



Robotique
Mobile

OMRON

Introduction



Today's Factory Challenges



Besoins?

Amélioration continue?

Meilleure utilisation et efficacité
Meilleure performance des autres équipements.

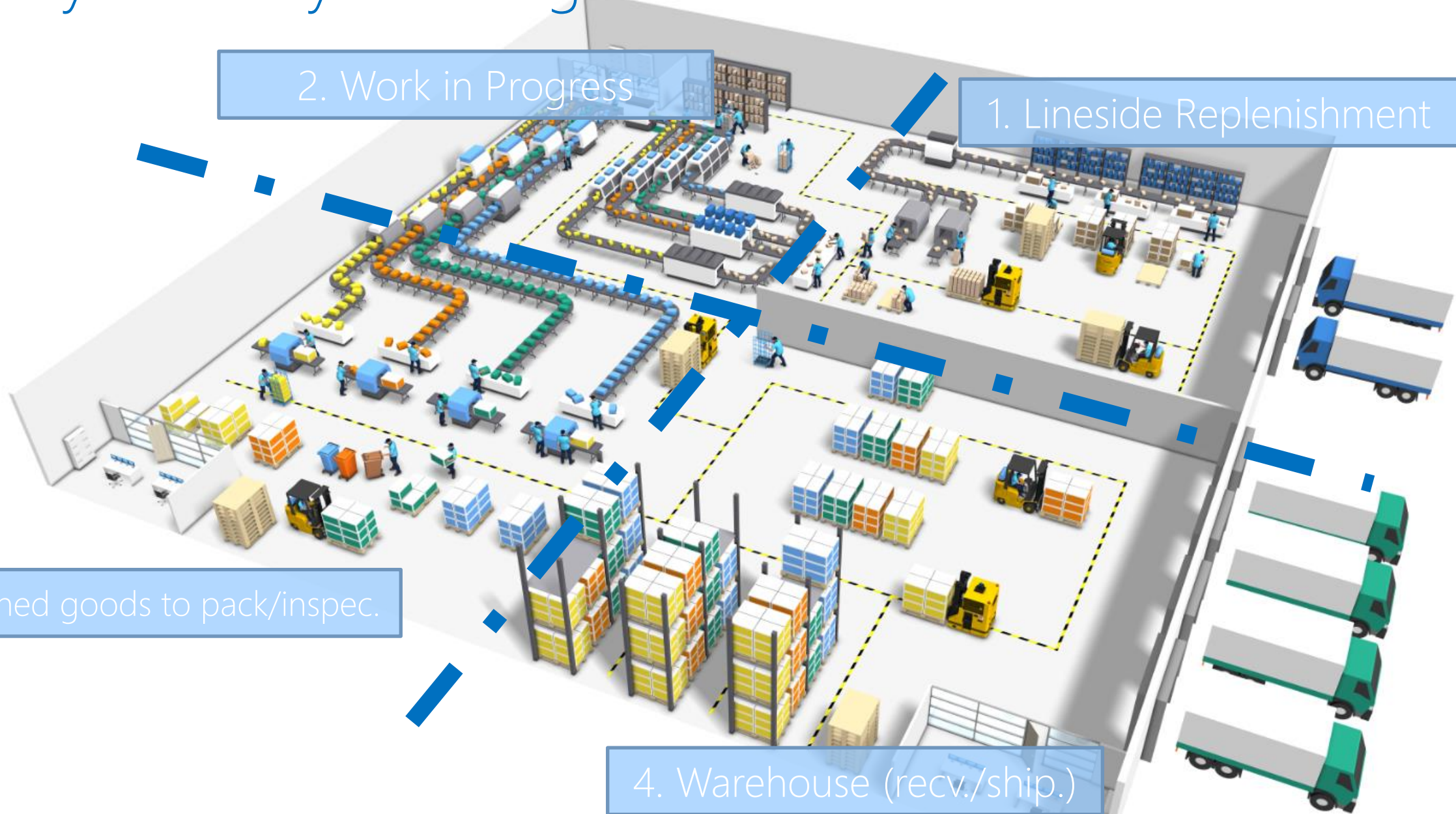
Zéro temps d'arrêt ?

Planification de la maintenance
Information immédiate

Accélération de l'activité ?

Fournir des outils et des fonctionnalités.

