Mobile robotics on tarmac

OROK

Airport Robotics

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OUR COMPANY

Some key information about us

- Project started mid-2017
- Accelerated by Polytechnique (Palaiseau) until October 2018
- Company officialy created in May 2018
- Located in France, Isère, Bourgoin-Jallieu in a 136m² workshop
- 5 people
- Laureate of the 7th OOL challenge (Linksium)
- Member of Hardware Club
- Laureate Réseau Entreprendre

We are a complementary team

William Lambert

CTO

Pierrick Boyer

CEO

Build the Product !

Experienced embedded system architect in regulated and secure environments.

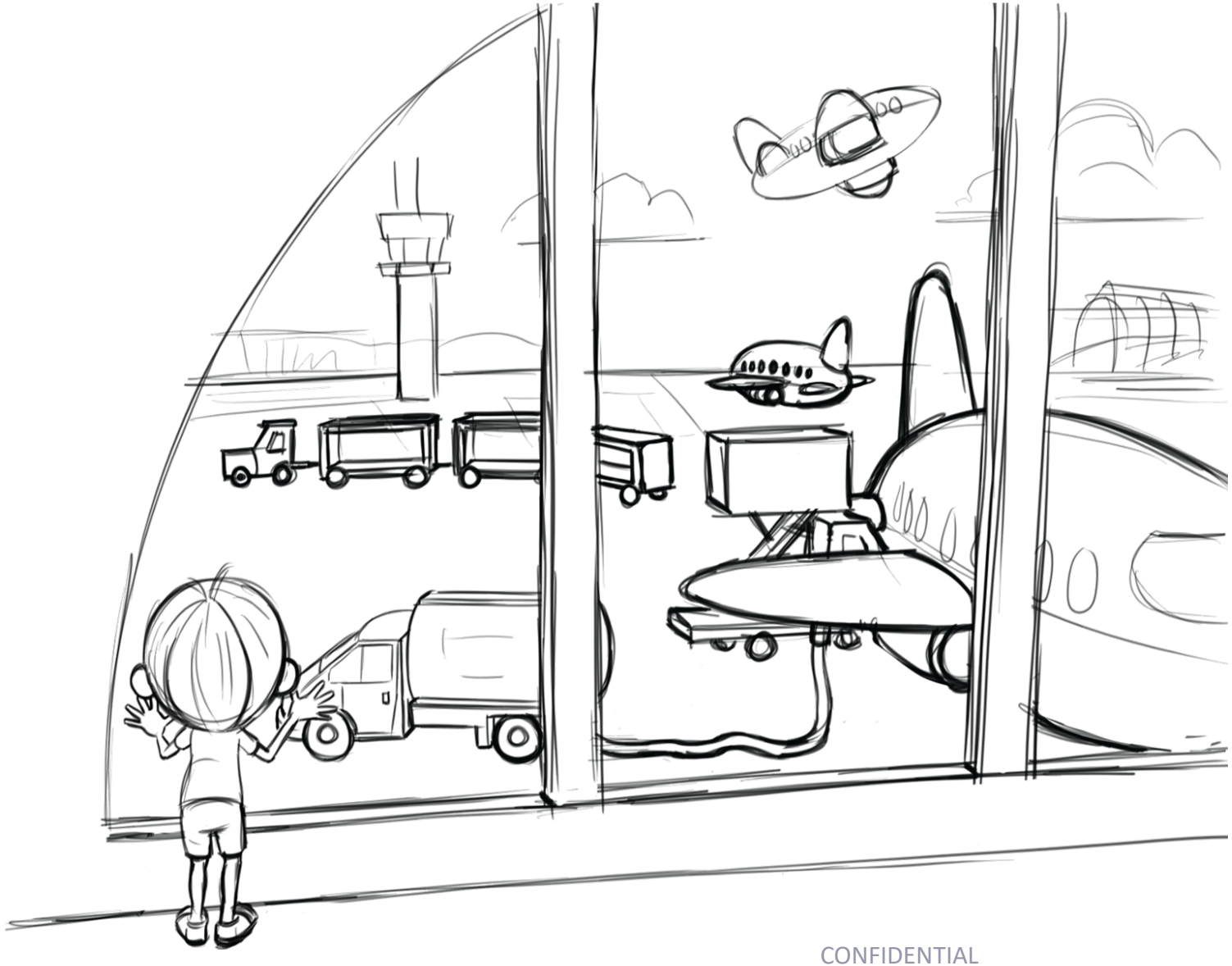
Drive the company !

