

eximia  
the RFID company

# Eximia S.r.l.

Advanced Logistic RFid Solutions

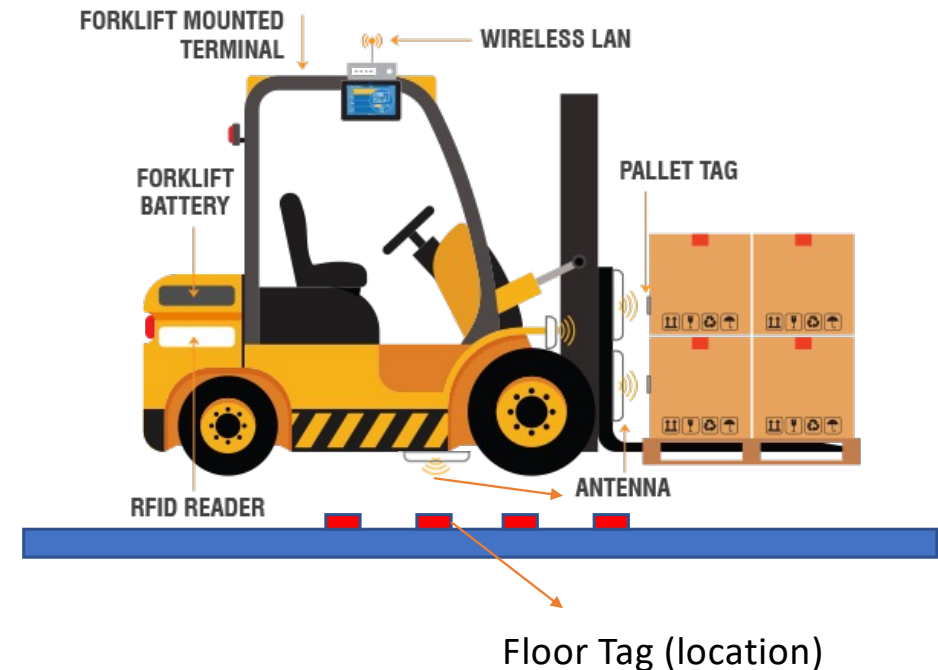
RFid Forklift



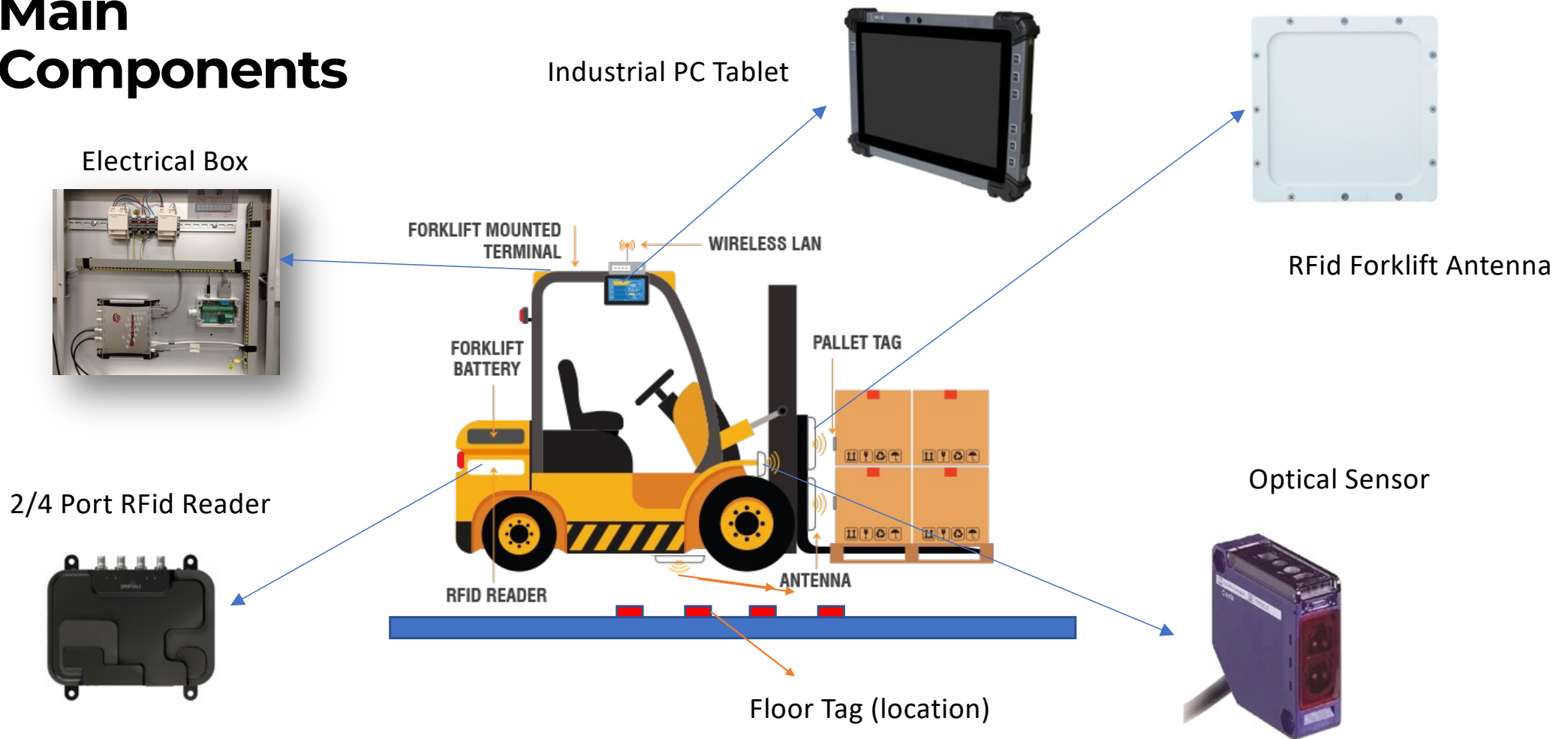
# RFid Forklift

For the automatic management and identification of goods movements

- For the automatic identification of the forklift load (and its position), we install RFID identification devices (readers and antennas) on the body of the forklift
- The forklift is equipped with a vehicle-mounted terminal with an interface for operator interaction (optional).
- The forklift will connect to the management system/software via wireless LAN WiFi
- The RFID reader can be positioned in the forklift's battery compartment (with antennas on the forks), or it can be an all-in-one version (with integrated antennas) also positioned on the forks. The positioning options will be chosen based on the forklift model
- Optical presence sensors detect the presence of a load in order to activate RFID readings (optional).
- Plug & Play Architecture to Eximia's Middleware/eRam Platforms



