-3.49.
- Bampoulidis A., Bruni A., Markopoulos I., Lupu M. (2020) Practice and Challenges of (De-)Anonymisation for Data Sharing. In: Dalpiaz F., Zdravkovic J., Loucopoulos P. (eds) Research Challenges in Information Science. RCIS 2020. Lecture Notes in Business Information Processing, vol 385. Springer, Cham. https://doi.org/10.1007/978-3-030-50316-1_32
- (to be published in Asiacrypt 2020, December) An Algebraic Attack on Ciphers with Low-Degree Round Functions: Application to Full MiMC. Maria Eichlseder and Lorenzo Grassi and Reinhard Lüftenegger and Morten Øygarden and Christian Rechberger and Markus Schofnegger and Qingju Wang
- (in preparation) Does Multi-Party Computation Enhance Perceived Security and Trust in Data Sharing in Supply Chains?. Vidyottama Faujdar, Wirawan Agahari, Mark de Reuver, Tobias Fiebig
- (in preparation) "Privately Connecting Mobility to Infectious Diseases via Applied Cryptography". Alexandros Bampoulidis, Alessandro Bruni, Lukas Helminger, Daniel Kales, Christian Rechberger, Roman Walch
- (in preparation) Multi-Party Revocation in Sovrin: Performance through Distributed Trust. Lukas Helminger, Daniel Kales, Sebastian Ramacher, Roman Walch

The PDFs of the published papers are available on the project website at https://safe-deed.eu/category/publications/. Note that, certain publications are not yet available due to embargo from their respective publishers.

Two PhD theses are being conducted based on research done in the context of Safe-DEED and are (partially) funded by the project:

- Agahari, W. Platformization of data sharing: Secure multi-party computation as platform control and its effect on firms' participation in data sharing via data marketplaces, TU Delft
- Helminger, L. Privacy Enhancing Technologies from Cryptography: Strengths, weaknesses, and interplay of Differential Privacy, Secure. Know-Center GmbH/Graz University of Technology

Additionally, the following MSc theses are based on research done in the context of Safe-DEED:

- Kumar, J. (2019). Enabling Data Marketplaces with Multi-Party Computation (MPC): An Exploratory Study investigating the Implication of the Maturation of Multi-Party Computation (MPC) technology to the Architecture and the Threat Landscape of the Data Marketplaces. MSc thesis, Delft University of Technology
- Kashyap, M. (2019). Effectiveness of Market Segmentation techniques using Data Sharing in the Telecom industry. MSc thesis, Delft University of Technology

- Faujdar, V. (2019). Customer Acceptance of a Revenue Management Platform with Multi-Party Computation: Application of Multi-Party Computation to Revenue Management in the Semiconductor Industry. MSc thesis, Delft University of Technology.
- Prlja, E. (2019). Discovering Business Models of Data Marketplaces. MSc thesis. Graz University of Technology
- Dolci, R. (2020). Realising platform control in data marketplaces through Secure Multi-Party Computation: A qualitative study exploring the use of Secure Multi-Party Computation (MPC) as an instrument for realising platform control in data marketplaces. MSc thesis. Delft University of Technology.
- Petronia, M. (2020). Multiparty Computation: The effect of multiparty computation on firms' willingness to contribute protected data. MSc thesis. Delft University of Technology.
- Steiner, P. (ongoing). Covert Security with Public Verifiability for Mobile Contact Discovery. MSc thesis. Graz University of Technology
- Grass, A. (ongoing). Private Selective Aggregation. MSc thesis. Graz University of Technology
- Holzknecht, F. (ongoing). Private Computations Using Android. BSc thesis. Graz University of Technology

The PhD thesis by Wirawan Agahari, who is fully funded through Safe-DEED, is tightly linked to T2.2 and T2.3. His work examines the impact of Safe-DEED types of technologies (most notably MPC) on perceived control and trust in data sharing through data marketplaces. To study this, he conducted first exploratory interviews on the business model implications of MPC for data marketplaces, using the Safe-DEED network to find interviewees. These findings were then a basis for D2.4. He also created an experimental setup to evaluate the impact of MPC on intention to share data in a controlled fashion, which features in the first two deliverables of T2.3. The final deliverable of T2.3 (M36) will execute a large-scale evaluation of the technologies. The WP6 demonstrator is instrumental in realizing this evaluation.

MSc theses done at TU Delft are directly related to T2.1 (threat modelling of data marketplaces, including the impact of Safe-DEED technologies); T2.2 (Dolci: Affordances of Safe-DEED technologies for data marketplace operators); T2.3 (Faujdar: qualitatively exploring how MPC affects intention to share data, within the context of the WP7 use case; Petronia: a setup for quantitatively evaluating the impact of Safe-DEED technologies on data sharing in supply chains).

The Ph.D. thesis by Lukas Helminger, who is partially funded through Safe-DEED, is tightly linked to T5.1 and T5.2. In his work, he aims to develop new and improve state-of-the-art Private Set Intersection (PSI) and Multi-Party Computation (MPC) protocols suitable for enterprise-scale and industry-scale data sets. First, he conducted literature research culminating to the D5.1 "Requirements for secure computation on large datasets with multiple owners". From this, he started working on general MPC protocols as well as Safe-DEED use-case specific protocols:

- PSI component in WP6 demonstrator
- Secure Lead Time-Based Pricing protocol

These two protocols build the basis for D5.4 and will be updated in M30.

MSc theses done at TU Graz are directly related to T5.2 (Specialized protocols). In this task, we focus on protocols suitable for our use-cases based on the protocols developed in Task 5.1 (Steiner, Grass). A BSc thesis done at TU Graz is related to T5.3 "Implementation of protocols" (Holzknecht).

2.3 Broader Community and Industrial Market

2.3.1 Workshops

So far, the Safe-DEED consortium has organized two business-model workshops to collect requirements and feedback of possible use cases from companies. Additionally, a half-day workshop at the 33rd Bled eConference was being organised by the Safe-DEED consortium but was cancelled due to the COVID-19 pandemic.

2.3.1.1 1st Business-Model Workshop in Barcelona

On May 27th, at the end of the first day of the first Safe-DEED plenary meeting, the consortium partners got together with business representatives from the larger Eurecat organisation as well as with representatives of the Big Data Center of Excellence Barcelona, to explore together the business opportunities that the technologies developed in Safe-DEED might bring. As the project was still within its first six months, the discussions concentrated on the kind of opportunities one may envisage and how to structure the key aspects of novel business models. The tool used in the workshop was an initial version of the novel data value map, developed by Know-Center. The tool was presented by WP2 and subsequently used to facilitate an interactive workshop. More information about the tool can be found in D2.3.