Experienced project and team manager in international and technical environments.

THEY SUPPORT US


OUR VISION

A good place for automation



27,000 accidents/y

-

243,000 injured/y

-

Accidents costs: 9 B€/y

(source: IATA)

The tarmac at the airport is a dangerous environment for people, where they perform repetitive tasks with low added value.
Our vision: it is a good place for the automation of logistics processes with fleets of autonomous vehicles.

With no changes last decades

50s

Today

The industry faces many issues

Each one of them can become very expensive if badly addressed.

Turnaround duration

A delay costs

200€/min

(source: Air France)

Passenger growth

During 20 years

+4%/y

(sources: XERFI & IATA)

Quality of service

Reprocessing costs

2 bn€/y

(sources: GHI)

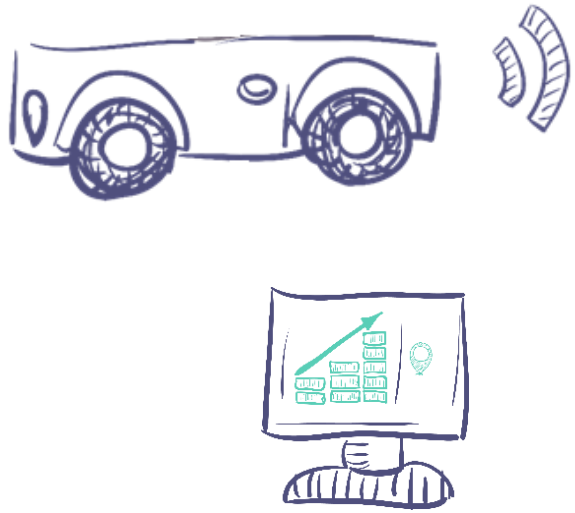
Our answer : robotisation

Manual

Humans make mistakes and need coordination

Automatic

Robots are reliable and are driven by an A.I.



Rid people of repetitive and error-prone tasks

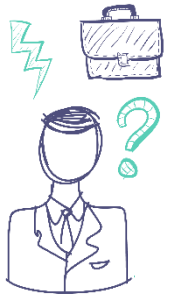
We start with baggage transport

Pain points of ground handlers are :

