



RFID

JOURNAL

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SEPTEMBER 30 - OCTOBER 1, 2020

Unipac Increases Inventory Accuracy to 98%

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Jacto Group - History



- Established in 1948 by Mr. Shunji Nishimura



The first product

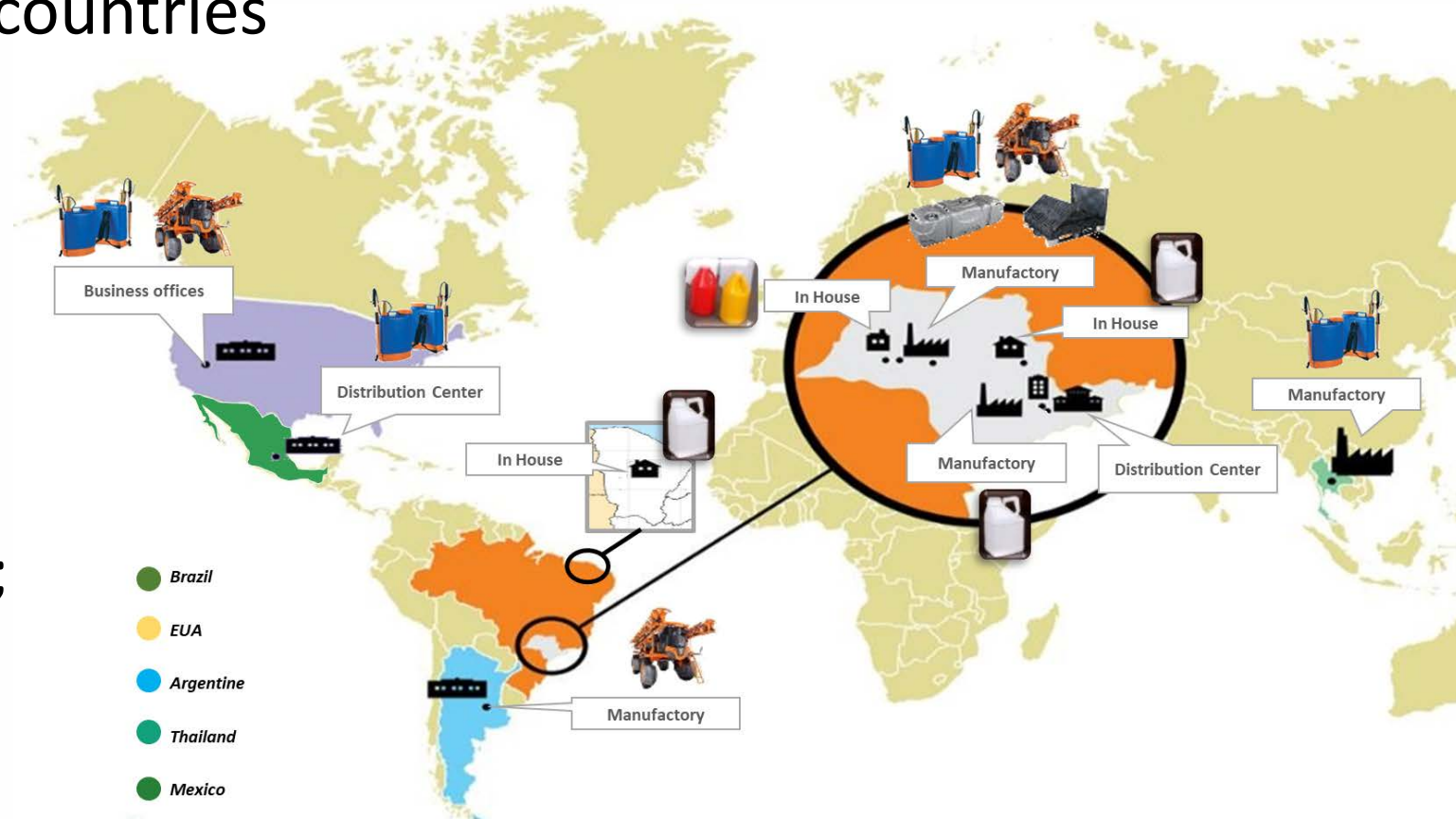


The first sprayer



About Jacto Group

- Export to more than 100 countries
- 15 factories
- 02 business offices
- 01 R&D Center
- 04 distribution centers
- Around 4.500 employees;



Jacto Group



Jacto Group
Head Quarter
Pompéia/SP - Brazil



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Jacto Group



Jacto - Develops and manufactures agricultural machines for several applications.



Sugar Cane and Coffee Harvester



Self-propelled Sprayer



Planter

Jacto Group



Rodojacto - Integrated solutions for transport and logistics.



JactoClean - Cleaning machines



High Pressure Washer Machines



Floor Washing
Machines



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Jacto Group



Sintegra - Solutions and products for medical area.



Bioabsorbable Screws



Sinfix Button
(ligament reconstruction)



CIAG - Center for Innovation in Agribusiness

- Studies of technological trends;
- Technology Platforms and application projects;
- Technology Transfer Programs.



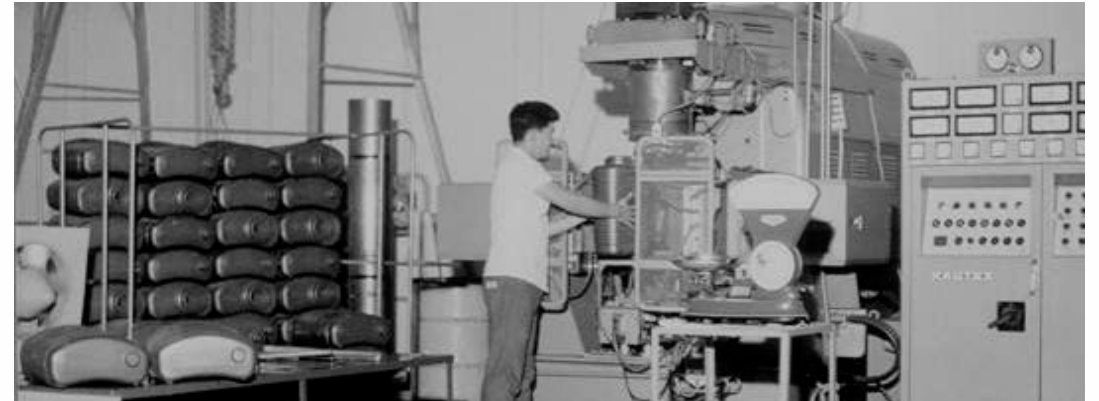
The most complete plastic processing industry in Brazil

Our Purpose: “Provide partner companies with innovative solutions, integrating polymer application technologies, other technologies and services, adding value to the chain ””



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About Unipac - History



Unipac started as a manufacturing department within Jacto in 1966

**Backpack
Sprayers**



Metalic

**Innovation
Technology**



Plastic



In 1976
business
Unit.