The workshop's main goal was to try out the tool and get initial feedback and engagement. Due to the young age of the project, the Barcelona workshop participants were lower than anticipated.

2.3.1.2 2nd Business-Model Workshop in Graz

The second business-model workshop was held in Graz and integrated in the second plenary meeting. The workshop was held on the 6th of November 2019 and lasted 2.5 hours. Under the title "Finding new data-driven Business Model Opportunities with Safe-DEED Technologies", three interactive sessions were held. The workshop was promoted extensively using the network of the Austrian partners, including flyers and various social media channels. Three tools were used to facilitate the workshop.

First, a presentation was given by Know-Center on Multi-Party Computation. One goal was to make participants aware of data sharing opportunities that are currently not being seized, but that Safe-DEED tools might unlock. In the first interactive session, participants were asked what data would be valuable to share, but they were unsure whether they could be shared. Personal data, business data and government data were discussed. Participants were also asked what the reasons were why they would currently not share the data. In the second interactive session, participants were asked to create service ideas if the Safe-DEED technologies were already available.

In the final part of the workshop, participants were presented the case of a data intermediary that would like to enable data sharing between OEMs and customers. Based on that "real life"

use case, the last interactive session was carried out asking the participants to design a stakeholder network by sketching data/benefit/money flows on a provided template. At the end of all three sessions, the sub-groups (four tables with each 6-8 participants) were asked to present some highlights of their findings.

In total, there were 27 participants from 13 different institutions or companies. Eleven participants were not part of the Safe-DEED consortium.

Figure 2: Workshop in Graz, presentation

Figure 3 : Workshop in Graz, interactive session

2.3.1.3 Cancelled Workshop at 33rd Bled eConference

A half-day workshop titled "How to Get Optimum Value from Data?" was being organised by the consortium but was cancelled due to the COVID-19 pandemic. The workshop would have taken place at the 33rd Bled eConference on 29th June 2020 in Bled, Slovenia. It would have been a highlight event in Month 18 of the project with the potential of attracting a significant number of Professional Partners Community members. Its agenda included the demonstration of technologies developed in WP4 and WP5, the business model tools developed in WP2, the legal implications of the developed business models, and interactive sessions. A replacement of this workshop and its content in the form of a series of webinars is currently under consideration.

2.3.2 Safe-DEED Professional Partners Community

As of Month 24 of the project, 11 companies and institutions are registered in our Professional Partners Community (PPC), which are interested in adapting and exploiting our developed technologies. These members are publicly visible on our website https://safe-deed.eu/our-members/ and are the following:

- Kalny Future Business GmbH (Consulting and Investment)
- Amsterdam Economic Board (Non-Profit Organization Management)
- Tributech Solutions GmbH (Technology Provider)
- TechMeetsLegal (Consulting)
- TDA (Data Services & Infrastructure Advisory)
- Foundation for Research and Technology Hellas, Institute of Computer Science (research center)
- FRAISS IT GmbH (Information Technology and Services)
- Phenaris GmbH (Information Technology and Services)
- Data Intelligence Offensive (Association for the promotion of data management and the optimized use of technologies)
- ID-Ward (Identity Provider)
- Danube Tech GmbH (Digital Identity and Personal Data)

We are in discussion with various interested business partners that could be lead customers or interested in exploiting the Safe-DEED tools. Specifically, these are:

- Colomba Labs (consultancy on MPC)
- DataRade (data marketplace provider)
- TNO Netherlands (consultancy on MPC)
- AMS Institute (stakeholders in the Amsterdam Data Marketplace)

In addition, the consortium is exploring the links with interest groups, such the Hague Security Delta and the MPC Alliance.

Our efforts in reaching out and attracting potential PPC members included, among others, sending invitation letters to companies from the networks of the project partners and relevant mailing lists, such as the Big Data Value Association (BDVA) mailing list. However, these invitation letters did not have an impact on attracting PPC members, most likely due to the lack of a demonstrator and supplementary material explaining the Safe-DEED technologies, since they are relatively new and unknown to the industry. To that end, we plan to address these

issues in Year 3 by releasing a public demonstrator and supplementary material, such as online learning videos. Additionally, to support the PPC building, we have developed an onboarding workflow depicted in Figure 4. Extensive details on the PPC will become available with deliverable 8.4 in M33.

