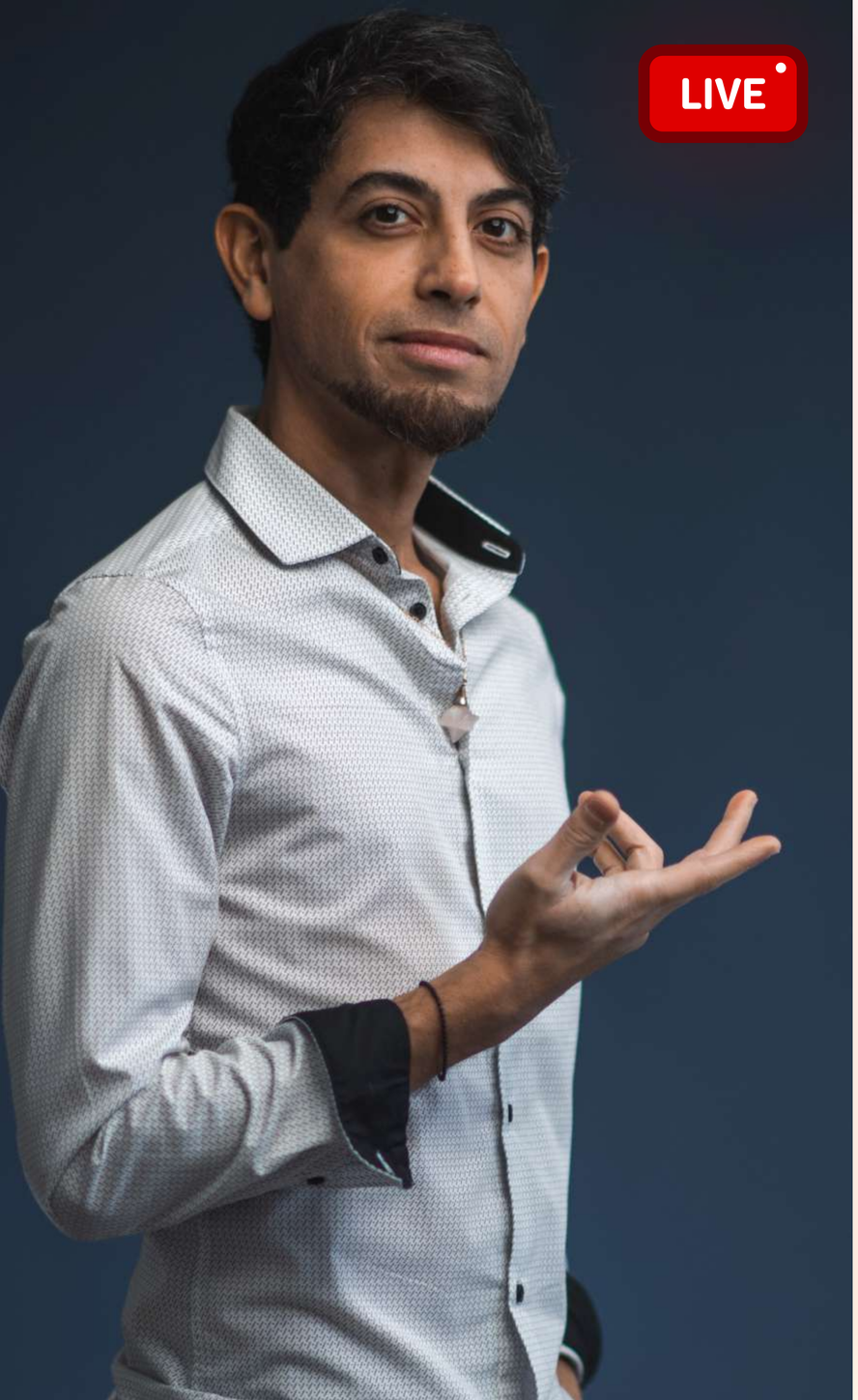

SESSION 1

11/11/2021 • 1 PM EST

Path to Autonomous Retail.

Hosted by founder and CEO, **Haitham Al-Beik**.
Register and join our live sessions at **wings.business/sessions**.

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SESSION 1

Path to Autonomous Retail

- Levels of Autonomy (preliminary)
- Expectation of an Autonomous Retail
- Stations and Workflows
- Impactful Implementation of Automation
- Automation Implementation Models
- Examples of Automation Implementation Models
- **Q&A**

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RETAIL

Autonomy Levels

TRADITIONAL RETAIL

L0

- No workflow automation
- No station automation - including digital orders
- End-to-end human labor
- End-to-end human-to-human communication
- Customer-to-business interaction is fixed

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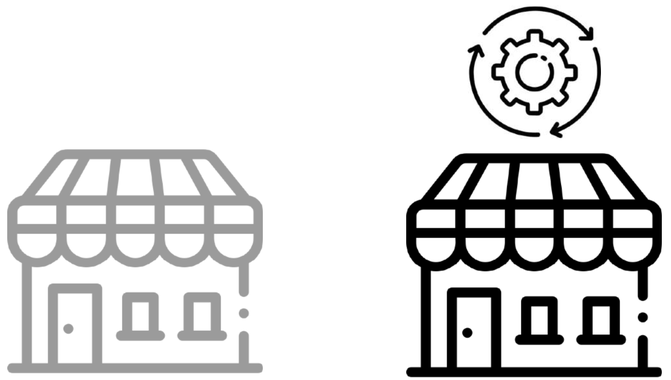
RETAIL

Autonomy Levels

ASR 1 AUTONOMY

HYBRID RETAIL



L0 L1

- At least one workflow automation
- Reduction in human labor (optional)
- Reduction in human-to-human communication
- Customer-to-business interaction is more versatile (ordering)

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RETAIL

Autonomy Levels

ASR 2
AUTONOMY

AUTONOMOUS RETAIL

L0 L1 L2-L3

- Multiple workflow automation
- At least one station automation
- Further reduction in human labor
- Further reduction in human-to-human communication
- Customer-to-business interaction is more versatile (delivery)

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RETAIL

Autonomy Levels

ASR 3
AUTONOMY

AUTONOMOUS RETAIL

L0 L1 L2-L3

- All workflows are automated (internal logistics)
- At least two adjacent stations are automated
- Limited human-to-human communication for intervention
- Customer-to-business interaction is most versatile