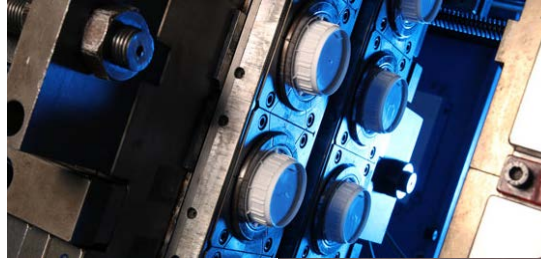


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About Unipac – Process Technologies



**Blown
Molding**



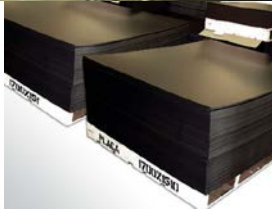
**Injection
Molding**



**Structural
Foam**



**Sheets
Extrusion**



Rotomolding



**Vacuum
Forming**



About Unipac – Business Segment - Packaging

PACKAGING

Market Share 40%



CATTLE FARMING MARKET



Recipients for the
transportation of milk



Recipients
for milking
machine

About Unipac – Business Segment - Automotive

AUTOMOTIVE
Market Share 70%

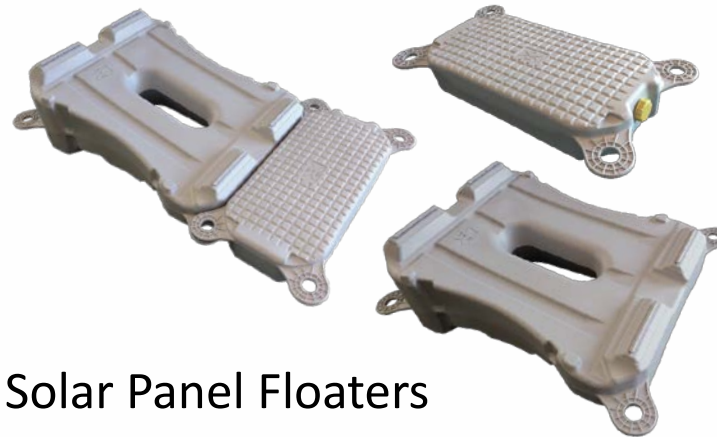


Fuel Tanks



Bed liner

OTHERS MARKET



Solar Panel Floaters



Technical Parts

About Unipac – Business Segment - Logistics

LOGISTICS

Market Share 40%



Collapsible and Customized Containers.
100% Unipac



Industrial
Electric
Vehicles



Batteries & Chargers



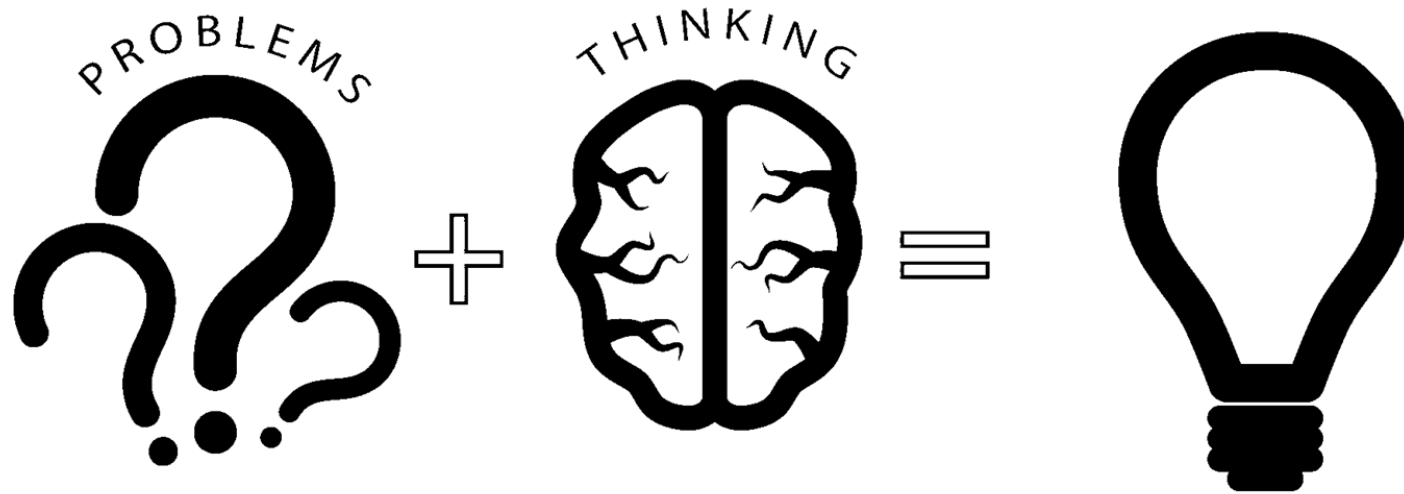
Thermal
Container

Unipac way of working...

WE WORK ON CUSTOMER FOCUS.

We understand what the problem is.

We study the best technologies, the best materials and purpose the best solution.



Case: Unipac Increases Inventory Accuracy to 98%



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Unipac Increases Inventory Accuracy to 98%

POC:  ***jacto*** Agricultural Machines

What's the problem?

- Lack of:
 - **Accuracy in packaging inventory;**
 - packaging localization (site, sector, supplier, DC, customer);
 - resources (manpower and travel expenses) to carry out inventory process;
 - **Asset Management System;**
 - packaging traceability (transit time, idle time; localization);
 - process to properly address damaged packaging (identification, collection and maintenance).