Today's Factory Challenges



2. Work in Progress

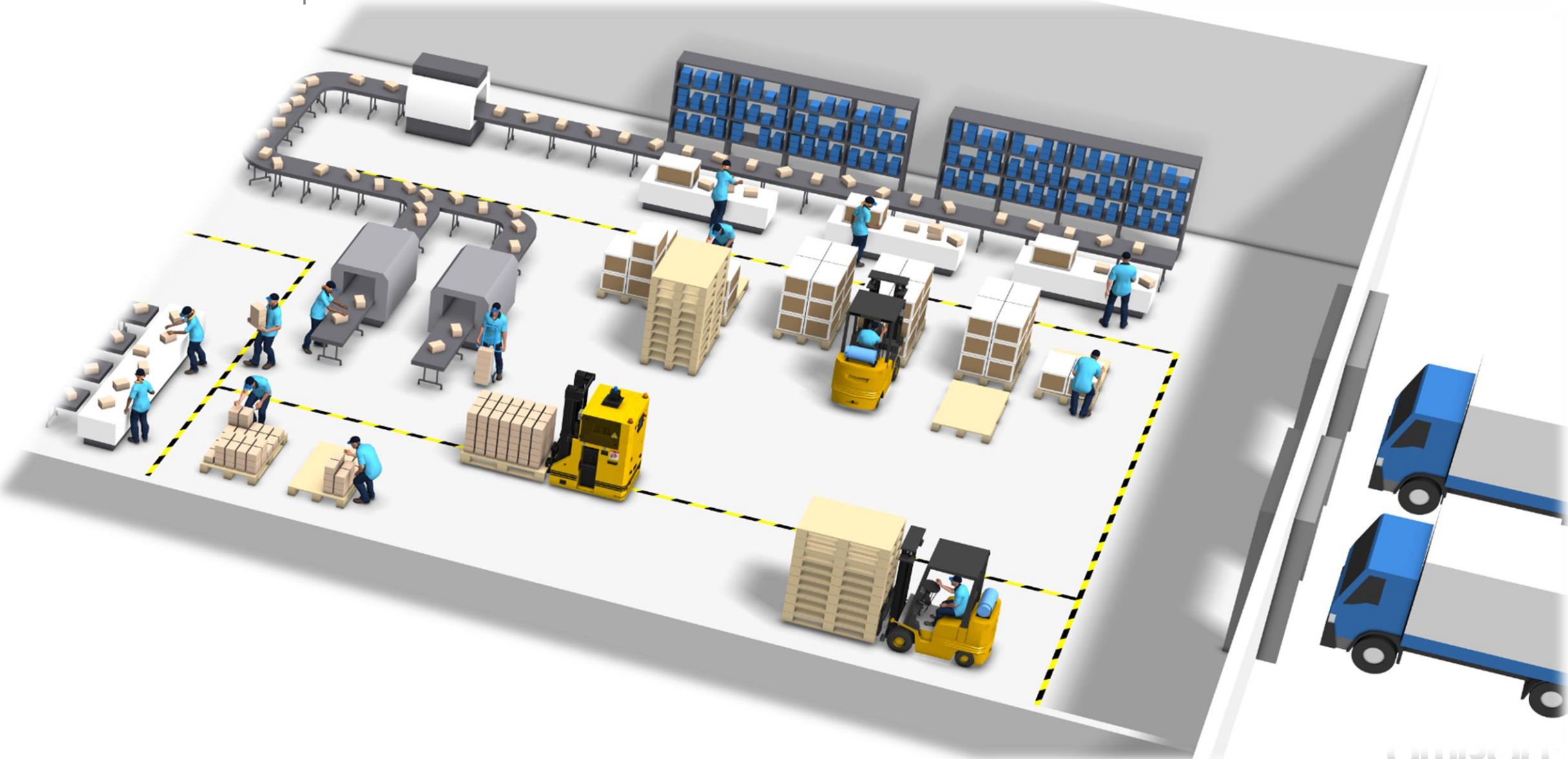
1. Lineside Replenishment

3. Finished goods to pack/inspec.

4. Warehouse (recv./ship.)

Customer's challenges

Lineside Replenishment



Customer's challenges

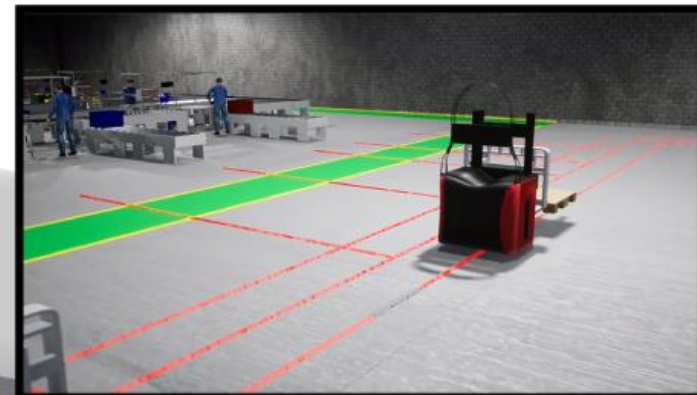
Lineside Replenishment



encombrement



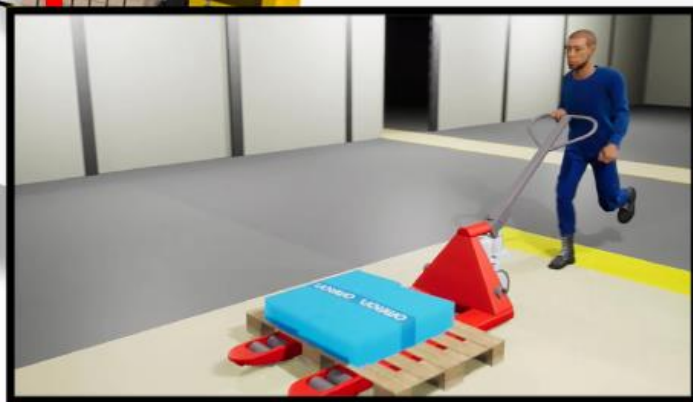
Les erreurs de livraisons



Navigation peu flexible



Navigation peu flexible



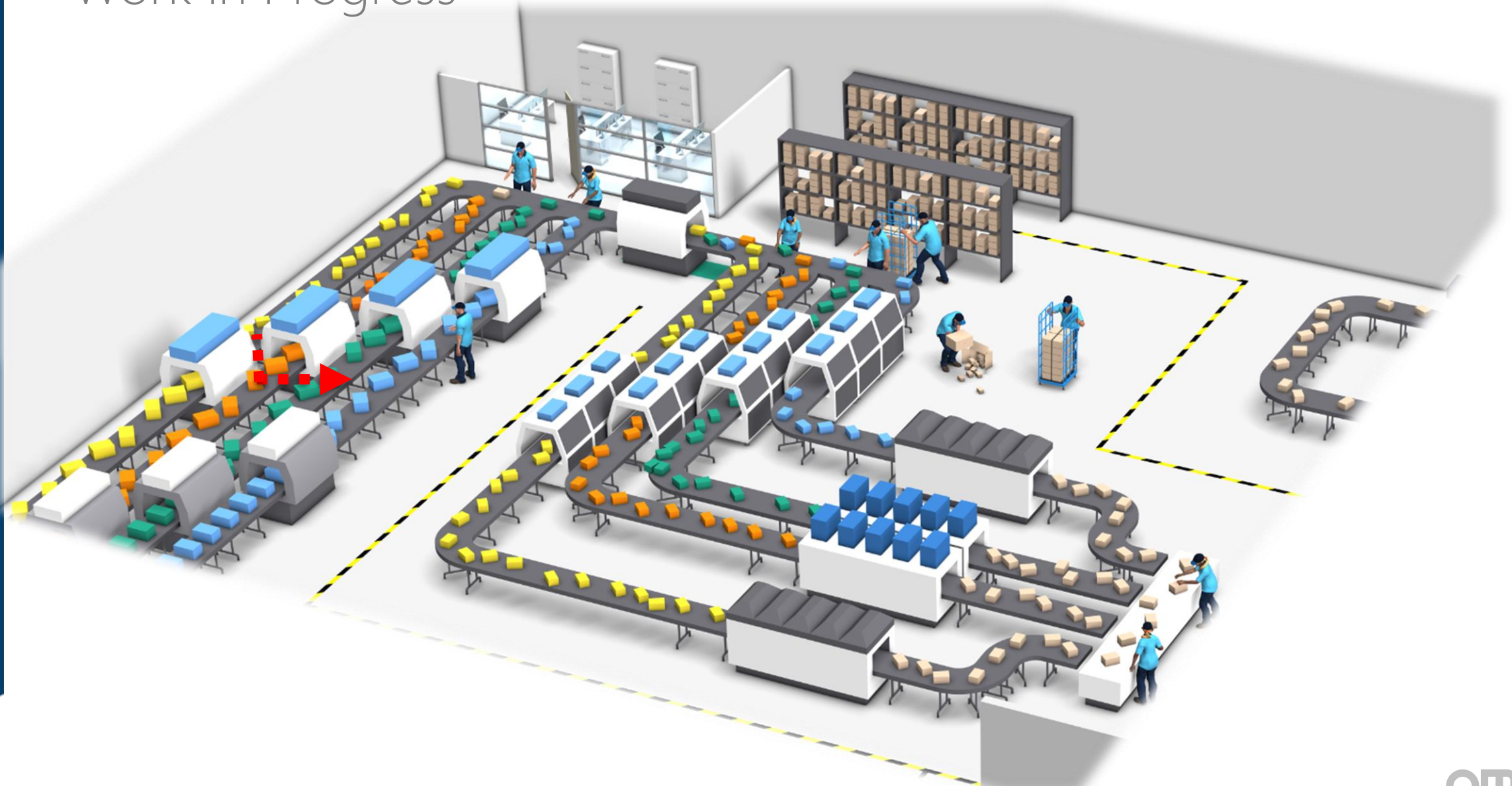
tâches répétitives



Accidents potentiels

Customer's challenges

Work in Progress



Customer's challenge

Work in Progress



Place des convoyeurs



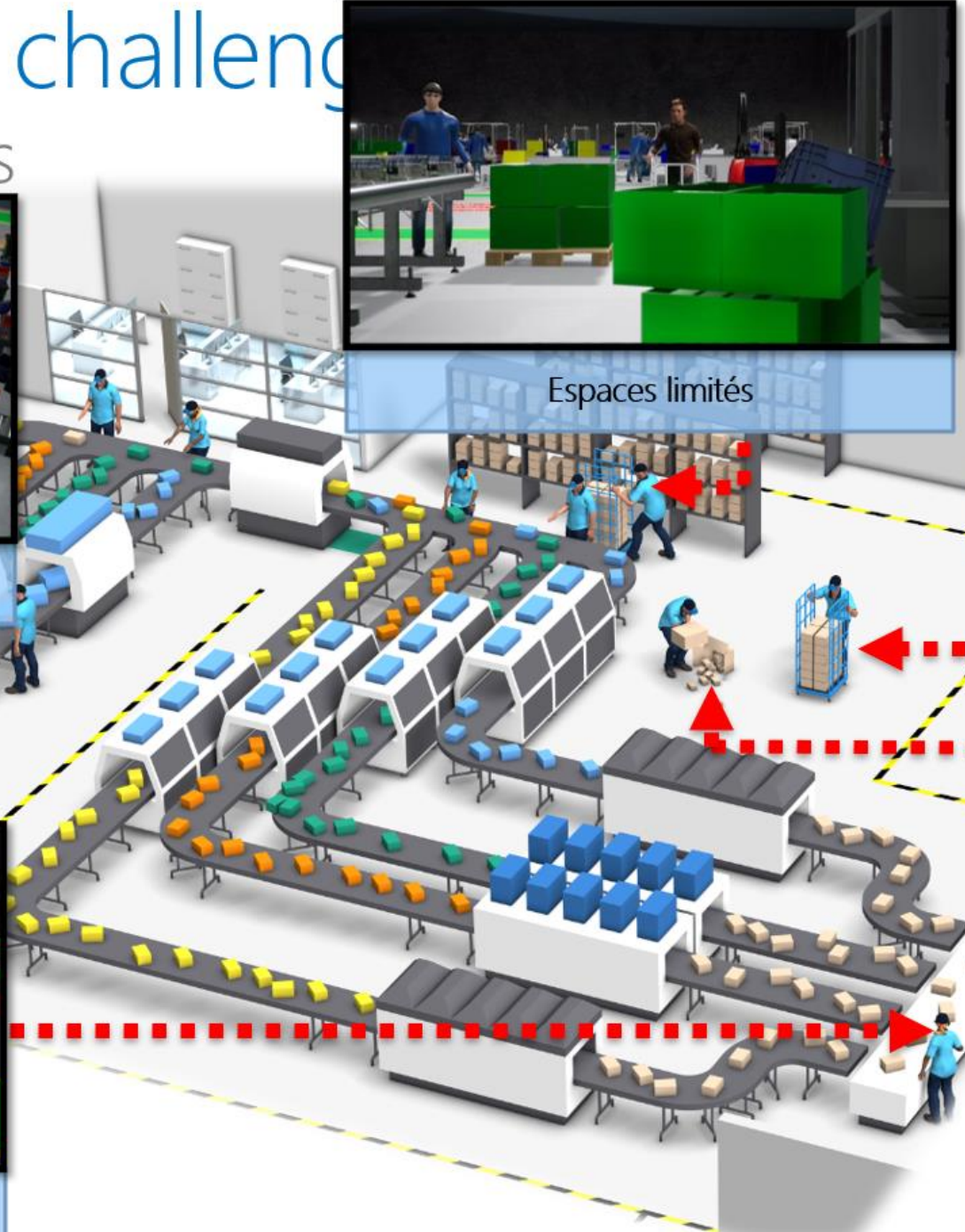
Espaces limités



Faible valeur ajoutée des opérateurs



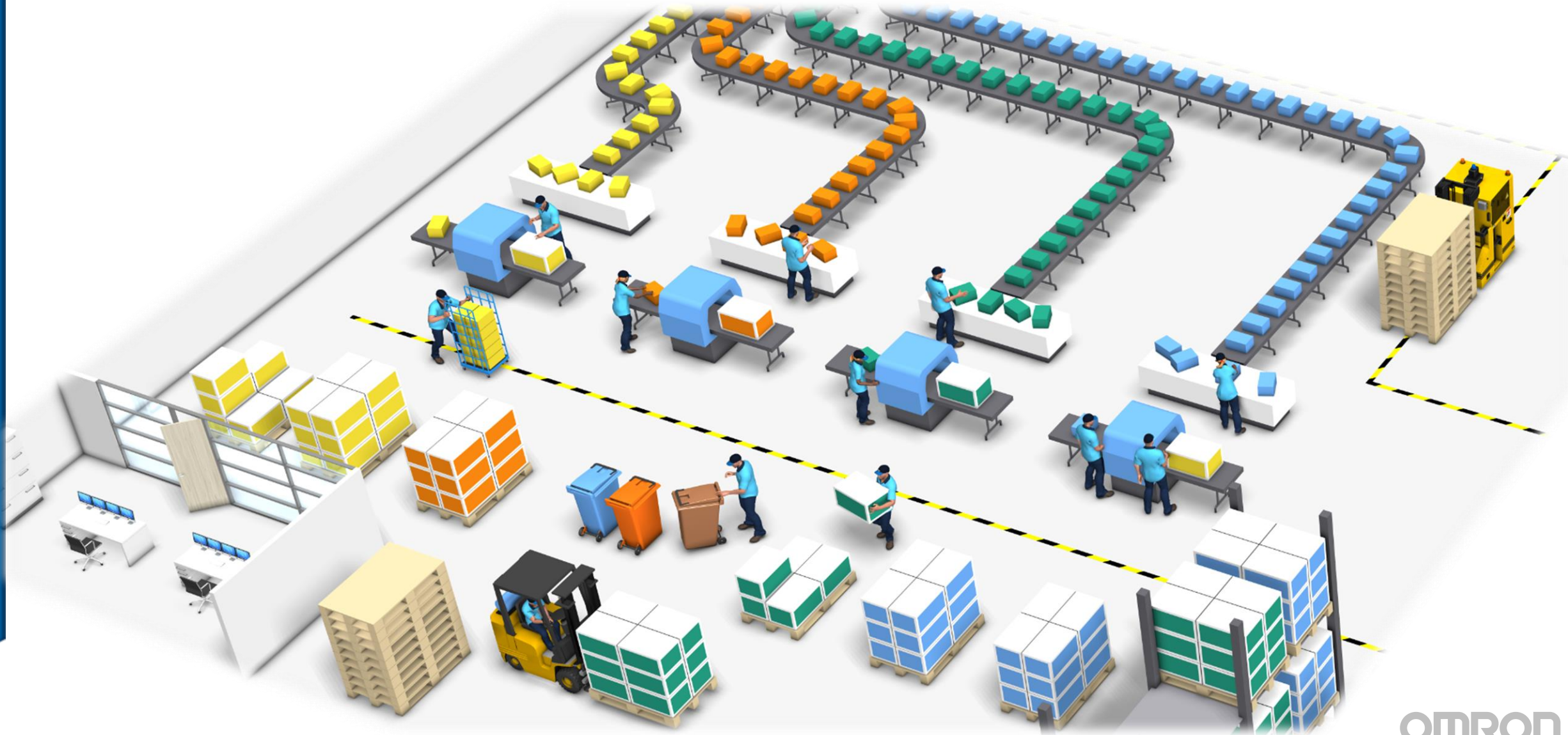
TMS des opérateurs



Erreurs et dommages

Customer's challenges

Finished goods to pack/inspec.

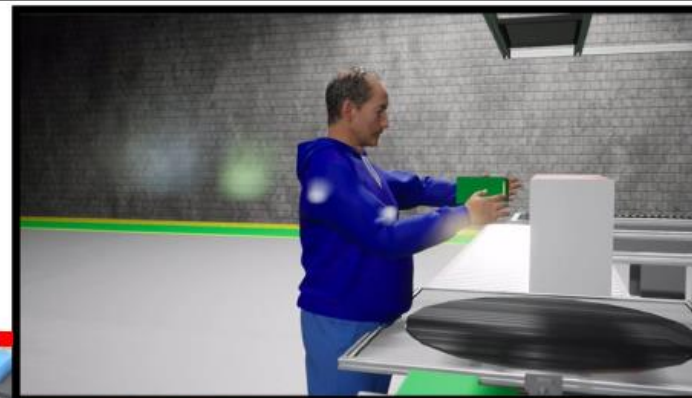


Customer's challenges

Finished goods to pack/inspec.



Blessures potentielles



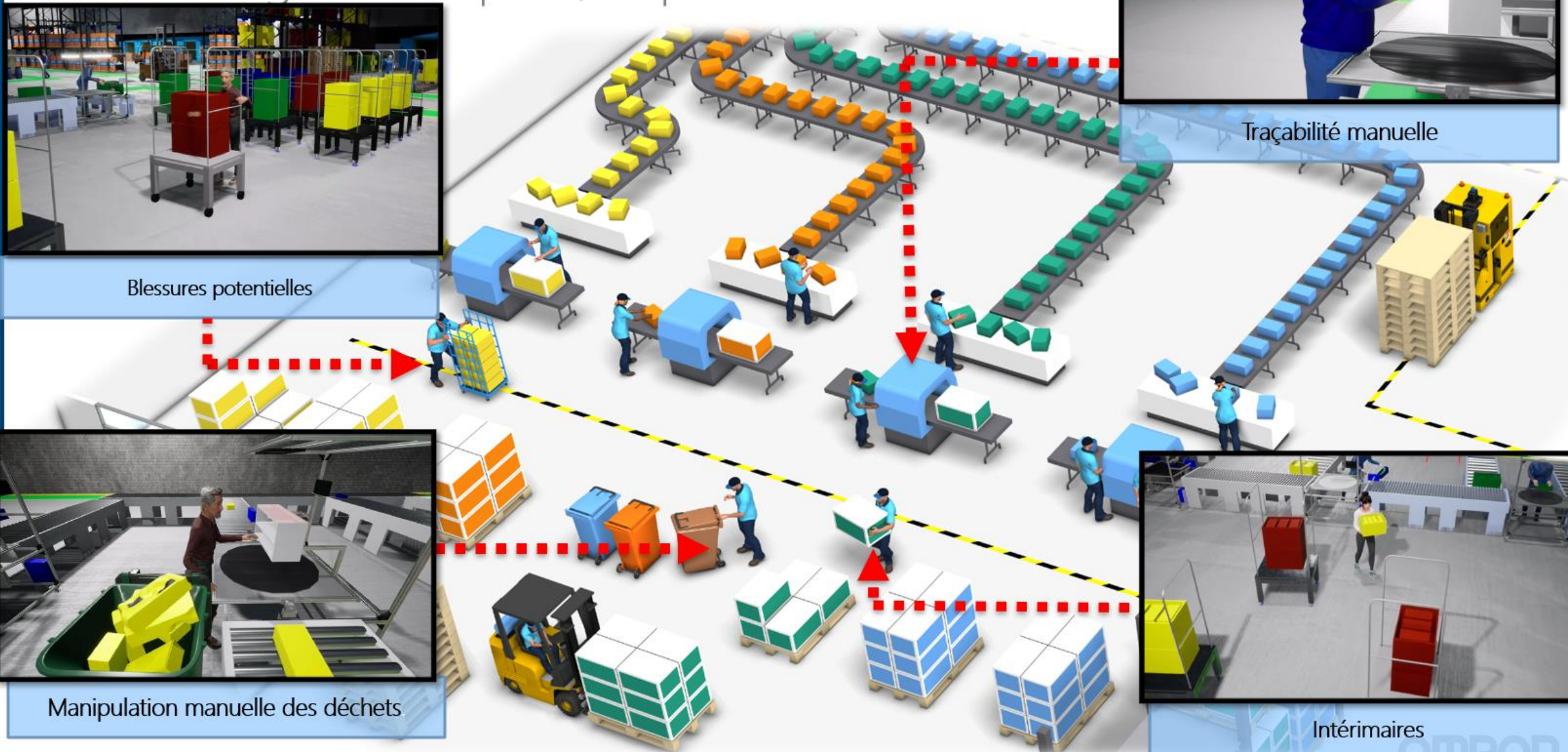
Traçabilité manuelle



Manipulation manuelle des déchets



Intérimaires



Customer's challenges

Warehouse (recv./ship.)



