173 Decisions in a Second:

How Automated Order Processing Drives Throughput

Sponsored by:

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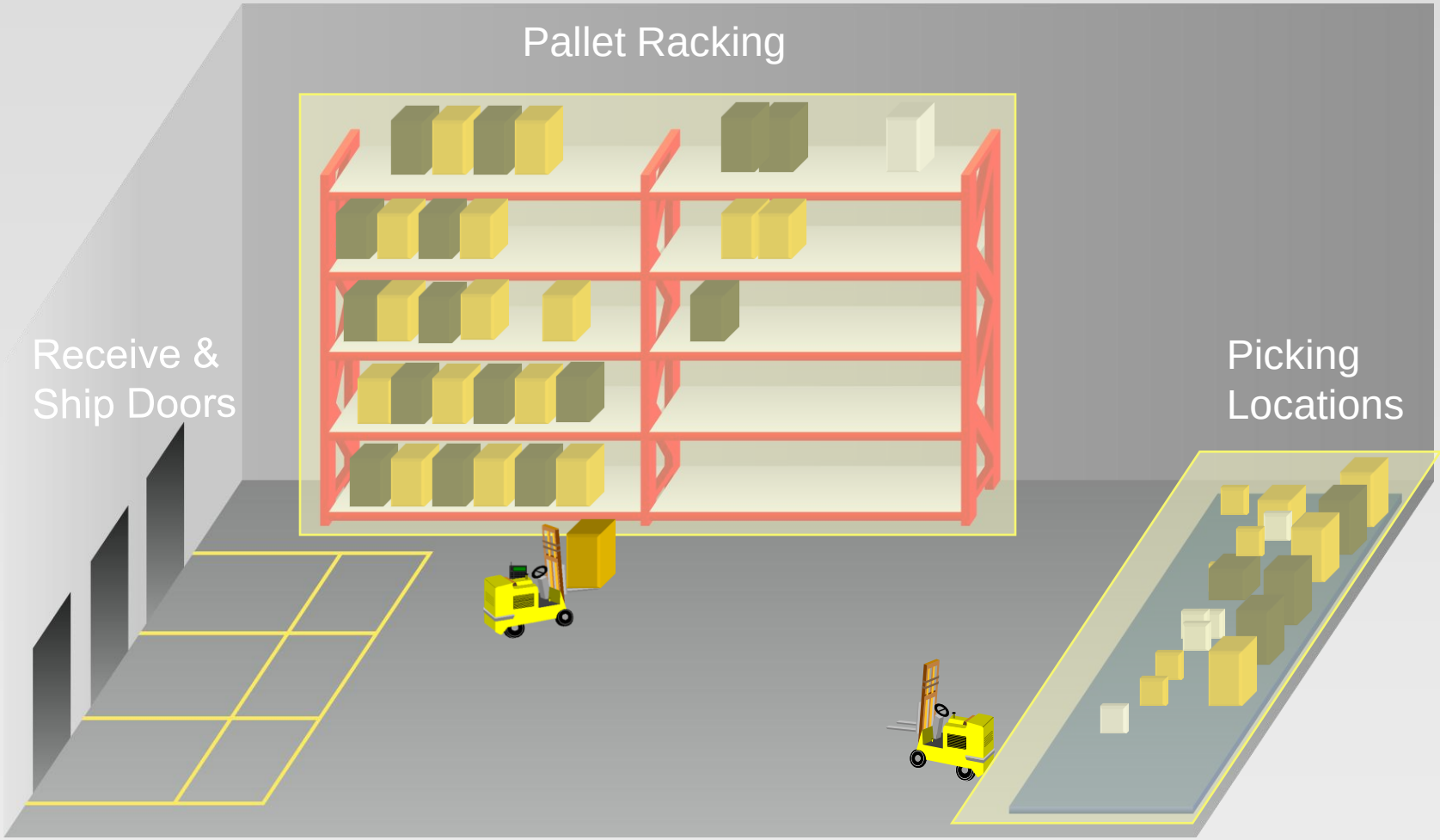
Scenario 1

Conventional Warehouse
with Reserve Storage and
Forward Picking Locations

Picking Location Assignment

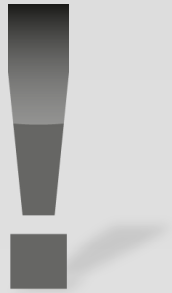
- Full pallet storage in reserve area
- Full pallet replenishment to picking area
- Loose case picking from fixed or dynamic pick locations
- Re-storage of partials that have no demand

Layout



What can this system do?