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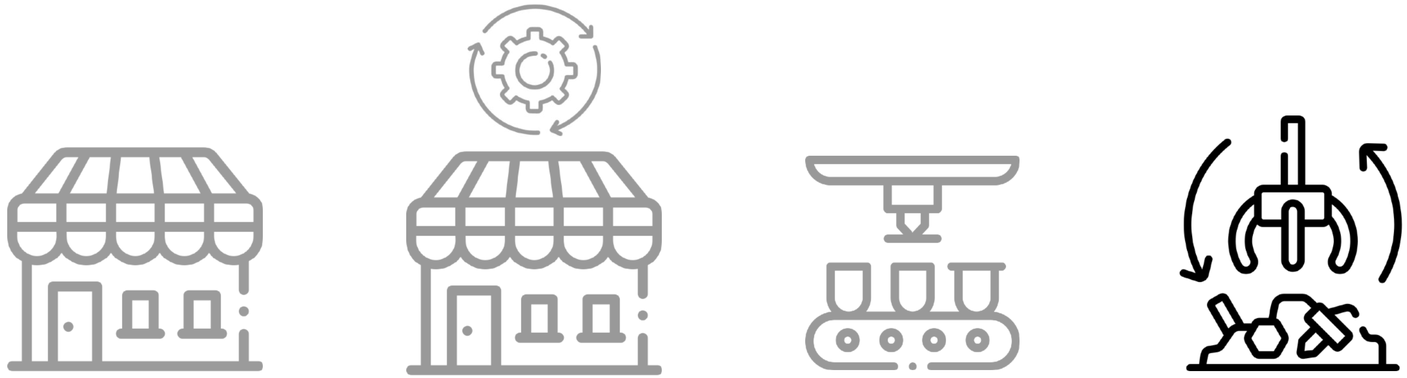
RETAIL

Autonomy Levels

ASR 4 AUTONOMY

SUSTAINABLE AUTONOMOUS RETAIL



L0 L1 L2-L3 **L4**

- Retail is fully electrified (no gas or petrochemicals)
- Automated waste management, cleaning, and recycling
- 80% of the materials are recyclable and renewable
- Human workforce are optional
- Customer-to-business interaction is fully personalized

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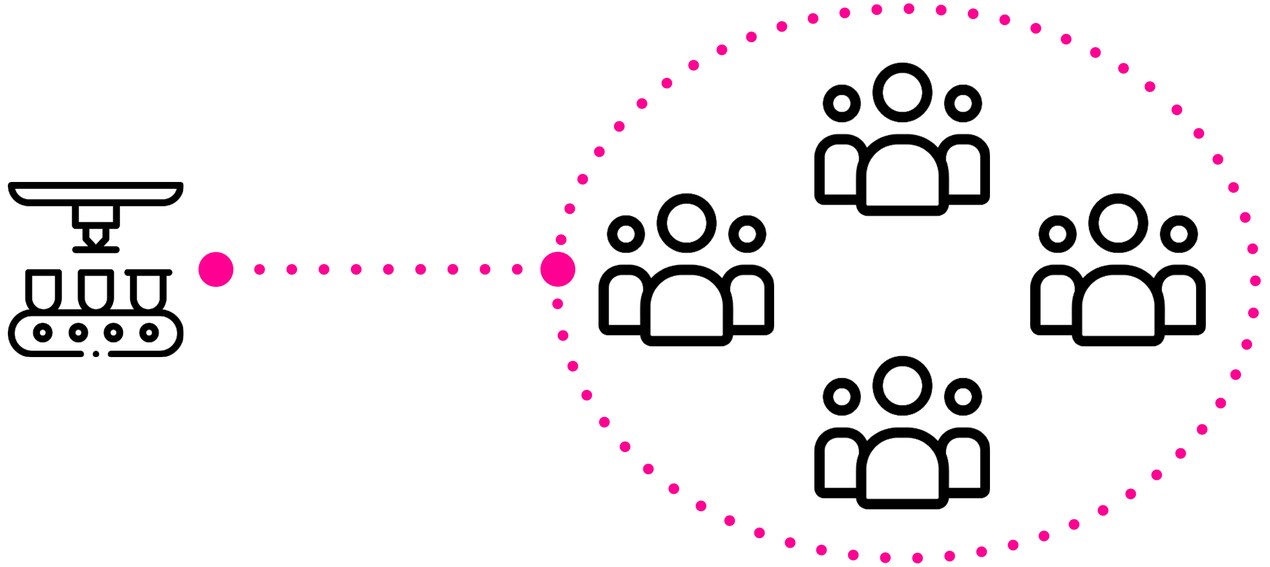
AUTONOMOUS RETAIL

Expectations

Increase in confidence for everyone involved.

More efficient business model with higher ROI.



- Increased I/O bandwidth of stations and the retail as a whole.
- Increased concurrent operations at every station.
- Increased staff focus and their station permanence.
- Increased personalization features (i.e. sensitivities & allergies.)
- Language independency with internationalization (i18n.)
- Real-time bi-directional communication system.
- Transparent inventory and business operations.
- Sustainable logistics with scalable and modular components.

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Concierge

Eliminates P.O.S.

Live consumer activity.

Administer operations.

Robotics

24/7 operations.

Efficient deliveries.

Safe and clean.

Robotic Sensors

Guiding systems.

Versatile delivery points.

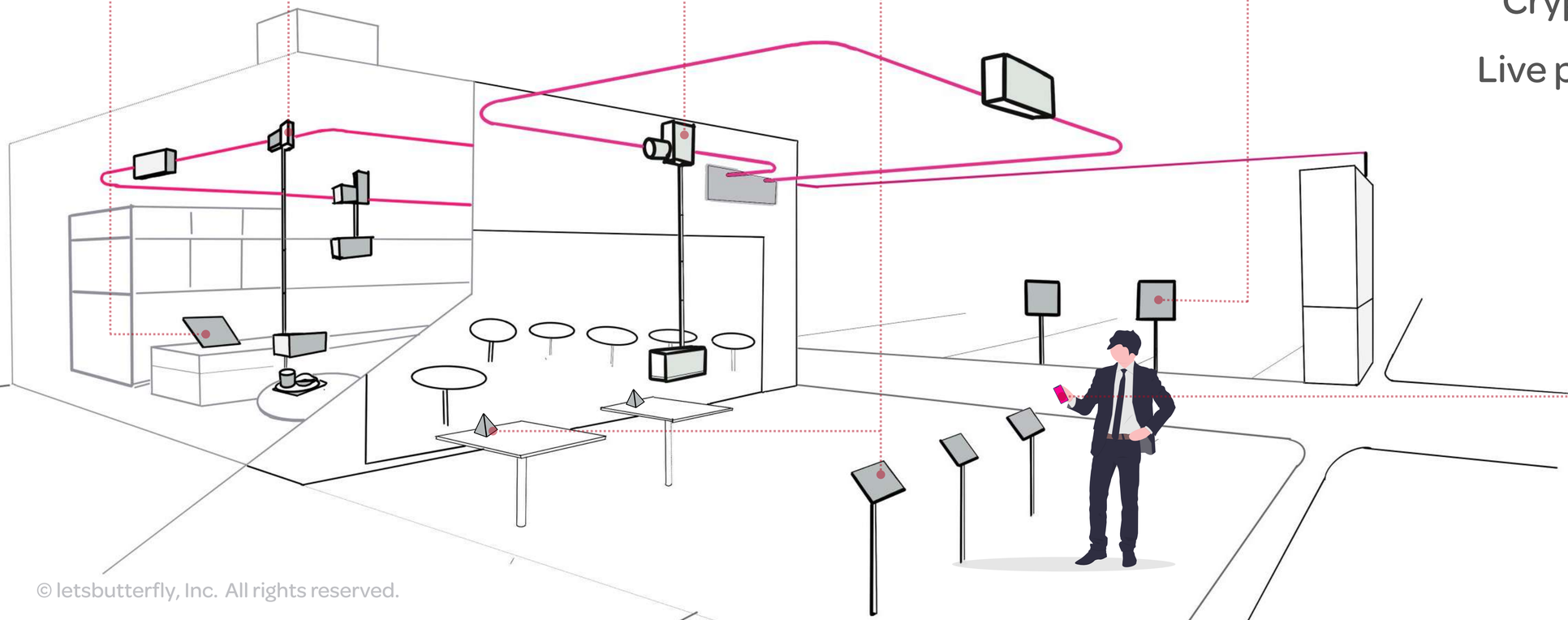
Service terminals.