Customer's challenges

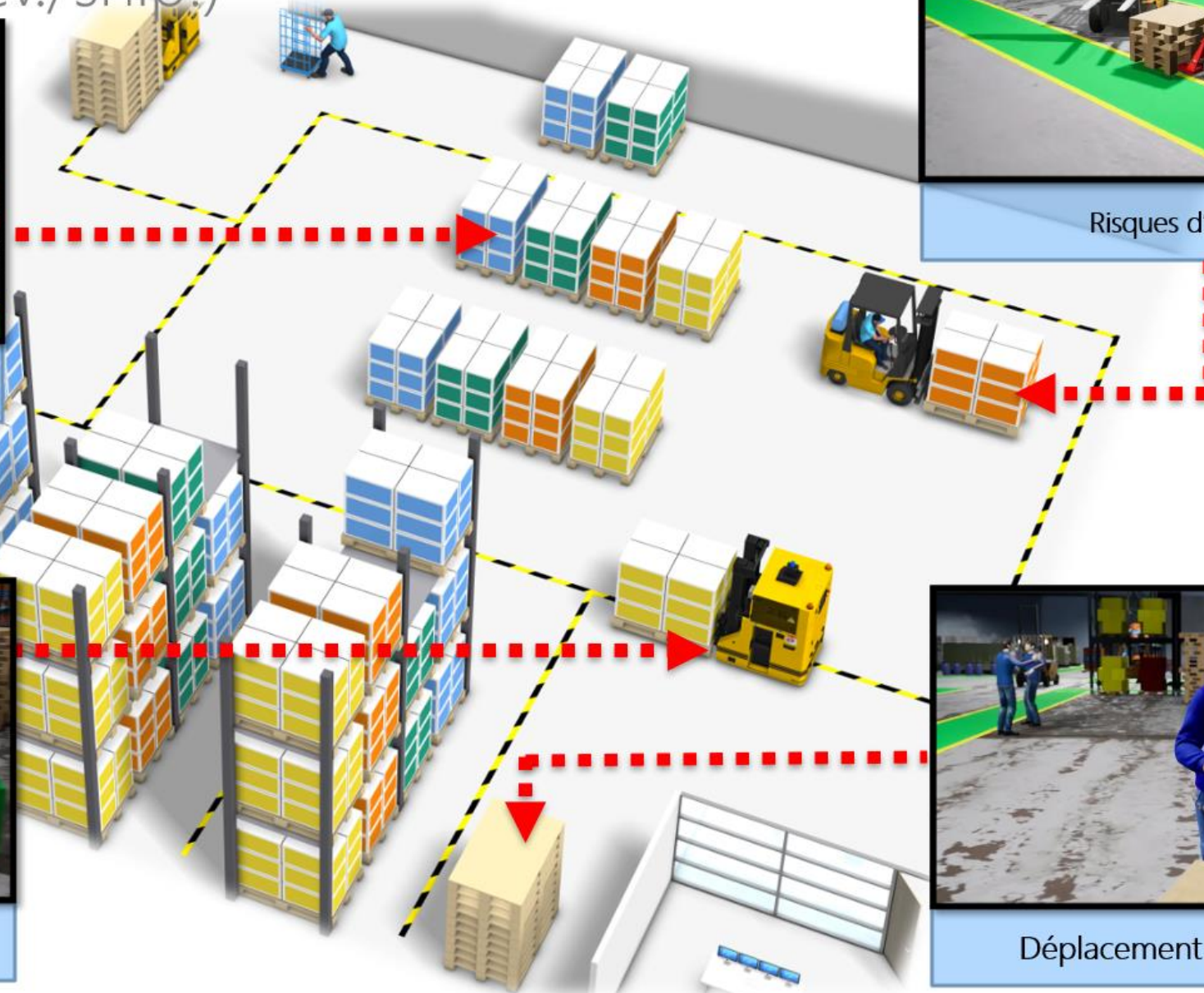
Warehouse (recv./ship.)



Stockage manuel.



Déplacement unitaire des palettes



Risques d'accidents



Déplacement manuellement

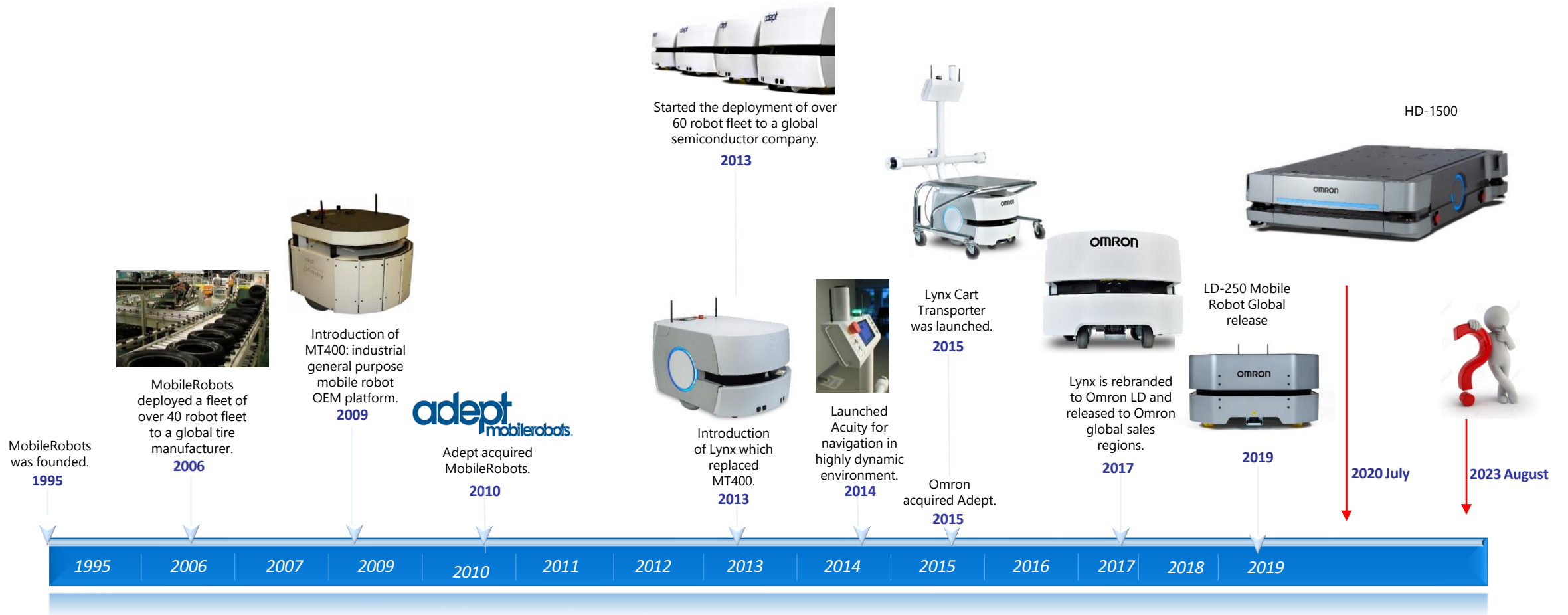
AMR*

OMRON



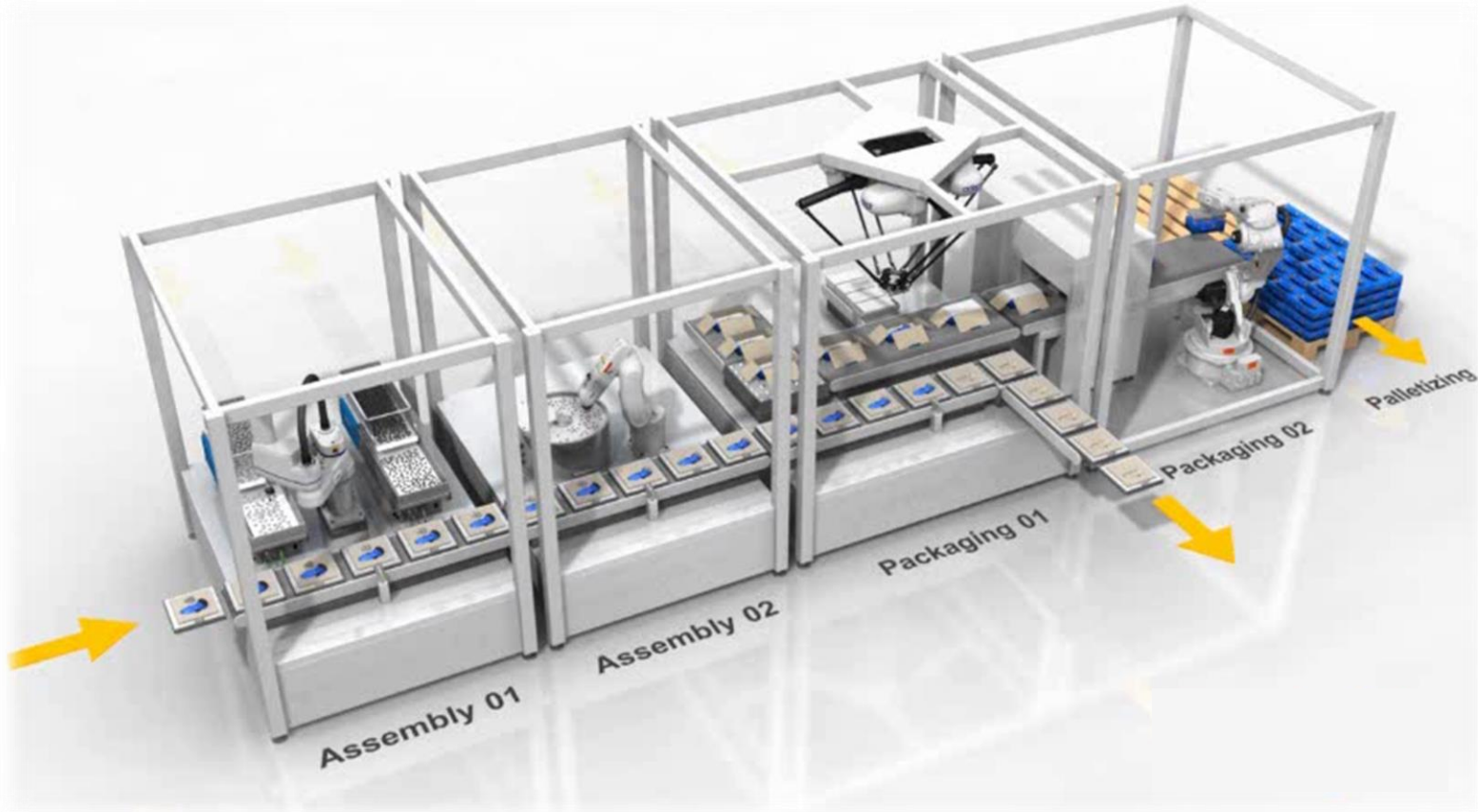
*Autonomous Mobile Robots

Etape de la Robotique mobile OMRON



Objectifs

- Fluidifier les productions
- Petites séries
- Productions localisées



Caractéristiques



Gamme

LD-105/130CT



CT-500



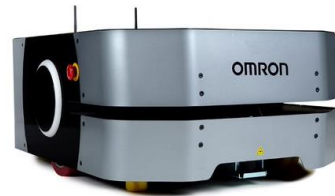
SI solution

SI solution

LD-60/90



LD-250



MD-XXXX



HD-1500



60-90 kg

105-130 kg

250kg

500kg

1500kg

Payload

OMRON

Composants et fonctions

LD-60, LD-90, ESD OEM

Operator Panel

Power on/off, emergency stop, brake button with 3.5-inch color monitor.

WiFi Antenna

IEEE 802.11 a/b/g.

Top Plate (Option)

Upper plate comes with Starter Kit. Not required when building customer payload.

Rear Sonar

Detect rear obstacles using sonar.



Light Discs

Status indicator is located on both sides.

Front Bumper

Stops when makes contact with obstacle.

Low Front Laser

Obstacle sensor detects low-profile objects when moving forward.

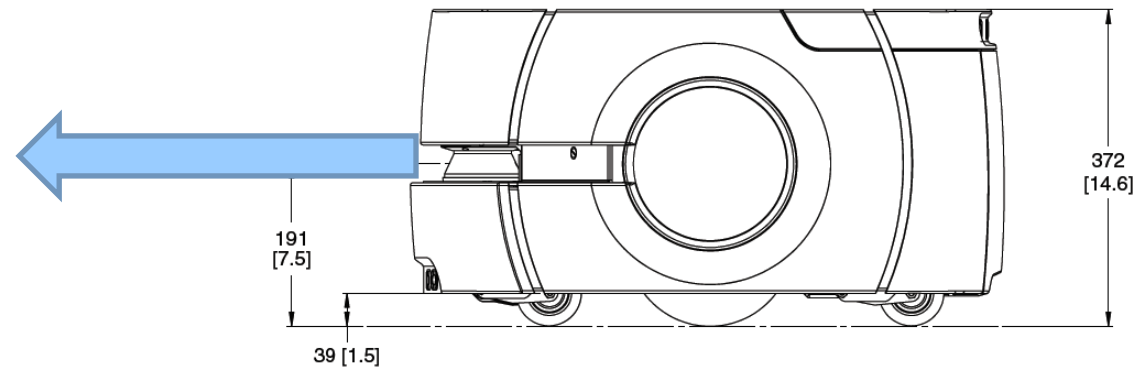
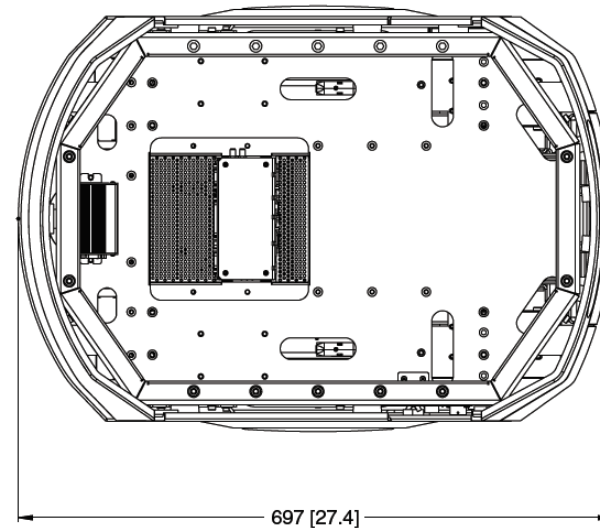
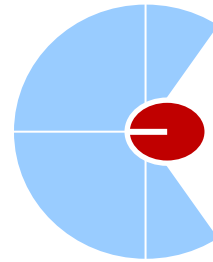
Safety Scanning Laser

Safety-rated laser used for SLAM (simultaneous localization and safety functionality).