Manual Wave Building, Order Release and Allocation

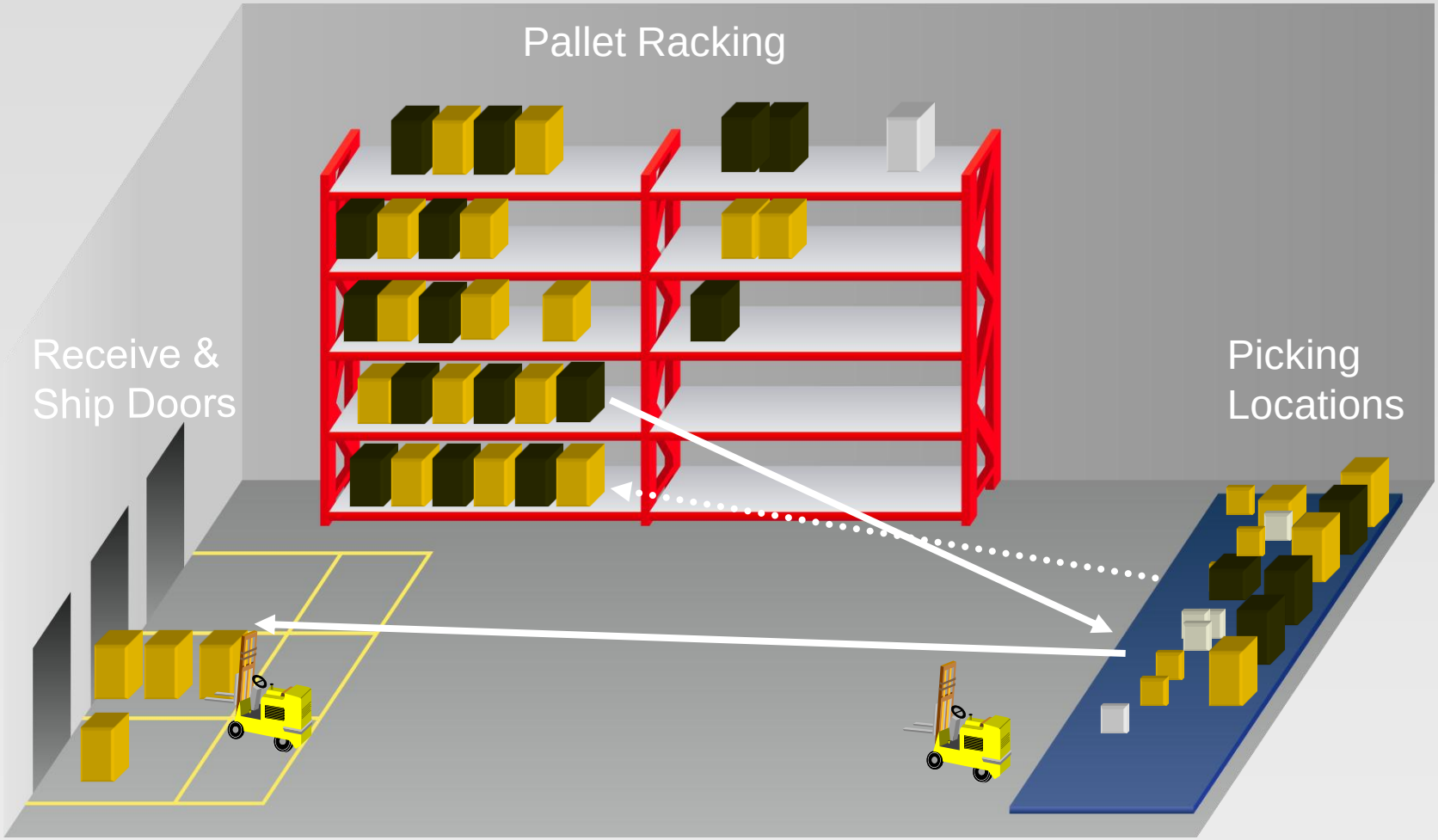


- User defined
- Based on known allocation criteria
- Snapshot of operations disposition

Conventional Picking Process

- Typically Person-to-Goods
- System Directed and User Driven
- Devil is in the Exception Handling
- Multiple Methods Available

Conventional WMS-Picking



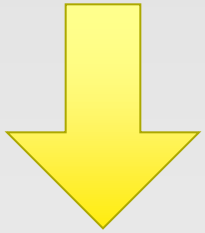
What does this system achieve?