Mobile App

Consumer A.I. Interface.

Crypto-authenticated ID.

Live personalized services.



ASR 2 AUTONOMY

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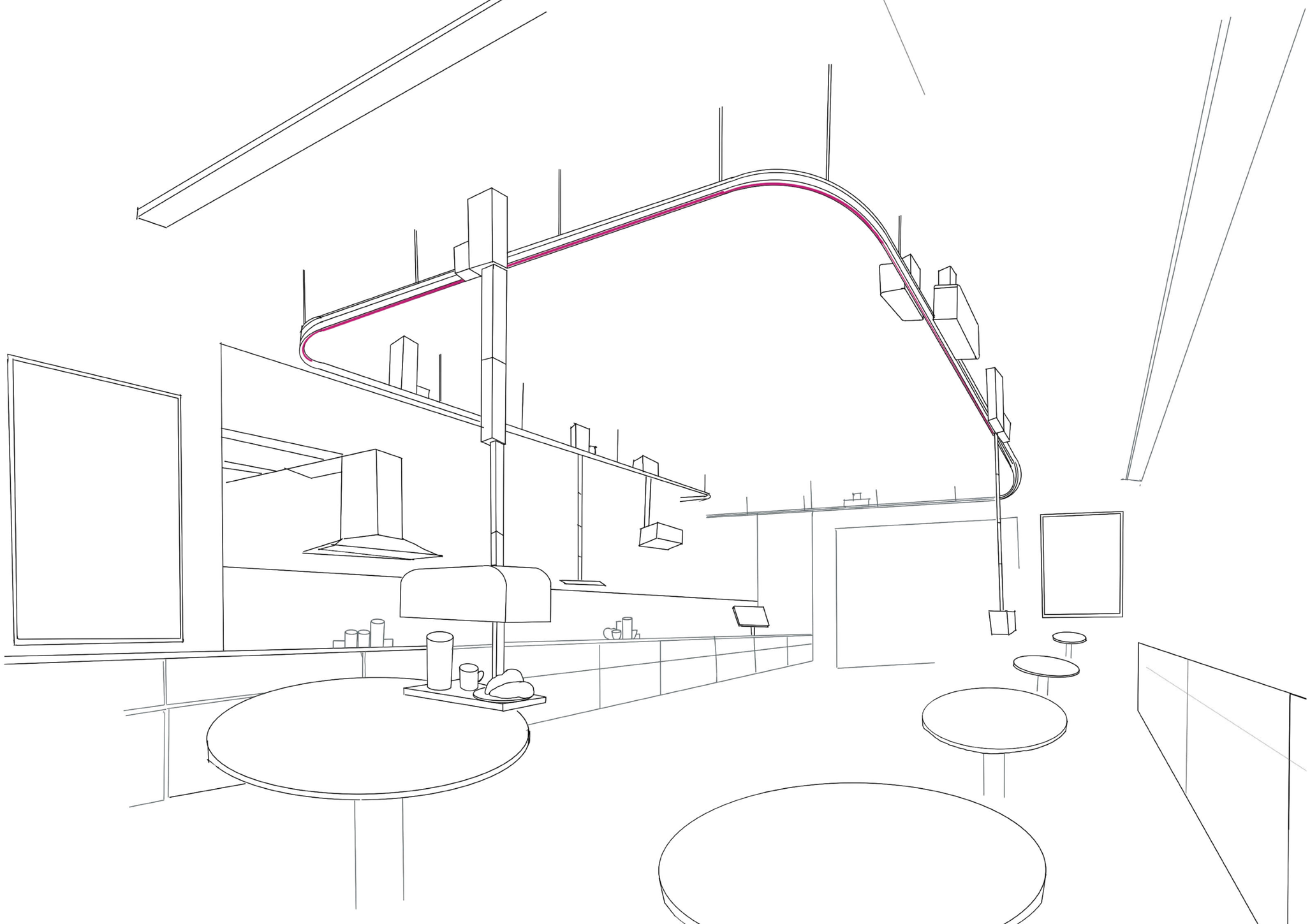
ASR 2
AUTONOMY



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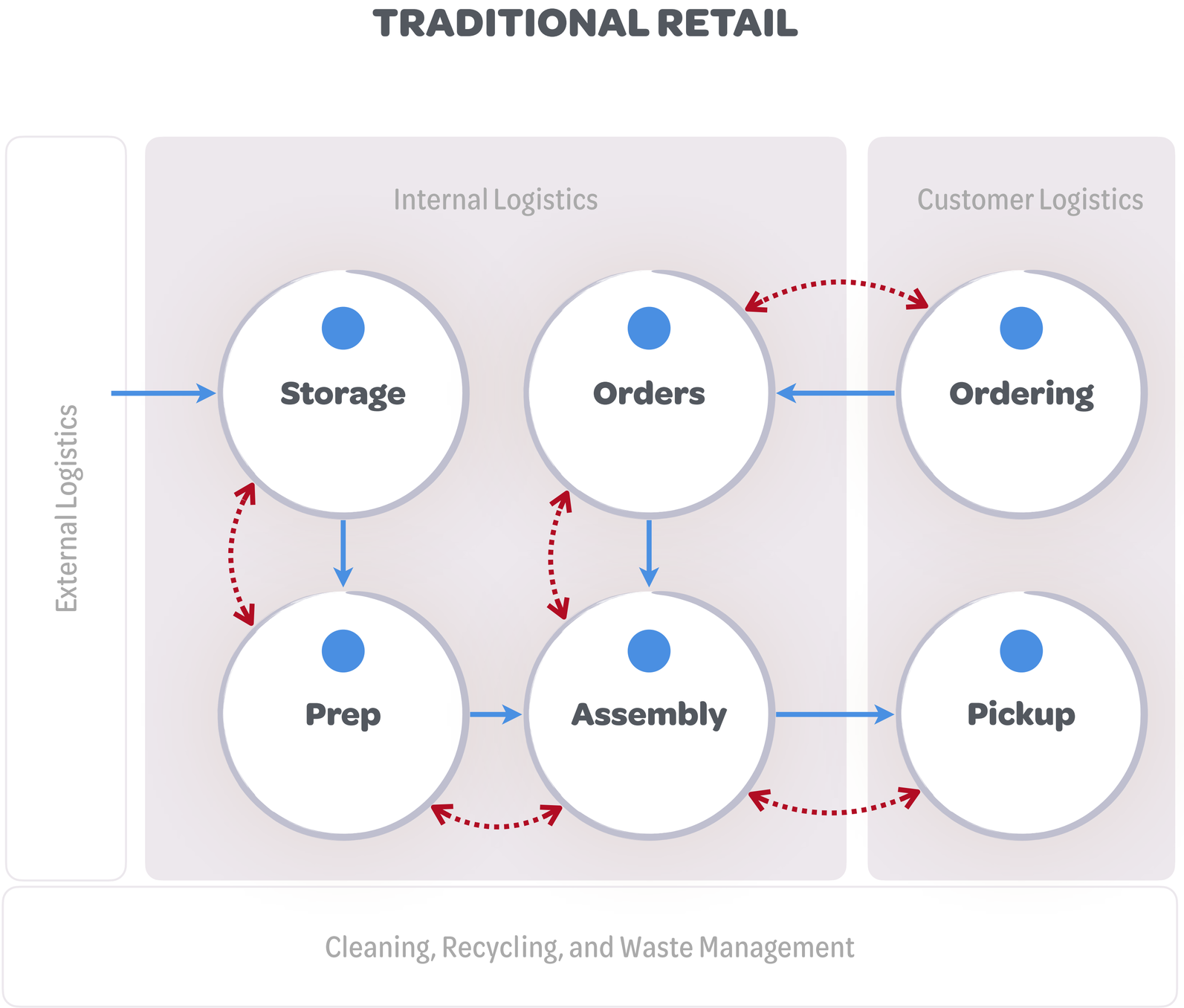
LOGISTICS