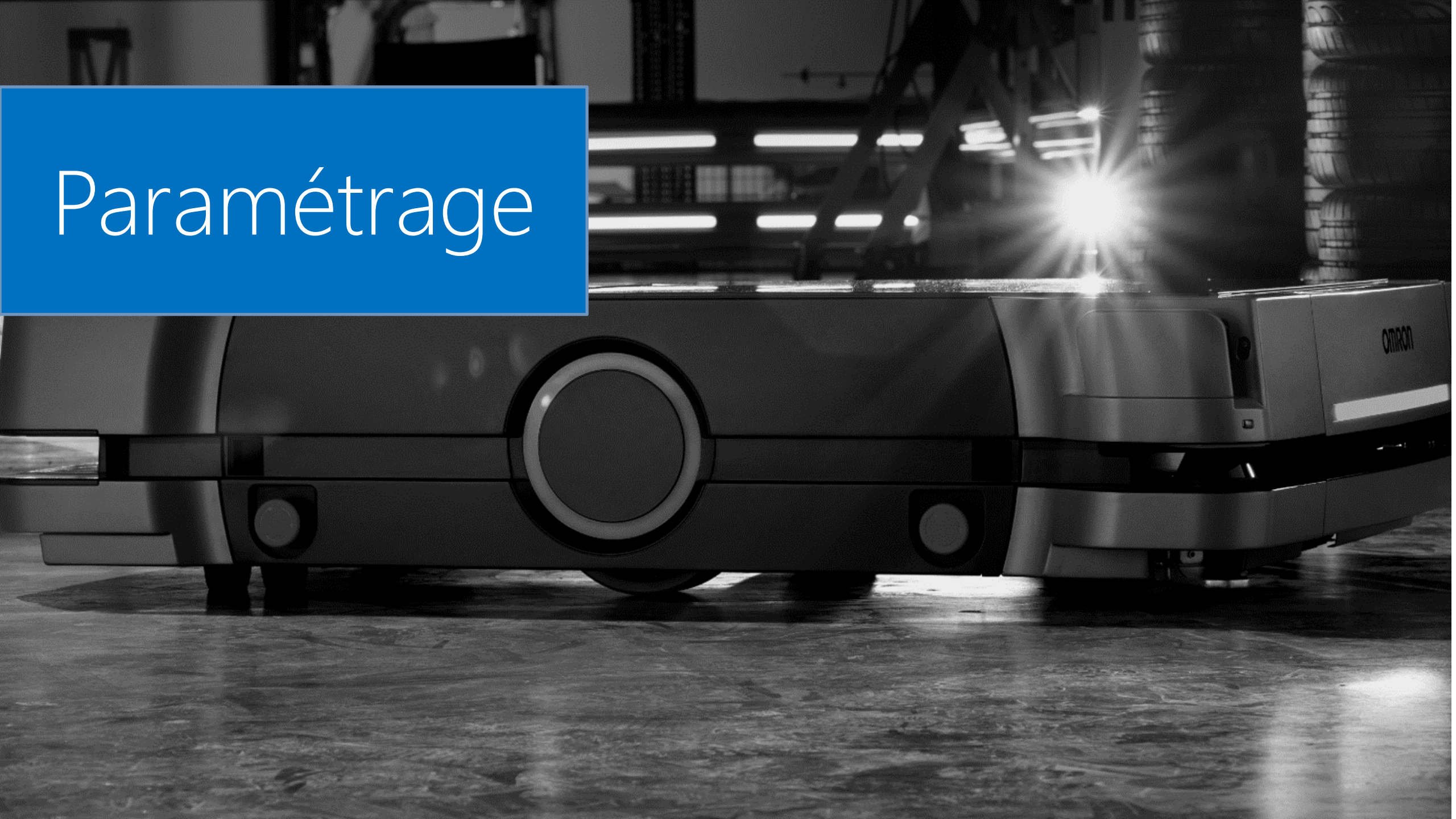


Organe principal : Laser

- Navigation autonome
- Sécurité
- Paramétrage (la carte)



Paramétrage

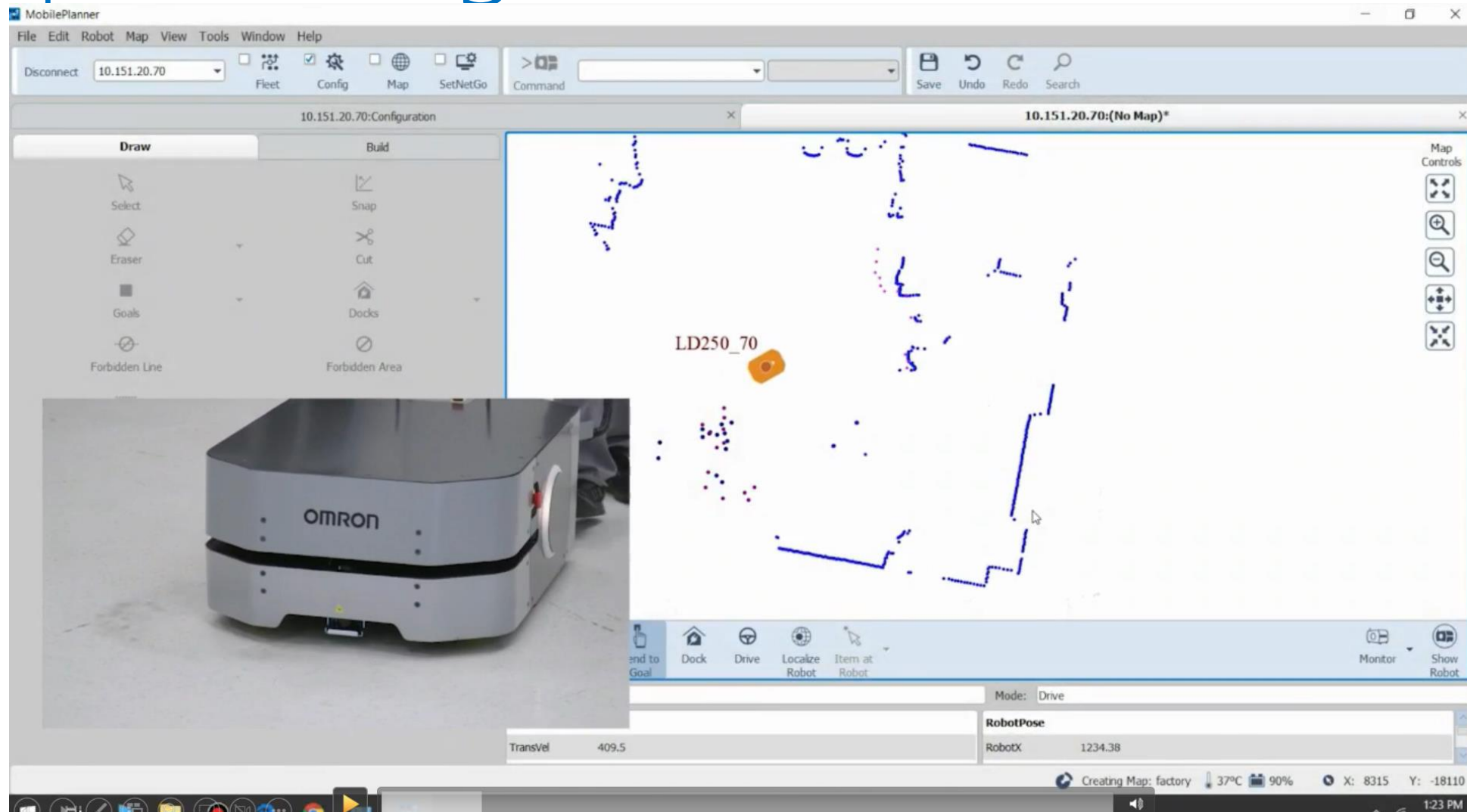


Navigation de base

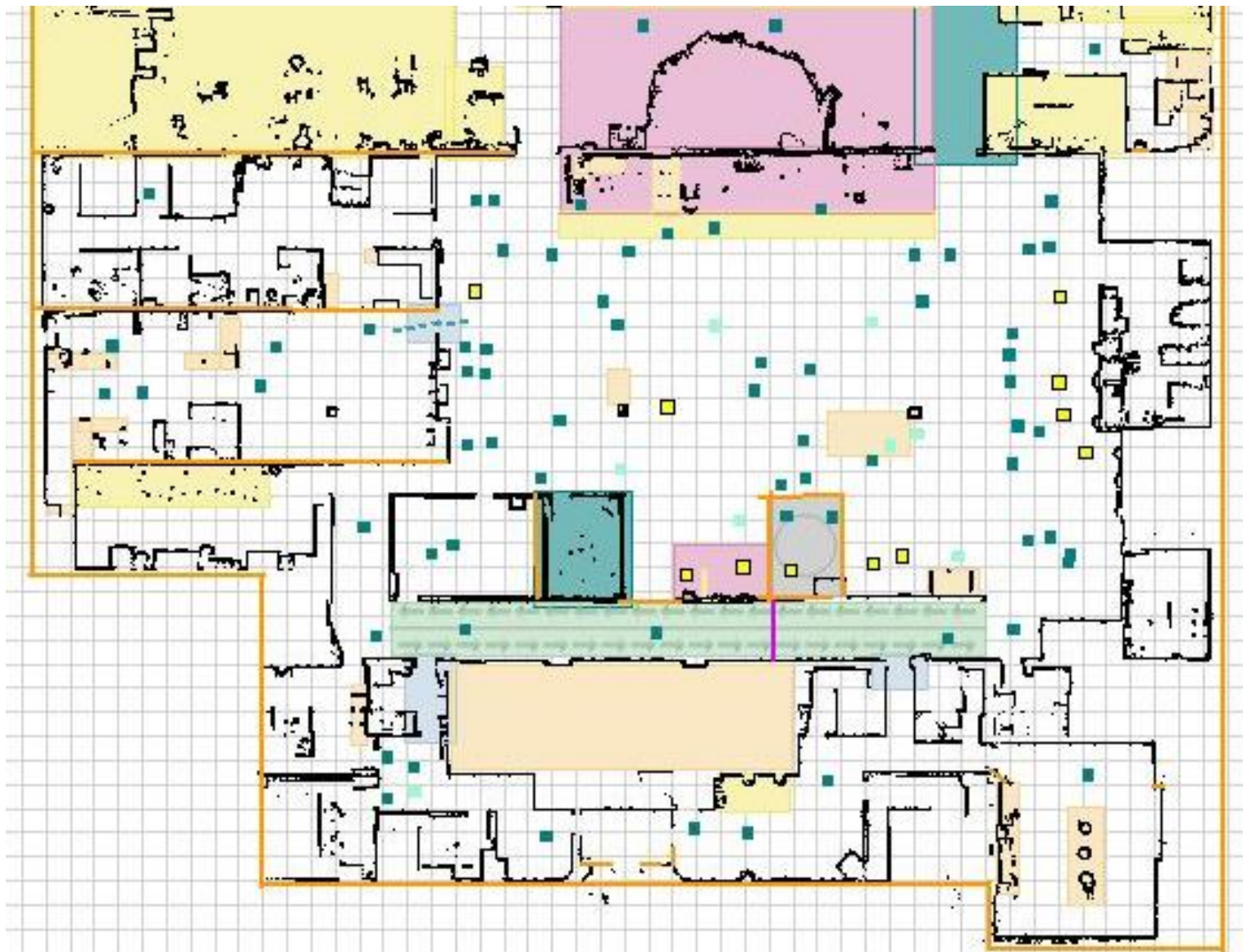
- Corrélation du nuage de points vu par le laser en fonction de la carte définie.
- Odométrie
- Gyroscope



Apprentissage



Exemple de carte



Des robots réellement autonomes

- Ils s'adaptent **sans modification** de l'environnement de production
- Ils se déplacent en toute **sécurité** au milieu des personnels
- Ils calculent en permanence le **chemin optimum**
- Ils fonctionnent dans des **environnements changeants**
- Ils fonctionnent de manière **collaborative** sous la forme de **flotte**
- **Simple**s et **rapides** à installer

