



Identification and Location Solutions

Industry and Logistics

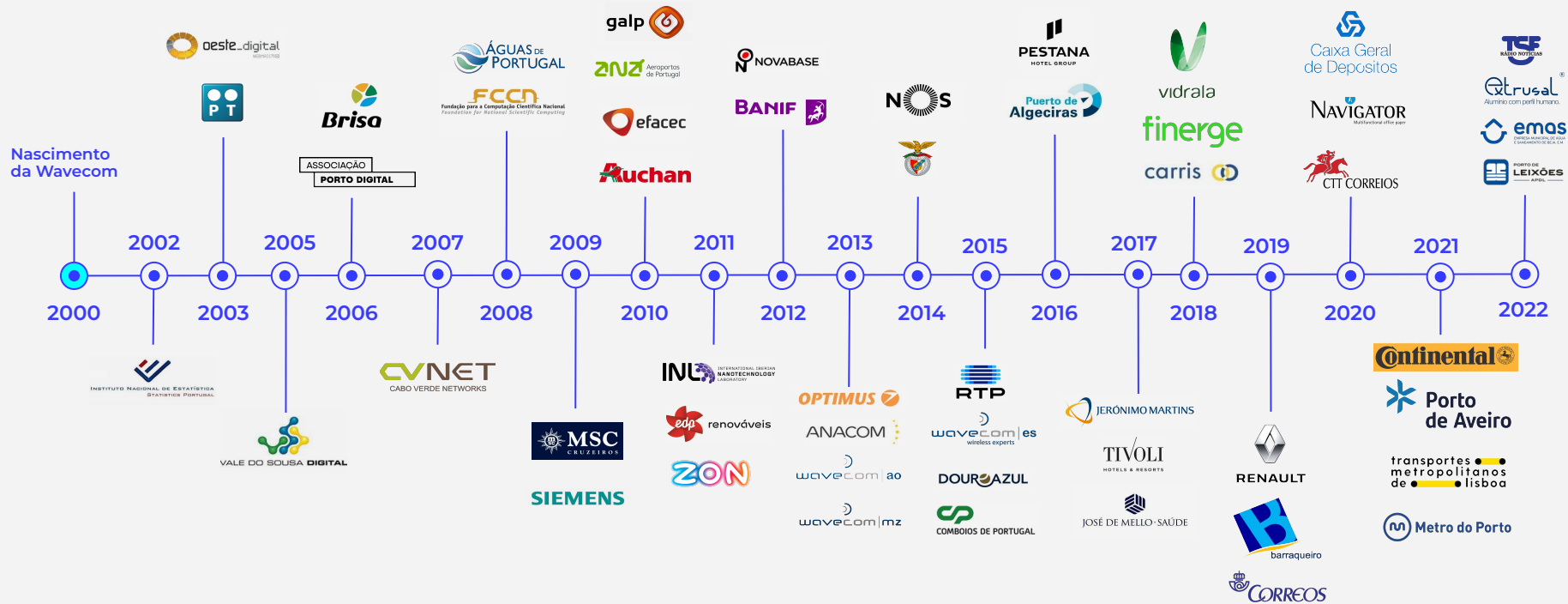


We are a communications engineering company that focuses on **innovation** and the creation of its own, differentiating solutions.

We were born in 2000, and we gained market recognition as wireless technology specialists.

Now, we have offices in multiple locations (Portugal, Spain, and Africa), and we are a group with about 100 people who are highly specialised in varied ICT technologies.





Our Services



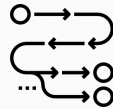
Audits to infrastructures and systems



Specialised ICT consultancy and support to strategic management



Site-survey for the implementation of technological infrastructures



Implementation, integration and commissioning



Design, planning, and elaboration of networks, infrastructures and DC



Certification of networks and solutions



Project **management**



Support, **Maintenance,** and monitoring



Wavecom Global Offer

TURNKEY
PROJECT



Wireless

Wi-Fi, Radio Links, Real-Time Locating System(RTLS)



Networking

Switching, Routing, Structured Cabling Network



IoT

Smart Cities, Connected Smart Bus, LoRaWAN, Smart Building



Security

Firewall, Endpoint, Access Control, NAC



Critical Communications

eLTE, DMR, PMR, TETRA

MANAGED SERVICES



Consultancy and Auditing



Specialised Engineering Services



Support and Maintenance

A high-angle photograph of a warehouse worker in a blue long-sleeved shirt and white shorts, holding an orange hard hat. The worker is pushing a yellow pallet jack loaded with cardboard boxes. The background shows rows of stacked cardboard boxes in a warehouse setting.