Unipac Increases Inventory Accuracy to 98%

What's problem?

- Scattered boxes along the supply chain;



Unipac Increases Inventory Accuracy to 98%

What we did

Developed a solution with:

- Greater location accuracy in asset control;
- Traceability throughout the handling process;
- Faster and more cost effective packaging inventory process.



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Unipac Increases Inventory Accuracy to 98%

First steps

- Understanding the main client needs / what the real problem is;
- Mapping the operational logistic flow;
- Choosing the most suitable technologies.

Unipac Increases Inventory Accuracy to 98%

What technologies were studied?

- Beacon;
- QRcode;
- Passive RFID Tags.

Unipac Increases Inventory Accuracy to 98%

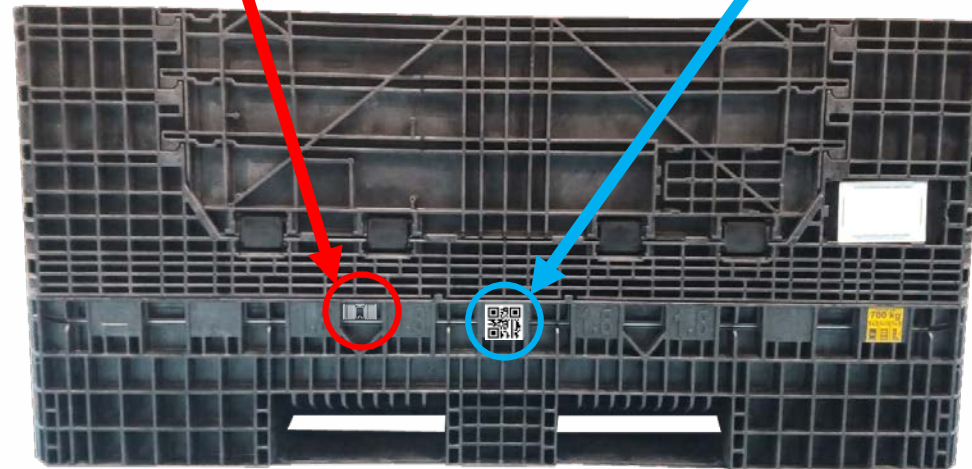
Placing the tags / devices



RFID



QR CODE



BEACON



**Jacto
Client**

Logistic Flow

Client → Distribution Center → Parts supplier
Parts supplier → Distribution Center → Client

