

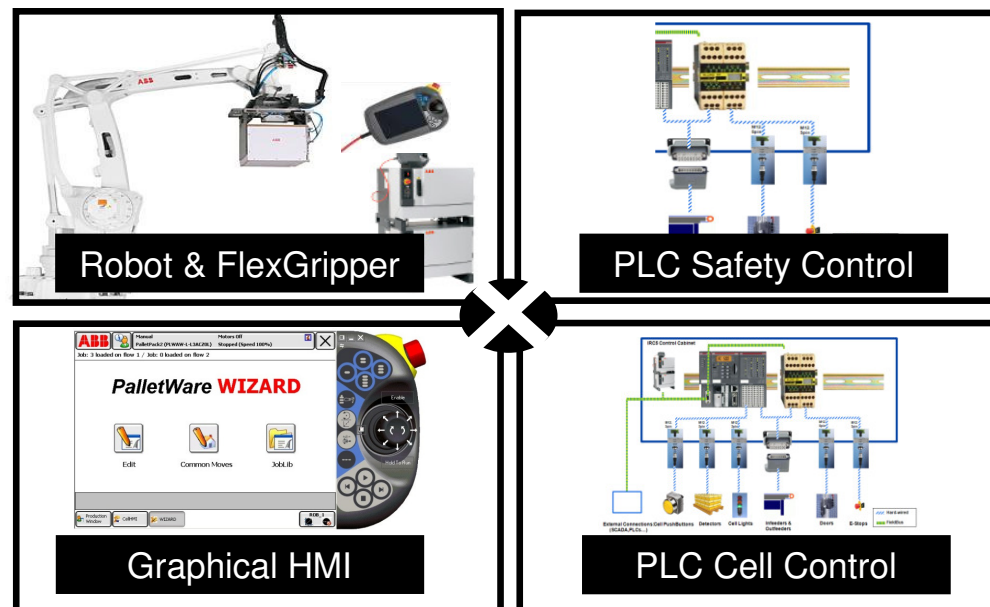
Klas Bengtsson, Product Manager, Picking, Packing, Palletizing

# PalletPack 460

## Palletizing Function Package

# PalletPack 460

## The robot “Function Package” for palletizing



**A complete pre-engineered solution for palletizing cells with up to 2 in-feeds & 2 out-feeds. Includes:**

- IRB 460 robot with choice of FlexGripper (Claw or Clamp)
- 2 x PLCs - safety controller and cell controller
- Graphical HMI on FlexPendant with PalletWare application wizard

# The PalletPack 460

## Concept based on 4 flexible modules



- PalletPack 460 makes it possible for PLC programmers to program the robot with little or no knowledge of ABB robot RAPID programming
- PalletPack 460 can decrease integration time by up to 65%.
- Savings are achieved in the areas of:
  - Gripper design
  - Safety design
  - Robot to PLC communication
  - Robot programming

# The robot - IRB 460 high speed palletizer

## Overview and main features



- Fastest palletizing robot in the world
- Compact design
- Integrated process cabling
- Fully supported by ABB palletizing software
- 4-axis design optimized for palletizing
  - Shorter cycle times
  - Lower weight of robot arm
  - Higher payload (110 kg)
  - Lower complexity

# The robot - IRB 460 performance

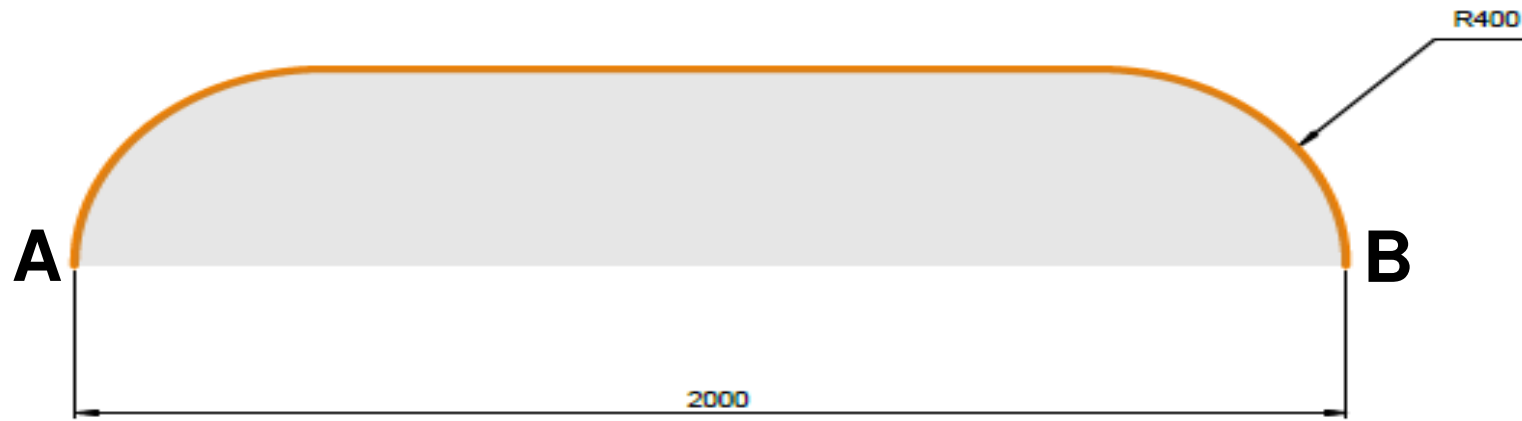
## Key data



- Payload: 110 kg
- Reach: 2,400 mm
- Axis 1 max speed: 145 °/s
- Repeatability: 0.2 mm
- Weight: 925 kg
- Protection: IP67