Stations and Workflows



Human Operation

Human Workflow

Human-to-Human Communication

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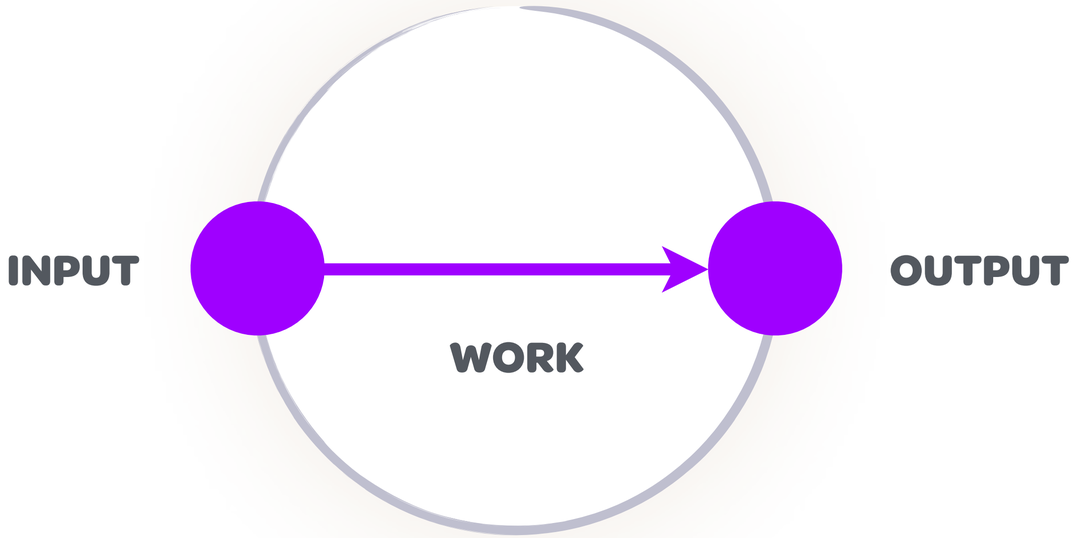
LOGISTICS

Stations and Workflows

STATION OVERVIEW



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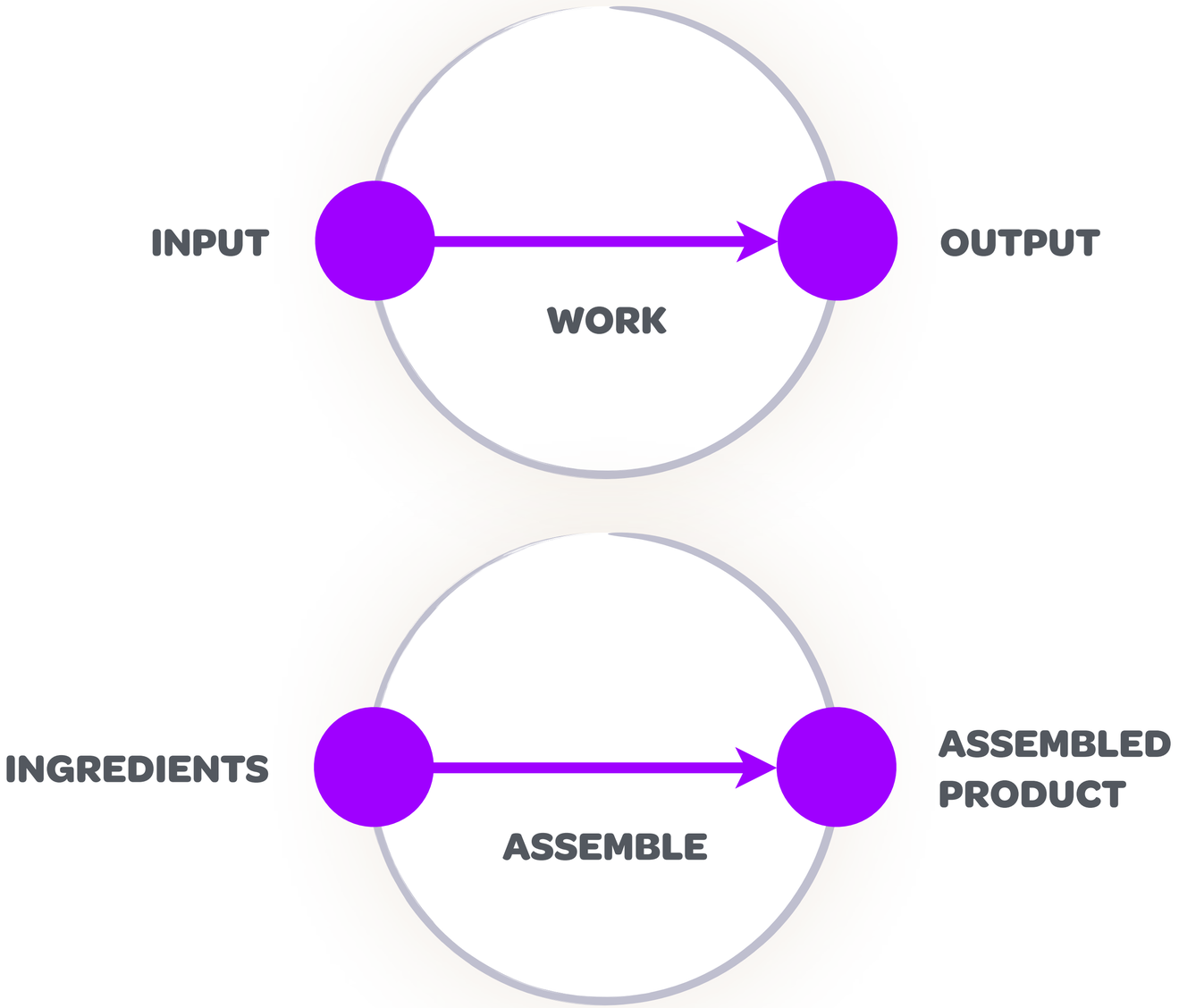
LOGISTICS