Competitiveness

Tenders at lowest bidder

Lack of differentiation



Recruitment

30% turnover

competition with the fast growing logistics sector

Accidents

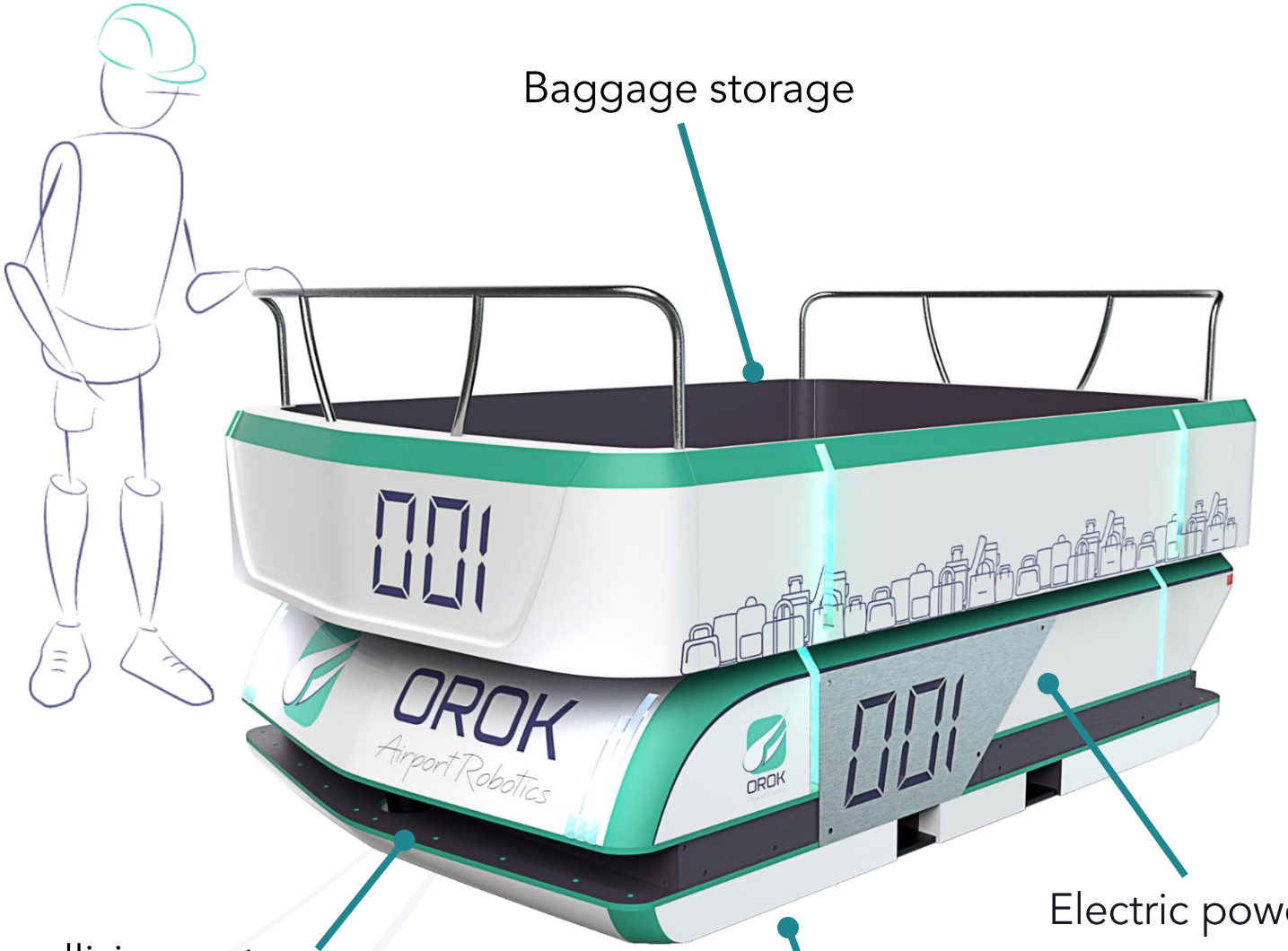
9 bn€/y

(source : GHI & IATA)


OUR BAGGAGE TRANSPORT
AUTOMATION SOLUTION

We provide a complete sytem

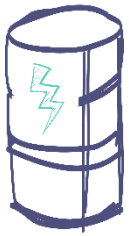
Missions server (AI)



We offer a complete solution including a fleet of robots supervised by a server, distributing the missions thanks to an A.I.

These are omnidirectional robots (parallel parking, short turning radius), able to move autonomously.

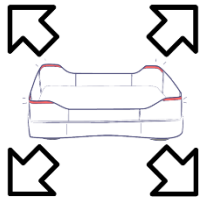
Features and related gains



Electric

Allows different charging mode to fit your environment.

Uses less energy than electric tractor (from 70% to 10% depending on how it is loaded).



Omnidirectional

Can move in any direction: removes steering angles, improves maneuverability.

Gives opportunities to compact infrastructure.

Safety

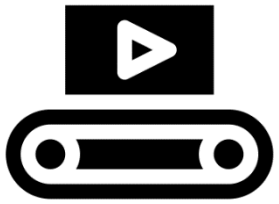
With several sensors, it is able to avoid obstacles.

Reduces accidents and injuries.

The fact that we remove the coupling eradicates completely hitching accidents.

Robots always follow the rules !

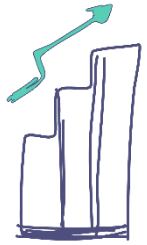
Features and related gains



Modular

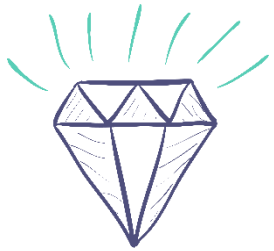
Mobile base is modular, by changing the accessory on the top of the robot it can transport either bulk baggages and containers.

It will be able to evolve later with other use-cases.



Flexible

It is easy to adjust the number of robots to accompany your growth, or let you play with your operational cursors.



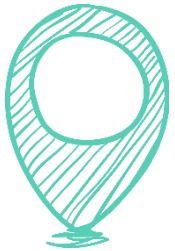
Just in time

The first robot goes as soon as he is loaded, no need to wait for the whole train.

