

# World-leading automotive OEM improves takt time by 39%

## CHALLENGE

Inefficient use of labor created safety risks and caused congestion at AGV intersections.

- Facility-wide production density goals could not be met by manual transport
- A new high-density, limited-space line required faster, more frequent deliveries
- Labor was used for manual part transport instead of high-value tasks
- Operators with carts were stuck waiting at AGV crossings, increasing takt times

## SOLUTION

Deployed 100+ OTTO 100 AMRs with custom turntable carts to meet high-density production.

- Custom carts move higher volumes through narrow aisles
- Carts rotate 90° to drive narrow in aisles and deliver wide at lineside for operators
- AMRs deliver more than 100 unique parts to multiple endpoints
- Interoperability with AGVs for seamless traffic coordination at intersections

**39% improvement in takt time to meet increased production density goals**

**Improved safety and redeployed labor to higher value-added work**

## OTTO AMRs that enable this use case:



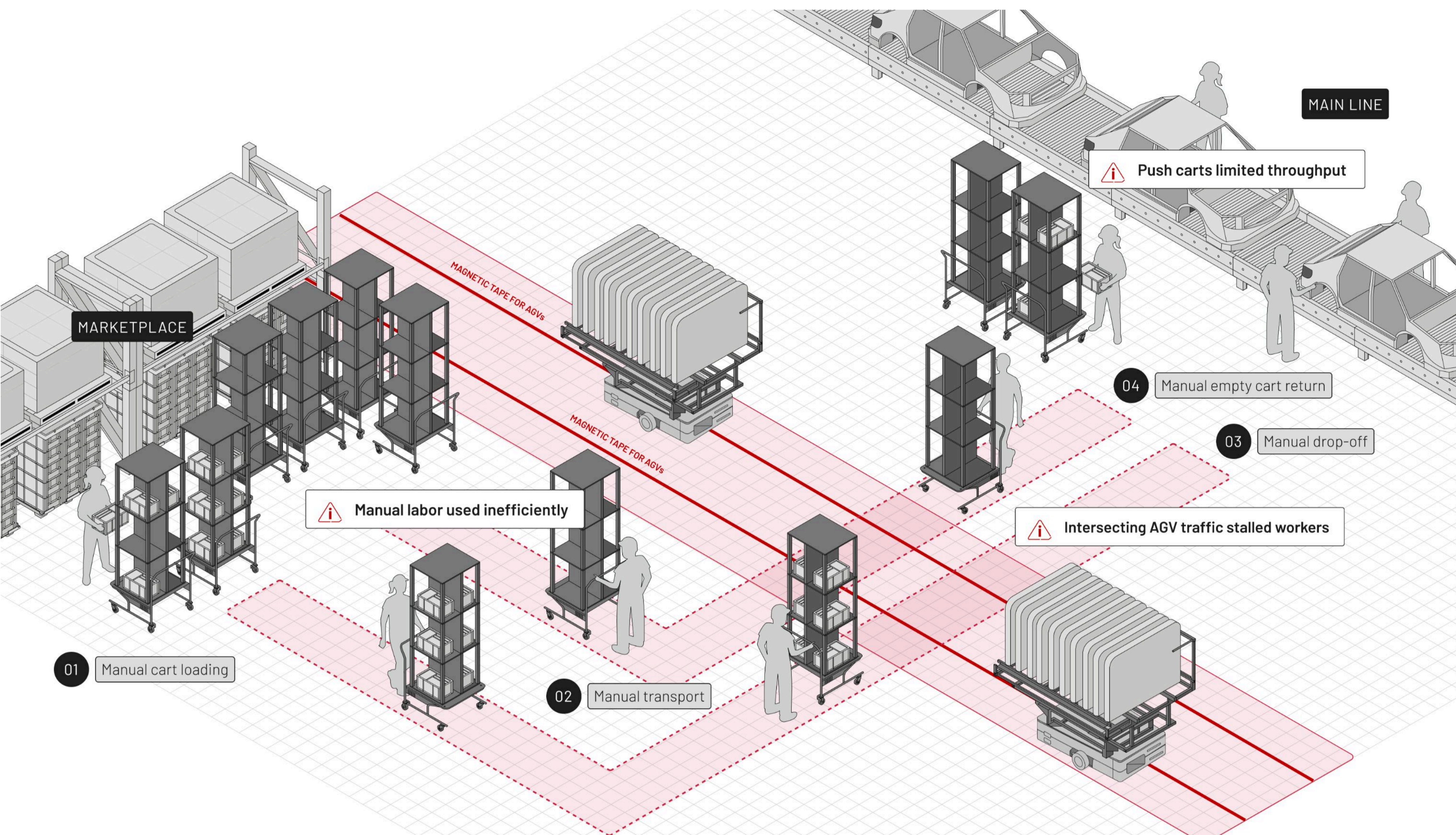
**OTTO 100**



**OTTO 600**

# LEGACY WORKFLOW

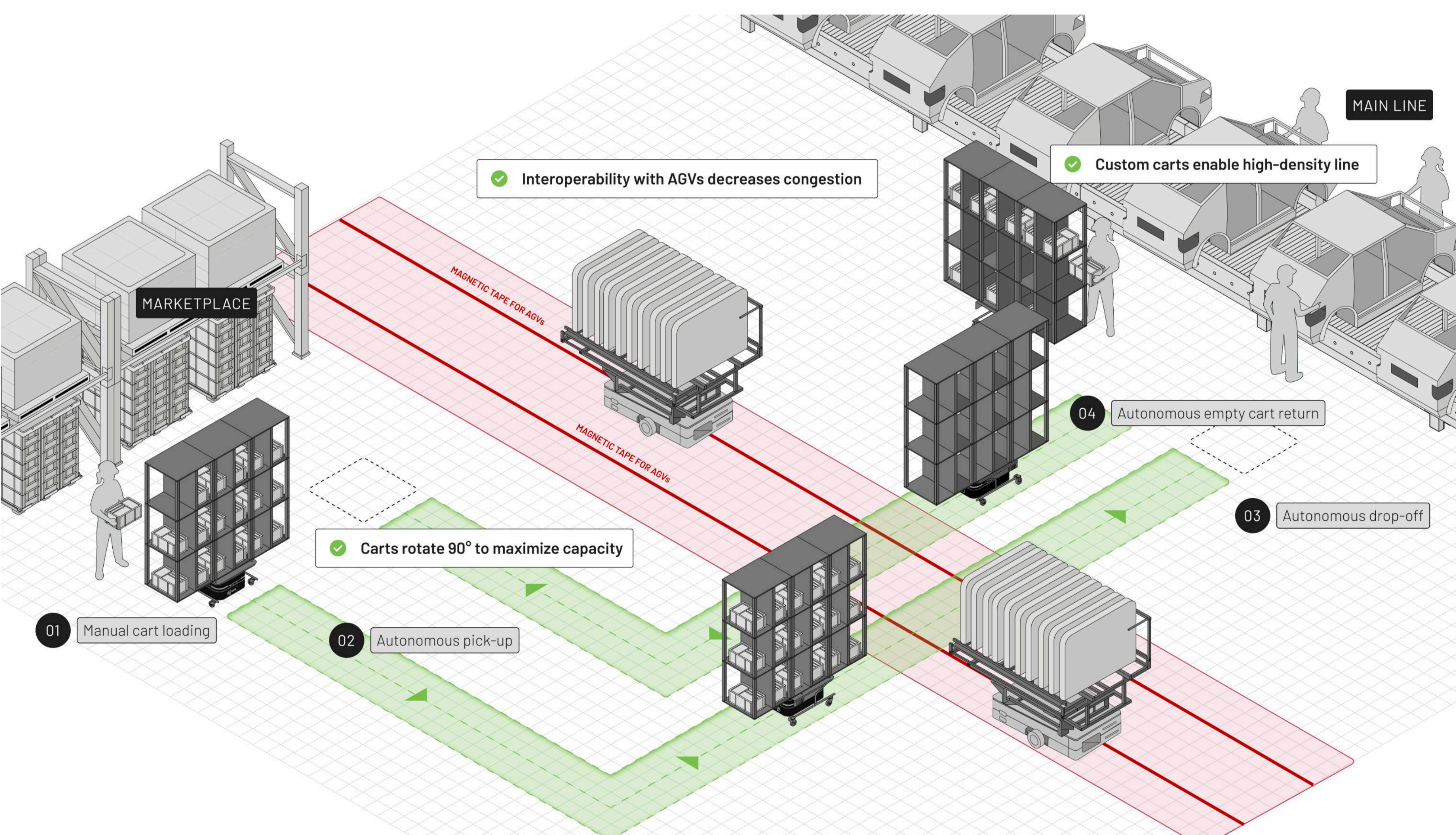
Manual cart movement constrained throughput and labor efficiency.



- Manual labor used inefficiently**  
Manual cart pushing pulled workers away from high-value marketplace and assembly tasks.
- Intersecting AGV traffic stalled workers**  
Operators pushing carts were delayed at intersections waiting for AGVs to pass, reducing throughput.
- Push carts limited throughput**  
Manual cart transport couldn't meet throughput required to achieve facility's increased production density goals.

# AUTONOMOUS WORKFLOW

AMRs with custom carts maximize capacity and boost productivity.



- Carts rotate 90° to maximize capacity**  
Custom carts move higher volumes through narrow aisles, rotating at endpoints to deliver along the line and streamline the handoff with operators.
- Interoperability with AGVs decreases congestion**  
OTTO AMRs are interoperable with existing AGVs, ensuring efficient traffic coordination at shared intersections.
- Custom carts enable high-density line**  
The carts are designed to reduce cycle times and increase carrying capacity to meet the facility's increased production density goals.

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