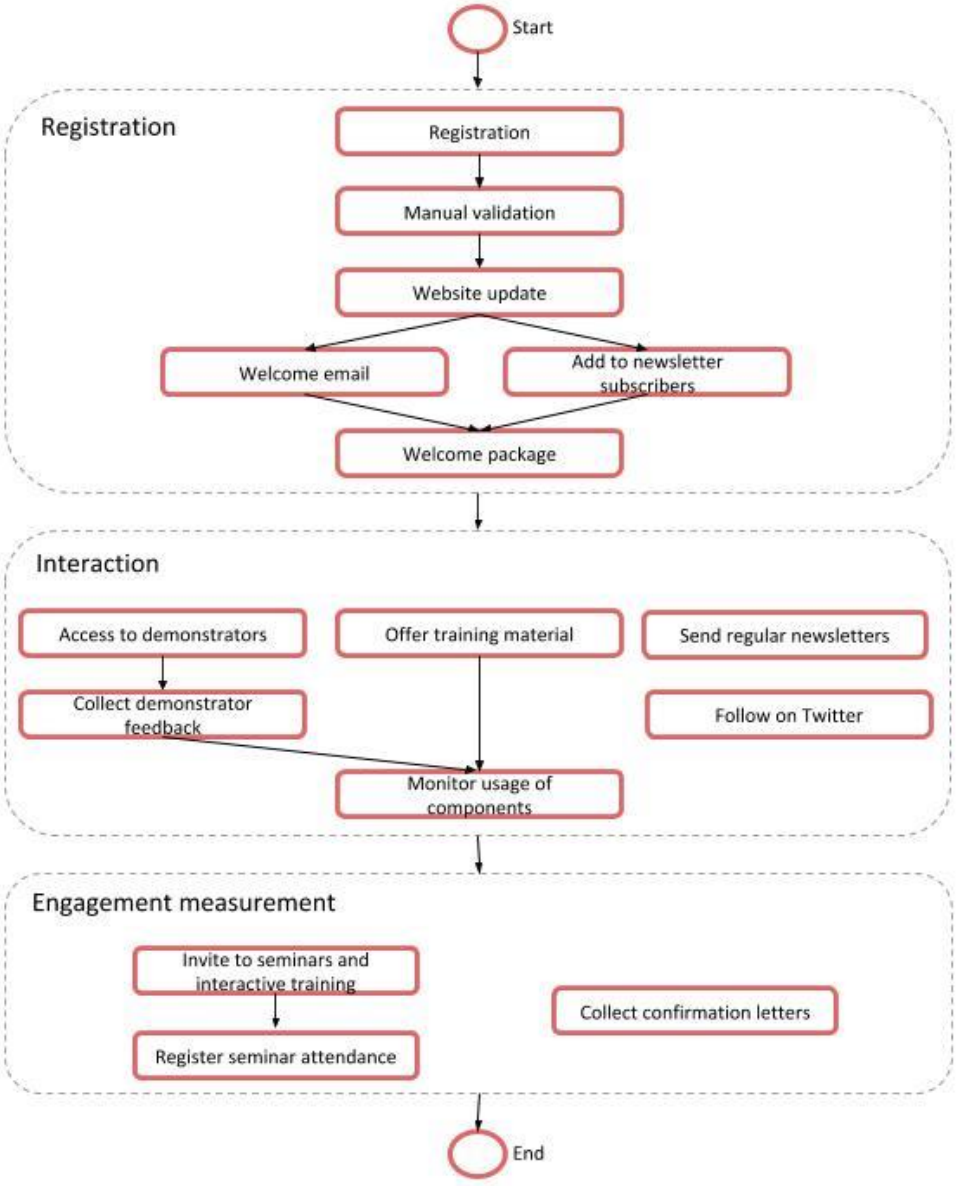

Figure 4 : PPC onboarding workflow

2.3.3 Git Meta-Repository

All the open-source components and code developed in the context of Safe-DEED are and will be publicly available through Safe-DEED's meta-repository https://github.com/Safe-DEED. Internal guidelines have been developed to address the provision of user and developer documentation, readability and adequate commenting. Once the guidelines have been implemented, a blog post about the respective component will be published and featured in a separate section of the website and forwarded to relevant mailing lists, such as the Big Data

Value Association (BDVA) mailing list. At the time of writing, 5 components are available at the meta-repository, but are not ready for dissemination.

2.3.4 Dissemination Through Teaching

Safe-DEED materials have also been disseminated through teaching of university students.

- TU Delft, April-May 2019: 20 MSc students analysed case studies of data marketplace platform business models through desk research. They then analysed how Safe-DEED technologies (i.e. multi-party computation) could affect and improve the business models
- TU Delft, March 2019: 100 BSc students were assigned to come up with use cases for multi-party computation in data sharing between multiple partners. They developed designs of the enterprise architecture, value network and business model, and reflected on ethical and security implications
- TU Delft, Feb – April 2020: 120 BSc students were assigned to analyse the enterprise architecture and value network of a data marketplace. Next, they were asked to redesign it with the application of Safe-DEED technologies, specifically MPC
- Ph.D. and MSc/BSc theses mentioned in Sect. 2.1.2.

2.3.5 Online Learning Videos

A set of online learning videos will be recorded by consortium members by the end of Month 24 and will become available through TU Delft's top-ranked [1] online learning platform [2] in Year 3 of the project, having as target audience small and medium enterprises (SMEs). Note that, the recordings were scheduled to take place at TU Delft's studios in Month 18, but will be home-recorded due to the COVID-19 pandemic. Scripts and Powerpoints have been created for the videos. Once recorded, the videos will be incorporated in an already running online learning program (so-called professional development program) which has already attracted over 80,000 learners in the past two years. About half the learners are profesionnals that work in (small) businesses, and others are students or professionals interested in starting a business. In this way, the videos will with high certainty meet an audience The videos are split into two blocks:

- *Selling Your Data* consisting of 3 videos
  - *Can Data Be Your Product?*
  - *Selling Your Data: Anonymisation*
  - *Security and Ethical Aspects*
- *Can Data Help Your Business Model?* consisting of 2 videos
  - *How Can Data Help My Business Model?*
  - *How Can MPC Create New Business Opportunities?*

2.3.6 Business Makeover Platform

The business model tools developed in WP2, namely the *Safe-DEED Data Map, Safe-DEED Data-Driven Business Canvas* and *Safe-DEED Data Service Cards*, will be featured at the Business Makeover platform https://businessmakeover.eu/.

Business Makeover is an online platform for business model tools (a product resulting from TUD's previous H2020 project ENVISION). This poses a suitable platform to disseminate the

three business model tools that Safe-DEED created. The tools developed in Safe-DEED are in a similar style, created in part by KNOW personnel who were previously involved in ENVISION. The platform has thousands of visitors each month that are looking for business model tools and the Innovalor audience has an interest in data-driven business opportunities, hence the Safe-DEED results will find an audience.

2.3.7 Public WP6 demonstrator

A publicly available version of the WP6 demonstrator will be released in December 2020. The demonstrator will feature the technologies developed in WP4 and WP5, namely Private Set Intersection (PSI), de-anonymisation risk analysis and data valuation, with preloaded data with which users will be able to interact. The demonstrator will be used to disseminate the project to potential PPC members in future events organised by Safe-DEED, through our dissemination channels - including, but not limited to, Twitter and LinkedIn - and through demonstrations by consortium members to interested parties.

3 Communication

3.1 Project Website

The project website https://www.safe-deed.eu is one of the project's main communication tools, and it is updated regularly. The webpage provides a clear presentation of the project vision and its objectives, all the consortium members, the scientific publications and the research areas/work packages in detail (including the public deliverables).