**Centeranel
Distribution Center**

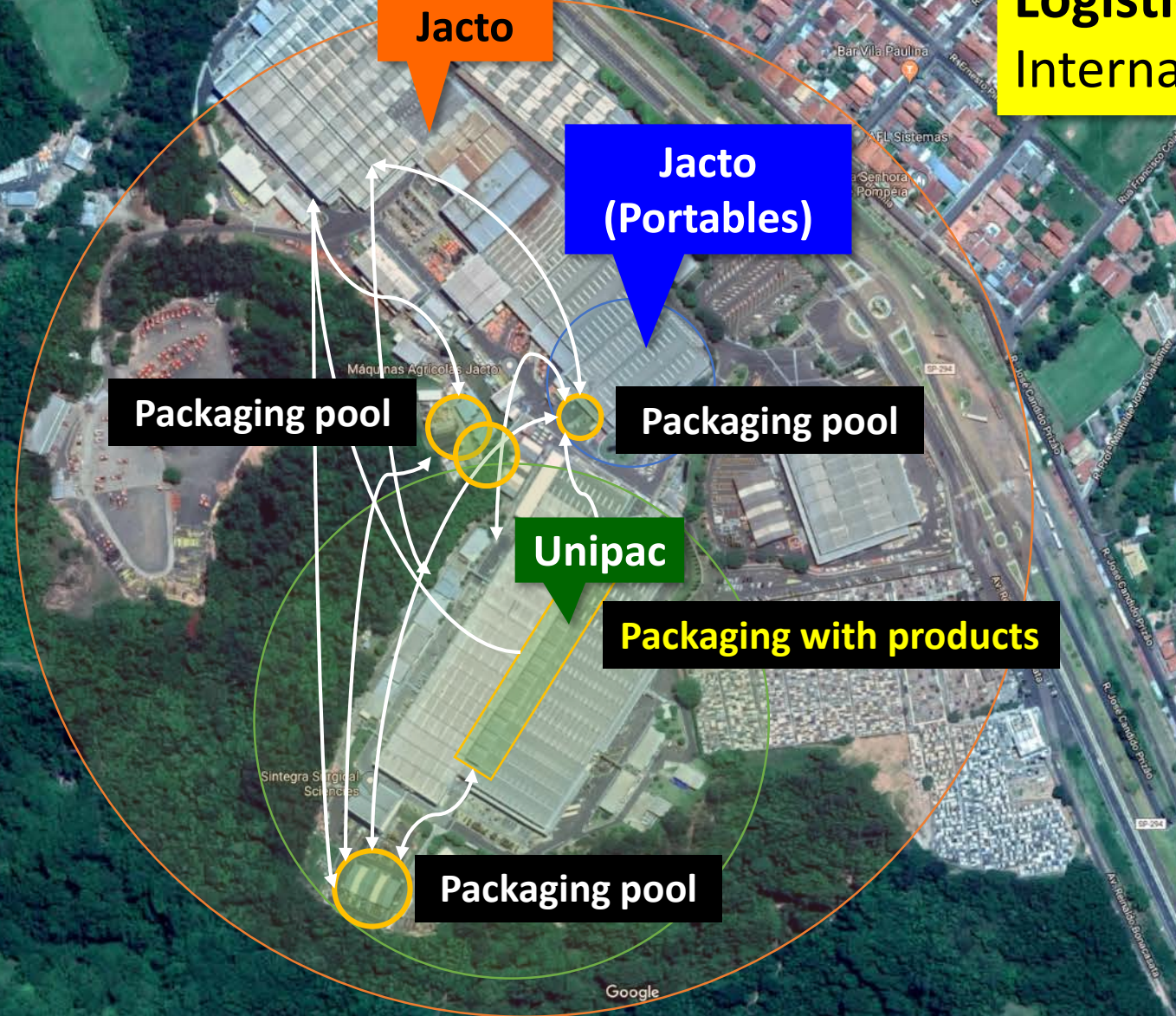
 **4 h 53 min**
465 km

 **58 min**
59,9 km

**Usimatic
Parts supplier**

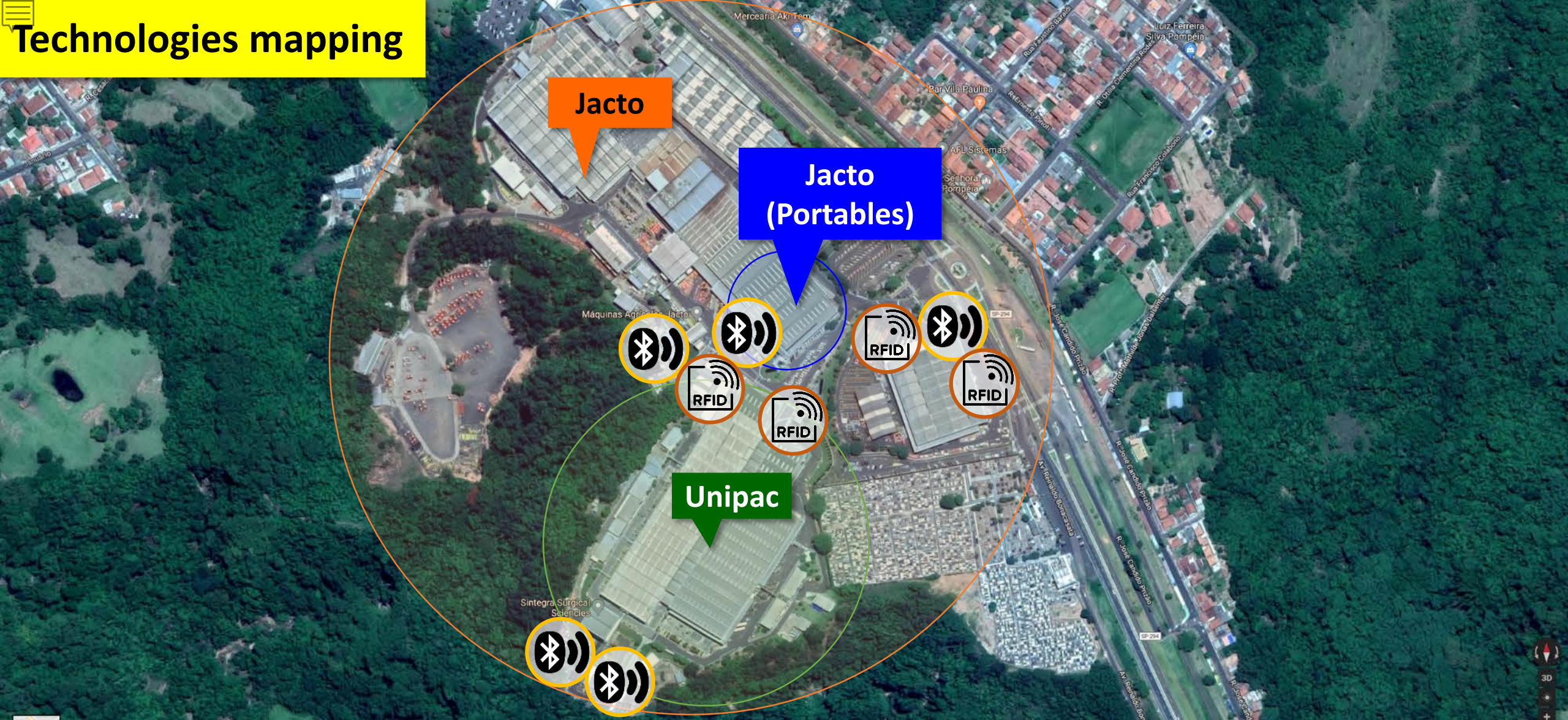
Logistic Flow
