FLEX CRUISER

Next-Gen
Autonomous Mobile Robot

Industrial-grade quality
100Kg & 250Kg models
3D & IA technology
Fast maintenance
Standards-compliant

Designed & made in France



Overview

The FLEX CRUISER AMR range safely transports payloads up to 250 kg. It increases material-handling throughput and improves productivity and safety in factories and logistics warehouses.

Flex Cruiser is a next-generation AMR :

- Advanced 3D obstacle detection
- Intelligence that adapts to its environment in real time
- Adaptive navigation to ensure performance and continuity
- Designed to work alongside human operators
- Ultra-simple maintenance: key components can be replaced quickly with a simple screwdriver

Smarter, more durable and safer, FLEX CRUISER is reinventing industrial transport with an unrivalled performance/price ratio.



The range

All models are compatible with Flex Cruiser range accessories and software



FC-100-0000

Modular base for advanced integration

For highly automated scenarios with conveyors, lifters, robotic arms or customized solutions.



FC-100-1400

Versatile

Mixed flows with manual loading and unloading. Integrated user interface and adjustable trays.



FC-250

Handling bulky loads and pallets

Real-time payload weighing and the ability to tow trolleys.

Key benefits



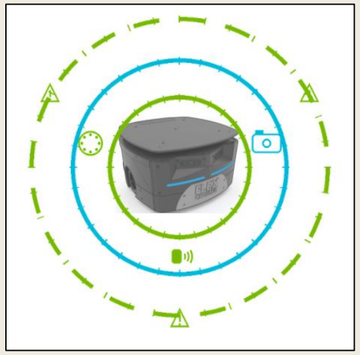
Service availability close to 100%

Fast, easy maintenance. Each key robot component can be replaced by the customer in under 3 minutes.



Quality & service life

Major components come from renowned manufacturers and are recognized as among the most durable on the market.



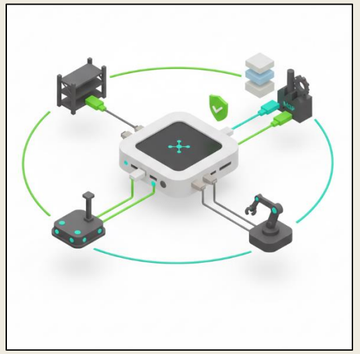
Safety beyond the standards

Triple safety level based on a multi-sensor system and 3 detection stages



Autonomous and accurate

Autonomous navigation with 3D obstacle avoidance. Positioning accuracy < 1 cm on elements of the venue.



Powerful fleet manager

Manage a heterogeneous fleet of robots and connect to existing management tools



Outstanding ROI

At a disruptive price, Flex Cruiser offers an unrivalled performance/price ratio with an ROI < 24 months.

Advanced capabilities

Precision, agility and intelligence

Centimetre-level alignment accuracy
Perfect positioning and alignment to fixed points (stations, racks, machines) thanks to onboard vision.

Agile navigation
AI navigation for smooth travel through narrow and confined spaces. Handles highly dynamic environments with multiple pick-up and drop-off points.

Smart traffic management
Real-time coordination between multiple AMRs for collision-free crossings and routes optimizing delivery times.

Plug & Play: fast and easy deployment
Tablet with intuitive software for installation in any environment.

Standalone operation capability
Zero external infrastructure, no network or cloud.



Industry ready

Automatic charging
Docking / charging station

Removable battery
For 24/7 operation.
By Batteries-Prod (France)

Teleoperation
2.4 GHz, long range & joystick

Safety scanning laser
Long range (40m)
By SICK (Germany)



Full API
Easy workflow integration

Robust, high-grip drive wheels
Rubber tread

User panel
Access to electronic connections

Brushless drive
By NANOTEC (Germany)

3D cameras
3D obstacle detection
By Intel (USA)

Antistatic wheels (ESD)
Transport of items sensitive to static electricity.
By Blickle (Germany)

Shock absorbers on all 6 wheels
For carrying fragile item

Front LEDs
Indicate AMR status

Modular

Many accessories and modules allow FLEX-CRUISER to be perfectly adapted to the application

- Lifters to lift trolleys
- Roller conveyors for loading / unloading
- Robotic arm
- Automatic hitching to tow trolleys
- External charger
- Removable battery for 24/7 operation
- Automatic charging station
- Control tablet (installation / settings)
- Additional trays (FC-1400)
- Radio teleoperation / joystick
- Non-safety lidar for human-free areas
- External element alignment modules
- AI-specific modules
- Fleet Manager modules (workflow interaction)
- Customization on request of the Fleet Manager



Secure version

For sensitive, critical or strategic applications

The AS version of our AMRs is characterized by no dependency on foreign entities, no possibility of remote takeover, and full European control over operation, updates and data.