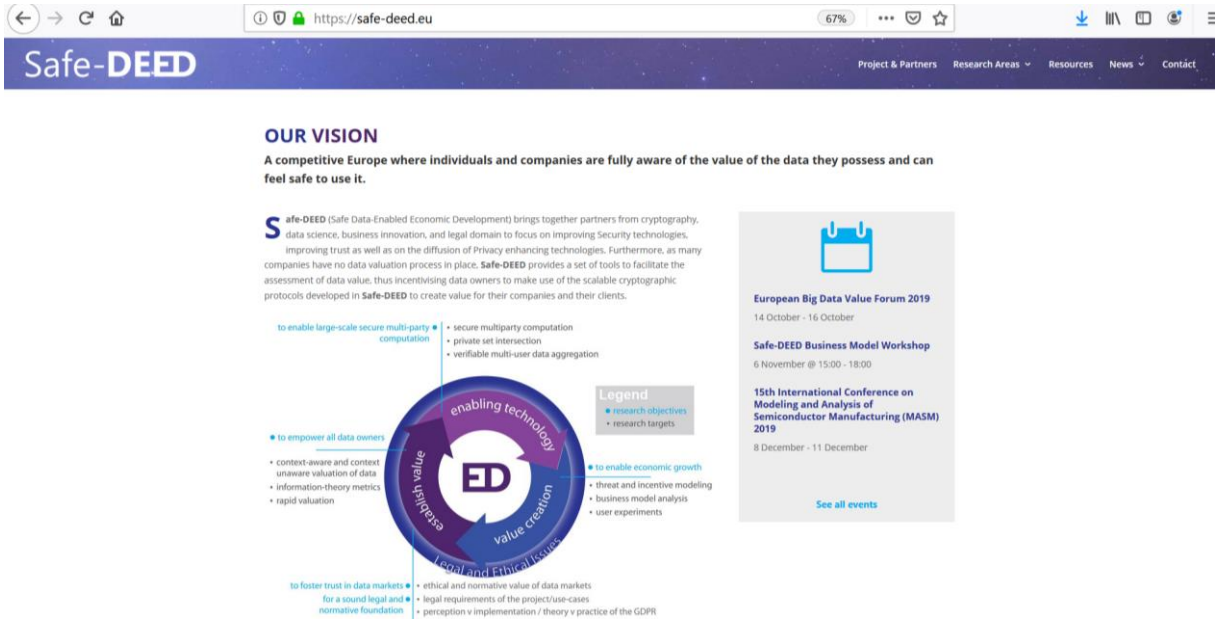

Figure 5: Landing page of the Safe-DEED website

An agenda is featured on the home page to keep track of the upcoming events and show which partners will attend Safe-DEED related events.

A significant feature of the website are blog posts. The blog entries are posted by all partners of the Safe-DEED project to announce the latest news/developments to the community and briefly explain what each resource does appropriately for a larger community. Every 3-6 weeks, a blog entry is posted by members of a work package, following a schedule.

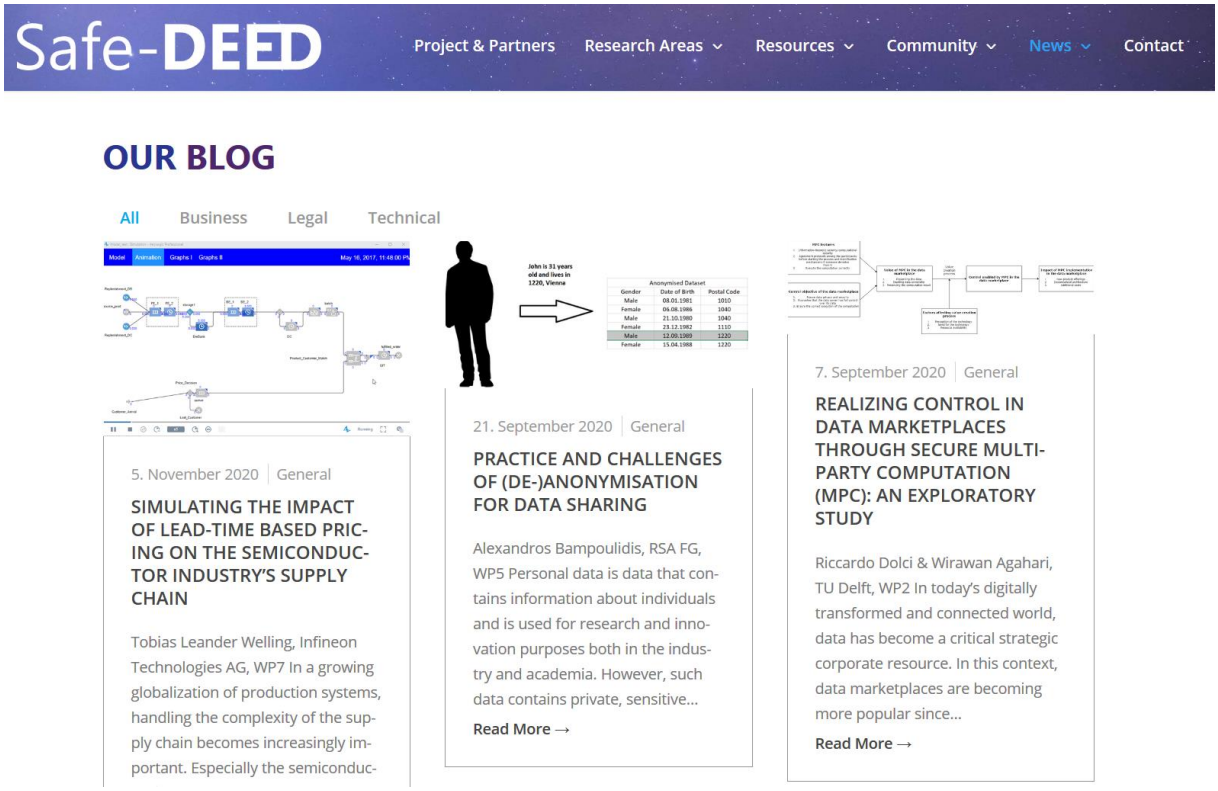

Figure 6: Safe-DEED's blog webpage

The webpage also contains all contact information to get in touch with the project partners and the links to our social media presence.

To determine visitor flows and user behaviour of the project website, Google Analytics was used. Figure 7 depicts a comparison of the website analytics between the first and second year of the project. It can be seen the website's traffic has significantly increased in Year 2. Figure 8 depicts the most visited pages since the inception of the webpage. The visitors' main interests lie in the project partners, the deliverables, and the blog posts. Figure 9 depicts the acquisition per channel, with the majority (63%) of users coming to the website directly, ~15% from search engines, and the rest from other sources. Figure 10 depicts the sessions by country, with Austria, where two project partners come from, being on top.

