Future generation Security for smart and connected Cars - FuSeCar

Deliverable D6.1: Intermediate report of all dissemination activities

WP6: Dissemination

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Giampaolo Bella	Added list of publications and dissemination activities	September 5th, 2024	R0.2
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Contents

Finanziato
dall'Unione europea
NextGenerationEU

Ministero
dell'Università
e della Ricerca

Italiadomani
PIANO NAZIONALE
DI RIPRESA E RESILIENZA

1 Introduction

The **FuSeCar** project (Future generation security for smart and connected cars) aims to advance the state of the art in the security of connected and future-generation vehicles.

Dissemination activities play a crucial role in the project by ensuring that the knowledge generated within FUSECAR is effectively communicated to the scientific community, industrial stakeholders, and the broader public. These activities contribute to increasing the visibility of the project, fostering collaboration opportunities, and promoting the adoption of the developed technologies and methodologies.

This document reports the dissemination activities carried out during the first twelve months of the project (Month 1–Month 12). During this period, several key actions have been undertaken to establish the project's communication and dissemination infrastructure and to begin sharing the initial results of the research activities.

In particular, the first year of the project focused on building the foundations for effective dissemination. A visual identity for the project was established through the design and adoption of the FuSeCar logo. In parallel, the official project website was created to serve as the primary online platform for presenting the project objectives, partners, research activities, and outputs. In addition, a dedicated mailing list was set up to facilitate communication with interested stakeholders and to support the dissemination of project updates and announcements.

The project consortium also initiated the planning of the first FuSeCar workshop, conceived as a closed dissemination event aimed at presenting intermediate research results and fostering discussion among project partners and selected experts. Furthermore, project members have actively contributed to dissemination through academic seminars, invited talks, and presentations within university courses, thereby reaching students, researchers, and professionals interested in cybersecurity and connected vehicles.

Scientific dissemination has also been pursued through the preparation and submission of research papers to international conferences and journals. These publications represent an essential channel for sharing the scientific contributions of the project with the broader research community.

Overall, the activities carried out during the first year have successfully established the core dissemination channels of the project and initiated the communication of its scientific outcomes. The coming months will build upon these foundations, with the goal of expanding the reach of the project and further promoting its research results at both national and international levels.

2 Project Visual Identity

Establishing a clear and recognizable visual identity is an important component of the dissemination strategy of the FuSeCar project. A consistent visual identity helps ensure that all dissemination materials, presentations, and online resources are immediately associated with the project and its objectives.

During the first months of the project, the consortium designed and adopted an official logo to represent the FuSeCar initiative. The logo is used across all project communication channels, including the website, presentation templates, dissemination documents, and workshop materials. The visual identity aims to convey the core themes of the project, namely secure connected vehicles, technological innovation, and cybersecurity.

2.1 Project Logo

The official FuSeCar logo is shown in Figure 1. The design combines a modern typographic representation of the project name with graphical elements that evoke the automotive domain and the concept of digital security. The visual style reflects the technological nature of the project and its focus on future-generation connected vehicles.

The color palette and graphical elements were selected to provide a modern and professional appearance while ensuring good visibility across both digital and printed dissemination materials. The logo is designed to be scalable and suitable for different formats, including presentations, reports, posters, and web pages.

The logo has been integrated into the project's communication infrastructure since the early stages of the project and serves as the primary visual identifier of the FuSeCar initiative.

Figure 1: Official logo of the FuSeCar project.

To ensure consistency in the use of the visual identity, the logo is systematically included in all official dissemination materials produced by the consortium, including project presentations, technical reports, and public communication resources.

3 Online Presence

A dedicated online presence is an essential component of the dissemination strategy of the FuSeCar project. The project website serves as the primary public access point for information about the project, its objectives, partners, and scientific outcomes. It is designed to ensure that researchers, stakeholders, and interested members of the public can easily access up-to-date information about the project and its activities.

3.1 Project Website

The official website of the FuSeCar project is available at the following address:

<div align="center">

`https://secloud.ing.unimore.it/projects/fusecar/`

</div>

For simplicity and ease of access, the website adopts a modern design based on a single scrollable page. This design choice allows visitors to quickly navigate through the main project information without requiring complex menus or multiple pages. The layout is optimized for readability and accessibility across different devices, including desktop computers, tablets, and mobile devices.