First delivery bag is reduced.

It improves average usage rate of each vehicle, hence reduces the number of vehicles needed on the ground up to 65%.

Features and related gains



Place

Less vehicles, better maneuverability… gives you the possibility to gain place on the tarmac and re-think the way it's organized.

Autonomous vehicles also allow you to put its parking somewhere people don't need to go.

Cost reduction

Reduces up to 50% your operational costs.

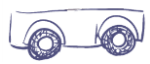
Visibility

The server tracks everything in real time, and is able to restitute data in a comprehensive manner.

Better follows your operations through actionable KPIs, and reduces coordination efforts.

Case Study – Roissy CDG

Today



1200 u.

+

300 u.

Invest.: 80 M€

Savings
35 M€/y

OPEX: 77 M€/y

OROK

500 u.

150 u.

OPEX: 42 M€/y

Payback: <2.5 years

Let's stay in touch

Meet us at

AviationFestival (London, 5-6 September 2019, start-up village)

InterAirport (Munich, 11-14 October 2019, Pavillon France – stand 637)

Follow us on

https://www.linkedin.com/company/orok-aero/

http://orok.aero


READY TO TAKE OFF WITH US ?

What we can do with you right now

Provide a detailed study adapted to your environment. The output will be the gains you can have to automatize, a project plan, and a commercial proposition for a deployment of the solution.

Between 5k€ and 20k€ (depending on the scope)
Delay 2-3 months

An experimentation to try the system before its commercialization. It will allow you to see concretely how it is working, the benefits, and enjoy to be among the first one to use it, it can be an opportunity to communicate on your innovative mindset.
It is also for us a mean to improve the system by collecting precious feedbacks from the ground.

Price and delay will depend on the scope of the experimentation

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Thanks!