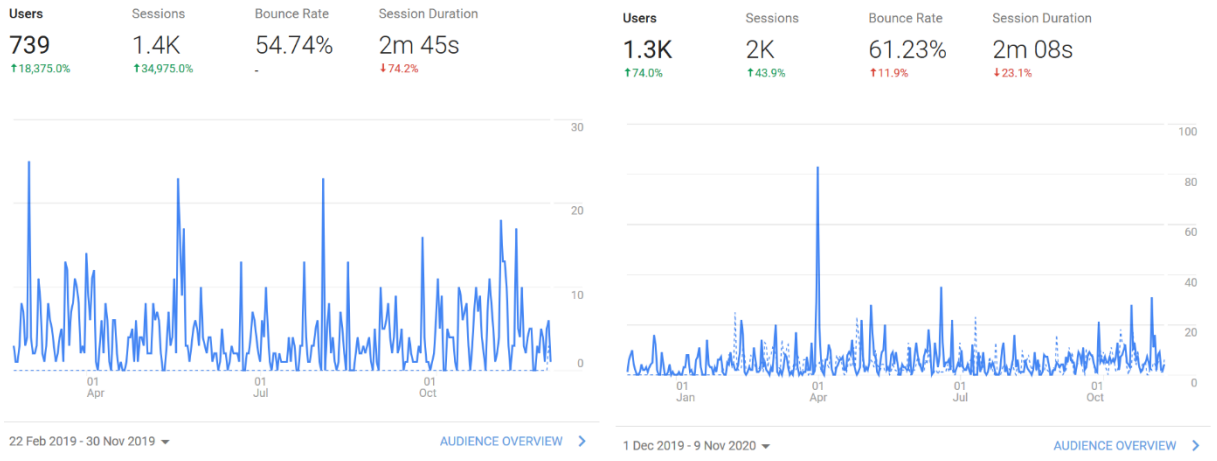

Figure 7: Website analytics in Year 1 (left) vs. Year 2 (right)

Page	Page Views	Page Value
/	3,202	$0.00
/project-partners/	624	$0.00
/deliverables/	590	$0.00
/blog/	331	$0.00
/wp-business-model-innovation/	256	$0.00
/our-members-2/	178	$0.00
/events/	149	$0.00
/category/publications/	148	$0.00
/contact/	147	$0.00
/wp-legal-ethical/	147	$0.00

22 Feb 2019 - 9 Nov 2020 PAGES REPORT

Figure 8: Most visited pages

Source/Medium	Acquisition		
	Users	New Users	Sessions
	2,006 % of Total: 100.00% (2,006)	2,011 % of Total: 100.05% (2,010)	3,429 % of Total: 100.00% (3,429)
1. (direct) / (none)	**1,319** (63.05%)	1,315 (65.39%)	1,818 (53.02%)
2. google / organic	**307** (14.67%)	279 (13.87%)	603 (17.59%)
3. t.co / referral	**135** (6.45%)	107 (5.32%)	487 (14.20%)
4. websitebottraffic.pw / referral	**93** (4.45%)	94 (4.67%)	96 (2.80%)
5. linkedin.com / referral	**35** (1.67%)	31 (1.54%)	49 (1.43%)
6. bing / organic	**24** (1.15%)	22 (1.09%)	51 (1.49%)
7. big-data-value.eu / referral	**21** (1.00%)	19 (0.94%)	36 (1.05%)
8. law.kuleuven.be / referral	**18** (0.86%)	15 (0.75%)	22 (0.64%)
9. facebook.com / referral	**15** (0.72%)	15 (0.75%)	15 (0.44%)
10. m.facebook.com / referral	**15** (0.72%)	15 (0.75%)	15 (0.44%)

Figure 9: Acquisition per channel

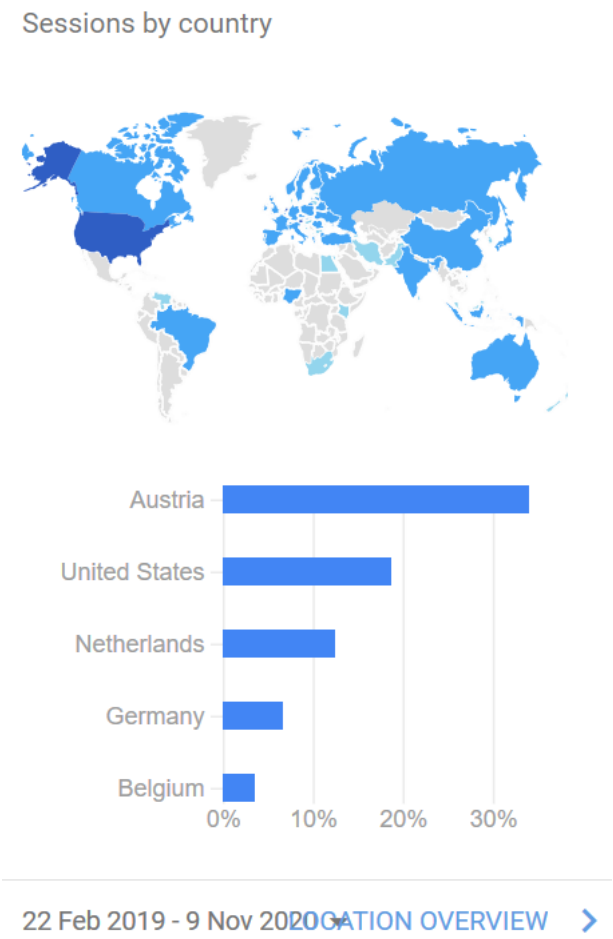

Figure 10: Session by country

3.2 Social Media

To spread Safe-DEED's area of influence, we exploited various available communication and dissemination channels, of which social media are very important ones. To reach the broadest target audience possible, Safe-DEED uses two of the most popular social networks: Twitter and Linked. Both platforms are kept up-to-date by regular posts aiming to promote the project website and link with contents on the website, announcing progress, and providing dates and details about project-related events, workshops, publications, and conferences. When there are no updates related to Safe-DEED, articles found on the web related to the project's core topics are posted. Updates are posted every Tuesday and Thursday. A YouTube channel has been launched but will be utilised in Year 3.

3.2.1 Twitter

Safe-DEED's Twitter account is the following https://twitter.com/SafeDEED. As of November 6th, 2020, the account has 132 followers (Figure 11), in comparison to 55 followers reported in November 2019 in D8.3. In addition, there is an improvement in the Tweet impressions (Figure 12) and engagements (Figure 13) in comparison to Year 1 of the project. This improvement is a result of a new strategy adopted in June 2020, which is tweeting twice a week (Tuesdays and

Thursdays) articles found on the web on core topics to the projects or about the SAFE-DEED project updates.