14 security options can be enabled depending on the criticality of the application. Examples include :

- Anti-tampering transport system
- Total isolation
- Resilience & continuity in crisis situations,
- Post-quantum encryption & protection
- Guaranteed non-exposure during updates



Safety & Standards

For personnel safety, FLEX CRUISER
meets the latest safety standards

FLEX CRUISER
ISO EN 12100:2010, ISO EN 13849-1 :2023, ISO 3691-4:2023, EN 60204-1:2018, IEC 61496-1:2020

SICK SAFETY LIDAR (FUNCTIONAL SAFETY)
ISO EN 13849-1:2015, ISO EN 13855:2010, DIN CLC/TS 62046:2009, CEI TS 62998-1:2019, ANSI/ITSDF B 56.5:2012
Performance Level PLd

CHARGING STATION & CHARGER
ISO EN 12100, CE marking, FCC compliant, RoHS directive

BATTERY
IEC 62619:2022, GB 31241-2014,
CE marking, FCC compliant, RoHS directive
Transport approvals : UN38.3, MSDS

Fleet Manager

FLEX CRUISER can operate as a robot fleet with centralized management.

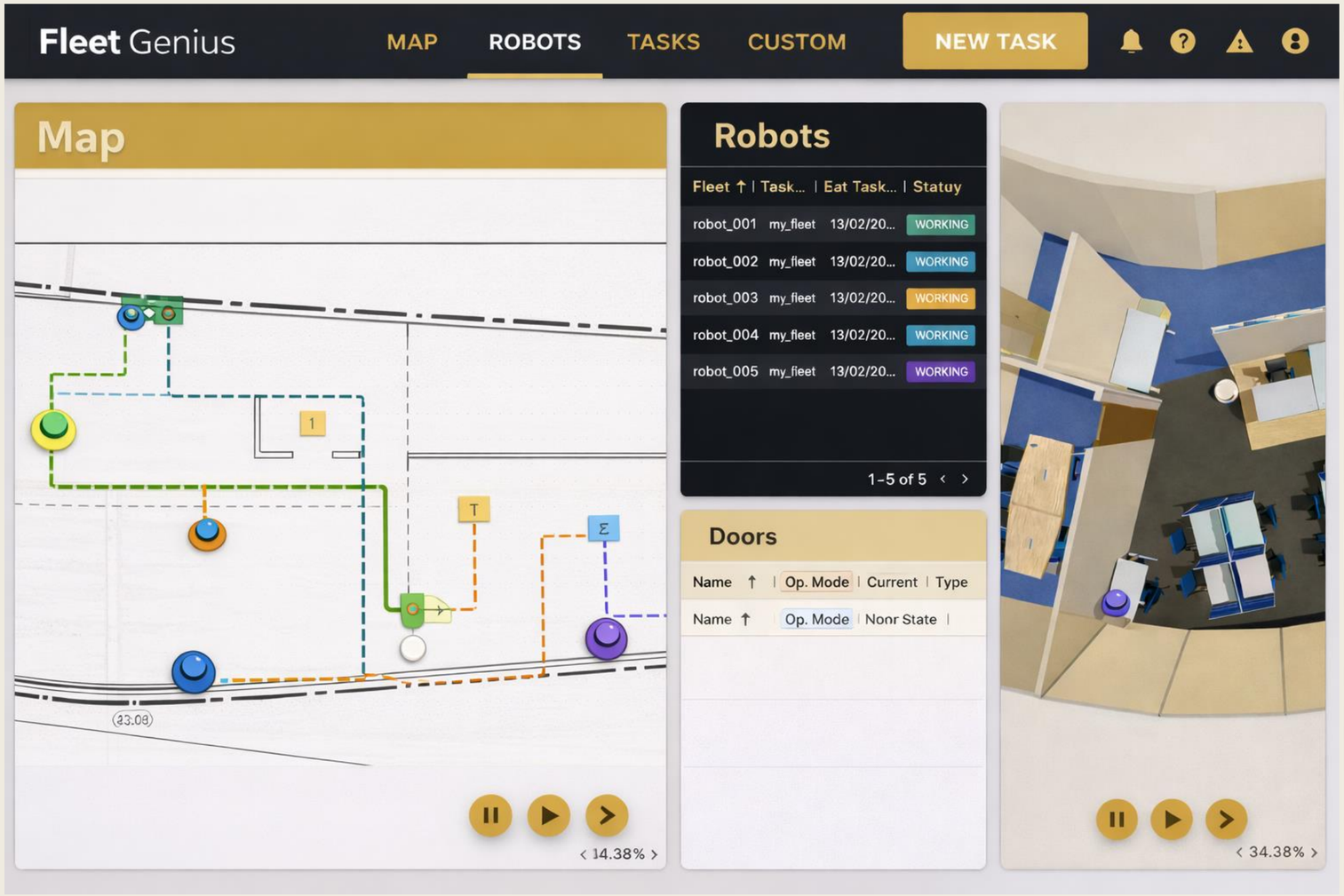
Our **FleetGenius©** fleet management software enables fine-grained control of a heterogeneous fleet of mobile robots.