The website prominently displays the FuSeCar project logo and provides a concise description of the project, outlining its main goals and research directions in the area of secure connected vehicles. In addition, the website includes the official logos of the three partner universities participating in the project, thereby clearly presenting the institutions involved in the initiative.

3.2 Website Content

The current version of the website provides the following information:

- **Project overview**: a short description of the FuSeCar project and its objectives.

- **Project partners**: presentation of the three participating universities, including their institutional logos.

- **Public deliverables**: a list of publicly available project deliverables, which can be consulted and downloaded by interested stakeholders.

- **Scientific publications**: a list of publications produced within the project, including submitted and accepted papers.

The website will be continuously updated during the project in order to reflect new dissemination activities, publications, and publicly available results.

3.3 Language Availability

In order to maximize accessibility and dissemination impact, the website is available in two languages. The default language is English, which allows the project to reach an international audience of researchers and industry stakeholders. In addition, an Italian version of the website is provided to facilitate communication with national stakeholders and the broader public in Italy.

This bilingual approach supports both the international visibility of the project and its dissemination within the national research and innovation ecosystem.

4 Mailing list

In order to support communication and dissemination activities, an initial mailing list has been established during the first months of the project. The mailing list serves as a communication channel for sharing updates about project activities, dissemination events, publications, and other relevant information with both internal members of the consortium and selected external stakeholders.

The mailing list includes the contact information of all research personnel involved in the FUSECAR project across the three participating research units:

- University of Modena and Reggio Emilia

- University of Pisa

- University of Catania

In addition to the internal project participants, the mailing list also includes representatives of private companies that have expressed interest in the project and operate in the automotive and cybersecurity sectors. The involvement of these industrial stakeholders is important to foster dialogue between academia and industry and to facilitate the potential transfer of research results toward practical applications.

At the time of writing this report, the mailing list includes contacts from the following companies (listed in alphabetical order):

- Certego S.r.l. (cybersecurity)

- DriveSec S.r.l. (automotive and cybersecurity)

- FEV Group GmbH (automotive)

- Marelli S.p.A. (automotive)

- Meta System S.p.A. (automotive)

- Reinova S.r.l. (automotive)

- Silk-Faw Automotive Group Italy S.r.l. (automotive)

- Stellantis S.p.A. (automotive)

From a strategic perspective, the mailing list is intended to play a key role in the dissemination of the project's results toward industrial stakeholders. While scientific publications, conference presentations, and university seminars represent effective dissemination channels within the academic community, they are often less effective in reaching industrial actors.

For this reason, the mailing list provides a direct and efficient mechanism to communicate relevant project outcomes, announcements of events, and newly available deliverables to companies operating in the automotive and cybersecurity domains. Through this channel, the consortium aims to strengthen the interaction between academic research and industrial innovation, promoting awareness of the project's results and fostering potential collaborations with industry partners.

The mailing list will continue to be expanded throughout the duration of the project as new stakeholders and interested parties are identified. It will be used to disseminate information about project progress, announcements of workshops and events, and newly released publications and deliverables.

Privacy and Data Protection For privacy and data protection reasons, the detailed mailing list is not included in this public deliverable. The list contains personal contact information of researchers and representatives of private companies who have agreed to receive communications related to the FuSeCar project.

In order to comply with applicable data protection regulations, including the General Data Protection Regulation (GDPR), the consortium does not publicly disclose email addresses or other personal contact details. The mailing list is therefore maintained internally by the project partners and is used exclusively for project-related communication and dissemination activities.

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5 First FuSeCar Workshop

At the time of writing this report (month M12 in the project GANTT chart), the activities of the FuSeCar project have progressed with the completion of the first work package and the ongoing development of the subsequent research phases.

In particular, Work Package 1, entitled *"Privacy analysis of current vehicular communication protocols and architectures"*, has been completed. The deliverable associated with this work package focuses on the analysis of existing vehicular communication systems and includes the results of analytical studies and simulation-based evaluations.

