Task 5.4 Details:

Task 5.4: **Shared Resources Demonstrator**

Leader: Centro Agroalimentare di Bologna (CAAB)
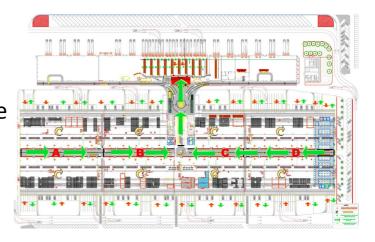
Duration: [M15-24]

Task Description

- The Shared Resources Demonstrator will focus on the **benefits** and **scalability** of **pooled logistics** and **shared EV resources**.

- With the rise of electrification and the growing value of flexible energy use, there's both a need and an opportunity to develop new services that synchronize and optimize the sharing of EV-related resources. This includes **EV sharing capacity** and **sharing charging stations** and **sharing assets** (*forklifts, refrigerated transport*, etc.) – combining the use of EV with traditional logistics infrastructure.

- Efficiency will also be developed and measured using **IoT** and **AI**, to **alleviate food waste** and **reduce CO2 emissions** by tracking fresh food temperatures and shelf life, **combining pallets** and deliveries and **grouping shipments** to delay or reduce overall logistics transportation.

Task 5.4 Objectives:

- The Pilot will build on CAAB's existing **NAM IT platform** (a "pull" system that is driven by customer demand) in which it already manages loading/unloading schedules

- The pilot will create a new **Open Data Space** to allow integration of third-party fleets, charging forecasts, and real-time data (e.g., from PV, batteries, refrigeration, parking, etc.) and help to reduce its environmental impact

- Open information flows will enhance traceability, **reduce wait times** and enhance reliability of logistics operations

- Now the NAM capability will be extended to include **shared assets for internal functionality** (e.g. forklift fleet) to ensure more **efficient movement of internal goods**

- CAAB will work with UNIMORE and ICOOR to integrate **new EV parking** and **charging platforms** to optimize recharging operations of its **multi-vendor fleet**

- This will aim to maximize use of renewable energy, minimize charging conflicts, and **sync charging with logistics tasks**

- **Real-time data** relating to fleet operation, cell metering, heat pump data, BESS data, EV charging data, parking data, etc. will be compiled

Task 5.4 Objectives Cont'd

- CAAB will collaborate with CPR to combine tray and pallet transport – using **RFID chips** and **smart labelling** for their *plastic reusable, foldable* trays and pallets – **reducing food delivery trips** and **CO2 emissions** related to food delivery, while **enhancing fresh food traceability**, especially in regard for last-mile delivery

- CAAB will utilize CPR's **IoT** to monitor fresh food condition, as it relates to **temperature** and **shelf-life** and **tracking real-time inventory** to help to **alleviate food waste** and delay or **group food shipments**, ensuring reduced emissions and/or greener transportation related to food delivery (when shelf-life allows)

- CAAB will work closely with ESCLA to **optimize the cold supply chain**, realizing how its cold storage and transportation can become more efficient, both through **energy optimization and reduction**

- ECSLA members (companies that make up the cold chain) will be able to provide their expertise as it pertains to the infrastructure of the **temperature-controlled supply chain - cold storage warehouses** and **refrigerated transport** - and its important element in maintaining high-quality and freshness of products, from farm to fork