

What is a *Robot Fleet Management* System?

Do you need it for your business?

Ricardo Tellez, CEO of The Construct



The
Construct



Photo courtesy of CNN

Changi General Hospital deploys 50 staff robots



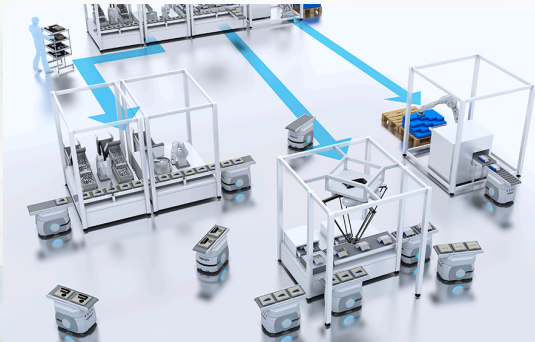
Tasks done by those robots:

- Delivery of food
- Delivery of drugs
- Cleaning
- Transportation of materials
- and others...



The Problem:

How to orchestrate the robots to deliver all the tasks?



To prevent

- Robots downtime
- Robots interlocks
- Taking too much time to serve a task

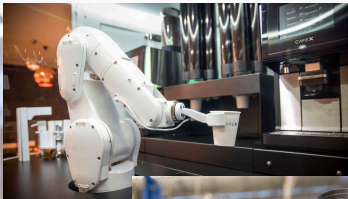
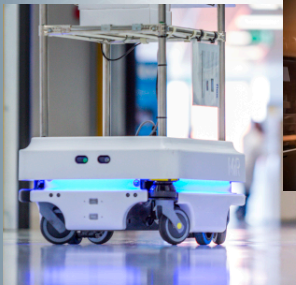


It needs to be decided

- Which robots serves which task
- Which path must follow each robot
- Which doors/elevators to control
- Which robots go to charge



Taking into account different types of robots



Taking into account different manufacturers



Taking into account different machines the robots need to interact with



Introducing Fleet Management Software

- Connects to each robot and knows its status
- Decides which robot will serve what
- Decides optimal route to avoid collision between robots
- Decides which robot must go to charge
- Decides which elements to activate and when (doors, elevators, PLCs, conveyor belts...)



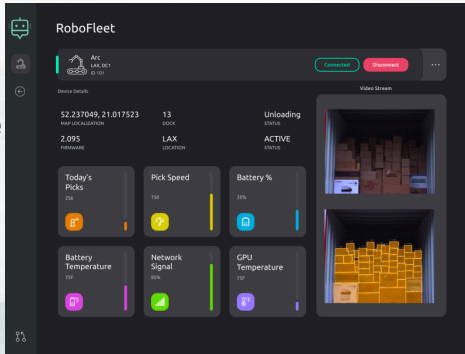
We must differentiate between

- Fleet monitoring system
- Fleet management system



Fleet Monitoring Systems

- Provide current status of the fleet and allow remote control



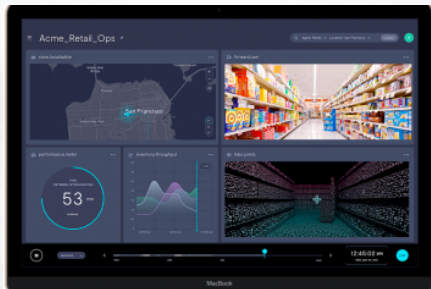
Fleet Management Systems

- Actual orchestration of the robots under changing conditions



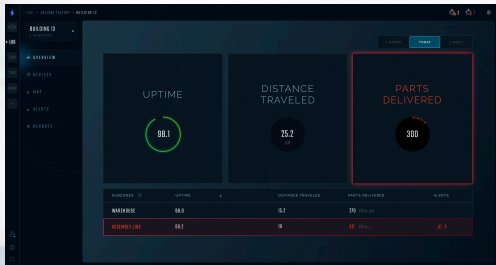
Fleet Monitoring Systems

- Formant



Fleet Monitoring Systems

- Freedom Robotics



Fleet Monitoring Systems

- Braincorp

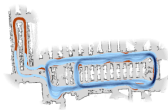
Activity

Cleaning

Assists

Wed, Jan 27

1 Run



ROUTE 2B

Tennant T7 Scrubber 1

10:35 PM

1h 20m

11:07 PM

7,584 ft²

2

Sun, Jan 24

3 Runs



Home



Activity



Machines

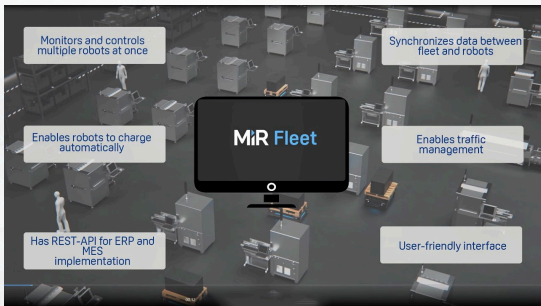


Profile



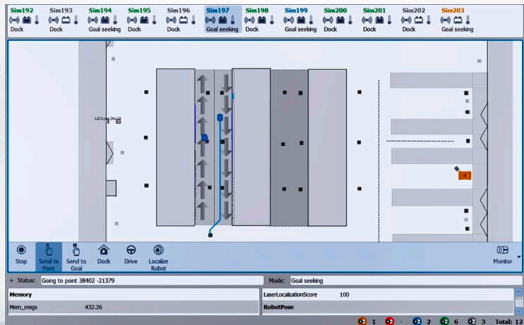
Fleet Management Systems For Specific Robots