Navigation naturelle

Gestionnaire de flotte



Gestion de flotte puissante

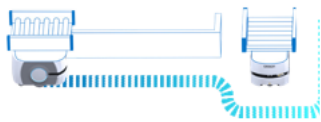
Efficacité optimisée



Affectation intelligente des tâches



Gestion des mouvements

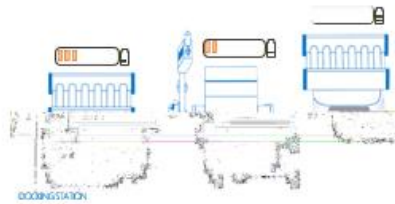


Contrôle de la circulation

Temps de fonctionnement optimisé

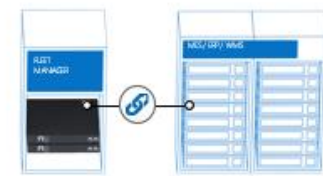


Mises à jour automatiques



Gestion de la charge des batteries

Flexibilité accrue



Intégration facile aux systèmes informatiques



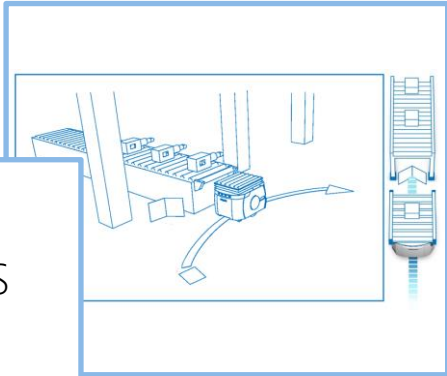
Administration des compétences

Options

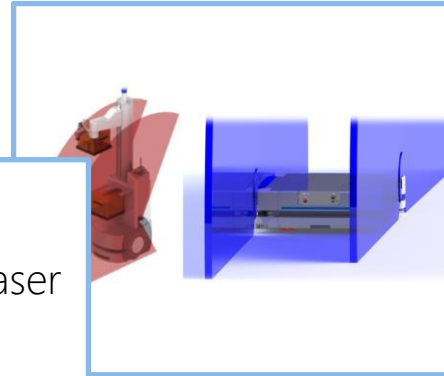


Options

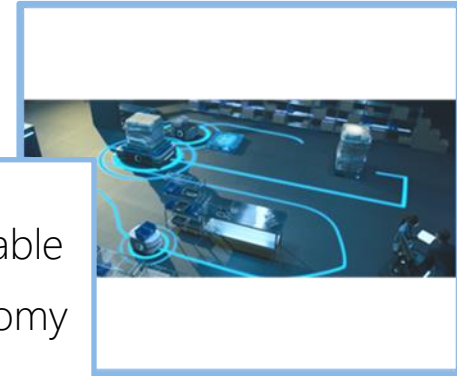
CAPS



Sides laser



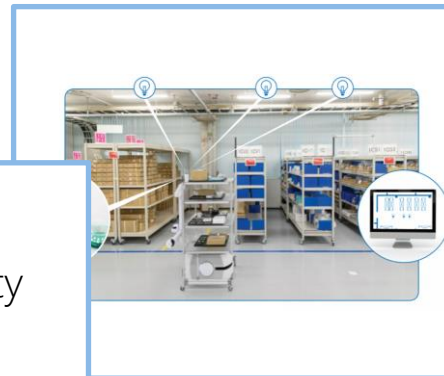
Selectable
Autonomy



Obstacle
avoidance



Acuity



Flow IQ

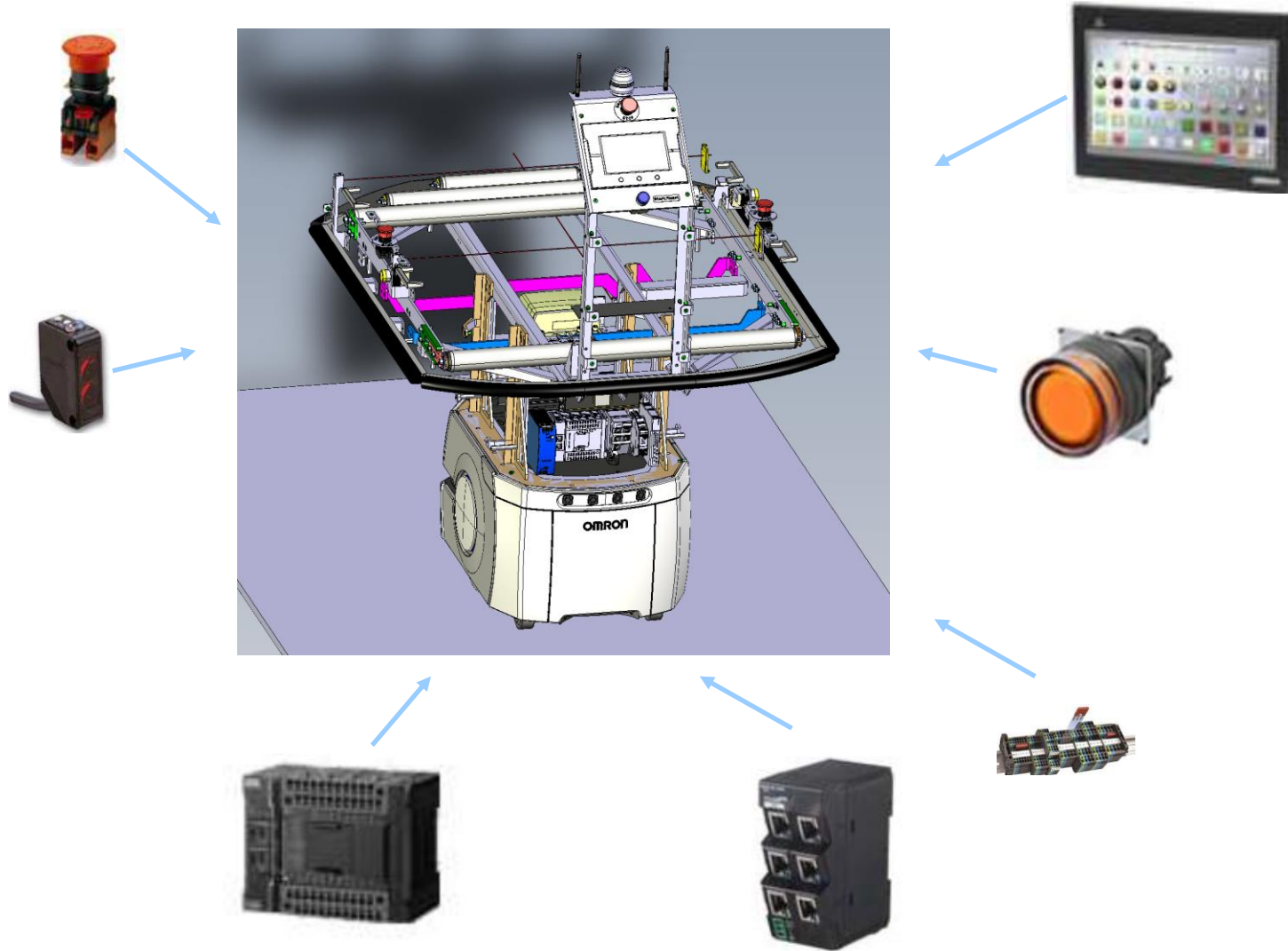


Intégration de la solution



Accompagnement de nos intégrateurs

Avec notre offre produit



Accompagnement de nos intégrateurs

Avec notre expertise

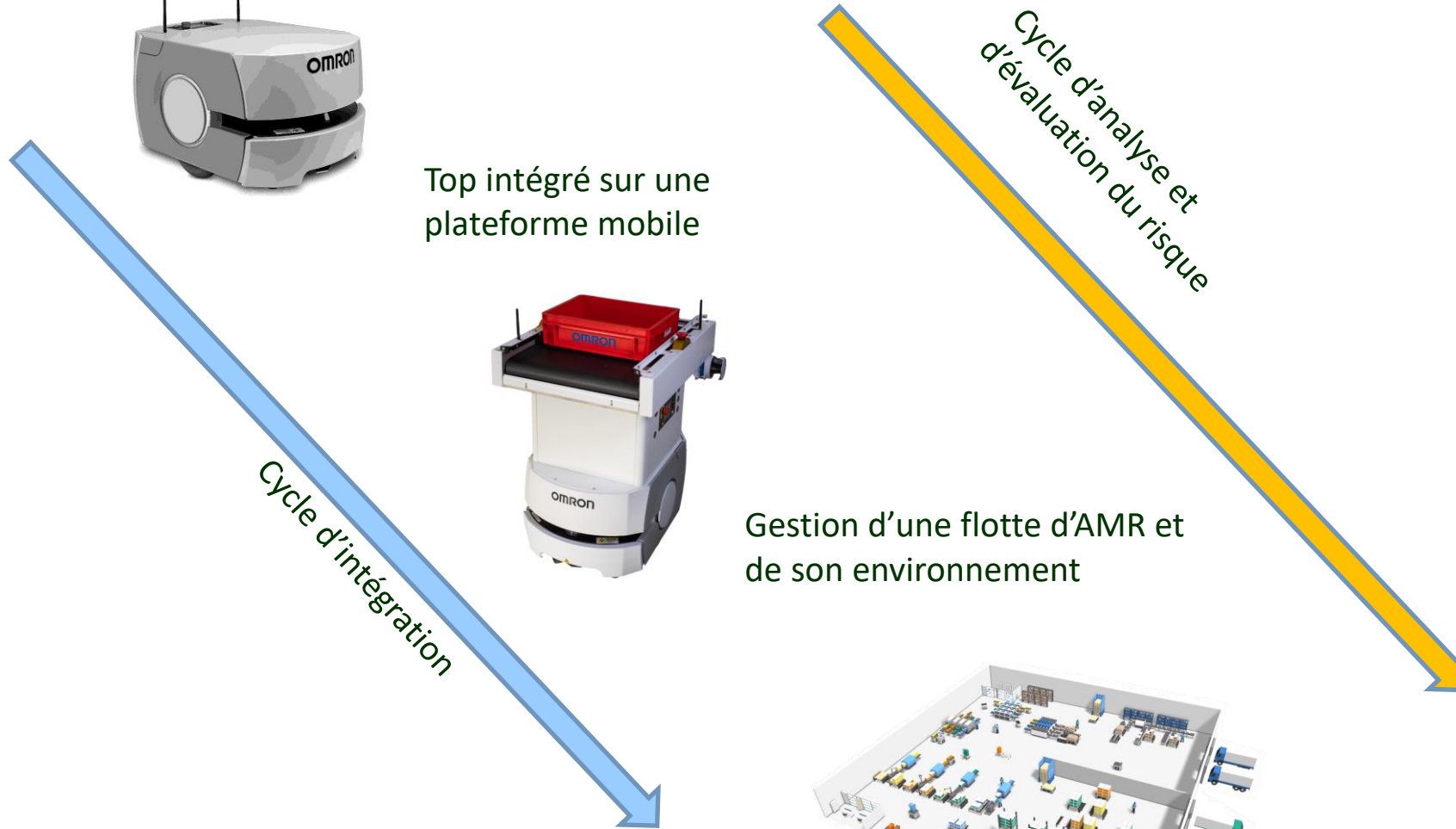
Plateforme mobile autonome



Top intégré sur une
plateforme mobile



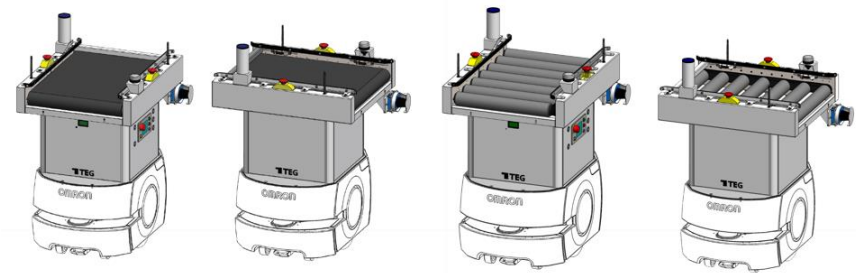
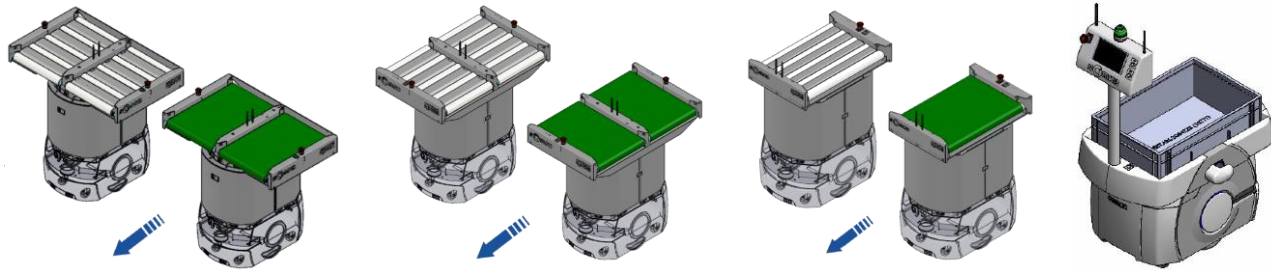
Gestion d'une flotte d'AMR et
de son environnement



Exemple de réalisation



Exemples de solutions catalogue proposées par quelques partenaires OSP



Nos outils



Outils

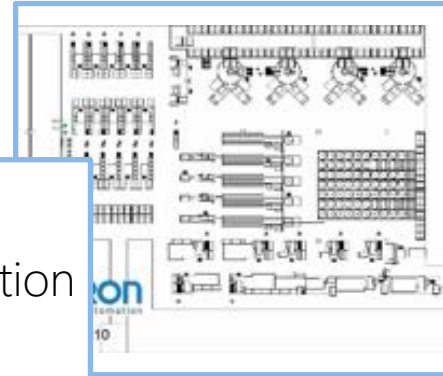
Estimation

Cette feuille Excel vous permet de calculer un nombre approximatif de robots nécessaires pour votre application. Entrez les différentes valeurs en termes de temps, distances et disponibilité pour obtenir un résultat. Si vous voulez un résultat plus précis, procédez à une demande de simulation.