Use Cases - Industry and Logistics

Digitalization

The Challenge

Difficulties in current identification and digitization processes

Time spent on manual chipping

Problems with automatic barcode readings

Manual processing of product/batch information



Digitalization



Solution

Disposable or reusable tags placed on WIP and readers at key points

Automate decisions dependent on correct identification at these points

Eliminate human errors

Move workers to value-added tasks

Automatic Inventory

The Challenge

Equipment and tool inventory issues

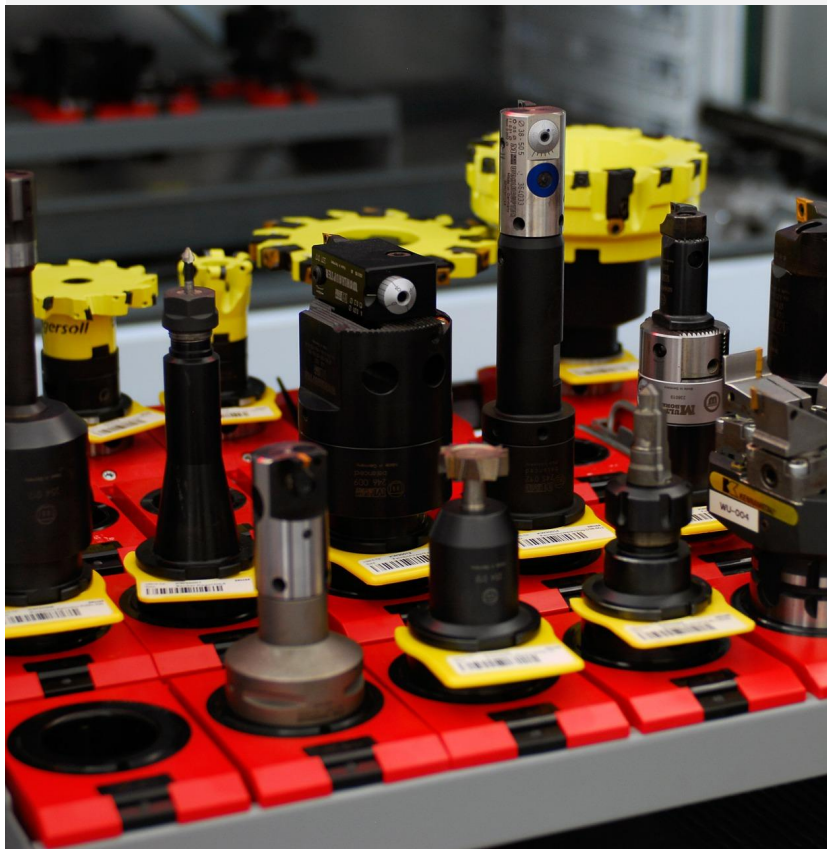
Time spent looking for equipment/tools

Lack of information about its use

Stock losses and unnecessary purchases



Automatic Inventory



Solution

Tags with location placed on equipment/tools

Always up-to-date geolocated inventory of tools

Eliminate time and effort spent on inventory processes

Information on the use of equipment in order to avoid unnecessary purchases

eKanban

The Challenge

Inefficiencies in Kanban processes

People allocated specifically to tasks related to Kanban cards (waterspiders)

Delays in the pull process lead to higher safety stocks and higher buffer capacity

Lack of real-time visibility into processes and movements



	Push	Pull Kanban	Pull Kanban Digital
Metodologia	Just-in-case	Just-in-time	Just-in-real-time
Inventário	Ineficiente	Otimizado	Ajustado
Tempo de entrega	Longo	Médio	Curto
Desperdício	Alto	Baixo	Eliminado
Confiabilidade dos dados	Média	Propenso a erros	Alta
Visibilidade	Limitada	Limitada	Tempo-real
Transferência de info	Difícil	Moderada	Suave
Custos de operação	Baixos	Altos	Baixos
Melhoria contínua (Kaizen)	Possível	Adequado	<i>by design</i>

