



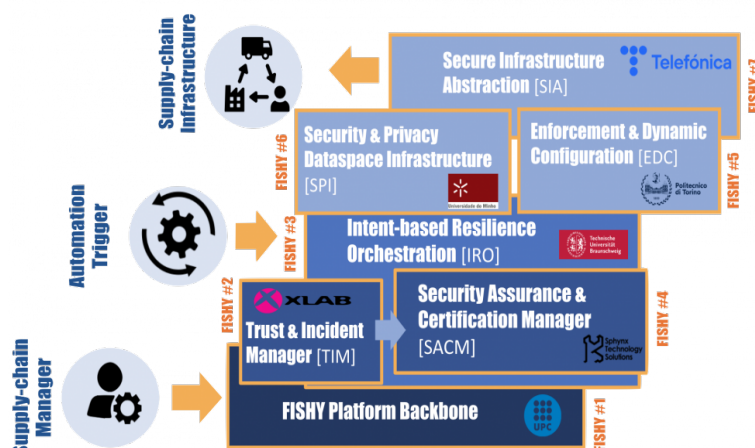
JUNE 2022

## 3<sup>rd</sup> Newsletter

# H2020 FISHY

### WELCOME

On February 28, 2022 we successfully passed the equator of the project; and also as the project is organized, in two iterations, the first iteration has finished and borne fruit. The idea of organizing the design, implementation and integration into two iterations is driven by a CI/CD methodological approach, ending up in the release of two functional versions of the FISHY platform. Therefore, once the first iteration is done, we can show the IT-1 release of the FISHY platform running on each of the three project use cases.



In this Newsletter, we summarize the work done in the last months, preceding the release of the first iteration of the FISHY platform, and the successful deployment on all project use cases for validation purposes. Remarkable have been also, our first EU review meeting on October 2021, the 2<sup>nd</sup> meeting with the Advisory Board on March 2022, and our 2<sup>nd</sup> EU review meeting on May 2022.

This is the 3<sup>rd</sup> FISHY Newsletter. Stay tuned to our website, [fishy-project.eu](https://fishy-project.eu), LinkedIn @FISHY Project and Twitter @H2020Fishy, for periodic updated releases of the FISHY Newsletter that will be published periodically throughout the life of the project, intended to disseminate key project results and achievements.



## FISHY TECHNICAL ACTIVITIES

In these 9 months from our last Newsletter, the progress on technical aspects has growth exponentially, turning into the following assets worth to mention.

A key technical outcome not included in the preliminary draft version of the FISHY architecture, and coming up as a result of the technical discussions within the project, is the FISHY Reference Framework (FRF). The purpose of the FRF is to provide a virtual environment capable of supporting the execution of FISHY components and other relevant functions, such as VNFs developed during the project lifetime. The FRF supports a sandbox environment to facilitate continuous integration of the different FISHY components as well as its continuous (individual) validation and tuning.

Another important asset developed during the last months in FISHY has been the FISHY dashboard. The main goal of the FISHY dashboard is to endow the supply chain administrator with a friendly access to all FISHY tools through a single-sign on mechanism.