Stations and Workflows

ASSEMBLY STATION OVERVIEW



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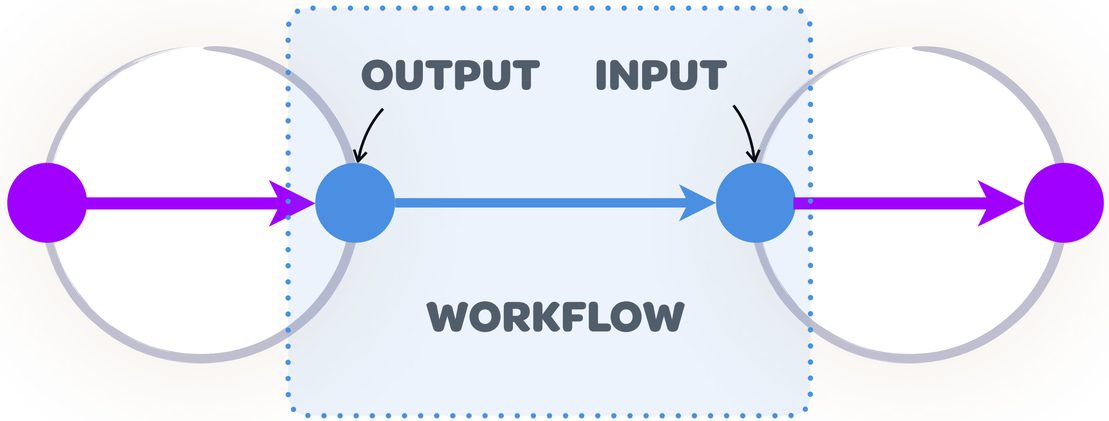
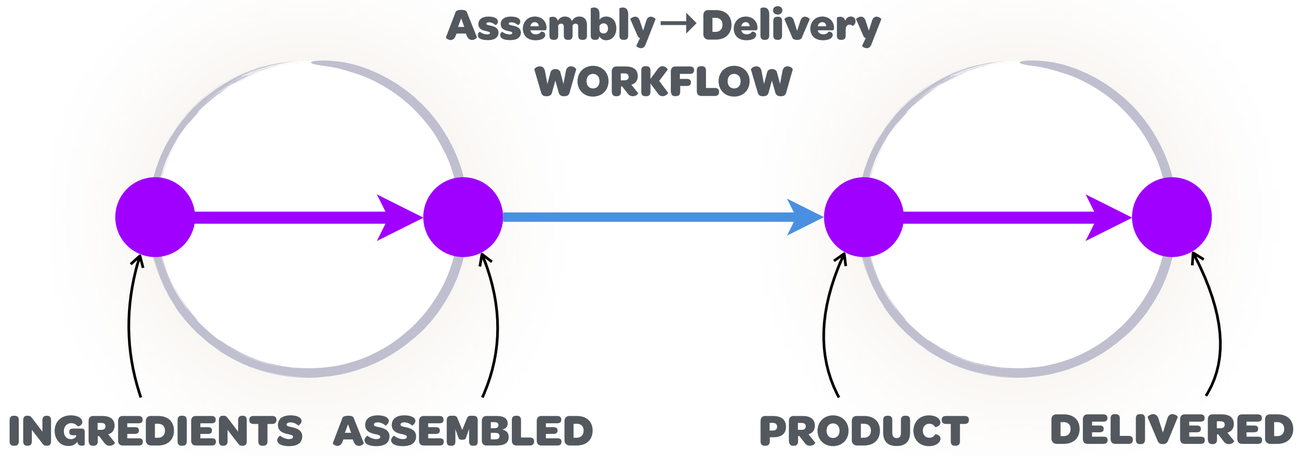
LOGISTICS

Stations and Workflows

WORKFLOW OVERVIEW





Assembly Station

Delivery Station

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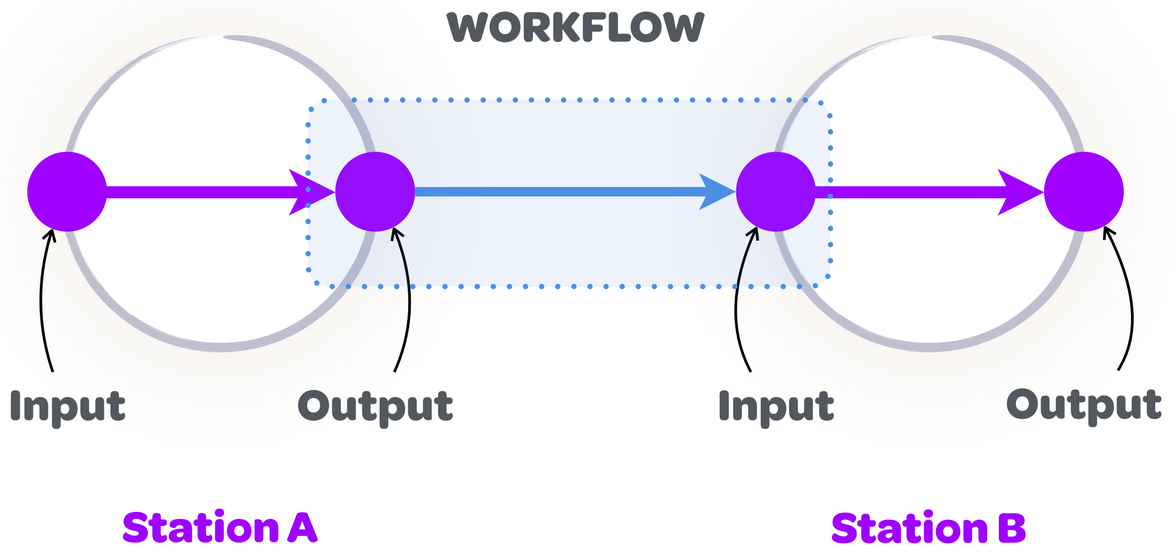
LOGISTICS

Impactful Implementation of Automation



- Every step towards automation must include a workflow.
- Automated stations with traditional workflows are bottlenecks.
- Automate workflows for an increased I/O from relevant stations.
- Begin with workflows with most friction and work backward.
- Uni-directional workflows enforce separation of concern design.
- Elevate the experience at either or both ends of the workflow.
- Optimize based on cost & revenue from and to every station.