# Main Components



## Reader RFid (2 options)

- OPTION 1: Reader model with external antennas and I/O ports to be installed in a technical box, capable of managing up to 2/4 high-performance antennas, communicating with a host system (typically an industrial PC) via RS232 / RS485 serial line or Ethernet
- OPTION 2: All-in-one reader model to be mounted on the forklift forks: the use of an IP65 industrial RFID read/write device is proposed, operating in the UHF frequency band (840 MHz – 960 MHz), with an internal antenna, I/O ports, communicating with a host system (typically an industrial PC) via RS232 / RS485 serial line or Ethernet



# RFid Antennas (Option 1)

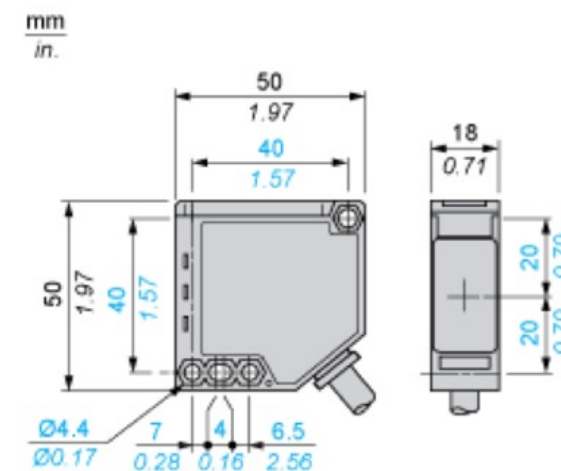
- Two types of antennas are provided: one for the forks, in order to identify the load; and one to be mounted on the base of the forklift to identify floor-mounted tags marking loading/unloading grids.
- The industrial protection rating ensures functionality and durability in environments subject to heavy mechanical and environmental stress.
- The compact and contained dimensions allow easy mounting on the forklift forks or directly on the vehicle body.
- Appropriate coaxial cables have been selected to withstand mechanical movements (to be possibly placed in cable guides).