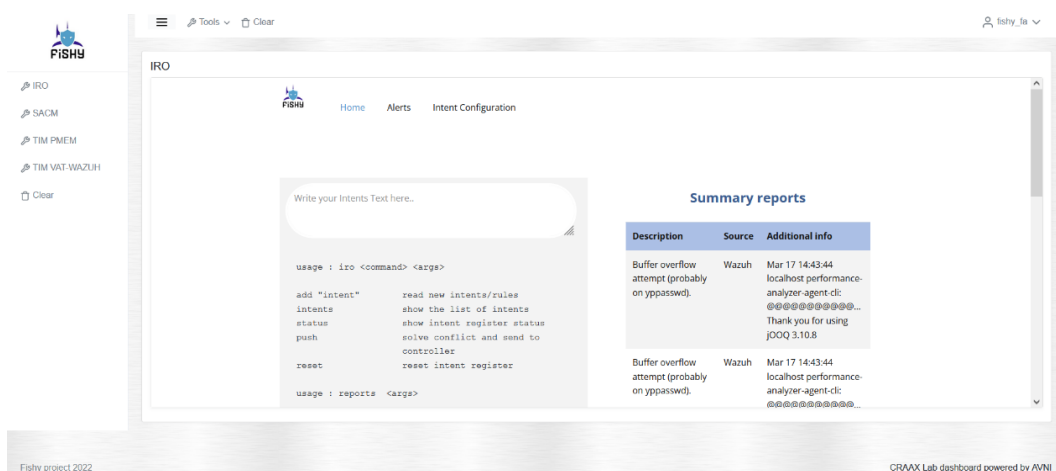
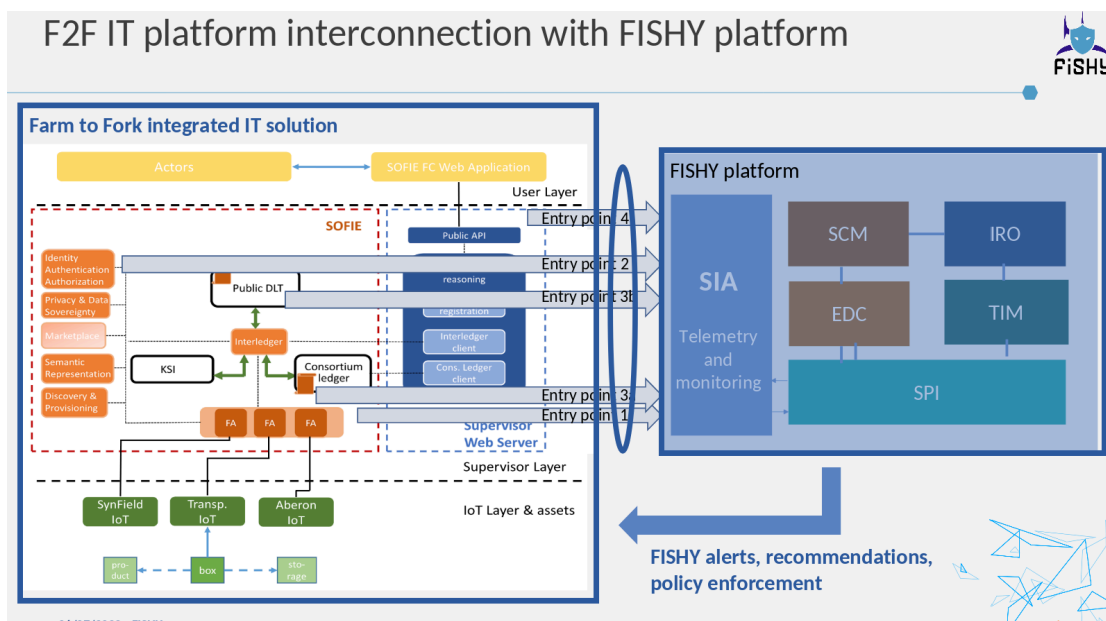


Figure 1. FISHY dashboard

The two previous mentioned assets in the FISHY project, FRF and FISHY dashboard, have been developed in the context of the project integration activities. However, in parallel FISHY has been also deployed on each one of the use cases, thus enabling preliminary validation and debugging activities in IT-1. Indeed, although not all FISHY tools and components are included in this IT-1 deployment, use cases have carefully selected some of the FISHY tools (including the FISHY dashboard) to be included in each particular deployment to identify potential deployment problems that might put the project evaluation at risk.



**Figure 2.** Farm to Fork demo

Fruit of these specific and limited deployments on each use case and in order to facilitate the visibility of the project progress in both the 2<sup>nd</sup> advisory board and the 2<sup>nd</sup> review meetings, distinct demos of the FiSHY project have been released, both live and recorded, see Fig. 2.

Finally, it is worth mentioning that most of the work developed during the last months has been guided by the useful and detailed comments received from the 1<sup>st</sup> review meeting on October 27, 2021 and from the 2<sup>nd</sup> Advisory board meeting on March 24, 2022.