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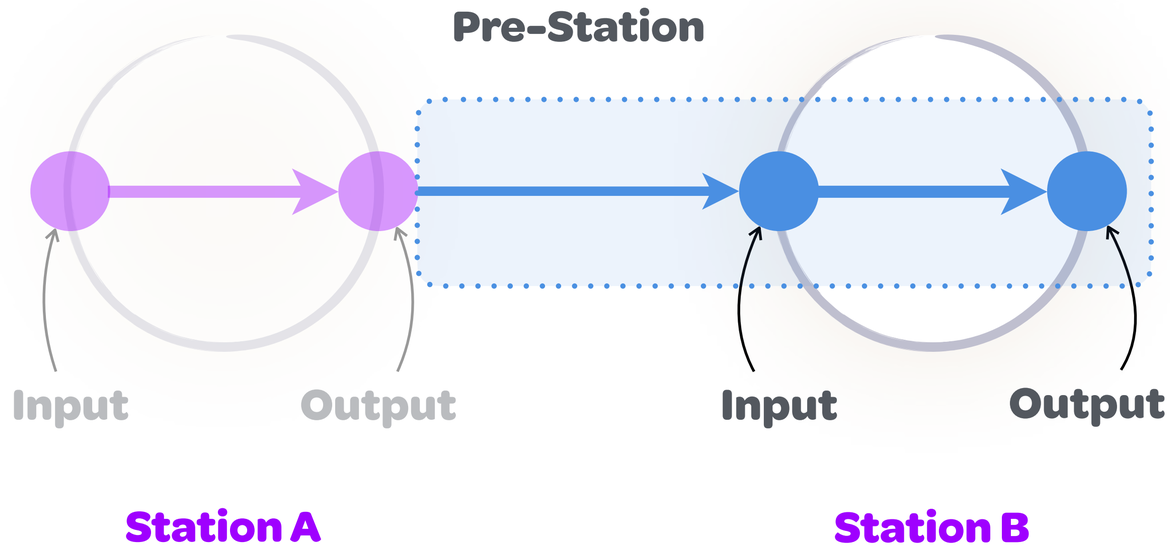
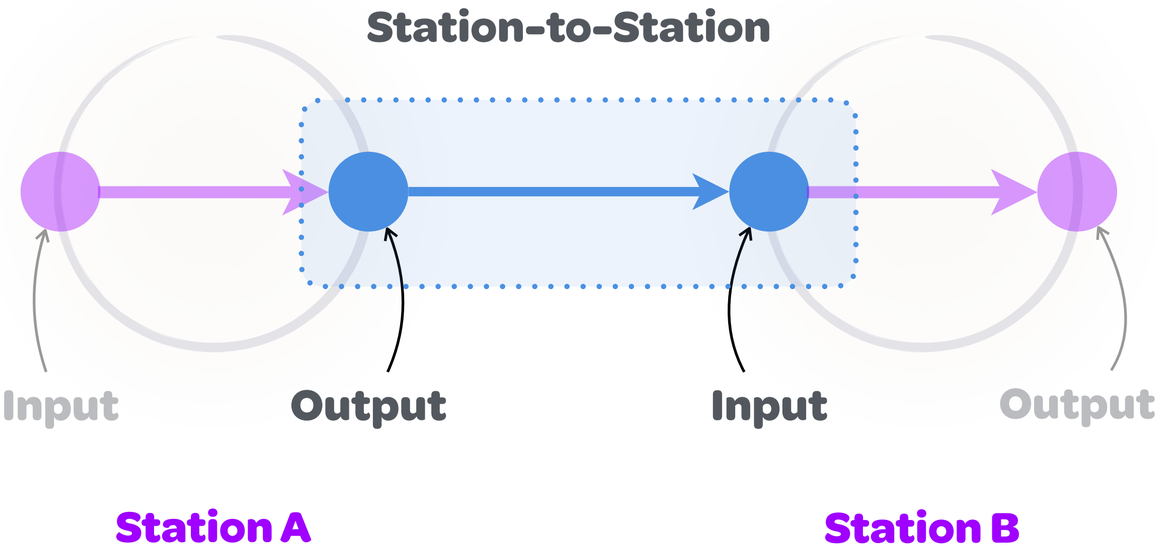
LOGISTICS

Models of Automation Implementation





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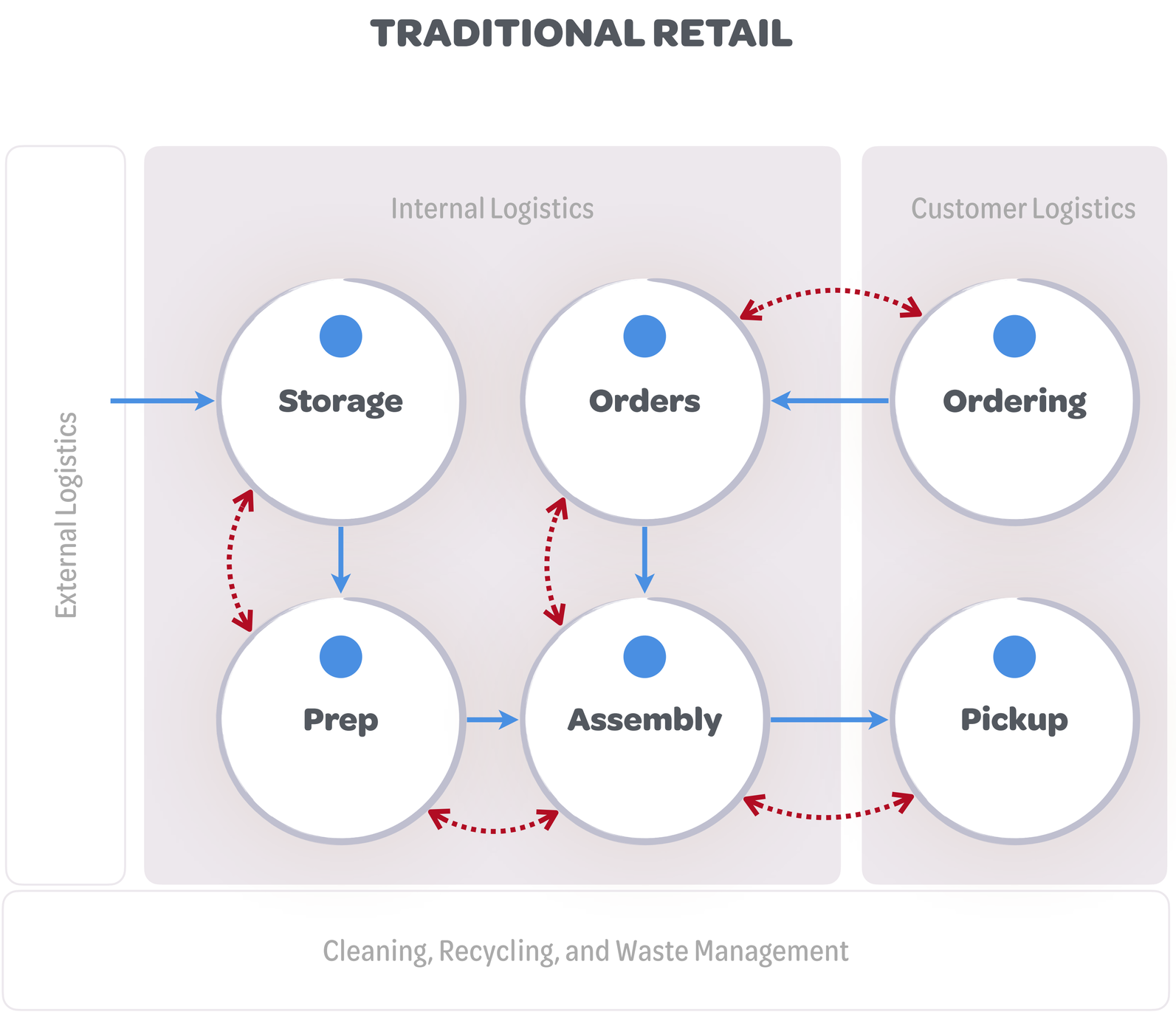
LOGISTICS