# Photoelectric load presence sensor

## Main

Range of product	Telemecanique Photoelectric sensors XU
Series name	General purpose single mode
Electronic sensor type	Photo-electric sensor receiver
Sensor name	XUK
Sensor design	Compact 50 x 50
Detection system	Thru beam
Material	Plastic
Type of output signal	Discrete
Supply circuit type	DC
Wiring technique	3-wire
Discrete output type	PNP
Discrete output function	1 NO
Electrical connection	Cable
Cable length	2 m
Product specific application	-
Emission	Infrared thru beam
[Sn] nominal sensing distance	30 m thru beam need a transmitter XUK2AKSNL2T





# Vehicle Mounting Tablet

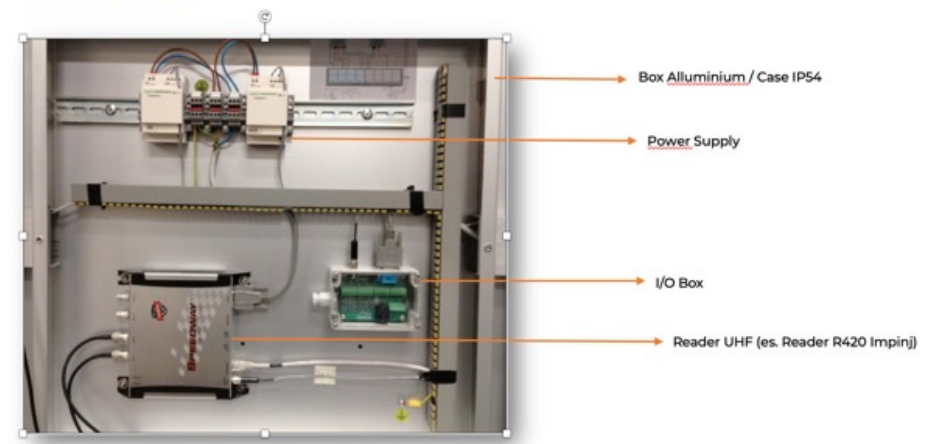
- Lcd 10.1" 16:9 resolution 1280 x 800
- Touch-screen Project Capacitive PCT
- Processor Intel® Pentium™ N4200, 1.1GHz, Quad Core up to 2.5GHz
- 4 Gb RAM DDR3L
- 64 Gb eMMC
- I/O Port: 1x Micro HDMI port, 1x SIM card slot, 1x Micro SD card slot, 1x Audio jack, 2x USB 3.0 (1x USB rtype-C), 2x USB 2.0, 1x DC-in jack, 1x RS232/422/485 (optional), 1x RJ45 base-T (optional),
- 1x Smart card reader (optional, without IP protection), 1x Audio speaker
- Bluetooth v.4.2 (EDR + BLE), Wi-Fi (802.11 b/g/n)
- Camera 2MP front, 8MP rear with flash
- Operation Temperature -20 + 50°C
- Certifications CE, UL, FCC
- Dimensions 272 x 190 x 20.4 mm



# RFid technical Box

The technical box to be installed in the battery compartment or other housings contains:

- Power supplies for reader
- Voltage stabilizers
- Switches
- GP/IO electronics for sensor/traffic light control
- IP54 or higher protection rating
- Electrical certification
- PVC or aluminum material
- RFID reader
- Wiring and connectors

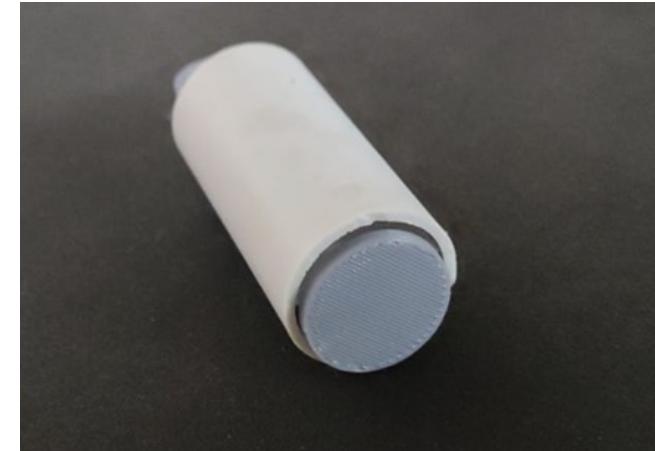




# Floor-mounted RFID tags for locating pickup/drop-off positions

Rugged tags to be “embedded” in the floor, 2 possible formats:

- Plug Format:
  - Fastening via drilled hole (20 mm diameter)
  - Height 50 mm, IP68
  - Sealed with resin
- Strip Format:
  - Fastening via milling
  - Length from 100 to 160 mm, IP68
  - Sealed with resin



## Functionalities Options

The forklift can operate in automatic mode, meaning without the need for a display to show the identified information, or it can be equipped with a display. In this case, the graphical interface used is that of the eRAM Mobile system.

In case of automatic operation, the forklift must be equipped with a Windows-based industrial mini PC for running the Octopus Middleware.

If, on the other hand, operation with a display is chosen, it is possible to use a Windows tablet, on which both Octopus and an Android emulator will be installed to access the eRAM Mobile application interface.



Mini PC Industrial  
Windows



android



**AUTOMATIC  
MODE**



**TABLET  
MODE**

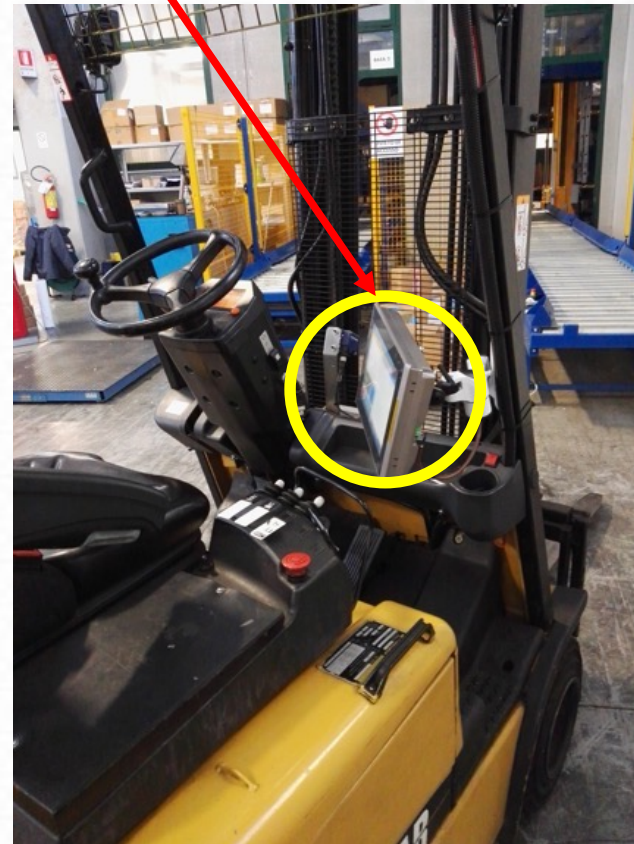
Some working examples



RFid antenna position