Internal customer flow

Packaging circulate between units with or without orders and authorization.



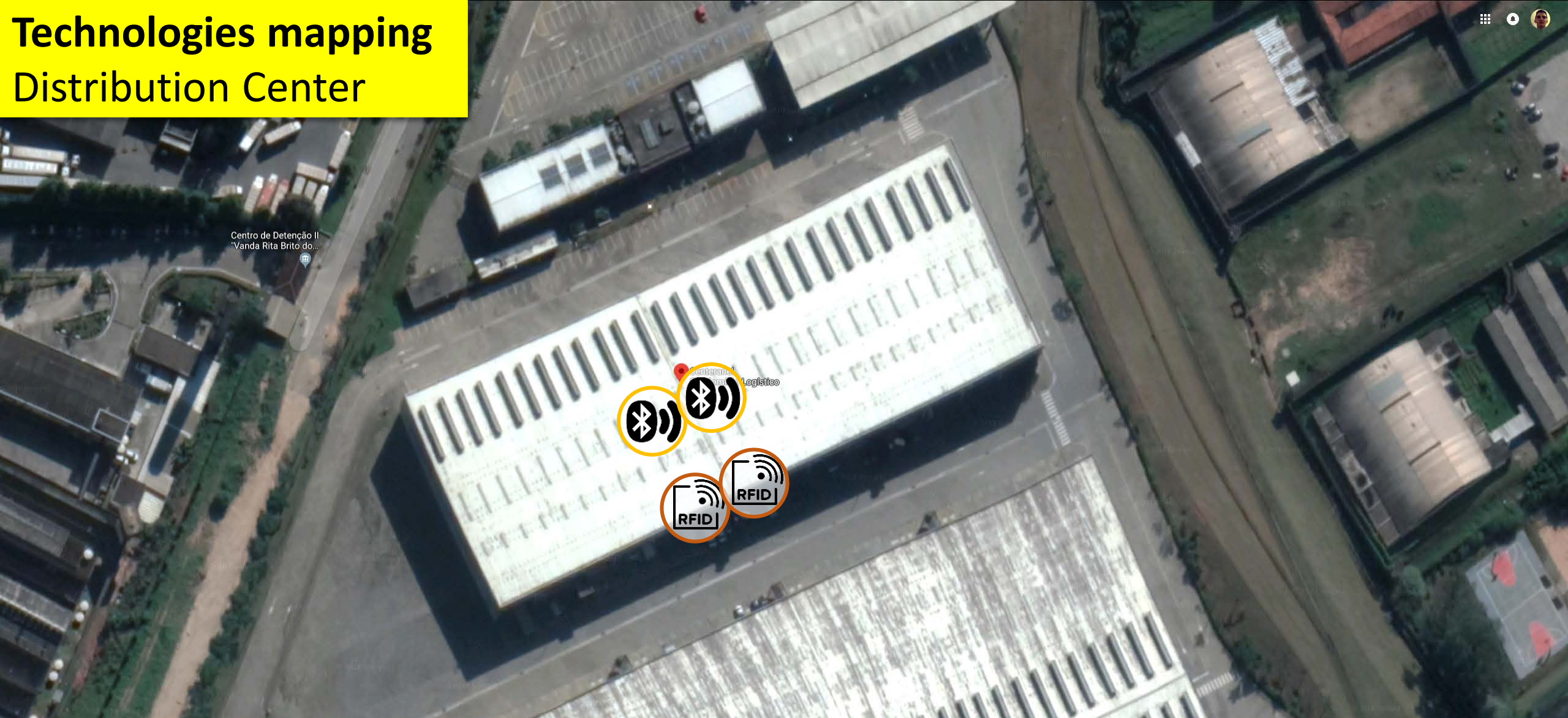
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Technologies mapping