Conventional Order Processing

Dependent on User Initiative & Control

Limited Automatic Planning Possible

Low Risk Start-Up



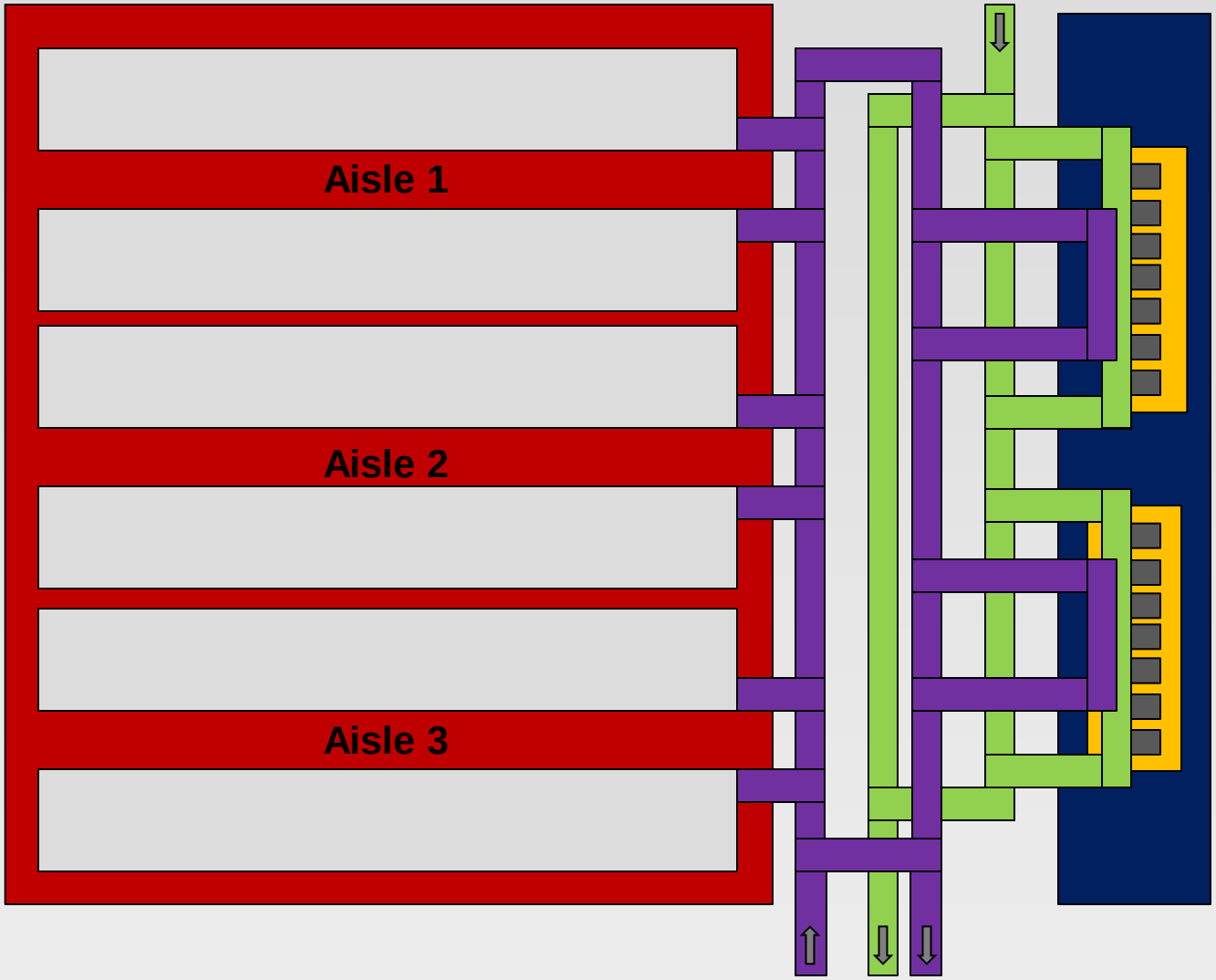
Flexibility

(*at the EXPENSE of EFFICIENCY*)