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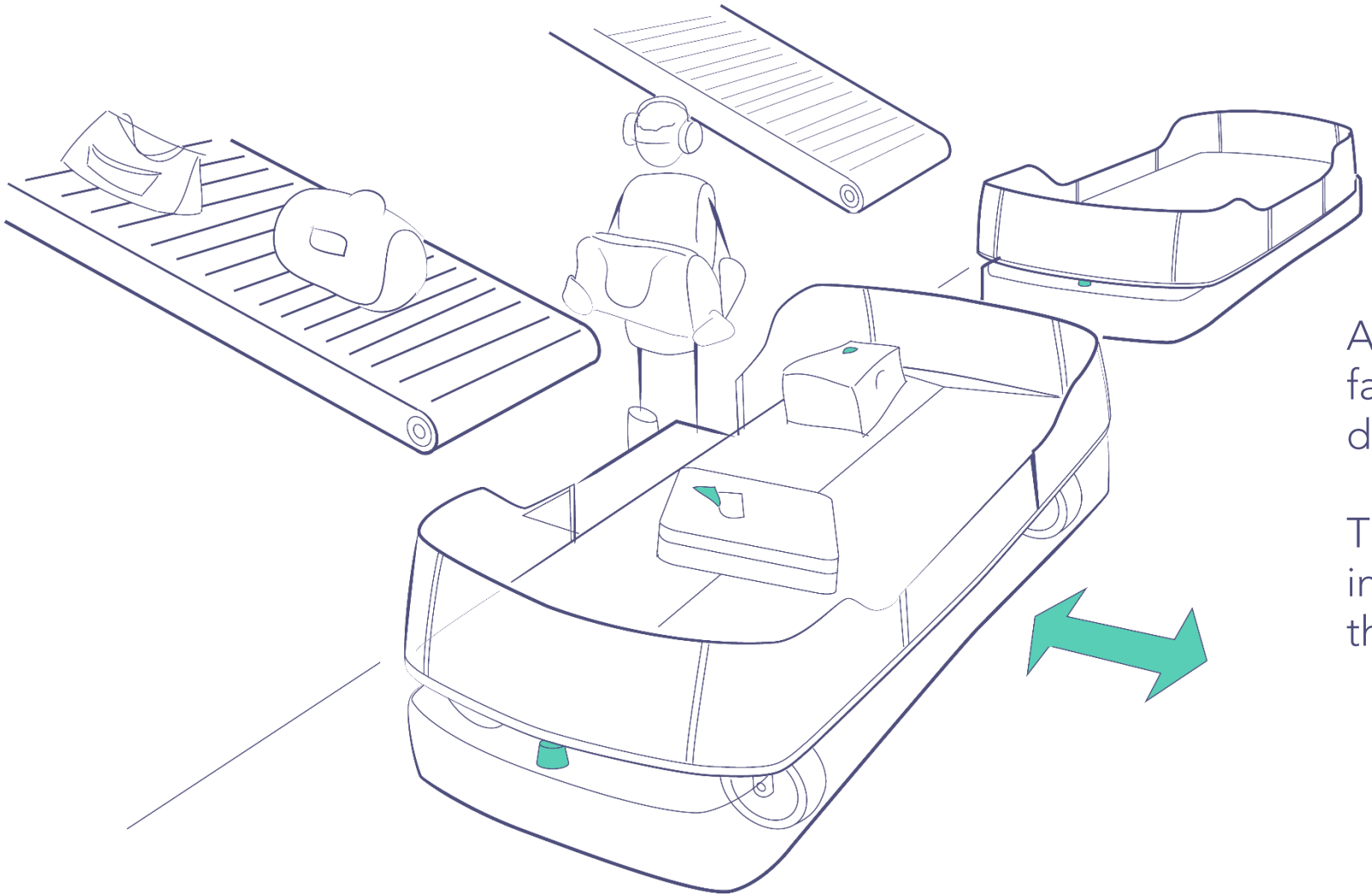
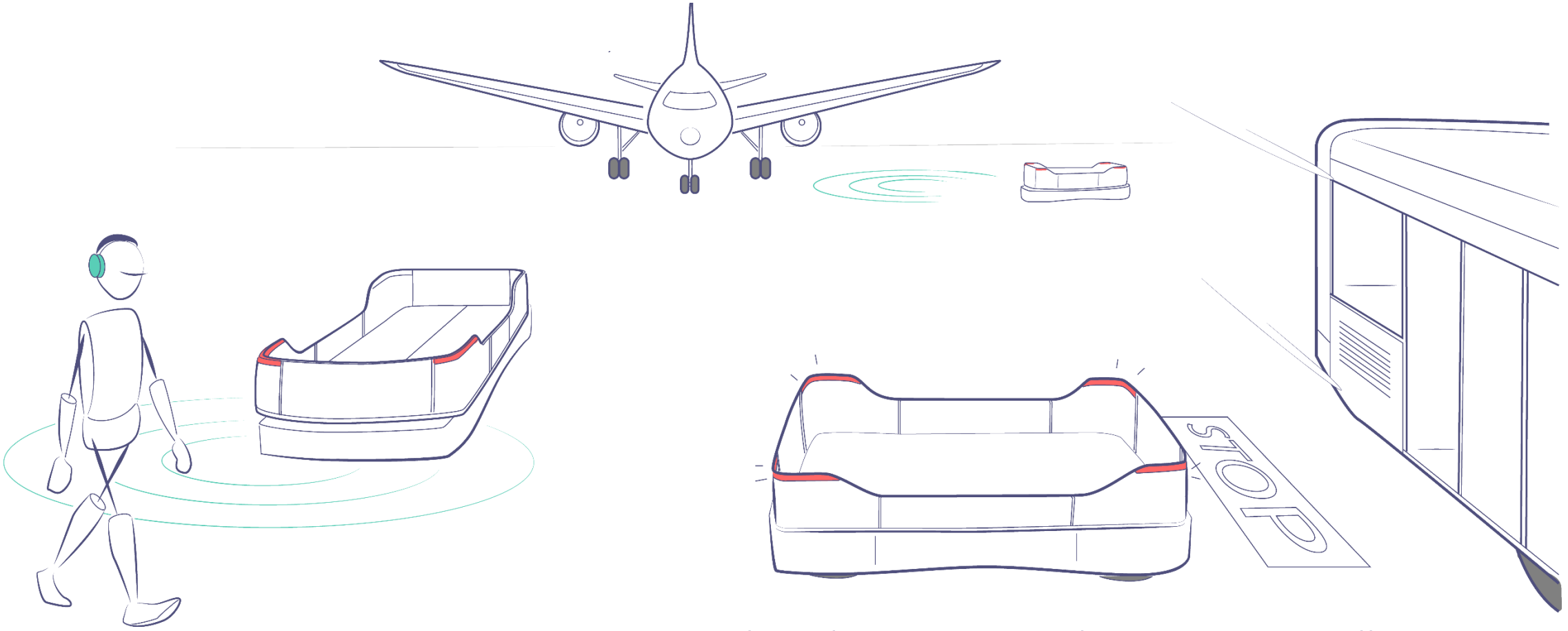
BUILD AREA



Access to the loading docks is facilitated, each robot can arrive or depart independently of others.