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Technologies mapping Distribution Center

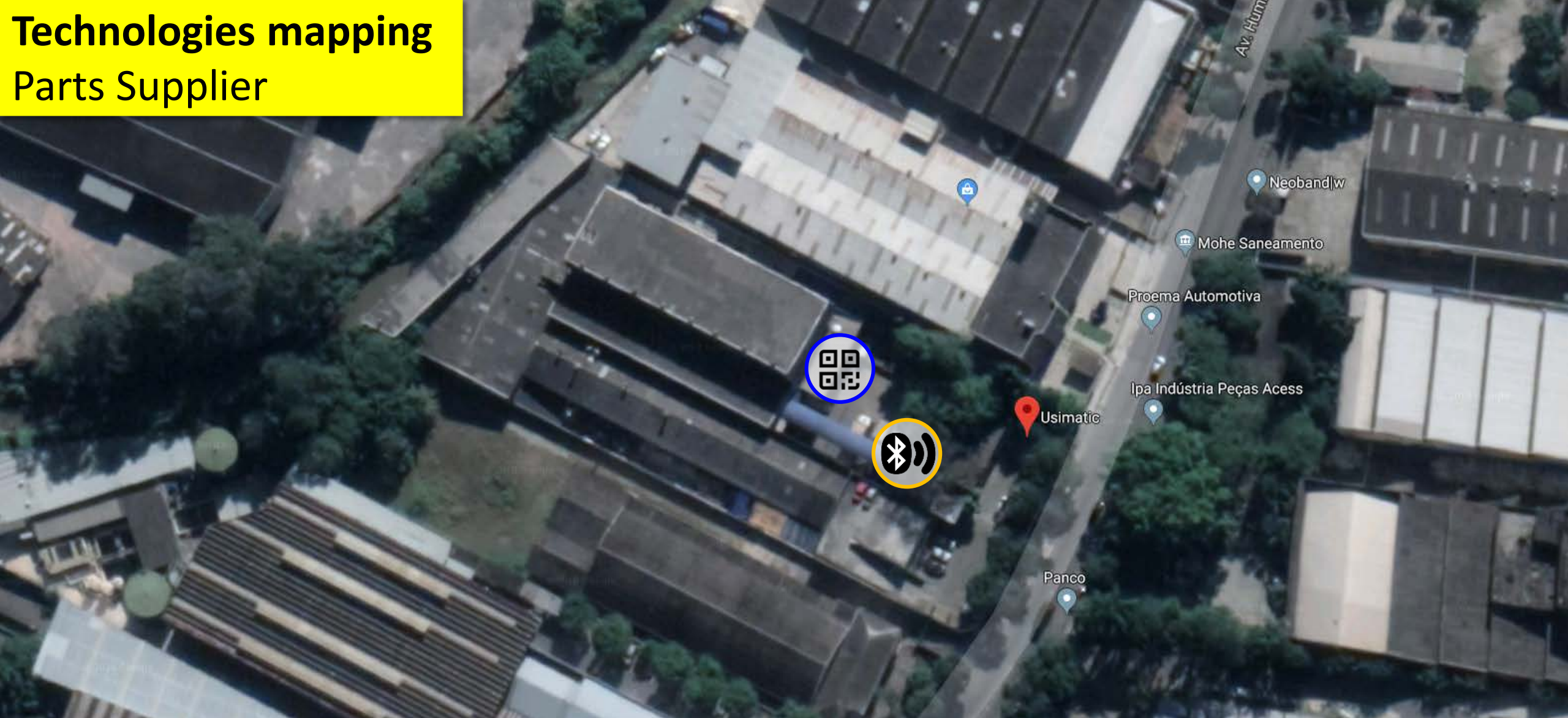


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RFID ANTENNAS



Technologies mapping Parts Supplier



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Chosen Technologies



Reader
RFID Speedway



Portable reader



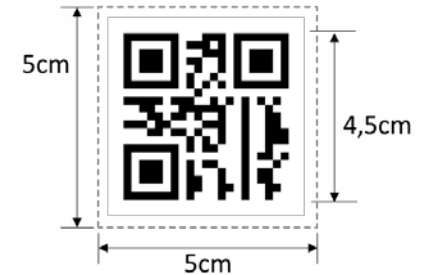
Beacon scanners
developed by
CIAg



Smartphones as QR
Code readers



UHF Gen2 RFID Tags



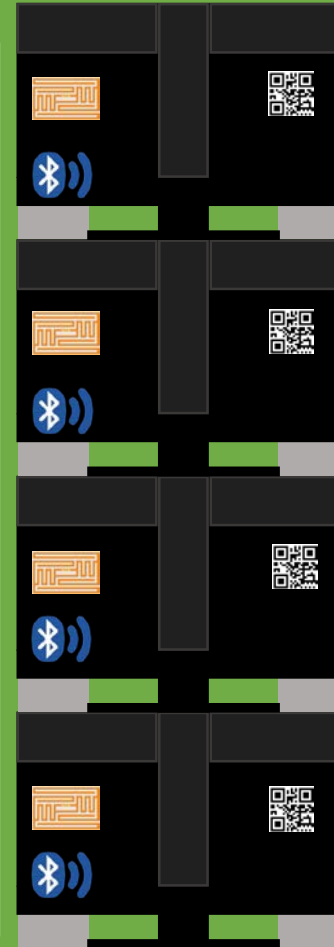
QR Code Tags

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Reader + Mobile