Scenario 2

3 Aisle Miniload with

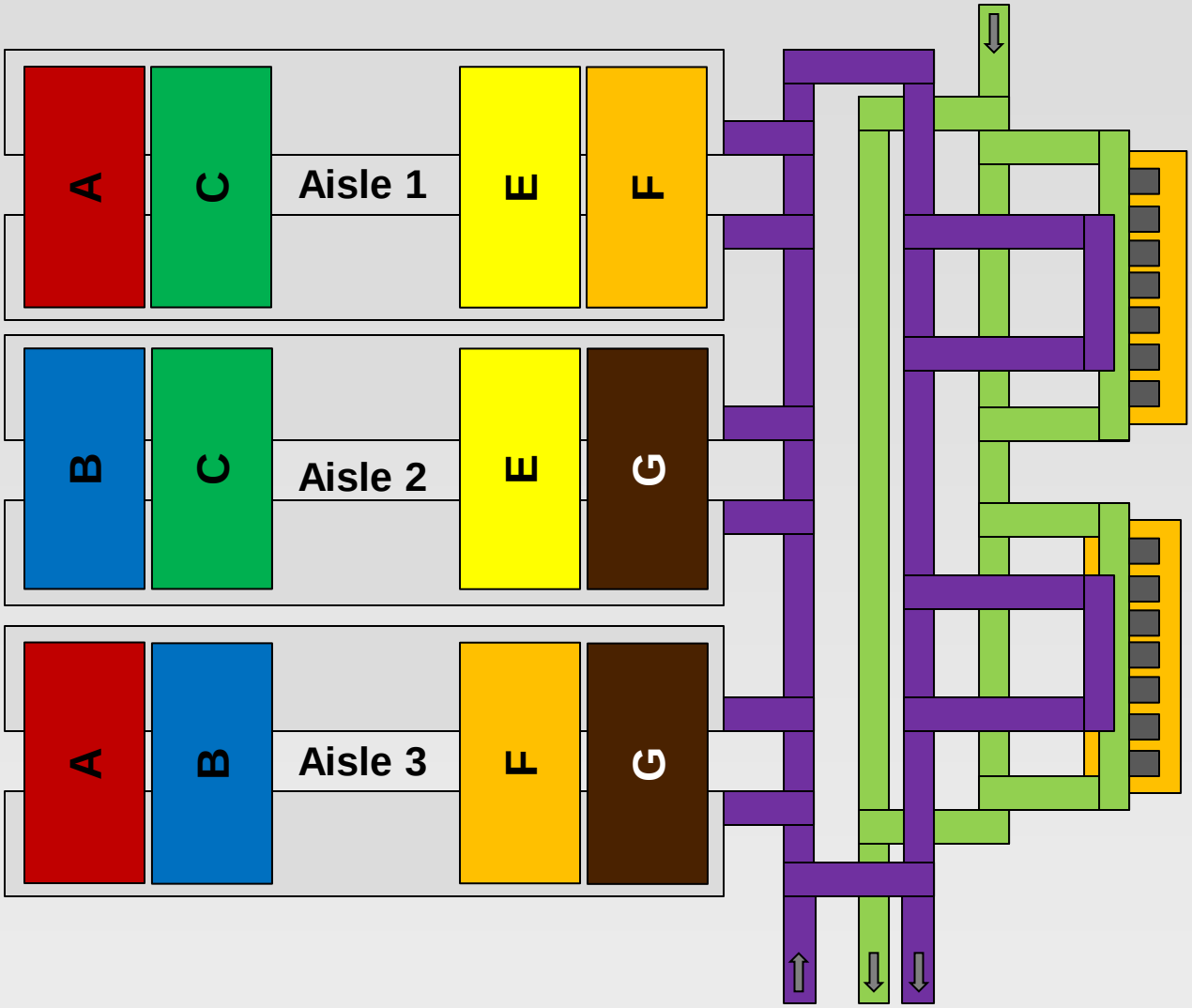
2 Goods-to-Person Workstations



Layout

Legend:

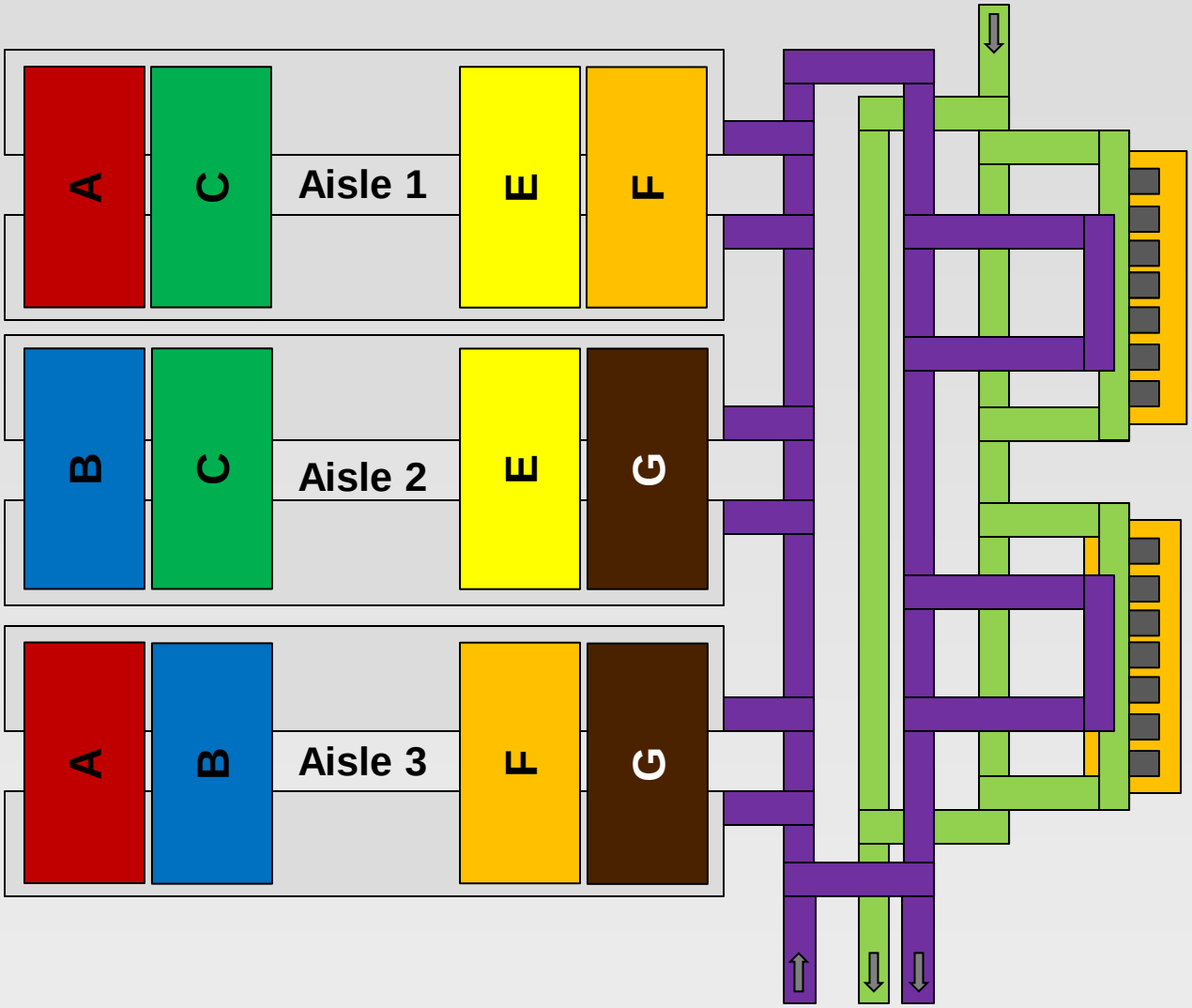
- Miniload
- Inventory Tub CS
- Order Tub CS
- GTP Workstation
- Reserve Area