Figure 11: The Twitter account of the Safe-DEED project (screenshot from November 6th, 2020)

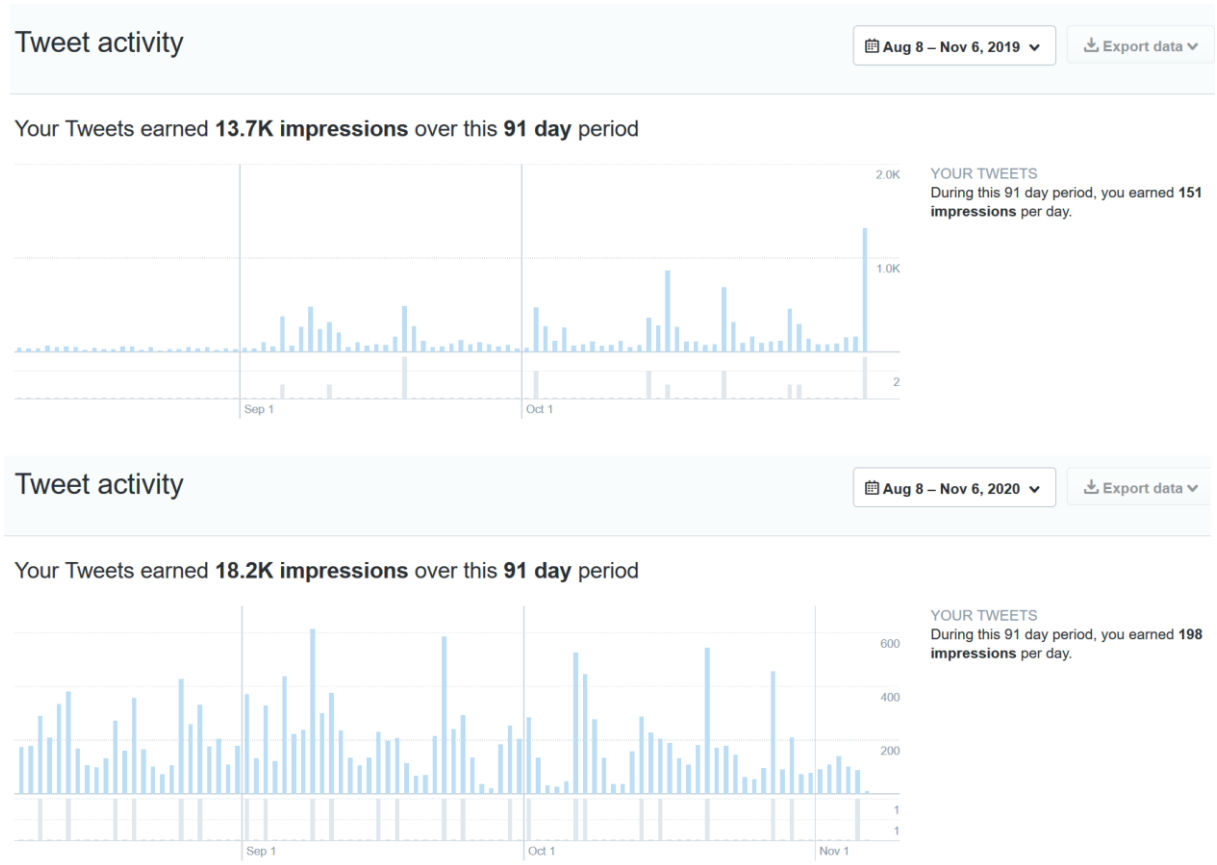

Figure 12: Tweet impressions in Year 1 (top figure) vs. Year 2 (bottom figure) over a 3-month period (Aug.8 – Nov. 6, 2019 and 2020)

Figure 13: Tweet engagements in Year 1 (left figure) vs. Year 2 (right figure) over a 3-month period (Aug.8 – Nov. 6, 2019 and 2020)

3.2.2 LinkedIn

A LinkedIn group https://www.linkedin.com/groups/13669667/ has been created at the beginning of the project, currently numbering 38 members, compared to 9 reported in D8.3. Still, this number is below expectations, which could be attributed to the fact its contents are visible to members only, and invited members are reluctant to join because of that. Due to this fact, in September 2020, we have decided to create a Safe-DEED company page https://www.linkedin.com/company/68733889/. On this page, we adopt the same strategy as Twitter, and the content published is identical. Currently, the page has 13 followers. Keeping the group and posting content exclusively for PPCs is under consideration.

3.2.3 YouTube

A YouTube channel has been created in September 2020:

https://www.youtube.com/channel/UCAem9LJSft04w0IWSZ6QqGA

The channel currently has 2 videos: one private that will accompany the WP6 demonstrator, explaining the concepts of Private Set Intersection (PSI), and one public that was produced by TUD's MSc student Masud Petronia (Sect. 2.1.2), describing what Multi-Party Computation is, how it works, and what a practical deployment looks like.

3.3 Press releases

A press release has been published at the start of the project. It was communicated on 20.12.2018 and announced the project start. It can be viewed at the following link:

https://www.ots.at/presseaussendung/OTS_20181220_OTS0015

The second press release was sent out on 4.11.2019 and advertised the business model workshop in Graz at the consortium meeting:

https://buildingtimes.at/events/workshop-event-safe-deed/

TU Delft prominently featured a news article on Safe-DEED on the homepage of the faculty of Technology, Policy and Management (TPM), as a showcase for typical research of the faculty:

https://www.tudelft.nl/en/tpm/research/projects/safe-and-secure-data-marketplaces-for-innovation/

There were no press releases in Year 2 of the project, but there would have been one, should the planned Bled eConference workshop was not cancelled.

3.4 Newsletter

There were two newsletters sent out so far: one at the beginning of the project and one will be sent out in December to coincide with the release of the public WP6 demonstrator. A strategy has been adopted since the last quarter of 2020, which involves sending a newsletter every quarter, comprising of the blog posts posted within this period. The text of the latest newsletter is depicted in Figure 14. The current number of subscribers amounts to 119, in comparison to 111 reported in D8.3.

Safe-DEED Project: Legal Framework and Ethical Issues in Data Markets

In the Safe-DEED (Safe Data-Enabled Economic Development) project the next very interesting public deliverable is now published on the *website* (Link: https://safe-deed.eu/).

Deliverable 3.1 (D3.1) is about Legal Framework and Ethical Issues. It provides a high-level description of the EU legal frameworks that apply to the Safe-DEED project. The analysis will take into account the legislative initiatives already implemented and those that are still in the approval stage at European level. D3.1 identifies the main requirements that should be considered in the technical development of the project, while an in-depth legal analysis of main requirements for the use cases (telecom and semiconductor production) will be provided in the upcoming deliverables.

The full text of D3.1. is available online and can be read *here* (Link: https://safe-deed.eu/wp-content/uploads/2019/07/Safe-DEED_D3_1.pdf)

If you want to get all the news about the latest public deliverables and about the Safe-DEED project in general, please subscribe to our newsletter on https://safe-deed.eu/

Figure 14: Text of the newsletter

3.5 Printed Promo Material

An overview of the printed promo material can be found in table 2 – overview of KPIs. Three posters of different work packages were printed and presented on attended conferences. One flyer, roll-up and trifold respectively, were produced and distributed at different occasions (Figures 15-20). No promo material was printed in Year 2, since no physical events took place due to the COVID-19 pandemic.