The following work packages are currently in progress:

- **WP2:** *Privacy enhancement of current vehicular communication protocols and architectures*

- **WP3:** *Post-quantum safety for current vehicular communication protocols and architectures*

Considering the current stage of advancement of the project, the consortium decided to organize a first dissemination event in the form of a closed workshop on invitation (this is also in compliance with the dissemination activities planned in the project proposal). The objective of this event was to present the overall vision of the FuSeCar project, illustrate the results obtained so far, and discuss the expected research developments with a selected group of interested stakeholders.

The workshop was therefore designed as a closed event targeting a limited number of participants. Invitations were sent to the stakeholders included in the project mailing list (see Section 4), which includes both academic collaborators and representatives of companies operating in the automotive and cybersecurity sectors.

In order to facilitate the participation of industrial stakeholders and reduce logistical constraints, the workshop was organized in an online format. The first FuSeCar workshop was held via videoconference using the Google Meet platform on **Monday, September 9, 2024, from 16:00 to 17:30**.

The event began with a short introductory presentation of the FuSeCar project (approximately 15 minutes) delivered by the Principal Investigator, **Prof. Mirco Marchetti** from the University of Modena and Reggio Emilia. This presentation introduced the project objectives, research motivations, and the main challenges addressed by the project.

The introductory presentation was followed by a series of short talks (approximately 15 minutes each) delivered by the leaders of the three research units involved in the project. These presentations focused primarily on the research problems addressed by each unit and on the expected results of the project activities.

The speakers were:

- **Prof. Mirco Marchetti** – University of Modena and Reggio Emilia

- **Prof. Gianluca Dini** – University of Pisa

- **Prof. Giampaolo Bella** – University of Catania

Besides the speakers and other personnel belonging to the research units of the FuSeCar project, the workshop was participated by representatives of Drivesec S.r.l., Marelli S.p.A., Reinova S.r.l. and Stellantis S.p.A.

The workshop provided an opportunity to present the initial progress of the FuSeCar project and to initiate a dialogue with selected stakeholders interested in the security and privacy aspects of connected vehicular systems.

The discussion that followed the presentations provided useful insights from the invited stakeholders. Overall, the feedback received during the workshop was encouraging with respect to the scientific relevance of the topics addressed by the FuSeCar project, particularly in relation to the long-term security and privacy challenges posed by connected and autonomous vehicles.

At the same time, some participants highlighted that, in the current industrial landscape, vehicle-to-vehicle (V2V) communication infrastructures are not yet among the primary operational concerns of major automotive manufacturers. As a consequence, certain results related to the protection and privacy of vehicular communication protocols may not immediately translate into deployable solutions in current production systems.

Conversely, the discussion revealed a strong interest from industrial stakeholders in the aspects of the project related to post-quantum cryptography. In particular, the adoption of post-quantum cryptographic mechanisms was considered highly relevant for security-critical automotive components such as Hardware Security Modules (HSMs) and firmware update mechanisms, including Firmware Over-The-Air (FOTA) infrastructures. In these contexts, the transition toward post-quantum secure solutions is perceived as both necessary and potentially applicable in the short to medium term.

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6   Academic and Public Dissemination Activities

In addition to the dissemination channels described in the previous sections, the FuSeCar project has been presented through a number of academic seminars, invited talks, and public events. These activities contribute to increasing the visibility of the project within the scientific community and among students, researchers, and practitioners working in cybersecurity, distributed systems, and automotive technologies.

Such dissemination initiatives represent an important opportunity to present the motivations and research directions of the project, discuss intermediate results, and gather feedback from the broader research community.

6.1   List of Talks delivered in scientific conferences

The following list includes presentations of scientific papers acknowledging the FuSeCar project at international conferences and workshops. These venues are primarily attended by members of the international research community.

- UniMoRe research unit. Presentation of the scientific paper "Are VANETs pseudonyms effective? An experimental evaluation of pseudonym tracking in adversarial scenario", which acknowledges FuSeCar, at the 2023 IEEE 98th Vehicular Technology Conference (VTC2023-Fall), Hong Kong, Hong Kong, Oct. 10-13, 2023

- UniCt research unit. Presentation of the scientific paper "A meta-ontological approach to securing the semantic web data", which acknowledge FuSeCar, at the Joint Ontology Workshops (JOWO), Twente, Netherlands, July 15-19, 2024

- UniCt research unit. Presentation of the scientific paper "Modelling the privacy landscape of the Internet of Vehicles", which acknowledges FuSeCar, at the 19th International Conference on Availability, Reliability and Security (ARES '24), Jul 30 - Aug. 2, 2024

6.2   List of Seminars

The following list includes seminars aimed at disseminating the activities and preliminary results of FuSeCar to graduate students with prior experience in cybersecurity or in automotive.