- MIR Fleet



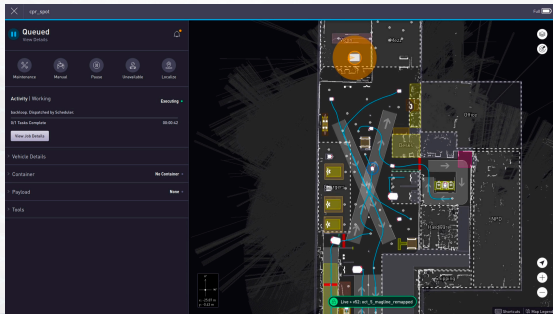
Fleet Management Systems For Specific Robots

- OMRON Fleet



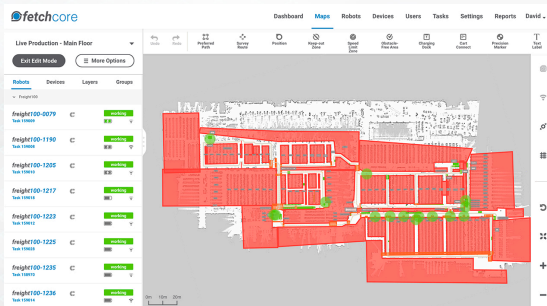
Fleet Management Systems For Specific Robots

- Otto Fleet Manager



Fleet Management Systems For Specific Robots

- FetchCore Software



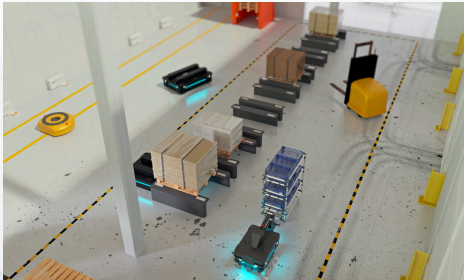
Fleet Management Systems Standards

- MassRobotics, standard for AMRs interoperability



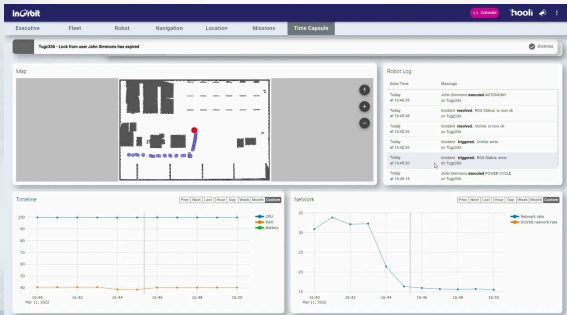
Fleet Management Systems Standards

- VDA 500:
standardised
interface for
AGV comms.



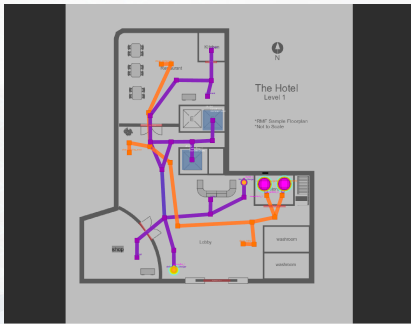
Fleet Management Systems For General Robots

- InOrbit



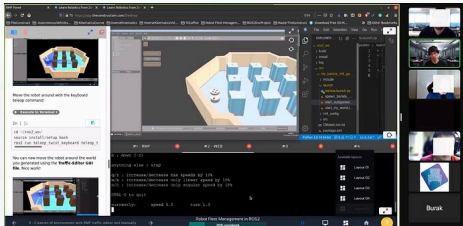
Fleet Management Systems For General Robots

- Open-RMF



Learn Open-RMF in a 3 days intensive online training

- How RMF works
- How to adapt RMF to your project:
 - Warehouses
 - Restaurants
 - Hospitals
 - ...

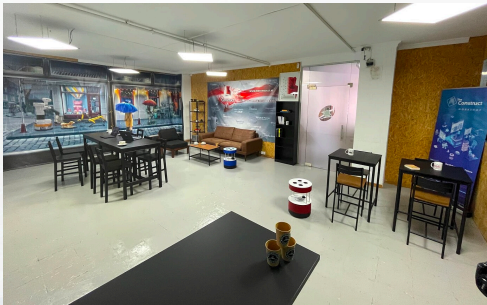


theconstructsim.com/robot-fleet-management-ros2-open-rmf-training/

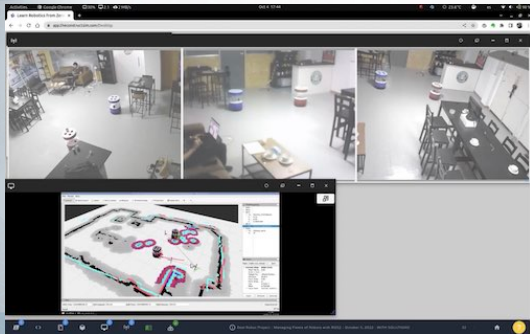


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