- Picking Area



SKU Slotting

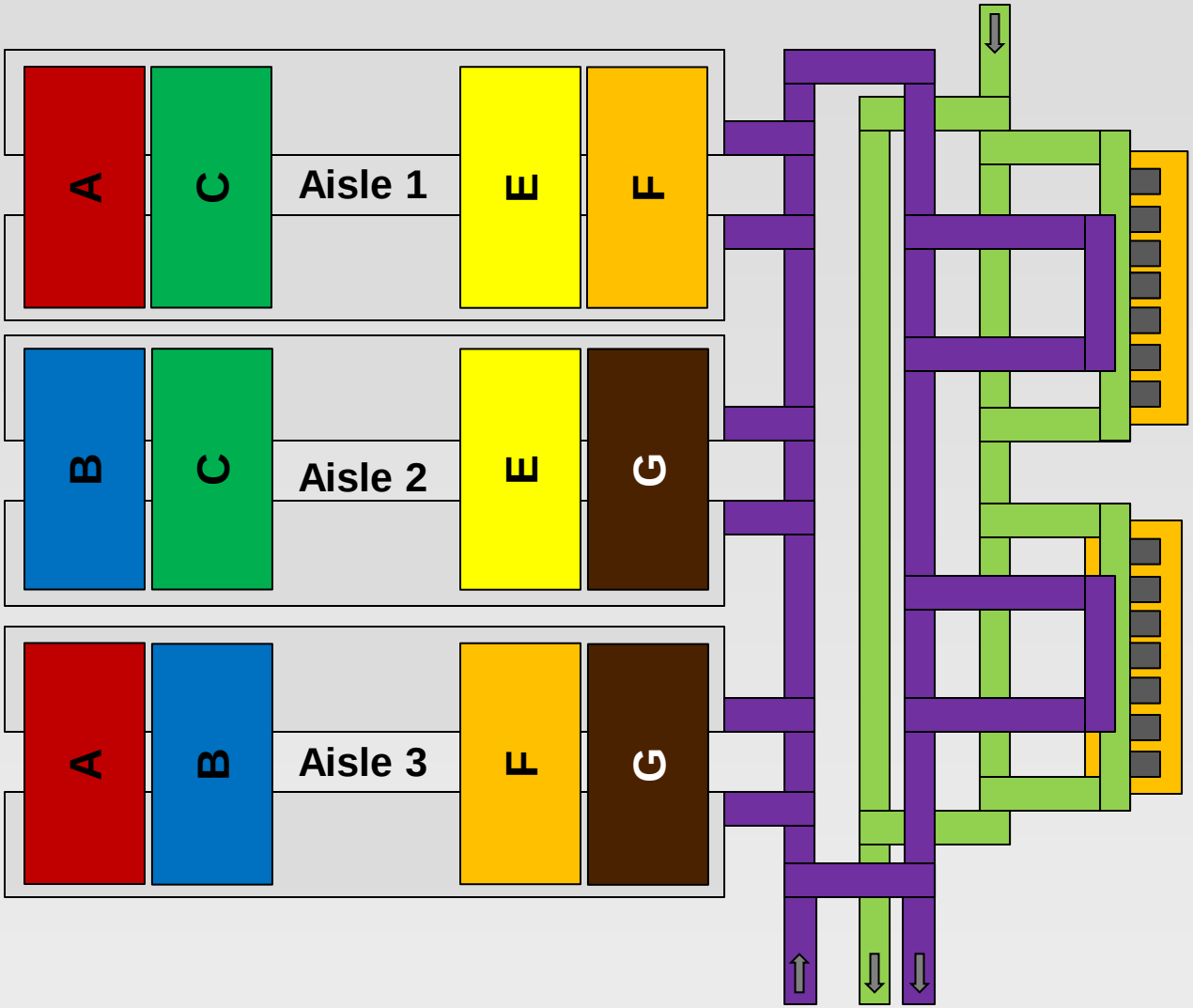
SKU's are evenly distributed across aisles with redundancy