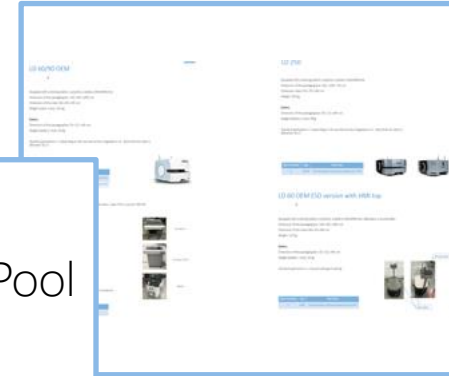
From - To	Productivity (units/hr)	Package Length (m)	Package Width (m)	Package Height (m)	Average Demand (units/hr)	Max Demand (units/hr)	Max Demand (units/hr)	Max Demand (units/hr)	Total Demand (units/hr)	Productivity (units/hr)	Productivity (units/hr)
10	5	20	0	70	5	20	100	300	200.00	200.00	200.00
20	5	20	0	80	5	20	10	100	200.00	100.00	100.00
20	5	20	0	60	5	20	10	100	200.00	100.00	100.00
20	5	20	0	60	5	20	10	100	200.00	100.00	100.00
32									600	600.00	348.00

Peak number of robots: 3.40
Average number of robots: 2.12

Simulation



Loan Pool



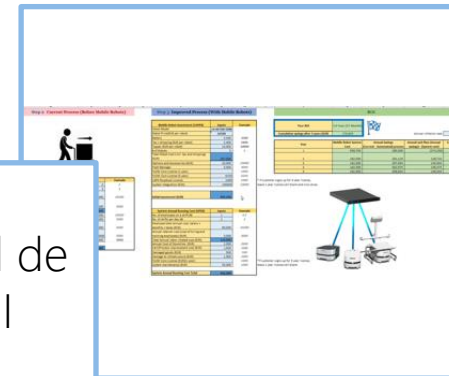
ATC
Annecy



Notre
support



Calcul de
ROI



Applications



Témoignages clients

JTEKT :

<https://www.youtube.com/watch?v=OwBer336kOU&t=42s>

VOLA:

https://www.youtube.com/watch?v=WtFH2_Xwgg8

VALEO:

<https://www.youtube.com/watch?v=dYXIJH6Ubk>

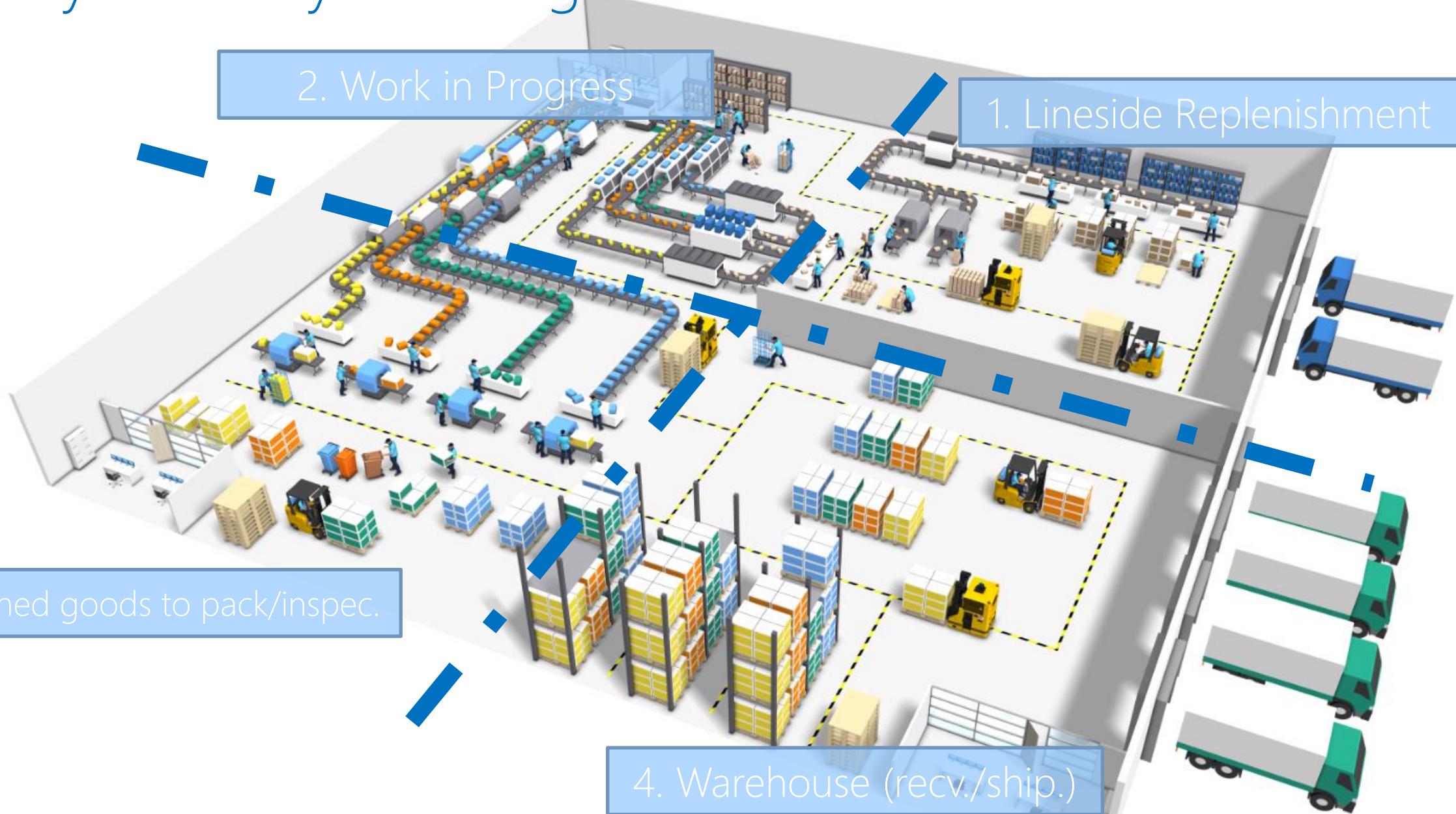
NORMAGRUP:

https://www.youtube.com/watch?v=AYjq_r9-Oy4&t=48s

Conclusion



Today's Factory Challenges



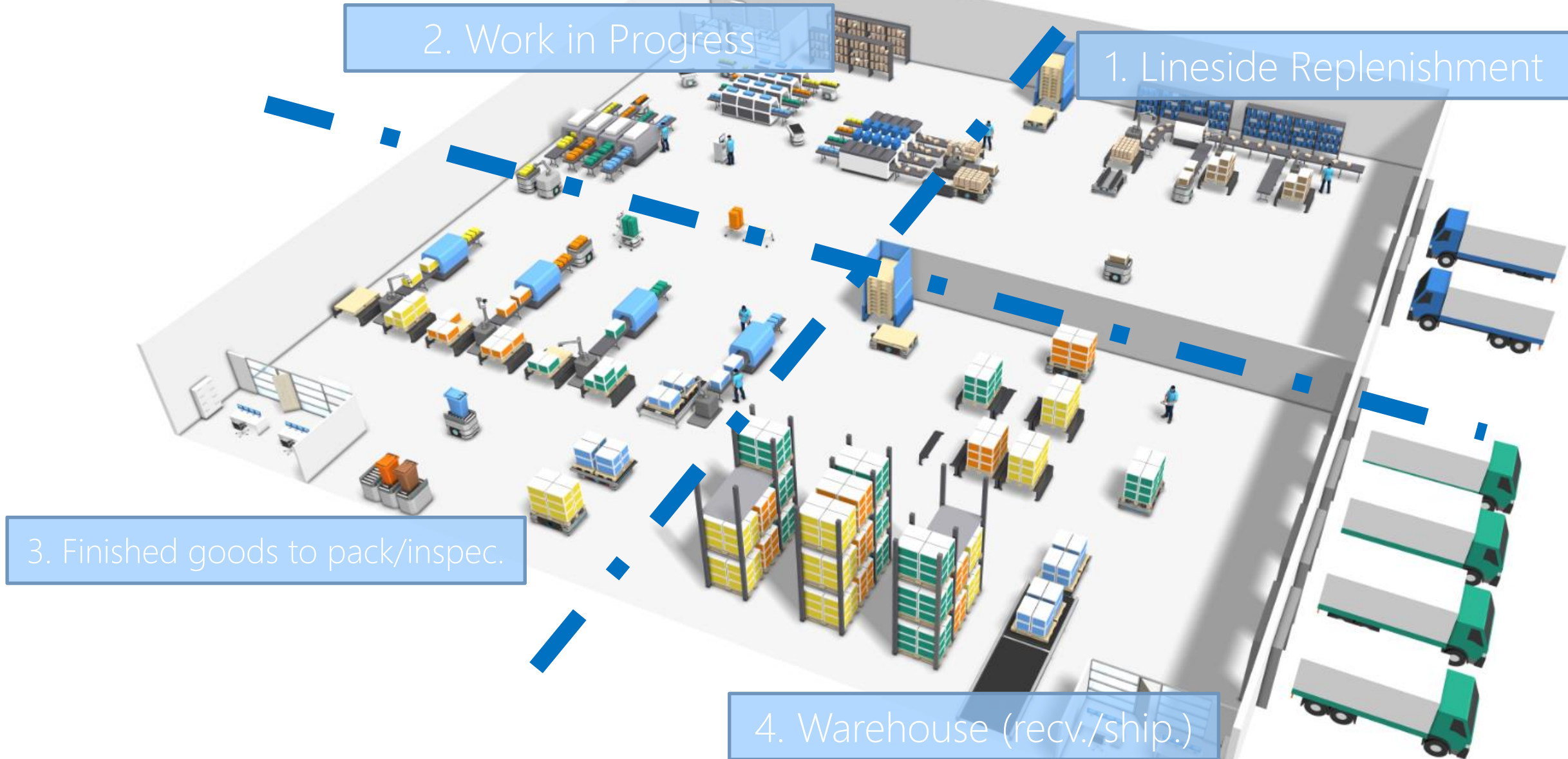
2. Work in Progress

1. Lineside Replenishment

3. Finished goods to pack/inspec.

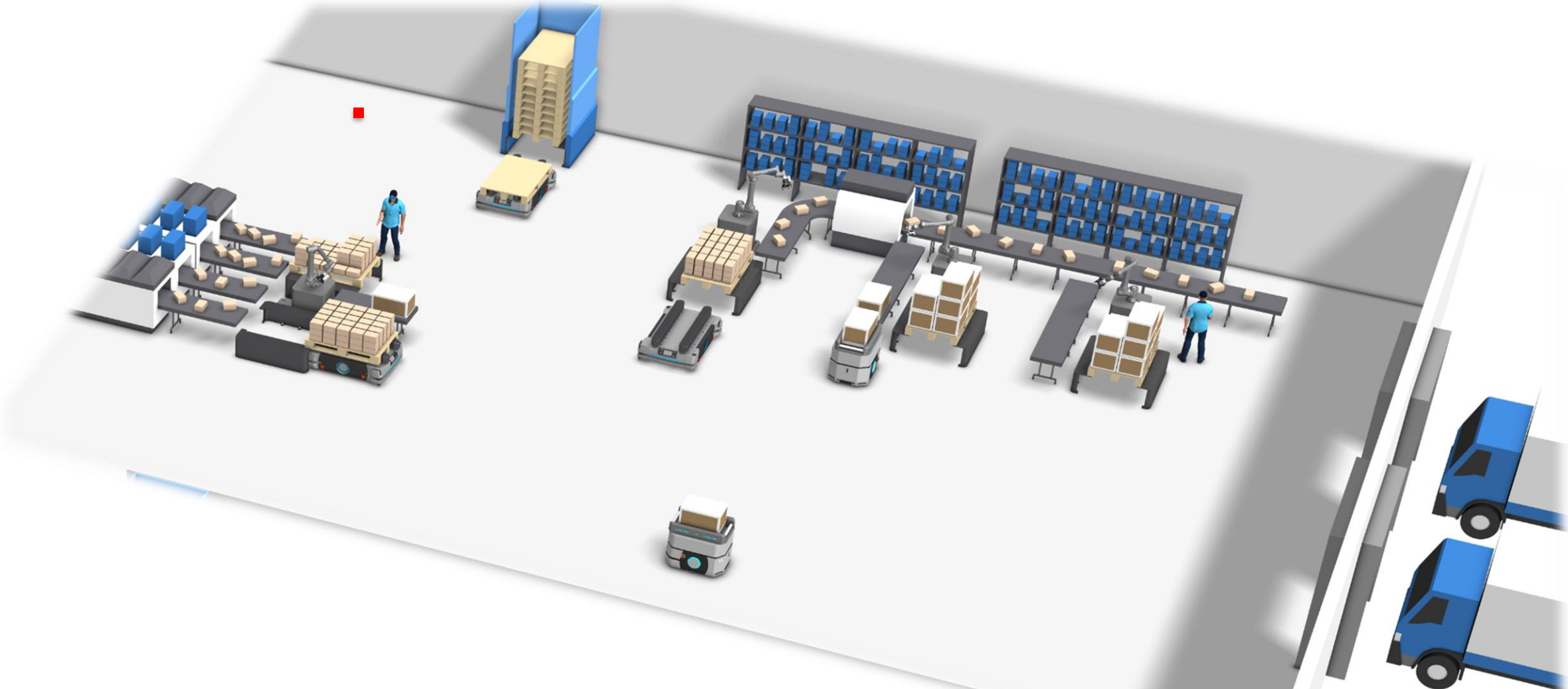
4. Warehouse (recv./ship.)