Models of Automation Implementation



Human Operation

Human Workflow

Human-to-Human Communication

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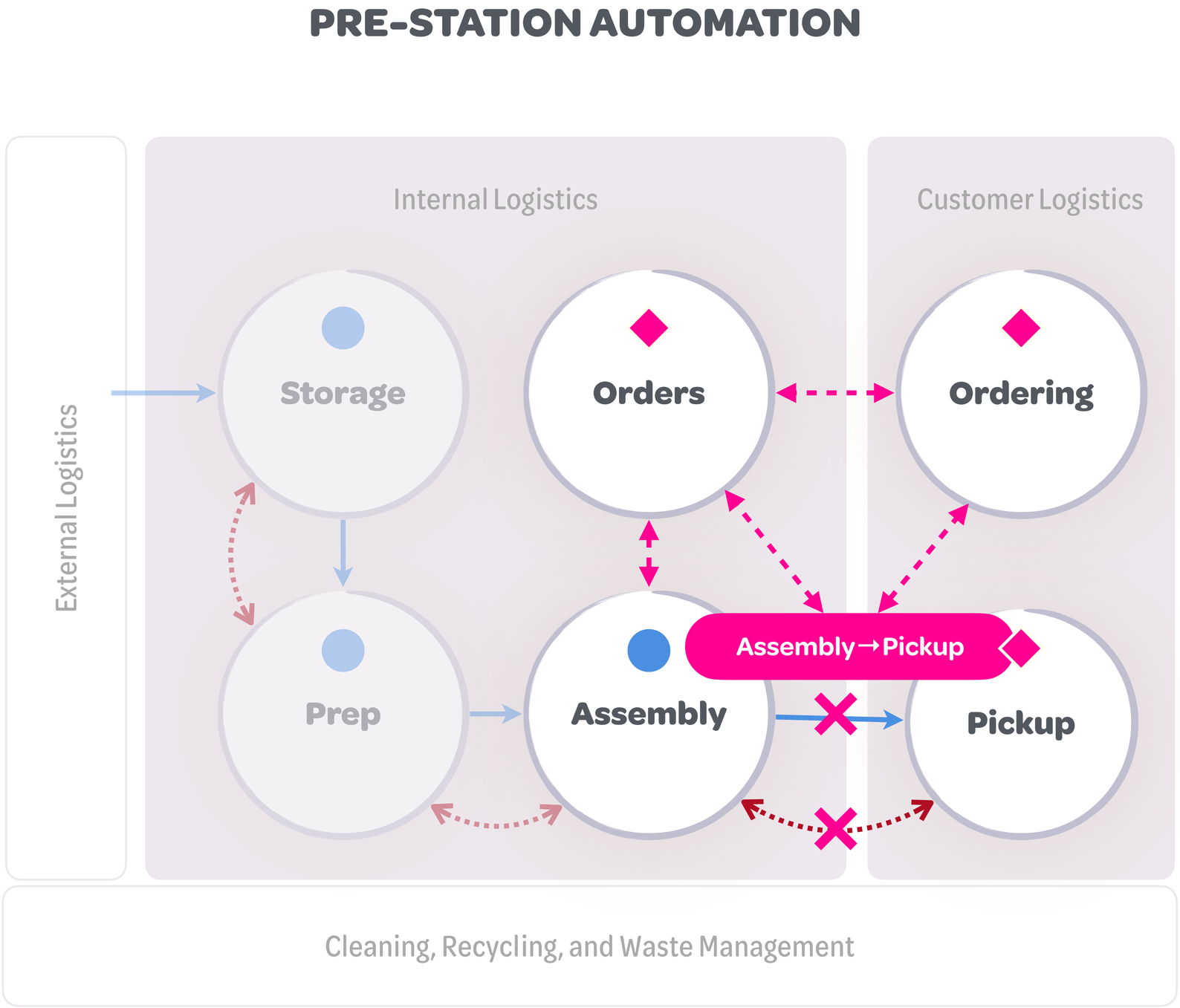
LOGISTICS

Example of Automation Implementation

- Automating Workflow
- Eliminated
- Digital Operation
- Human Operation
- Human Workflow
- Human-to-Human Communication
- Digital Automation (Workflow + Ops)