RFID

Beacon

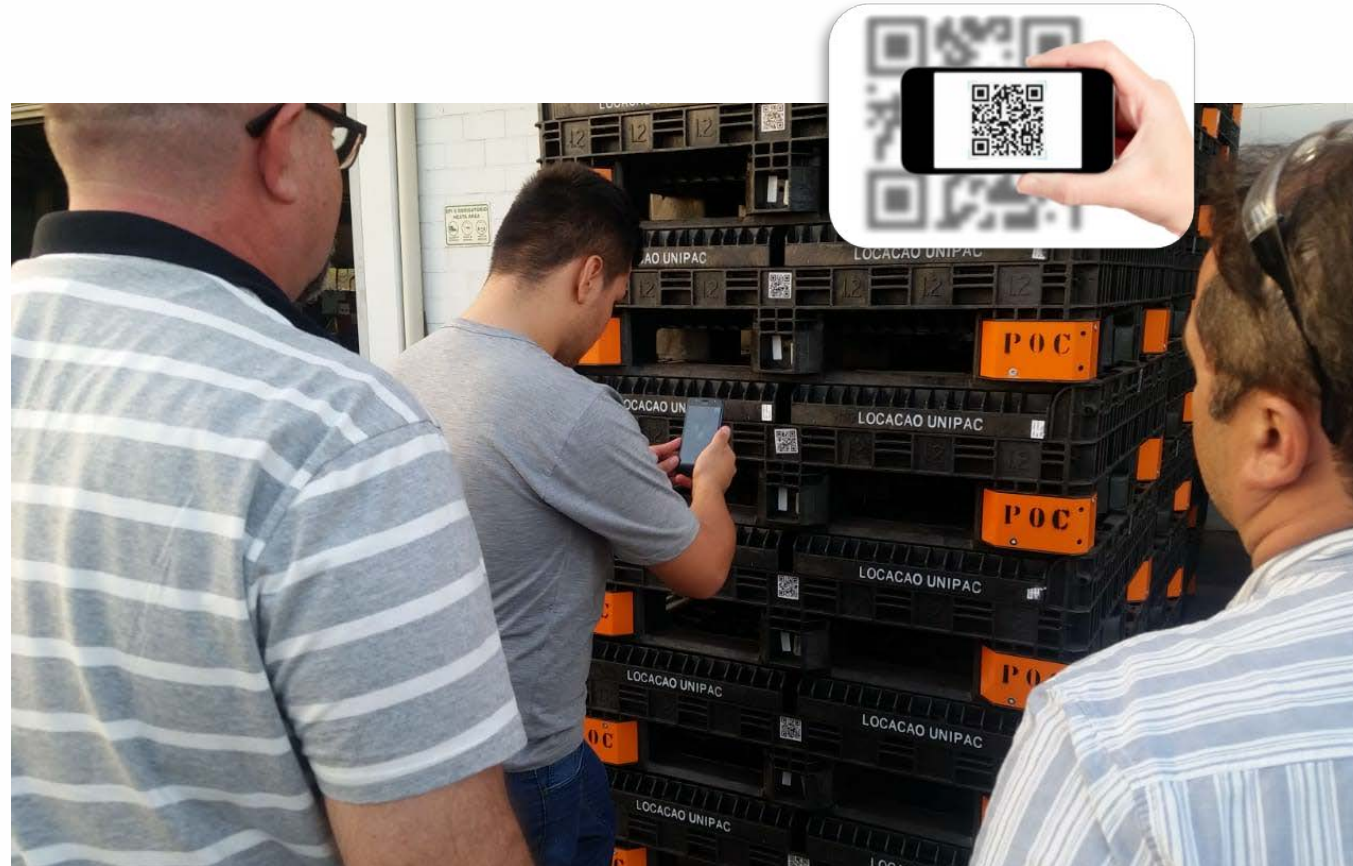


QR CODE



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Reader



Viewing the data

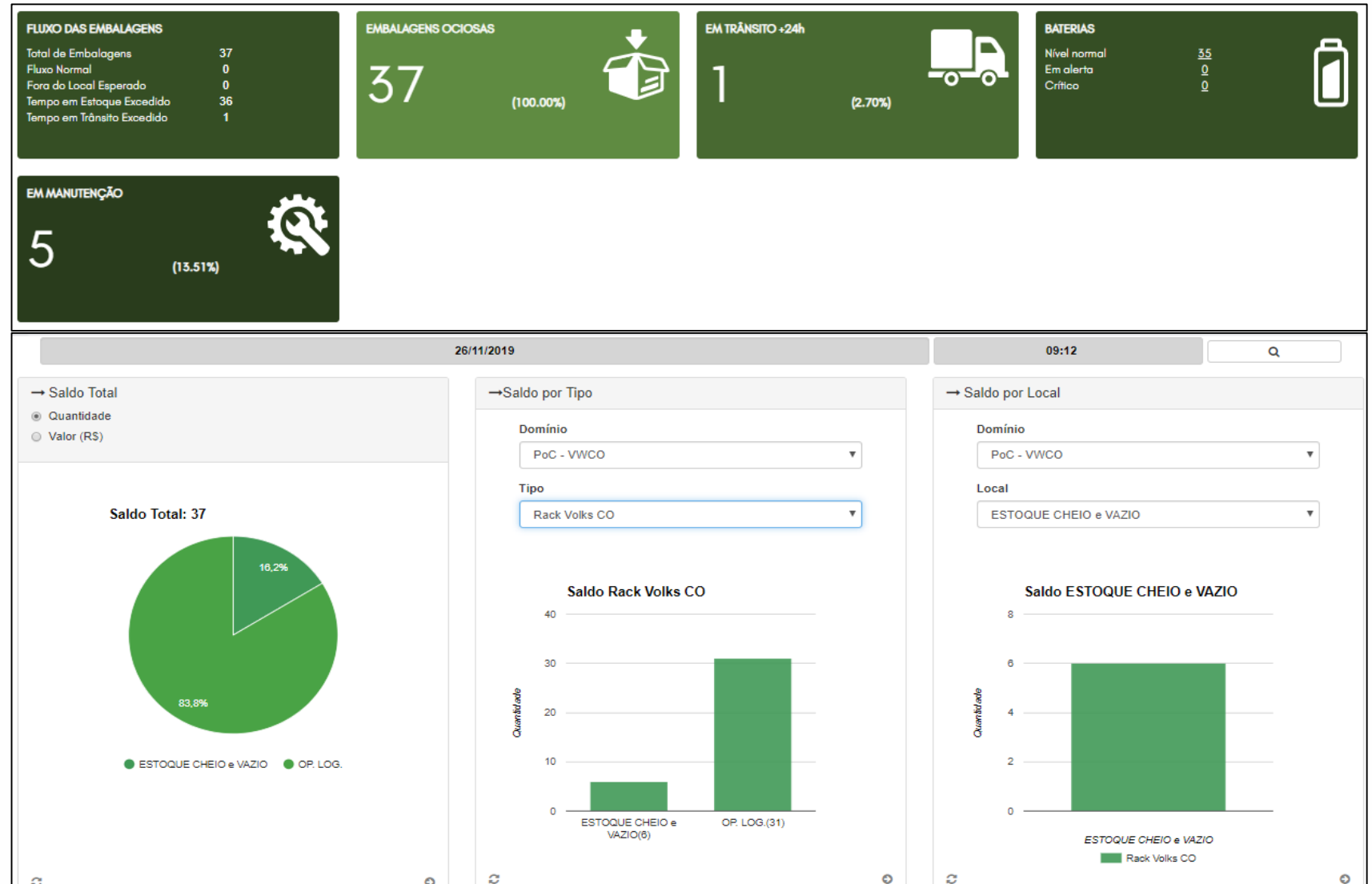
ACESSO

Usuário

Senha

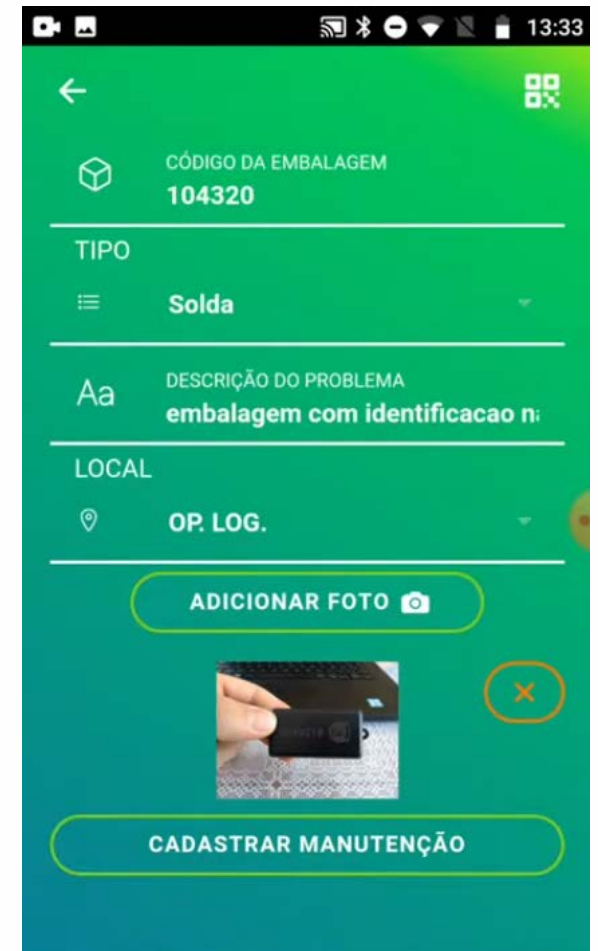
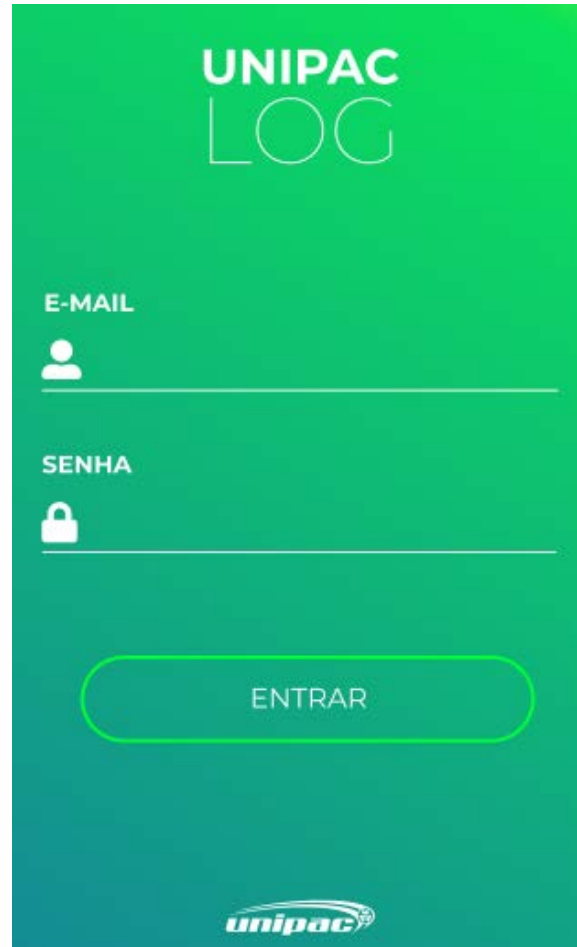
ENTRAR

Desktop / laptop



Viewing the data

Smartphone



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Rejected Technologies

- In the hybrid system, each technology has its function to meet the process and the solution designed on the site survey.