Figure 15: Safe-DEED rollup

Figure 16: Safe-DEED Trifold

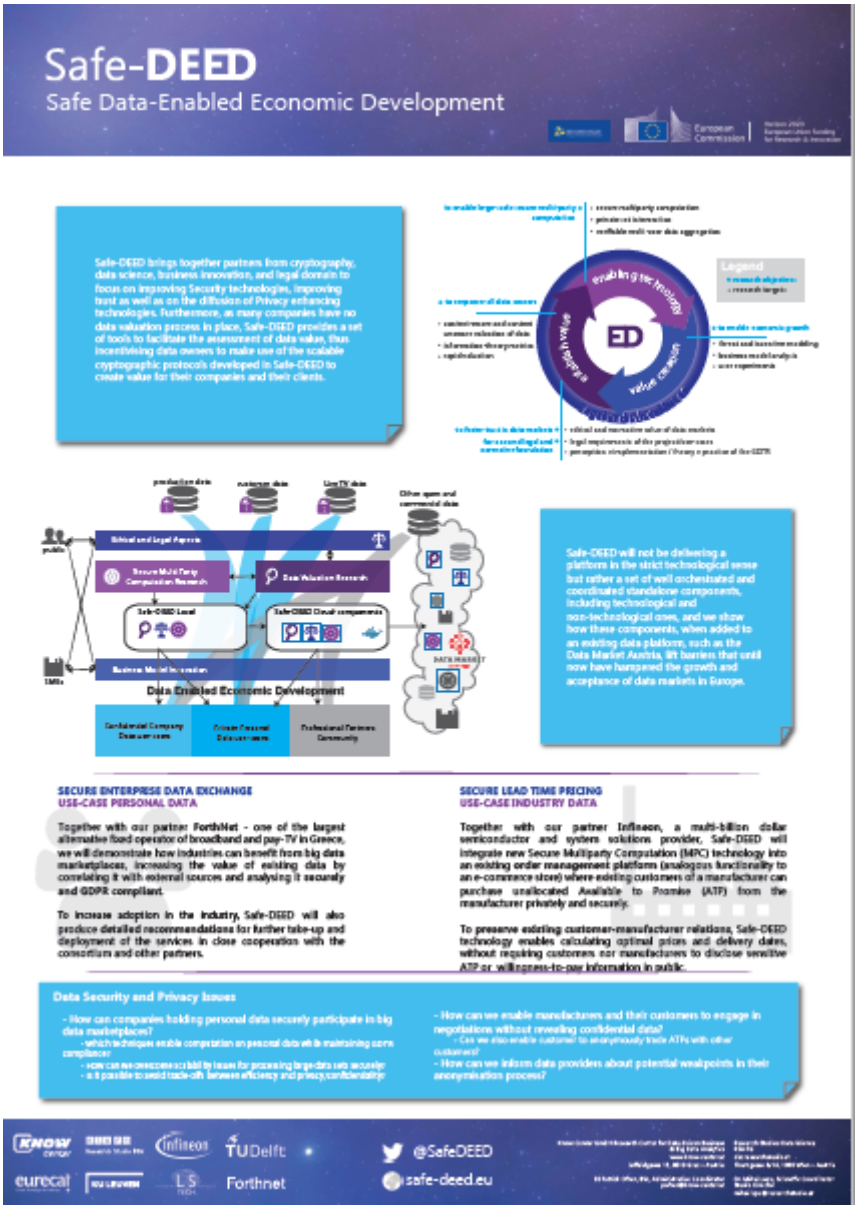

Figure 17: Safe-DEED Poster WP5

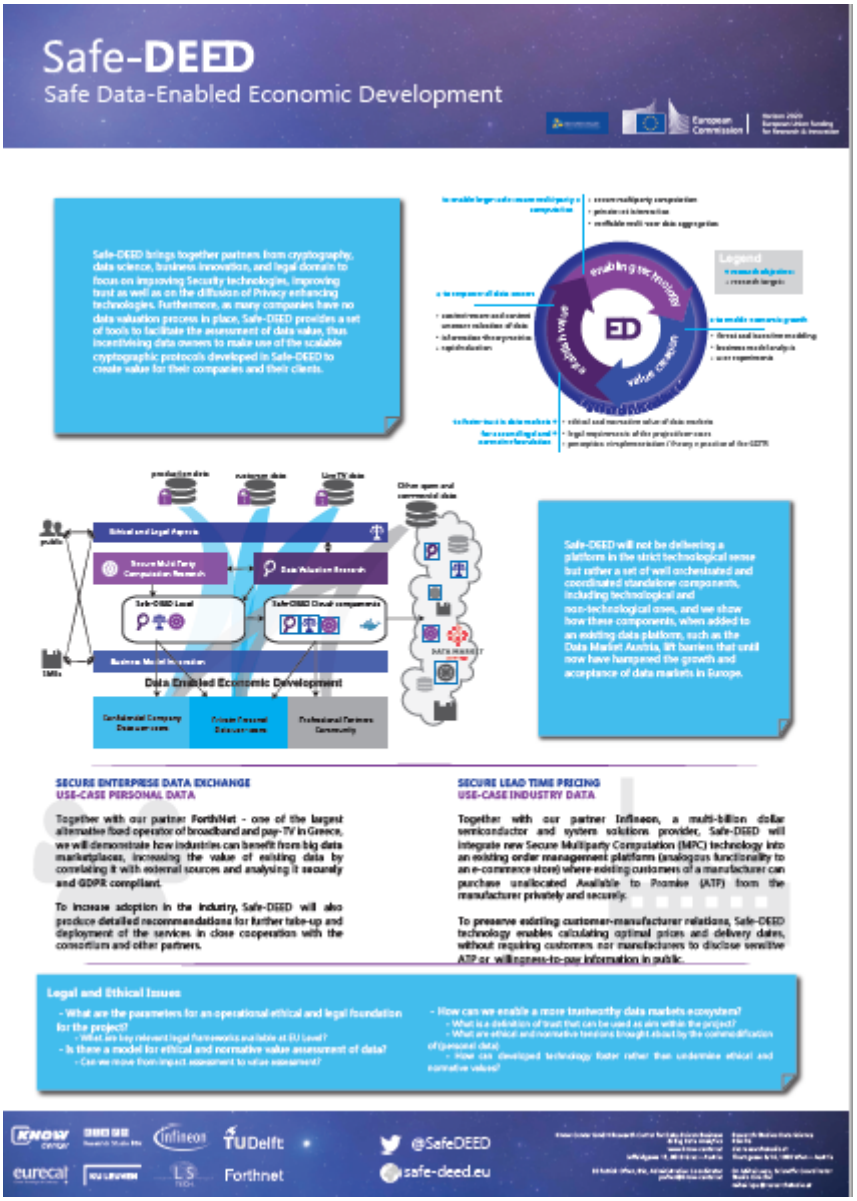

Figure 18: Safe-DEED Poster WP3

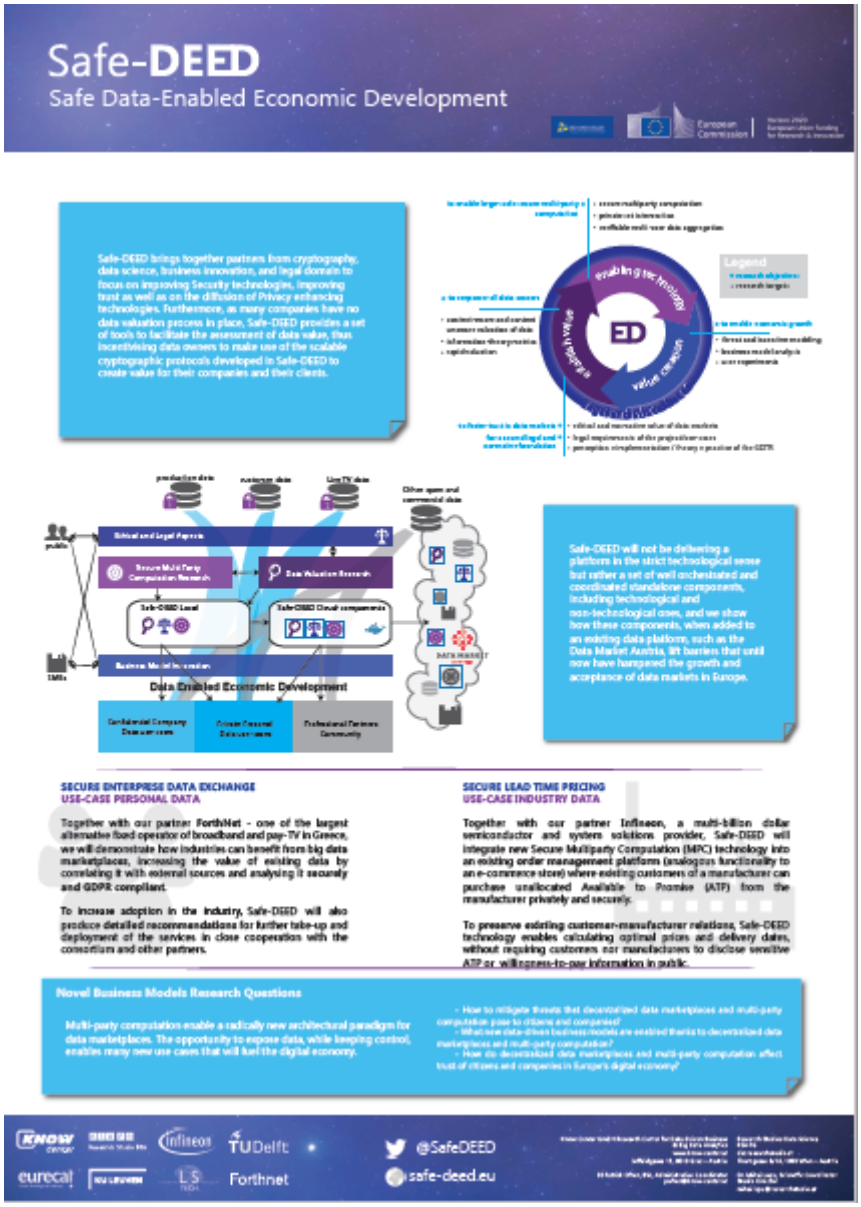

Figure 19: Safe-DEED Poster WP2

Figure 20: Safe-DEED Flyer

4 Metrics

In order to evaluate the progress of dissemination activities, the Consortium defined a set of major key performance indicators (KPIs), which will be used during the whole project lifecycle. These KPIs, and the established success criteria, are specified in Table 5 of Deliverable 8.2. Table 2 below shows the status of each of the KPIs defined in the Dissemination plan, and adds additional ones

Channel		KPI	Success criteria	Current status	
Scientific publications		Number of journal and conference papers	≥ 4/year	14	✓
Workshops		Number of events	≥ 1/year	2 (+1 cancelled due to COVID-19)	~
		Number of participants	≥ 10/workshop	2 and > 10 / workshop (see 2.3.1)	~
Promo material (Posters, roll-ups, etc.)		Number of posters / roll-ups	≥ 3/year	3 Posters (WP2, WP3, WP5) 1 Flyer 1 Trifold 1 Rollup	✓
Project website		Number of visits	100/month	Ø 150/month (see 3.1)	✓
		Average time of visits	1 minute	2min 48s (see 3.1)	✓
Social media	Twitter	Number of followers	≥ 50/year	132	✓
		Number of posts	≥ 2/month	≥ 5/month	✓
	LinkedIn	Number of group members	≥ 100 end of project	38 in group, 13 in page	✗
		Number of posts/discussions	≥ 1/month	3 in group, 16 in page	~
Press releases		Number of releases	2/year	3 since start	✗
Newsletter		Number of e-mail newsletters	1 per quarter	2 since start	✗