The complete process in a flexible factory



OMRON solution

Lineside Replenishment



OMRON solution

Lineside Replenishment



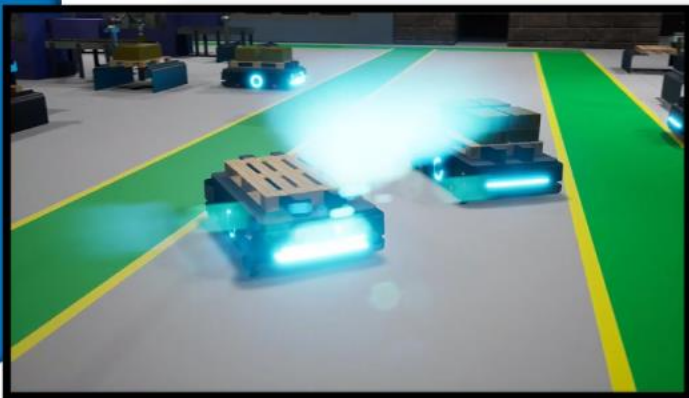
Livraison à la demande



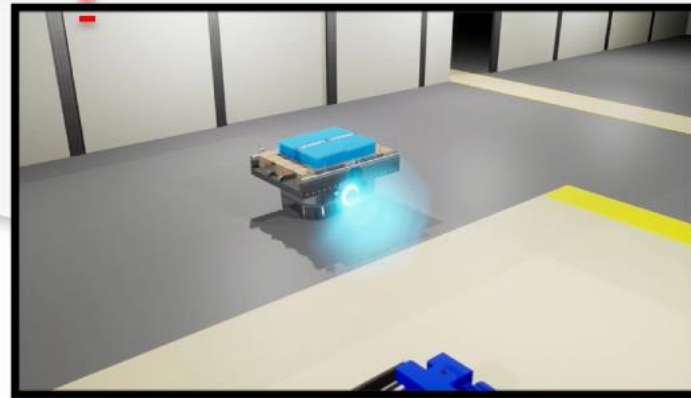
Productivité et efficacité



Navigation naturelle



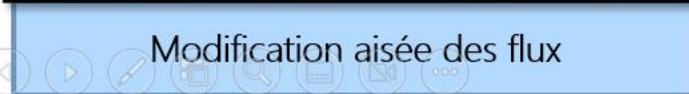
Modification aisée des flux



L'AMR libere l'opérateur

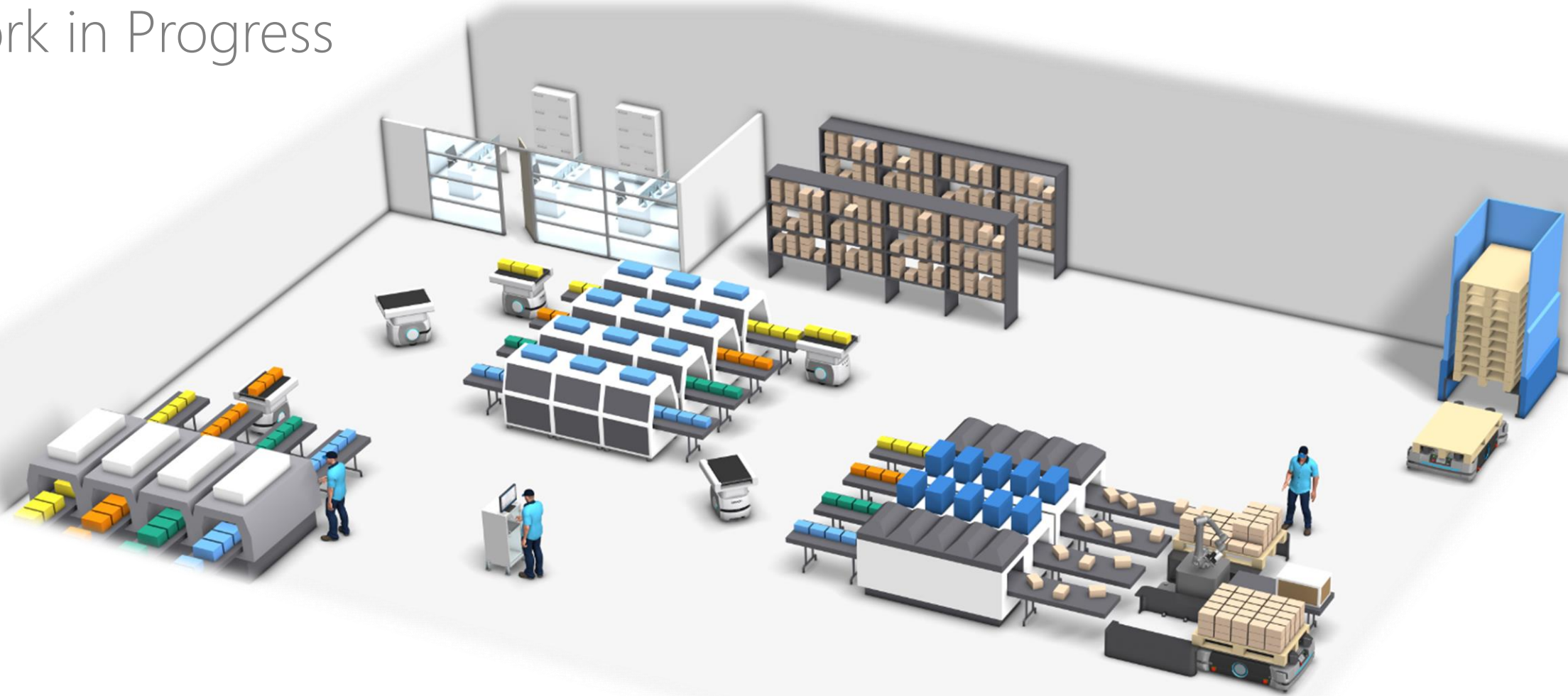


Fonctionnement 24/24



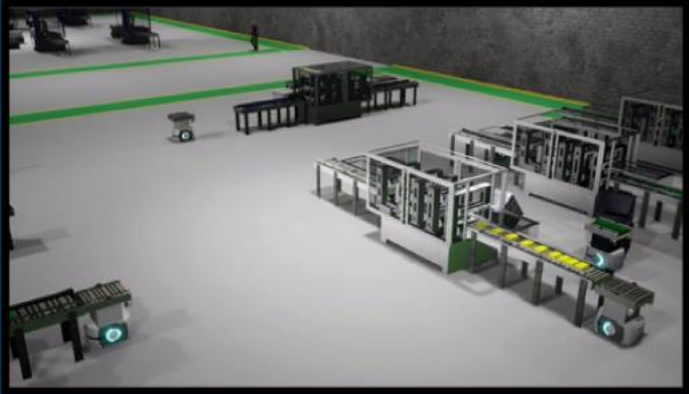
OMRON solution

Work in Progress

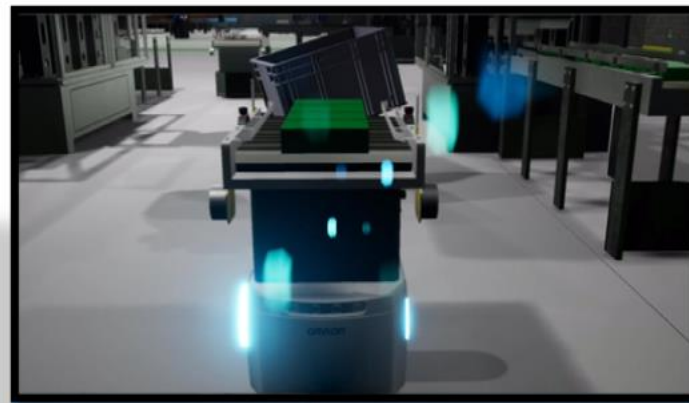


OMRON solution

Work in Progress



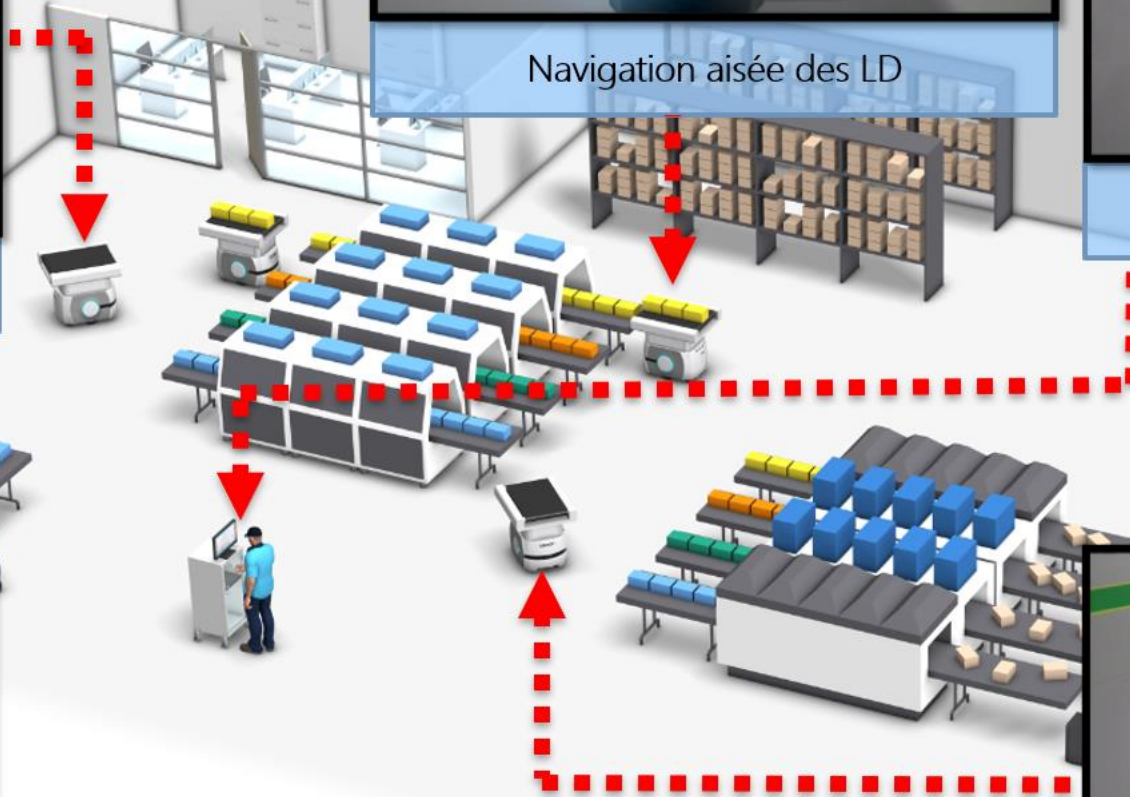
Suppression des convoyeurs



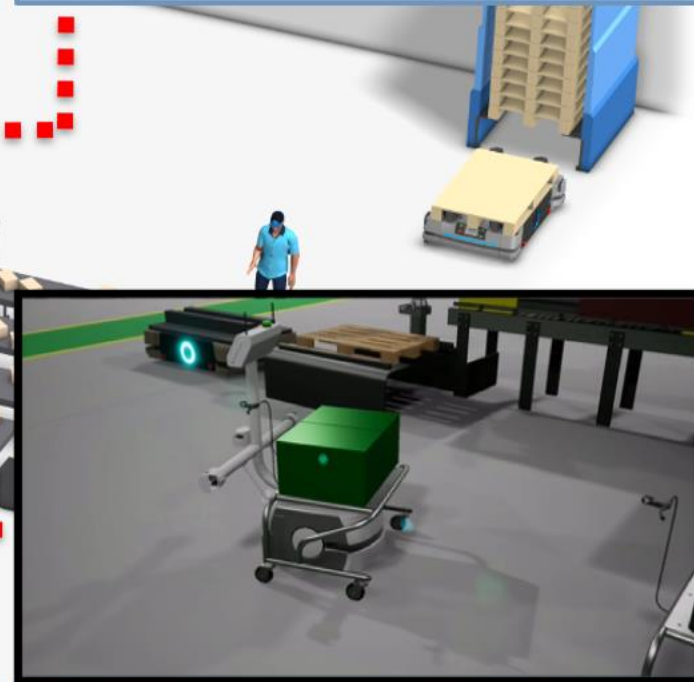
Navigation aisée des LD



Liberation des opérateurs qualifiés



Suppression du travail manuel



Élimination des erreurs

OMRON solution

Finished goods to pack/inspec.

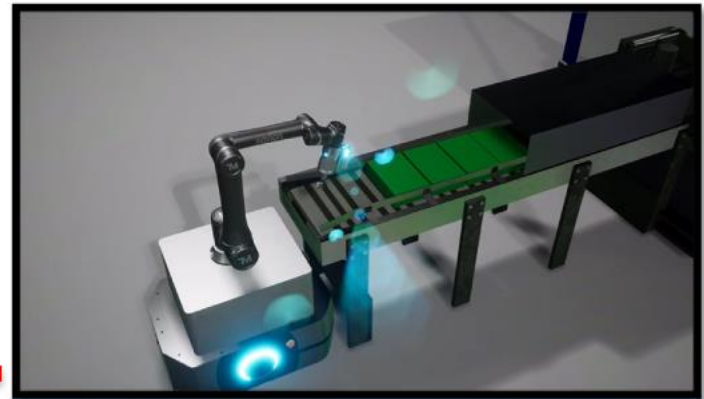


OMRON solution

Finished goods to pack/inspec.