## FISHY DISSEMINATION ACTIVITIES

The main dissemination activities during this period to reach out and engage the FiSHY community have been conducted across events and publication venues, as well as communication activities, such as blog entries and a project video.

### EVENTS

- 1<sup>st</sup> Review meeting was held remotely on October 27, 2021. The reviewers attending were:
  - Santiago Fidel, Project Officer
  - Pino Caballero-Gil
  - Athanasios Karantzias
  - An Braeken

The result of the first review was very successful and the comments and suggestions from the reviewers were very useful to face the

second year of the project.

- - Work-in-progress presented in the EuroCybersec2021 workshop organized by the EU project IoTAC: A Machine Learning IDS for Known and Unknown Anomalies, by Francesc Aguilo from UPC.
  - Clustering workshop, December 13, FUTURE PROOFING AND CERTIFYING SUPPLYCHAINS organized by the EU projects Assured<sup>1</sup> and CYRENE<sup>2</sup>.
  - On March 1st, 2022, we participated in the meeting/workshop with Julià Manzanar from the Horizon Results Booster where FISHY presented FISHY's KERs. It was an iterative process with Julià, taking several meetings, starting with the overview of KERs and then drilling down into each KER, and was very positive to start setting out an exploitation strategy.
  - During the 4<sup>th</sup> General Assembly on March 24<sup>th</sup> 2022, the FISHY consortium had its second online meeting with the Advisory Board. The EAB members attending the meeting were:
    - Haralambos Mouratidis, University of Essex, UK
    - Jianping Wang, University of Hong Kong, China
    - Xiangtong Qi, Hong Kong University of Science and Technology, China
  - 3<sup>rd</sup> FISHY workshop, Key challenges in global cybersecurity: Efforts and trends in EU (KCYEU-2022), was held on March 28<sup>th</sup>, collocated with the DRCN2022 conference, and organized jointly with IoTAC<sup>3</sup> and CYRENE<sup>2</sup>. The full program of the workshop included one technical session, one work-in-progress session and a keynote by Prof. Erol Gelenbe. In the technical session two papers from FISHY were presented and in the work-in-progress session another paper from FISHY was also presented.
  - On Friday April 8, FISHY participated in the roundtable "The Need for IoT Security Standardization & Certification", with the participation of EU projects: CONCORDIA<sup>4</sup>, IoTAC<sup>3</sup>, CYRENE<sup>2</sup>, BIECO<sup>5</sup> and NGIoT<sup>6</sup>. Henrique Santos from University of Minho presented "The Role of Certification to Leverage Trust level in IoT-

<sup>1</sup> <https://www.project-assured.eu/>

<sup>2</sup> <https://www.cyrene.eu/>

<sup>3</sup> <https://iotac.eu/>

<sup>4</sup> <https://www.concordia-h2020.eu/>

<sup>5</sup> <https://www.bieco.org/>

<sup>6</sup> <https://www.ngiot.eu/>

based Supply Chains: the FISHY vision”.

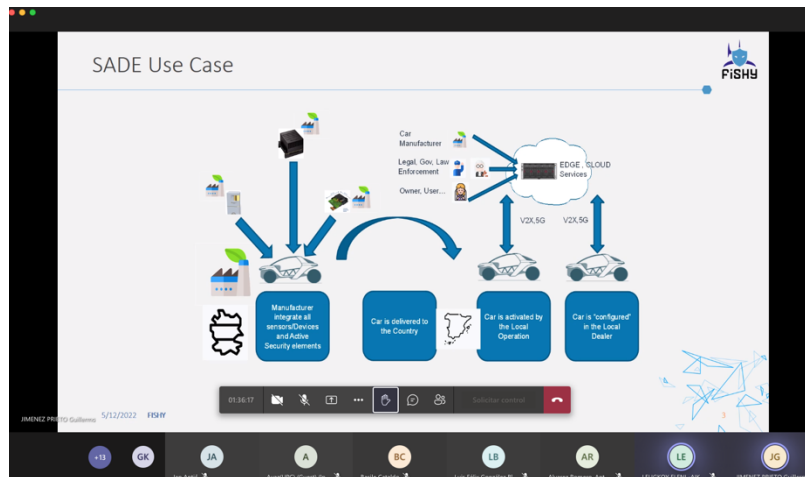


Figure 3. SADE demo during the 2<sup>nd</sup> review meeting.

