



November 2024

STORE newsletter #1: Welcome to our first newsletter

Dear members of the STORE community,

It's our pleasure to welcome you to the first edition of our newsletter. We are very pleased to share with you the progress and achievements we have made so far.

Launched at the end of 2023, the **European FED STORE** (Shared database for Optronics image Recognition and Evaluation) project aims to **develop image recognition algorithms based on artificial intelligence**, for better perception of land combat situations. The project includes the enrichment and sharing of an image database that will **enable these algorithms to be trained and evaluated**, the representativeness and variety of threats' images in the database being key factors in improving system performances.

Since the kick-off-meeting (December 2023), the ramp-up phase was completed and we are now operating at a very active pace; numerous meetings, including tasks kick-off meeting and regular follow-up meetings have

been scheduled with very constructive discussions. The milestones were achieved and due documents delivered to the EC on time. The next **CGA has been hosted by Kongsberg @Norway**, on November, 26th and 27th.

During this year, acquiring data is considered as one of the main activities. The STORE project therefore provided an unprecedented opportunity to acquire operational images, with a **campaign that took place from September 23 to 27, 2024** at the Fontevraud military camp, **part of the Saumur Cavalry School**. In order to have access to military vehicles whose signature will be shared in the consortium, the FED STORE team approached the **Musée des Blindés de Saumur**, which made **6 armored military vehicles available for the week**. Static and dynamic images in wooded and semi-urban environments were acquired, by chance, in a wide range of weather conditions (cloudy, heavily rainy, sunny and backlit) over the course of a week.



Acquisition campaign team @ the Fontevraud military camp, part of the Saumur Cavalry School, from September 23 to 27, 2024



Use Cases and system engineering news & updates

The objective of this activity is to define the operational scenarios as references for the **specifications of AI functions**. The operational scenarios were defined using the **design thinking methodology** during 2 workshops with the **participation of MoDs as a validation body**. The CESAMES system engineering methodology was applied to define the AI functions specifications from the operational scenarios. Finally, the state-of-the-art of embedded hardware and software frameworks and high-level performance expectations for demonstrators were given as initial version.



Data collection activities news & updates

According the selected defense uses cases, acquisition sequences were specified for the acquisition campaign to **provide the data needed to feed the database** with images in different spectral regions (visible, infrared wavelengths). The first acquisition campaign was carried out at the Fontevraud military camp under realistic conditions as specified above. The data acquired is currently being delivered for annotation. A second acquisition campaign is scheduled in March 2025 @ Norway.

> [Get more information about the first acquisition campaign](#)



Database Framework news & updates

The development and continuous improvement of AI-based image recognition technologies requires large amounts of image data to train, test and certify AI systems. The 'Database Framework' aims to provide the framework and tools to **create and maintain a shared and distributed database** of raw and annotated image datasets.

This activity is responsible for **defining the database framework** (including models, interfaces and tools) to create and deploy a shared, distributed image database to be used by partners involved in the development of AI-based image recognition systems.

The STORE database was specified and designed, consisting of a **high-level operational description**, with system architectural design principles, and definitions of data models and interfaces to **specify the application programming interface (API)**. These specifications **drive the development of the DB framework based on interoperability and extensibility concepts**.

A first version of the Data Management Framework is scheduled **for the end of 2024**, ready for the data collected during the first acquisition campaign.



Other activities news and updates

Detailed other activities will be presented in a forthcoming newsletter: data administration and data governance, AI functions development, AI software factory, which can be seen as a MLOps framework, AI benchmarking, and integration & final demonstration.

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Upcoming events and activities

- Third Working group : Operational needs definition, on January 2025
- Second acquisition campaign in Kongsberg @Norway, on March 2025

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