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LOGISTICS

Example of Automation Implementation

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- Digital Operation
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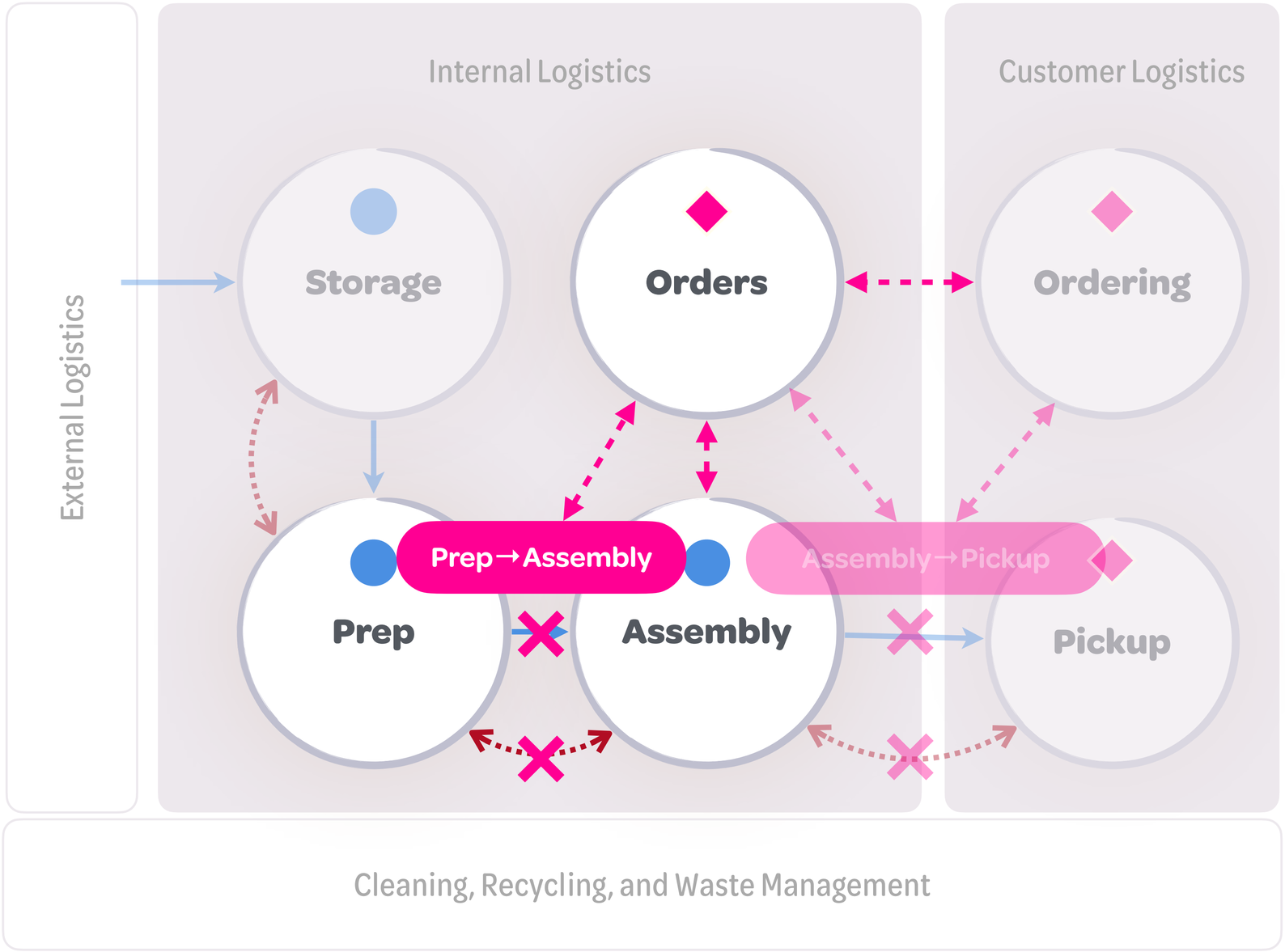
- Digital Automation (Workflow + Ops)

STATION-TO-STATION AUTOMATION



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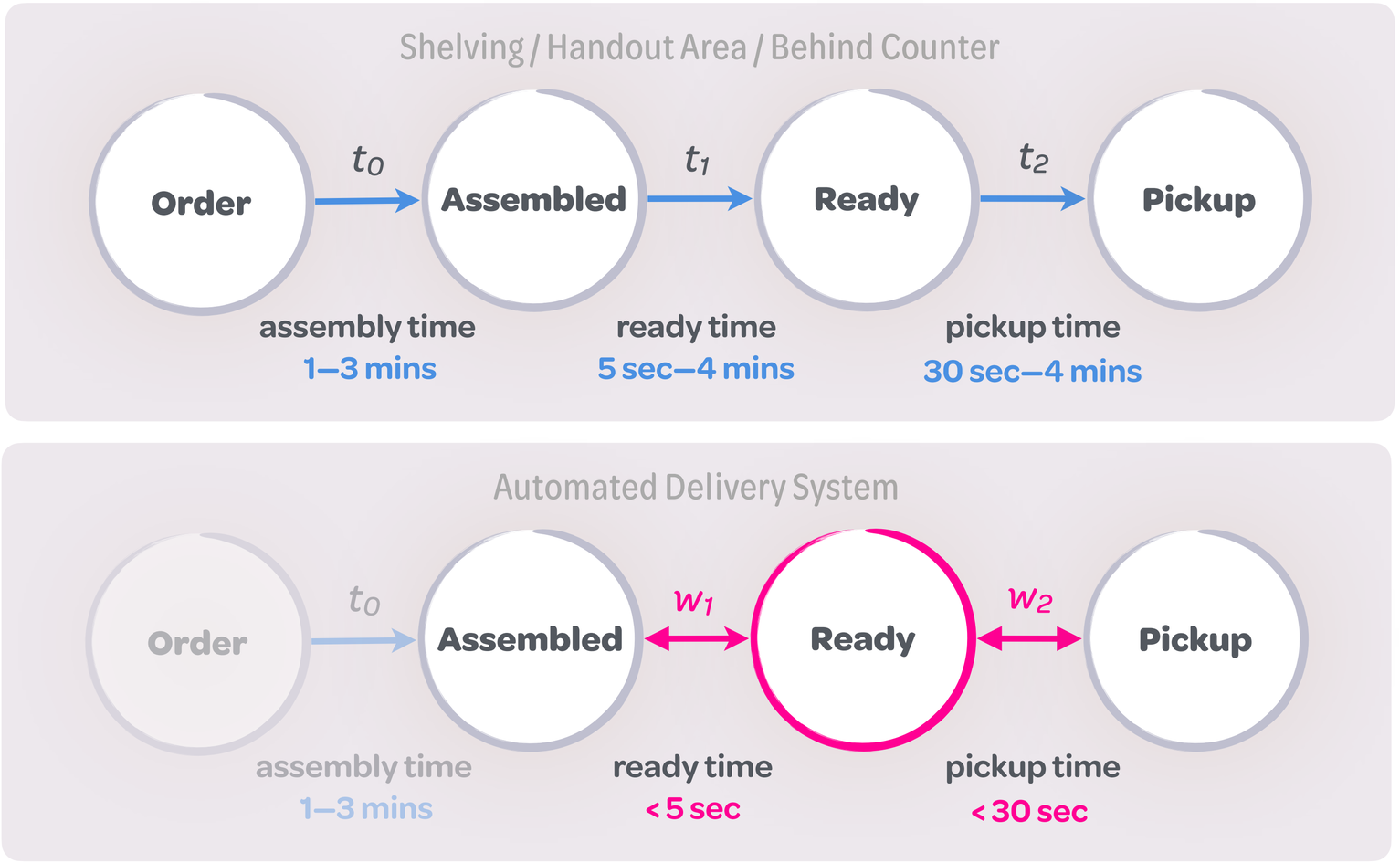
LOGISTICS

Example of Automation Implementation

Long-term Benefits

- Reduced symptoms of poor mental and physical health.
- Fewer injuries, less illness and lost time.
- Reduced sick leave usage, absences and staff turnover.
- Increased productivity and greater job satisfaction.
- Reduced costs to the employer.

AUTOMATING DELIVERY WORKFLOW



w_1 – time assembled product is ready for pickup

- Staff stays at station with more focus.

w_2 – time product to be picked up

- Fully automated; consistent performance.

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let’s make history together

If you would like to be part in our mission to accelerate the transition to a sustainable future, let’s talk!

Haitham Al-Beik
Founder and Chief Executive Officer

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508-847-8747

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