Vehicular tablet PC







RFid antenna position



Loading presence sensor

Technical Box Position





RFid Antenna



Loading presence sensor







Vehicular tablet PC



Vehicular tablet PC





Loading presence sensor



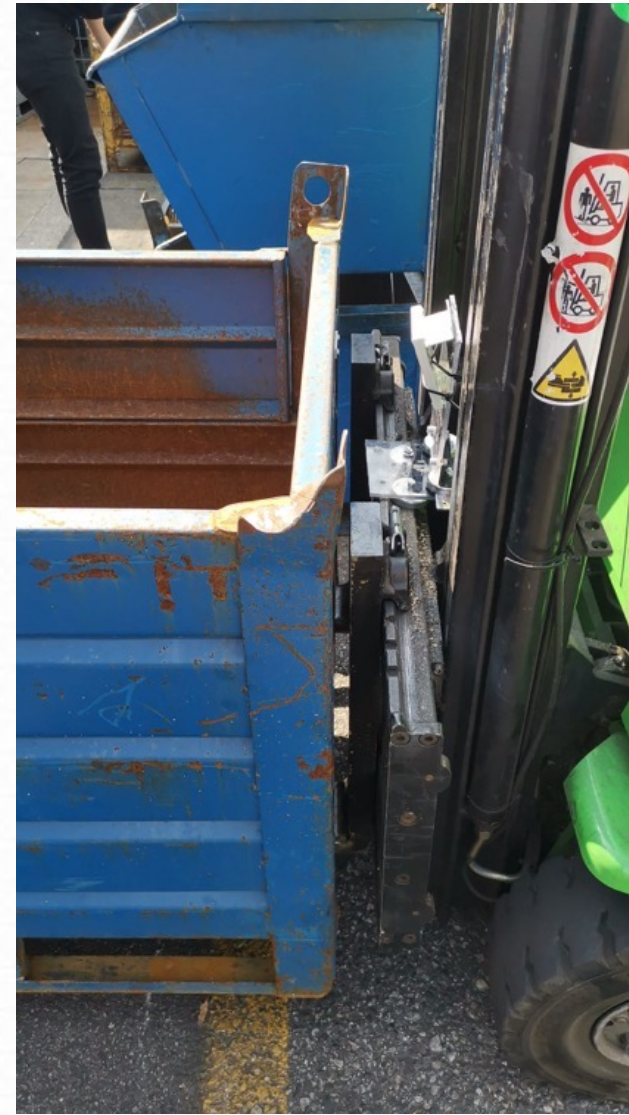
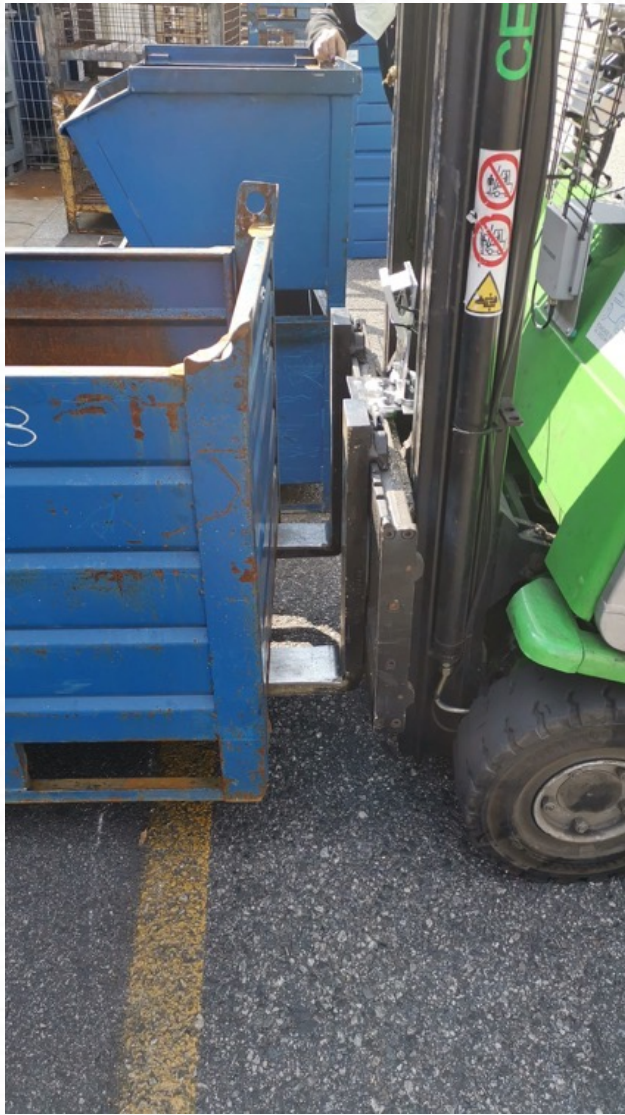
Vehicular tablet PC











# Partnership

Your projects deserve the best technologies

When it comes to third-party technologies, we make no compromises. We have established partnerships and collaborations with the leading innovators in the industry and develop solutions based only on the best technologies, some of which are natively integrated into our Middleware



A yellow forklift is shown in a warehouse setting, carrying a yellow pallet with two stacked cardboard boxes. The boxes feature a recycling symbol and handling instructions. The background shows the warehouse's steel structure and overhead lights.

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Thank's