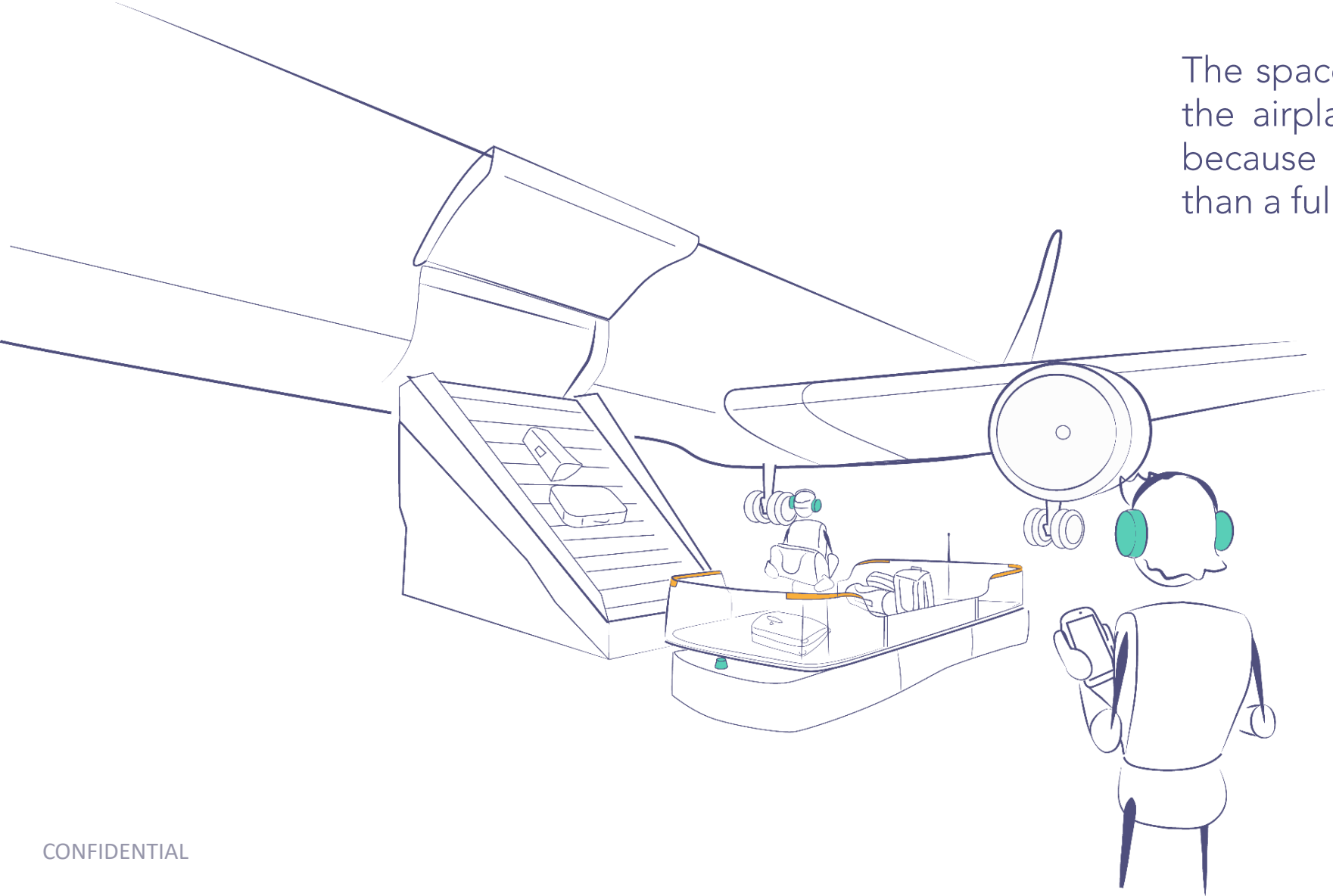
The airport can compact its infrastructure to have more flow on the same space.