Solution

Location tags placed on shipping containers or crates to automate Kanban moves

Remove information delay to decrease buffer size and amount of stock

Eliminate human error - wrong printing or lost cards

Provide visibility on processes and movements in real time and centrally

The Challenge

Make to Order (MTO) production complexity

High lead time, resulting from the search for WIP and/or components needed for production

Difficulty in order management due to lack of visibility of production stages and/or unprofitable tasks





Solution

Replacement of paper orders with reusable tags with location

Eliminate downtime and lost time looking for components, reducing lead time

Give visibility over processes and production stages, gaining the ability to act on production delays and better plan

Ensure faster and more transparent audit processes

Verificação de Expedição

The Challenge

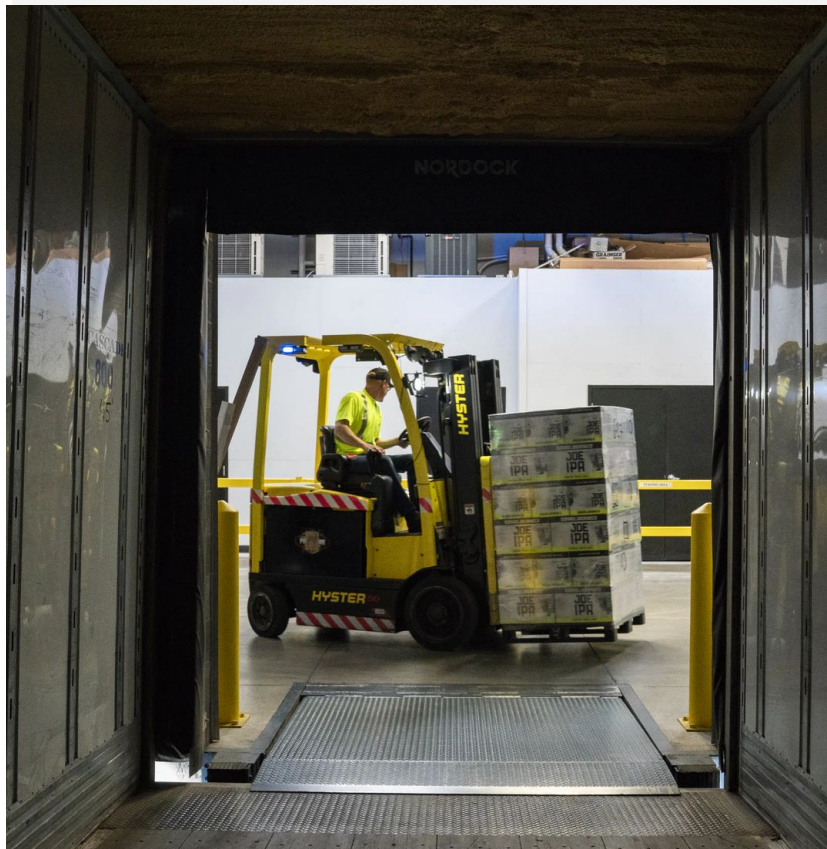
Manual Dispatch Verification

Time spent on manual picking tasks

Human errors that can lead to missing or wrong products



Shipment Verification



Solution

Disposable RFID tags placed on pallets and reading gantry at loading docks with alert systems

Automatic, real-time verification of shipping lists by identifying the pallet that was loaded

Real-time alerts when detecting the load of a pallet that does not belong to the dispatch list

Hygiene and Safety

The Challenge

Compliance in HST processes

Ensure evacuation of all employees

Prevent employees from entering danger zones or staying there too long

(Covid-19) Minimize crowding situations and track contacts



Hygiene and Safety



Solution

Collaborators with location tags

Automatically ensure the presence of all employees at the evacuation meeting point

Define danger zones to notify employees or create mechanisms that stop the danger, preventing accidents

(Covid-19) Identify and signal areas with too many employees or employees who are too close, in order to change movements or processes

(Covid-19) Tracking of the history of people and areas contacted by an infected employee

Forklift Routes

The Challenge

Inefficiencies in forklift operations

Time spent on long journeys due to layout problems in the warehouse

Unidentified congestion zones

Excessive waiting times



Forklift Routes



Solution

Location tags placed on forklift trucks allowing movement analysis

Identification of overly long routes (spaghetti maps) and congestion zones (heat maps)

Identification of stop times and the locations of these stops

Possibility of optimizing the size of the forklift fleet



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NP 4457:2007, ISO 9001, ISO 14001 e ISO 45001:2018