		Subscribers	≥ 50/year	119	✓

Table 2: KPI-overview

5 Conclusion

During the first year, the focus was on awareness building, which we achieved through active participation in 27 events in academia and industry, 7 publications, 3 press releases and the very active use of the project website and Twitter account. In Year 2, the dissemination activities that do not require a physical presence and interaction continued and grew in impact. The dissemination activities that do require them were impacted negatively due to the COVID-19 pandemic, especially with the cancellation of the highlight event, the workshop at Bled eConference.

Most metrics established in the dissemination plan (D8.2) are within the desired range. Particularly noteworthy are the lively activities at events, with which a large number of interested persons but also the general public could be reached. We also already organised two public Safe-DEED workshops. While the first workshop was a try-out of Safe-DEED tools and materials, the second workshop attracted 27 participants from 13 different entities, 11 of which were from outside the consortium. To replace the cancelled workshop in M18, a series of webinars is being considered.

In Year 3, we will be focused on attracting members to the PPC including a replacement of the cancelled workshop, a workshop in Month 33, a public demonstrator of WP6, and the recording of online learning videos.

6 References

[1] https://www.prnewswire.com/news-releases/first-ever-world-university-rankings-based-on-mooc-performance-unveiled-300963685.html
[2] https://www.edx.org/school/delftx