SECURED TARMAC



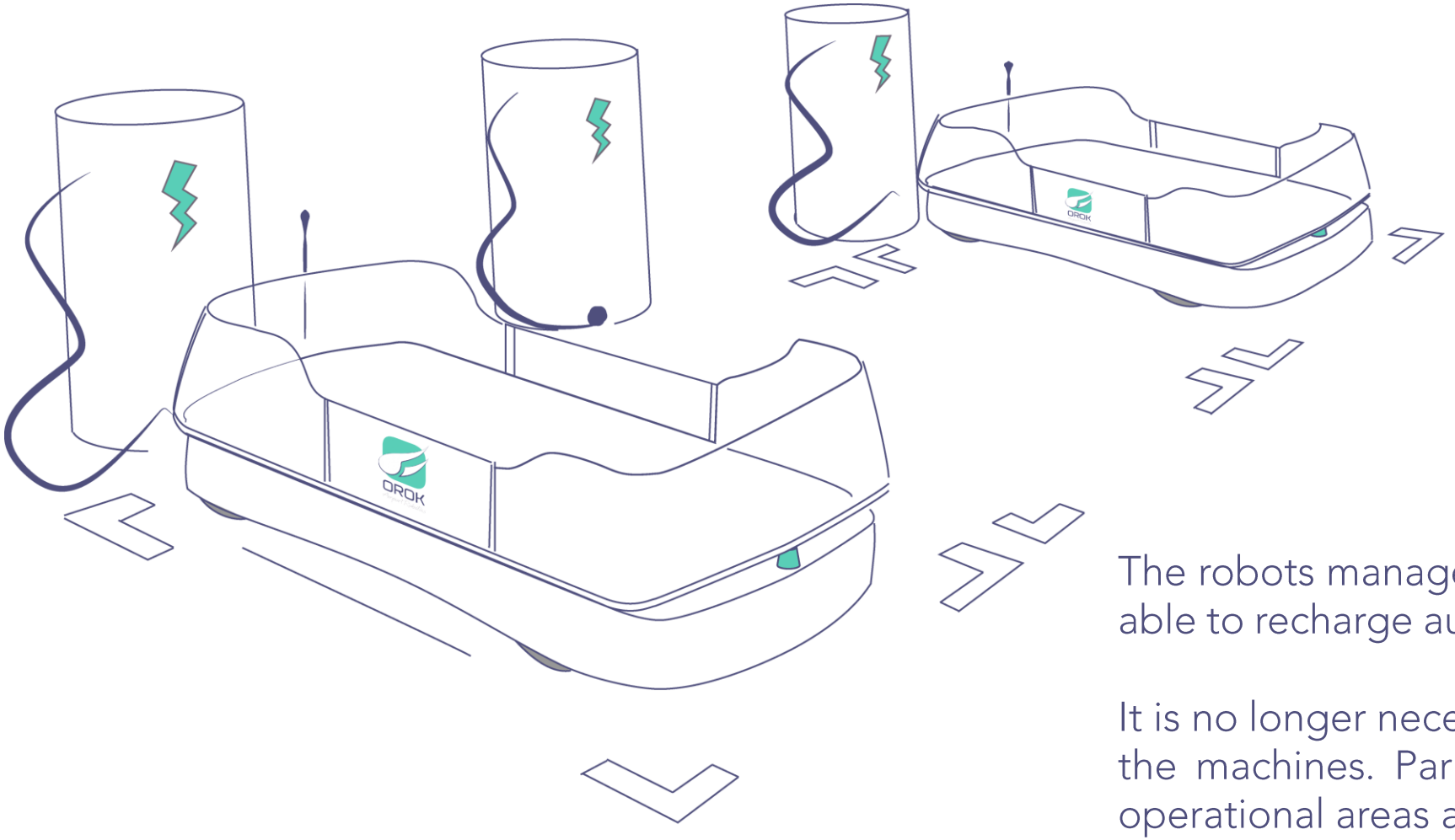
The robot is able to ensure the safety of pedestrians, to fit into the road traffic and to give priority to airplane on the tarmac.

AIRPLANE PARKING



The space occupied by the robots near the airplane baggage hold is reduced because a robot takes up less space than a full train.

ENERGY STATION



The robots manage their energy alone and are able to recharge automatically.

It is no longer necessary to pay a driver to park the machines. Parking can be removed from operational areas already congested.