Key functions

Optimized preferred routes, traffic control, bottleneck management, collision prevention, automatic task dispatching, interoperability with doors, lifts, work cells, etc.

Fleet genius

AI ROBOT NETWORK MANAGER



Origins

AN INNOVATION BY IPSUM TEK

FLEX CRUISER is built on VECTURA.I , a modular architecture of interoperable hardware, software & AI building blocks.

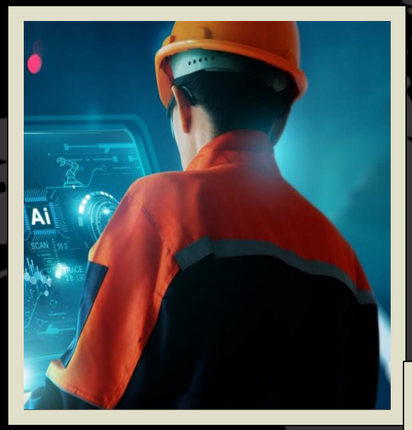
An architecture that ensures innovation, scalability, modularity and technological continuity.

FLEX CRUISER means :

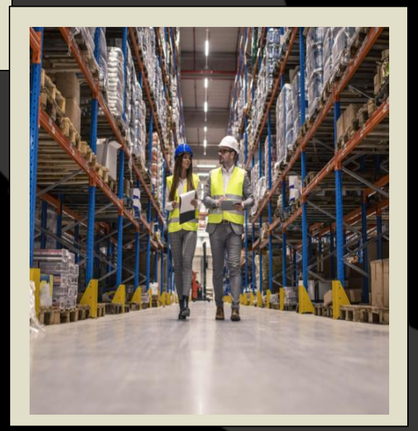
- 50,000 hours of R&D
- 100+ configuration variants
- A mobile base deployed in 80+ units

Application areas

With unrivalled versatility, FLEX CRUISER adapts to many sectors and environments..



Industries, factories



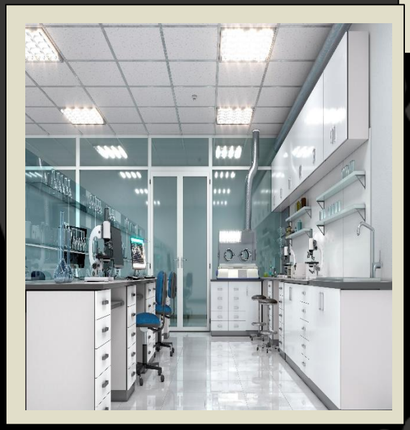
Logistics, warehouses & 3PL



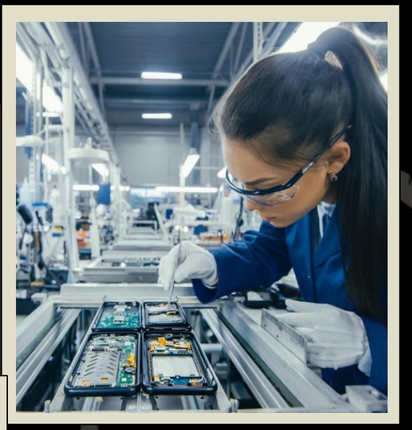
Cleanrooms



Sensitive or strategic production



Laboratories, education, R&D



Electronics industries

Summary specifications

FC-100

- Width 560 mm, length 570 mm
- Overall height above floor:
  - FC-100-0000: 310 mm
  - FC-100-1400: 1450 mm
- Max payload: 100 kg
- 6-wheel chassis with differential drive
- Max payload on upper tray: 20 kg (FC-100-1400)
- Brushless motors, long MTBF, 24 V / 80 W
- Maximum speeds: 1 m/s and 180°/s
- Max slope (at 0.3 m/s² and full load): 3°
- Removable LiFePO4 battery 24 V / 800 Wh
- Typical autonomy: 12 h

FC-250

- Width 682 mm, length 930 mm
- Overall height above floor: 315 mm
- Dimensions with pallet handler installed: 850 × 1250 mm
- Max payload: 250 kg
- 6-wheel bogie chassis with differential drive
- Brushless motors, long MTBF, 24 V / 120 W
- Maximum speeds: 1 m/s and 180°/s
- Max slope (at 0.2 m/s² and full load): 3°
- Removable LiFePO4 battery 24 V / 800 Wh
- Pallet handler weighing capacity: 5 kg to 250 kg (5 kg resol.)
- Typical autonomy: 8 h

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