- Finally, our 2<sup>nd</sup> Review meeting was held on May 16, 2022, with the participation of our Project Officer, Fidel Santiago and Pino Caballero-Gil, An Braeken and Thanos Karantzas as reviewers. It has been a very fruitful and successful remote meeting including demos of each one of the use cases, see Fig.3.

## PUBLICATIONS

In the last nine months of the project and fruit of the more maturity of the project, FISHY has produced significant research results in terms of scientific publications, addressed to a more general public, such as blog entries, as well as conference and journal papers. In this period, FISHY has produced 5 blog entries, all available in the FISHY website:

- The importance of security in the Industry 4.0 paradigm***<sup>7</sup>
- FISHY, IoT Security for the automotive Supply Chain***<sup>8</sup>
- The importance of early detection of vulnerabilities and attacks for a healthy supply chain***<sup>9</sup>
- Easing the burden of network configuration: a capability-driven approach***<sup>10</sup>
- A reference framework for FISHY***<sup>11</sup>

<sup>7</sup> <https://fishy-project.eu/blog/importance-security-industry-40-paradigm>

<sup>8</sup> <https://fishy-project.eu/blog/fishy-iot-security-automotive-supply-chain>

<sup>9</sup> <https://fishy-project.eu/blog/importance-early-detection-vulnerabilities-and-attacks-healthy-supply-chain>

<sup>10</sup> <https://fishy-project.eu/blog/easing-burden-network-configuration-capability-driven-approach>

<sup>11</sup> <https://fishy-project.eu/blog/reference-framework-fishyhttps://fishy-project.eu/blog/easing-burden-network-configuration-capability-driven-approach>



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Apart from these blog entries, we also addressed the general audience of FISHY presenting the Project video presentation of FISHY in our YouTube

- channel<sup>12</sup>.

From the point of view of the scientific publications, FISHY efforts have successfully produced three journals, and three conference papers. Check out all our scientific publications in <https://fishy-project.eu/publications>:

- ***A Secure Link-Layer Connectivity Platform for Multi-Site NFV Services***, by Luis F. Gonzalez, Ivan Vidal, Francisco Valera and Diego R. Lopez in IEEE Network (Volume: 36, Issue: 1)
- ***A Secure Link-Layer Connectivity Platform for Multi-Site NFV Services***, by Ivan Vidal, Borja Nogales, Diego Lopez and Juan Rodriguez, Francisco Valera and Arturo Azcorra in Electronics (Volume 10, Issue 15).
- ***A Combinatorial Reliability Analysis of Generic Service Function Chains in Data Center Networks***, Anna Engelmann, and Admela Jukan in ACM Transactions on Modeling and Performance Evaluation of Computing Systems (Volume 6, Issue 3).
- ***Engineering and Experimentally Benchmarking a Serverless Edge Computing System***, by Francisco Carpio, Marc Michalke, and Admela Jukan in Globecom 2021.
- ***A Machine Learning IDS for Known and Unknown Anomalies*** by F. Aguiló–Gost; E. Simó–Mezquita; E. Marín–Tordera; A. Hussain in DRCN 2022.
- ***Continuous Industrial Sector Cybersecurity Assessment Paradigm\*: Proposed Model of Cybersecurity Certification***, by André da Silva Oliveira and Henrique Santos in DRCN 2022.

#### MORE INFO



[fishy-project.eu/](http://fishy-project.eu/)



[@H2020 FISHY](https://twitter.com/H2020_FISHY)



[@ FISHY Project](https://www.linkedin.com/company/fishy-project)



[@FISHY H2020](https://www.youtube.com/channel/UC2FPgAg6kg)

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<sup>12</sup> <https://youtu.be/Us2FPgAg6kg>