What can this system do?



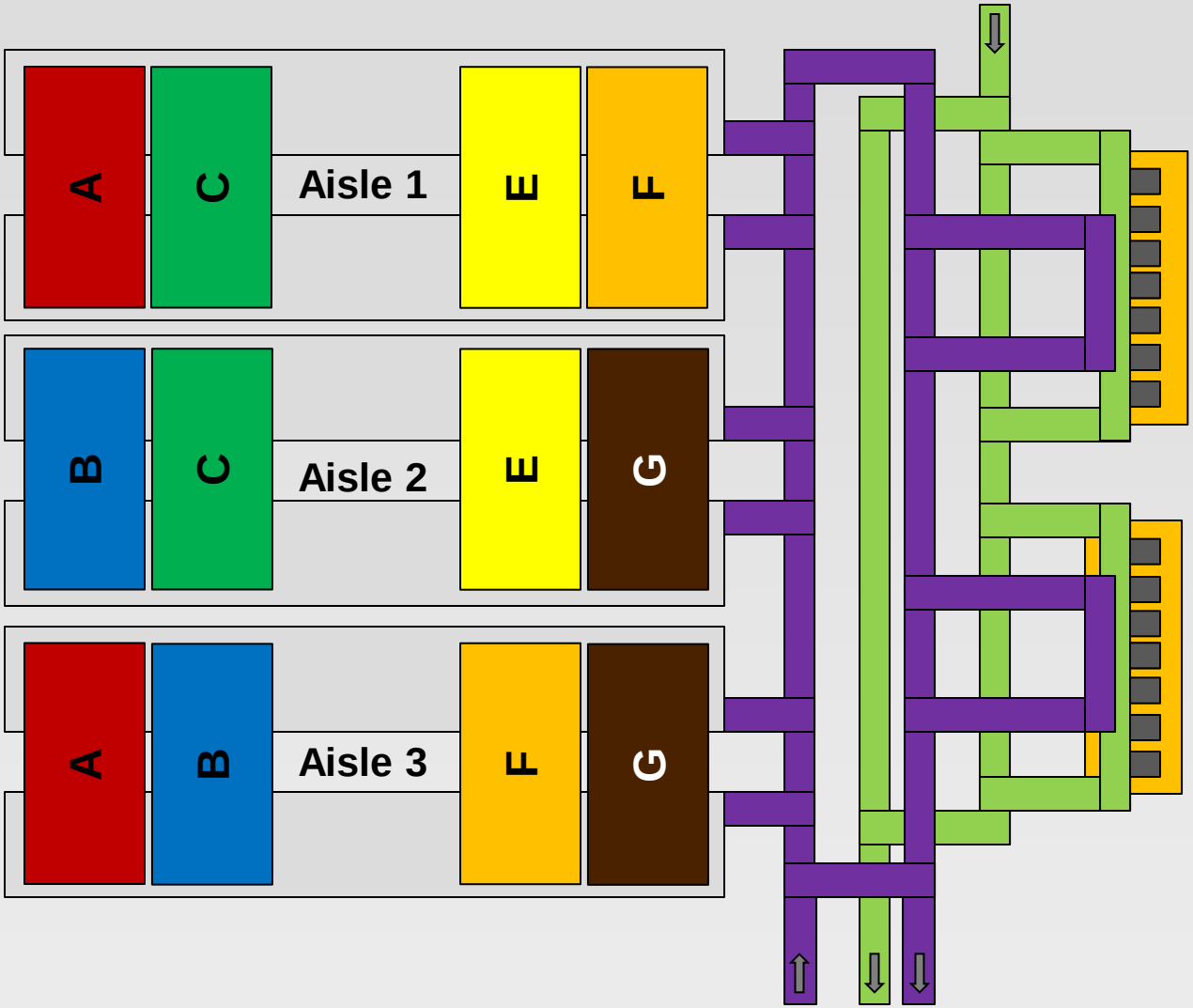
General Picking Process

The system is synchronizing the release of order tubs and inventory tubs



Automatic Substitution

Tubs with damaged or missing inventory will be automatically substituted with high priority



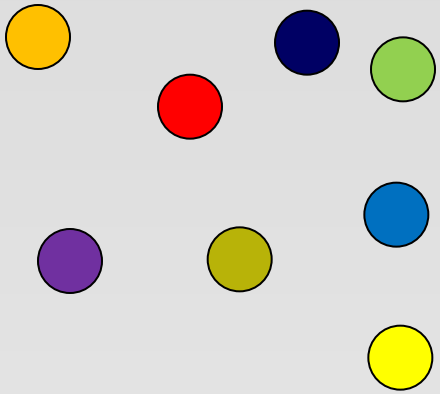
Automatic Load Balancing

Workload will be balanced across GTP workstations

How does the system do that?