- UniMoRe research unit. Presentation of the FuSeCar project within the course "Automotive Cyber Security". This course is attended by students of the Masters Degree in Computer Engineering of the University of Modena and Reggio Emilia, as well as by students of the Masters Degree in Electronic Engineering for intelligent Vehicles of the Motorvehicle University of Emilia Romagna. Dec. 13, 2023

7 Scientific publication

Scientific publications represent one of the primary channels for disseminating the research results produced within the FuSeCar project. Through publications in international peer-reviewed venues, the project contributes to advancing the state of the art in the areas of vehicular communications security, privacy-preserving protocols, and post-quantum cryptography for automotive systems.

The following publications acknowledge the support of the FuSeCar project and have been published in international conferences and journals that adopt a peer-review process and are indexed in major scientific databases (including Scopus). These publications contribute to the visibility of the project within the international research community and provide a formal record of the scientific results achieved during the project.

1. G. G. Zoccoli, D. Stabili and M. Marchetti, "Are VANETs pseudonyms effective? An experimental evaluation of pseudonym tracking in adversarial scenario," 2023 IEEE 98th Vehicular Technology Conference (VTC2023-Fall), Hong Kong, Hong Kong, Oct. 10-13, 2023

2. Bella G, Cantone D, Castiglione G, Nicolosi Asmundo M, Santamaria DF. "A behaviouristic semantic approach to blockchain-based e-commerce". In Semantic Web: – Interoperability, Usability, Applicability. Mar. 2024

3. Bella, G., Cantone, D., Castiglione, G., Nicolosi-Asmundo, M., Santamaria, D. F. (2024). "A meta-ontological approach to securing the semantic web data". In Proceedings of the Joint Ontology Workshops (JOWO), July 15-19, 2024

4. Ruben Cacciato, Mario Raciti, Sergio Esposito, and Giampaolo Bella. Modelling the privacy landscape of the Internet of Vehicles. In Proceedings of the 19th International Conference on Availability, Reliability and Security (ARES '24), Jul. 30 - Aug. 2 2024

5. Pericle Perazzo, Stefano Di Matteo, Gianluca Dini, Sergio Saponara, "On hardware acceleration of quantum-resistant FOTA systems in automotive," Computers and Electrical Engineering, Volume 118, Part A, Aug. 2024

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8 Conclusions

This document has presented the dissemination activities carried out during the first twelve months of the FuSeCar project. During this initial phase, the project consortium focused primarily on establishing the core infrastructure necessary to support effective communication and dissemination of the project's objectives, activities, and results. These efforts included the creation of the project visual identity, the deployment of the official project website, and the establishment of a mailing list aimed at facilitating communication with both academic and industrial stakeholders.

In addition to these foundational activities, the consortium organized the first FuSeCar workshop, which provided an opportunity to present the project's objectives and preliminary results to selected stakeholders from both academia and industry. The event enabled an initial exchange of ideas with representatives of companies operating in the automotive and cybersecurity sectors, offering useful insights into the perceived relevance and potential applicability of the research topics addressed by the project.

Further dissemination has been achieved through presentations at international scientific conferences, seminars delivered within academic courses, and the publication of peer-reviewed scientific papers. These activities have contributed to increasing the visibility of the FuSeCar project within the international research community and among graduate students and young researchers working in related fields.

Overall, the dissemination activities conducted during the first year have successfully laid the groundwork for broader outreach and communication. As the project progresses and additional research results become available, the consortium will continue to expand its dissemination efforts through scientific publications, workshops, seminars, and targeted interactions with industrial stakeholders. These activities will play an important role in promoting the results of the FuSeCar project and fostering collaboration between academia and industry in the field of secure connected vehicles.

During the final phase of the project, the consortium will further intensify dissemination activities, with the goal of presenting the final research outcomes of FuSeCar and maximizing the visibility and impact of the results achieved by the project.