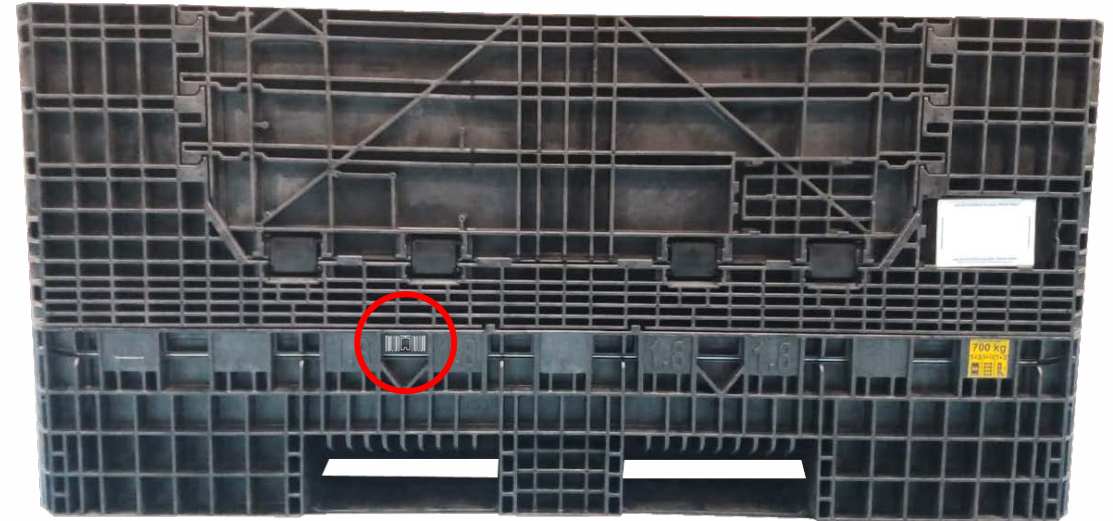
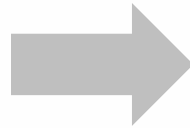
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RFID types

- UHF - the inlays have been adapted to the box structure.



UHF Gen2 RFID Tags



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Implementation difficulties

- Dealing with customer's suppliers;
- Homologation of beacon and its suppliers;
- Not change the customer's logistics flow;
- Connection to customer's internal network;
- Overlapping signals / No signal / Weak signal.

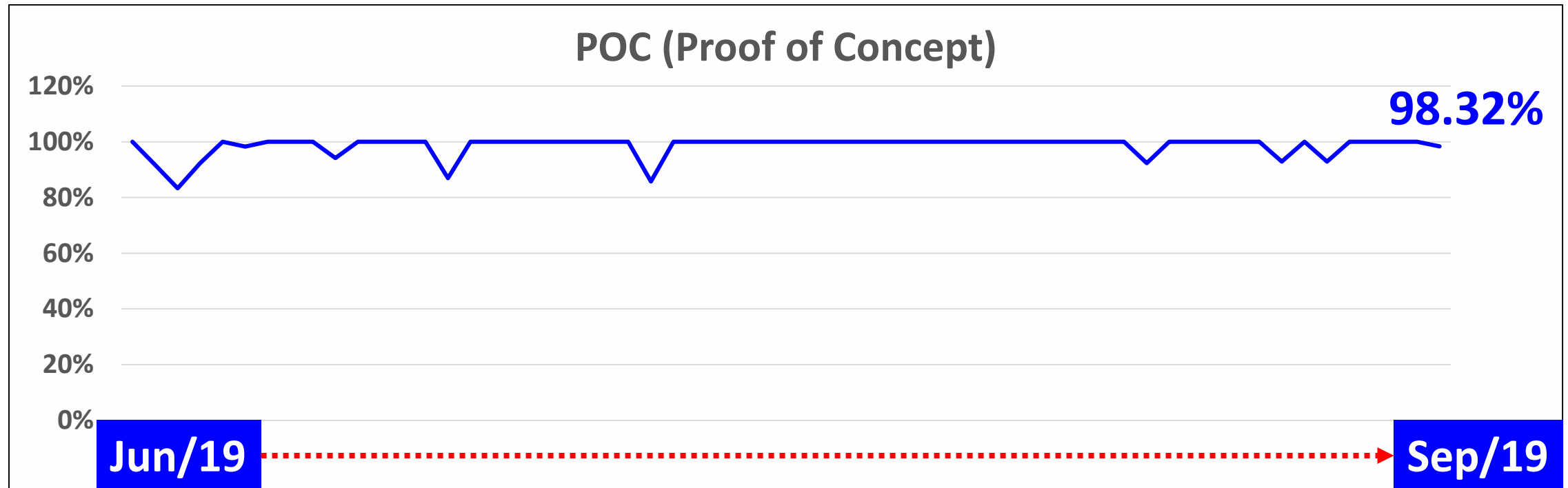
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Environmental conditions of the deployment site

- Several metal barriers;
- Disorganization;
- Lack of control;
- Inadequate infrastructure;

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The time frame from inception to completion

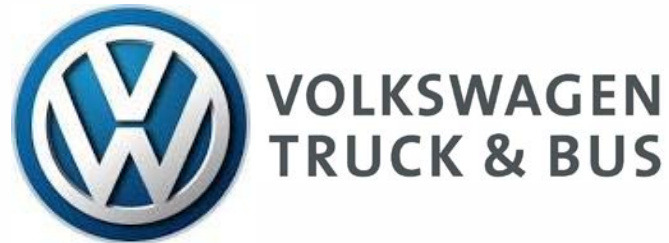


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Others POCs



Concluded



Started


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Results

- Inventory Accuracy to 98%;
- Real-time inventory;
- Greater accuracy of information and control (physical x system);
- Optimization of assets increasing their availability;
- Cost reduction in asset management.

THANK YOU

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