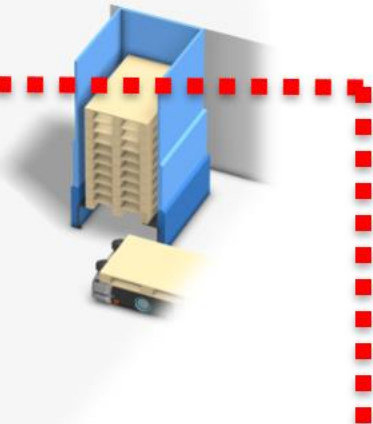
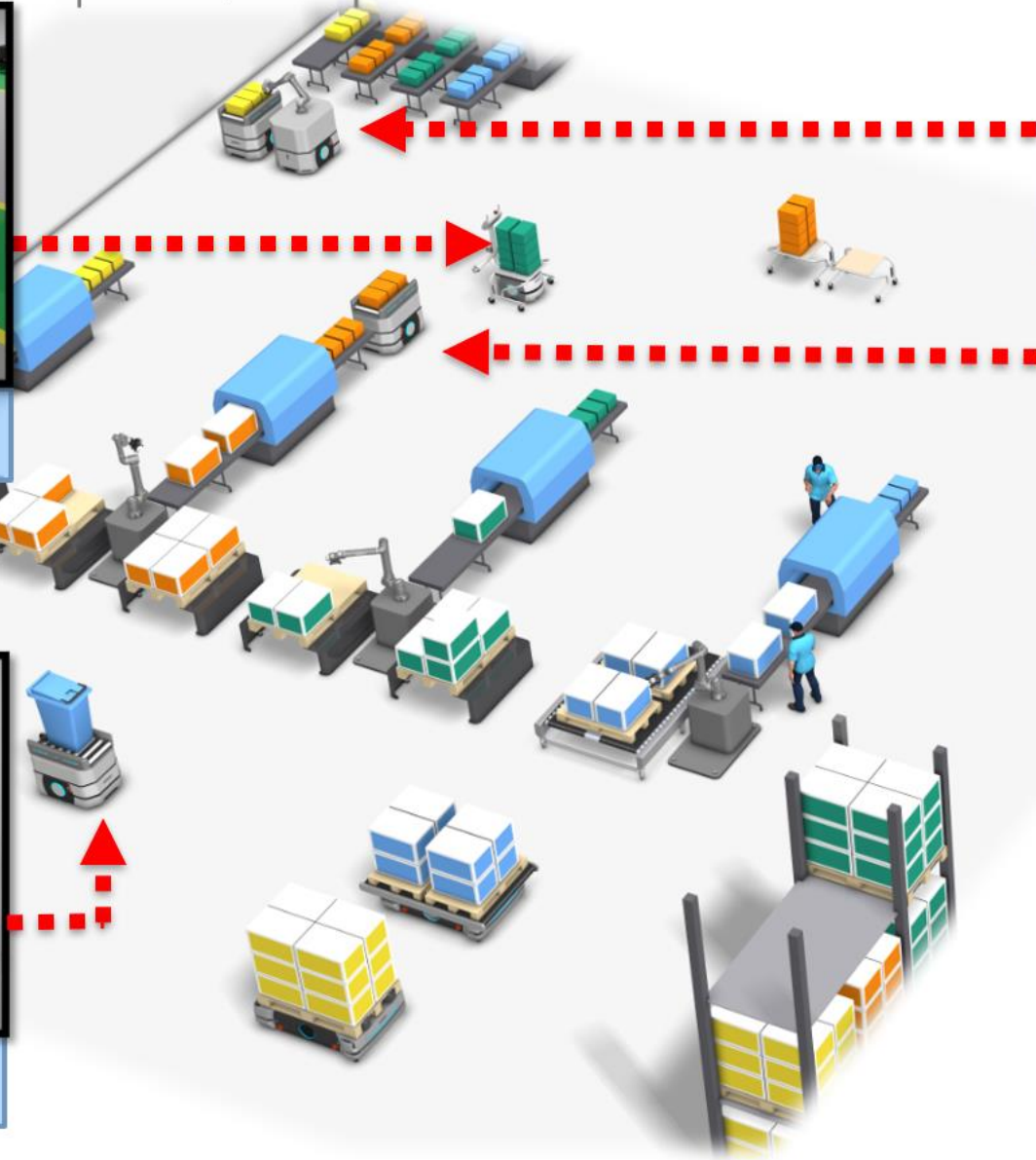
Solutions Cart suppriment les chariots



Le Moma ajoute de la flexibilité.



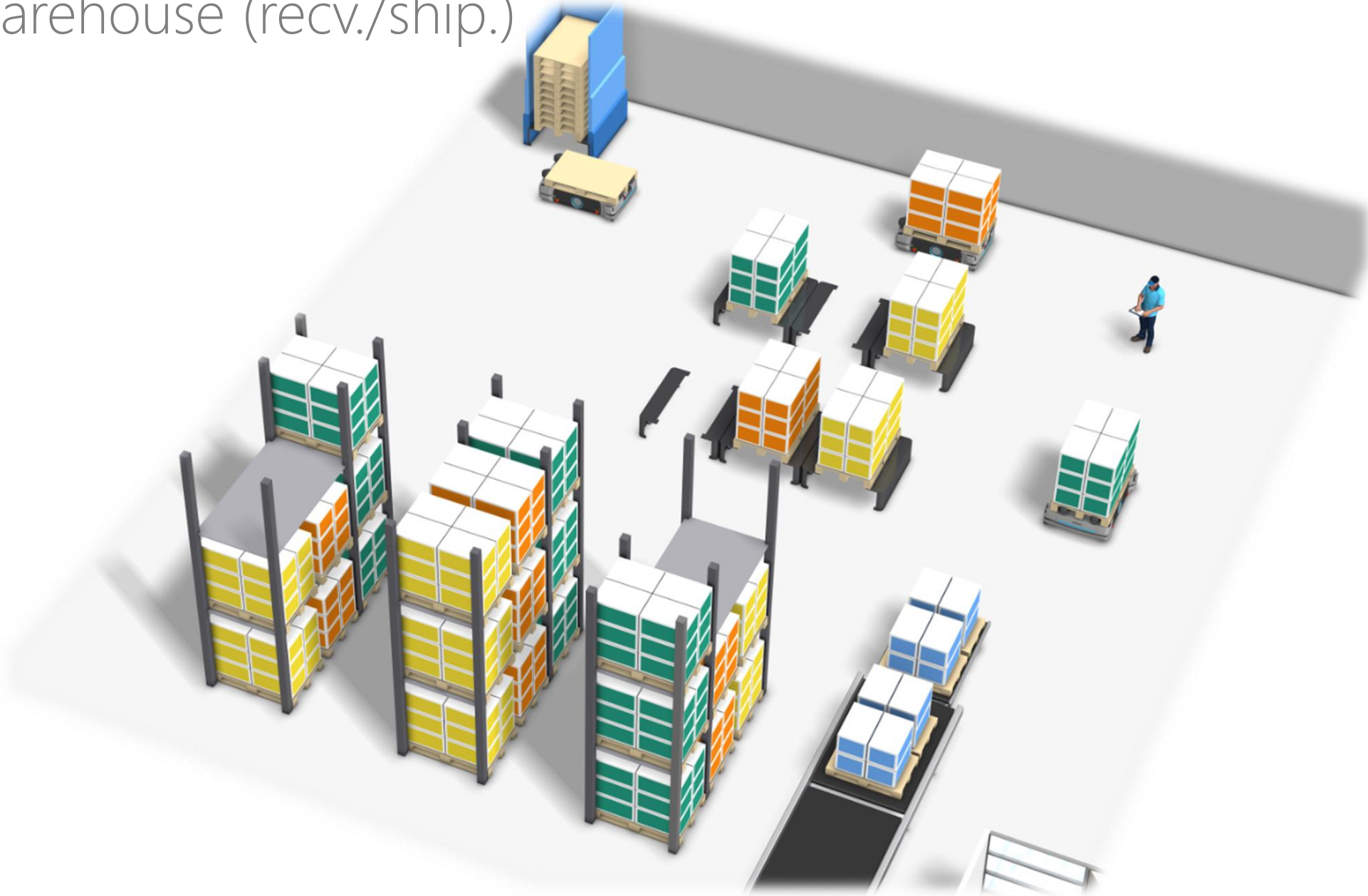
Enlèvement automatique des déchets



Agilité a la production

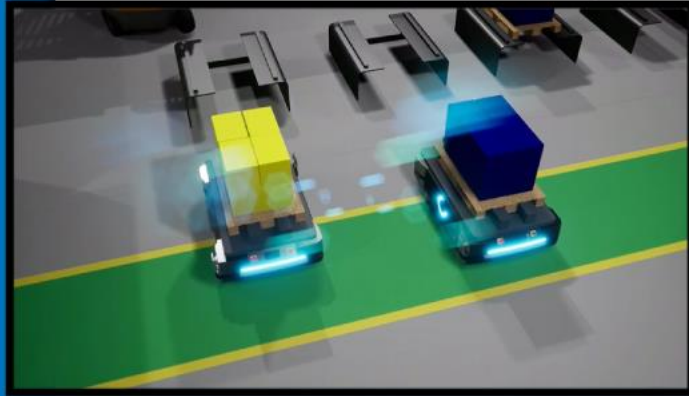
OMRON solution

Warehouse (recv./ship.)

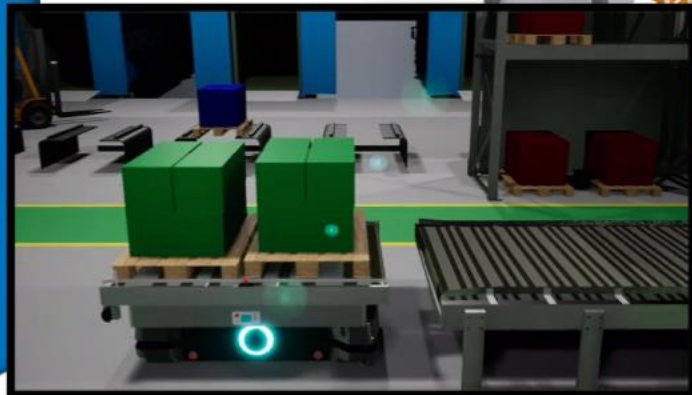


OMRON solution

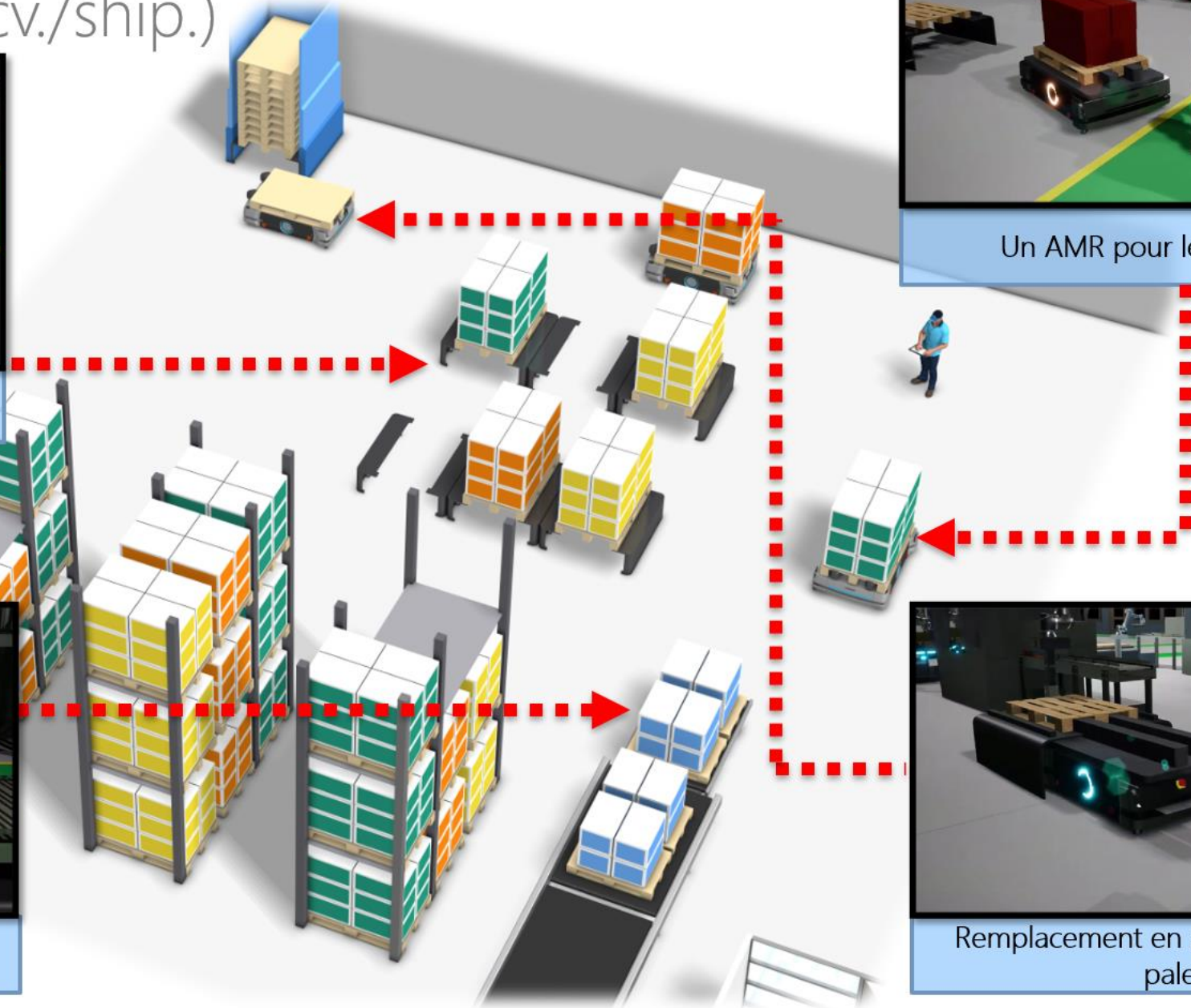
Warehouse (recv./ship.)



Stockage automatique



Réduction des goulots d'étranglement



Un AMR pour les 3 équipes



Remplacement en automatique de la palette



Merci pour votre attention