Software Is The Key

Automatic Order Processing



WMS

ASRS

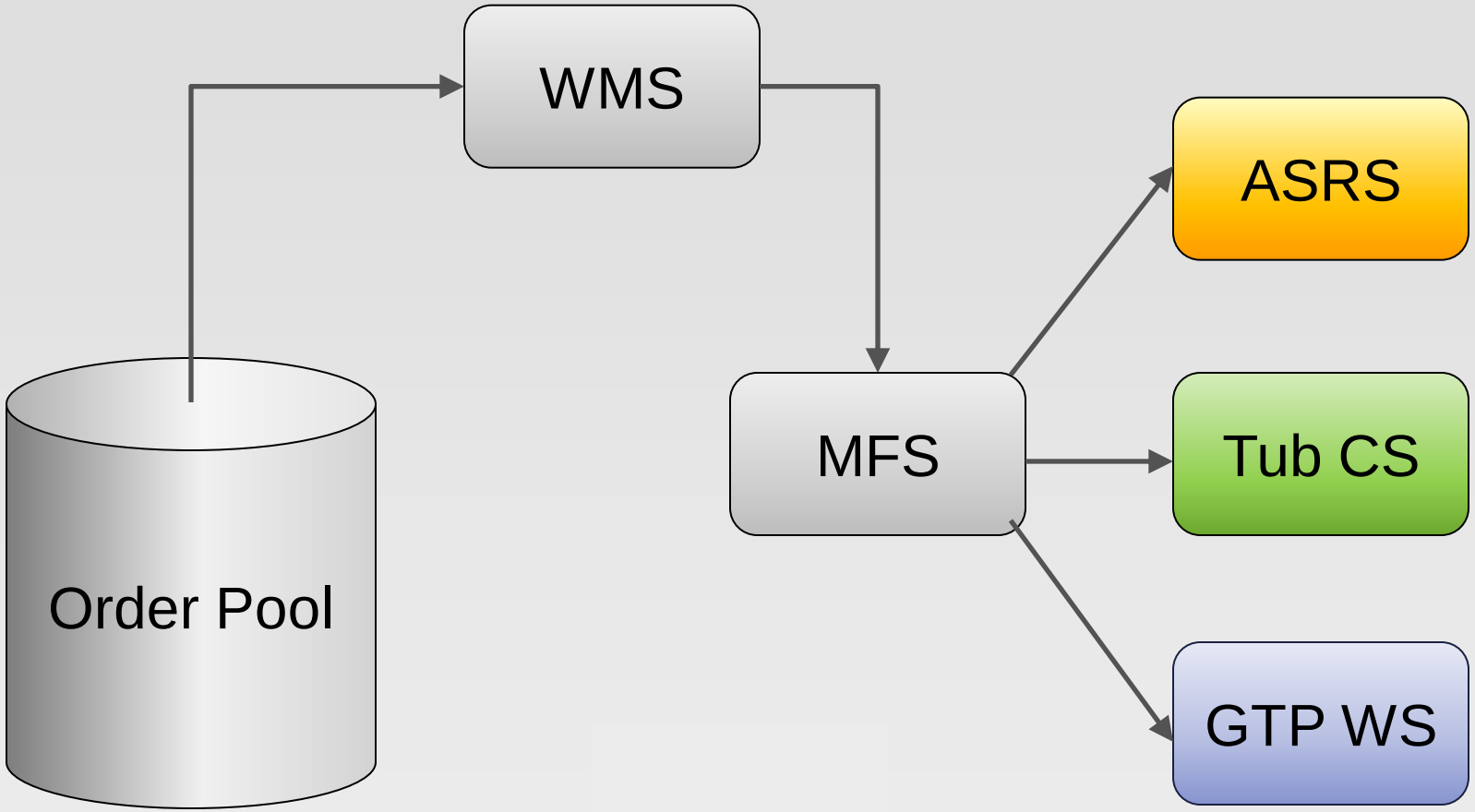
Order Pool

MFS

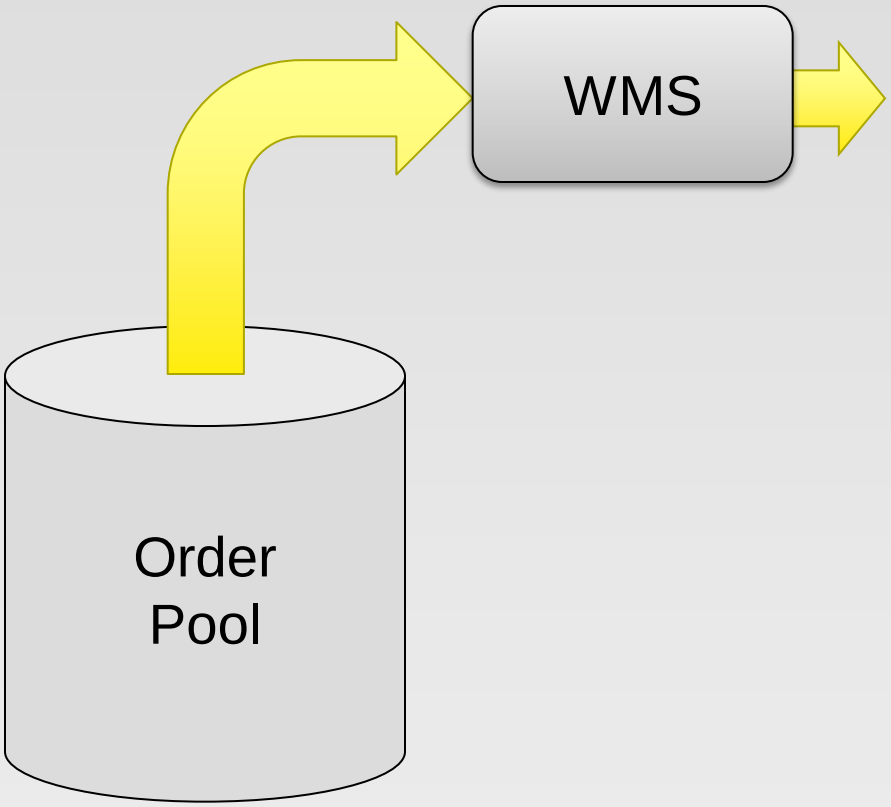
Tub CS

GTP WS

Automatic Order Processing



Automatic order processing



Decision Criteria

- Automatic Order Release
- Order Priority
- UOM Qualification
- FIFO / LIFO / FEFO
- Batch Control
- Equipment Status & Load
- Workstation Status & Load
- Load Balancing

Comparison

Conventional System

- Manual Order Release
- Automatic Order Release
- Order Priority
- UOM Qualification
- FIFO / LIFO / FEFO
- Batch Control
- Equipment Status & Load
- Workstation Status & Load
- Load Balancing

Automated System

- Manual Order Release
- Automatic Order Release
- Order Priority
- UOM Qualification
- FIFO / LIFO / FEFO
- Batch Control
- Equipment Status & Load
- Workstation Status & Load
- Load Balancing

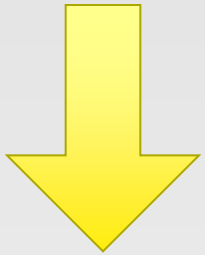
What does it achieve?

Automatic Order Processing

Maximum Utilization of Equipment

Maximum Efficiency of Operator

No Wait Times at Workstation



Maximum Throughput

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