# The robot - IRB 460 performance

## The world's FASTEST palletizer



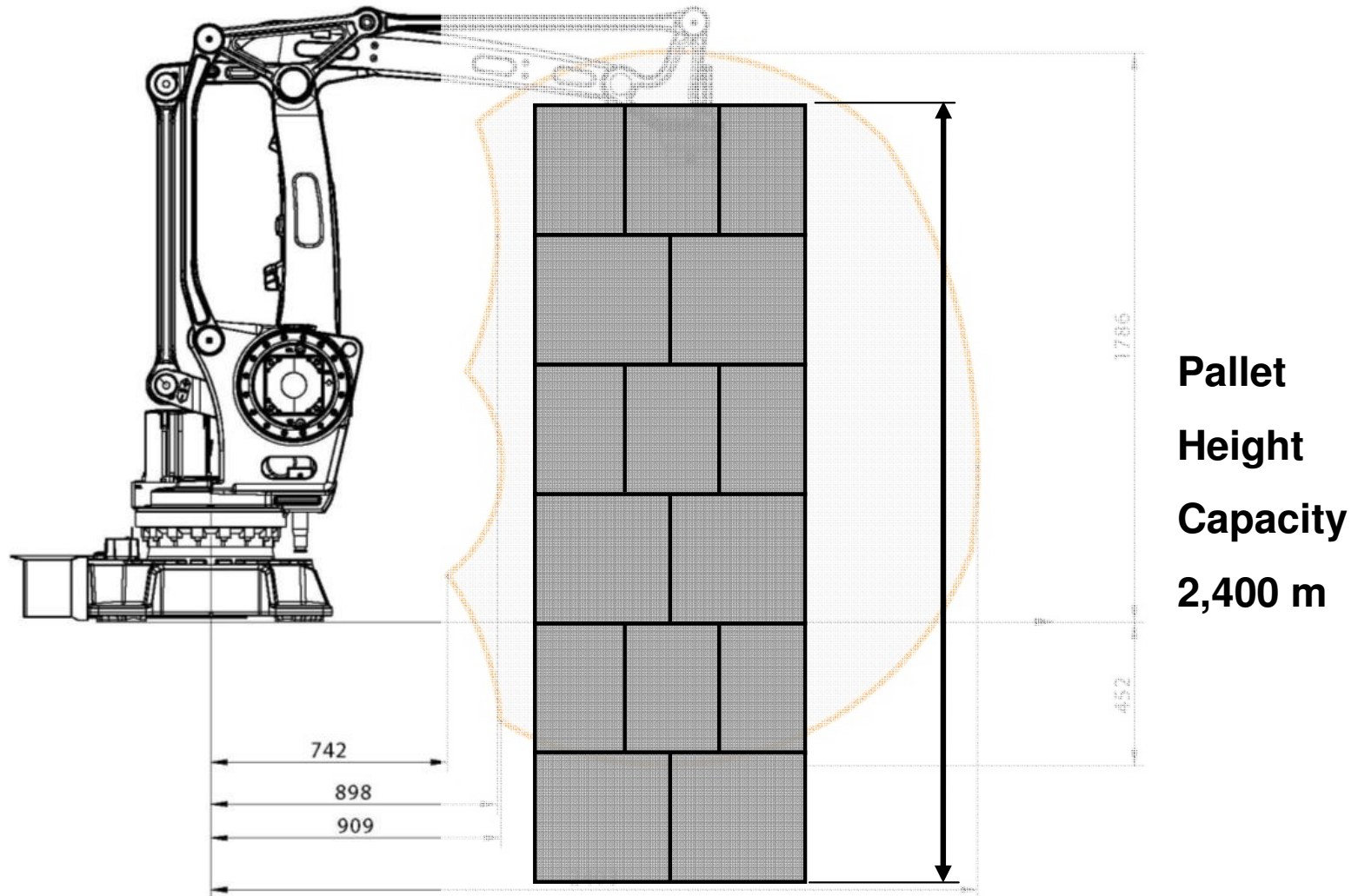
A well defined cycle - the industry benchmark.

From A to B and back to A

Payload	60 kg	110 kg
Cycles per hour	2,190	2,040

# The robot - IRB 460 performance

## The compact robot

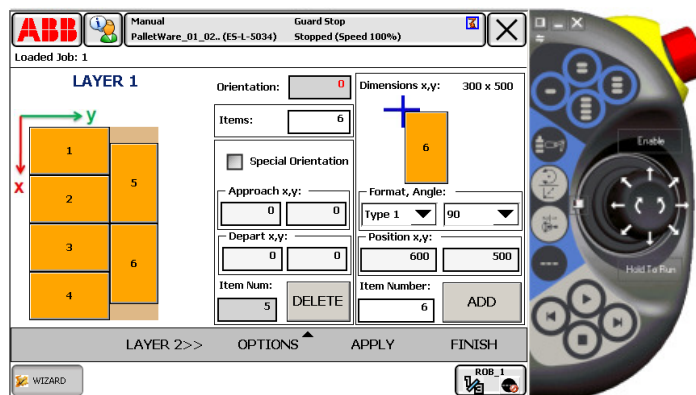


# The software & graphical HMI PalletWare WIZARD



Designed to minimizing learning, setup and programming time.

Modular structure - program wizard and the graphical production window - together decrease the time for training.



Easy & efficient to use during installation, production set-up, programming and optimizing of the robot cycle.



# The software & graphical HMI PalletWare WIZARD

## Main menu PalletPack wizard



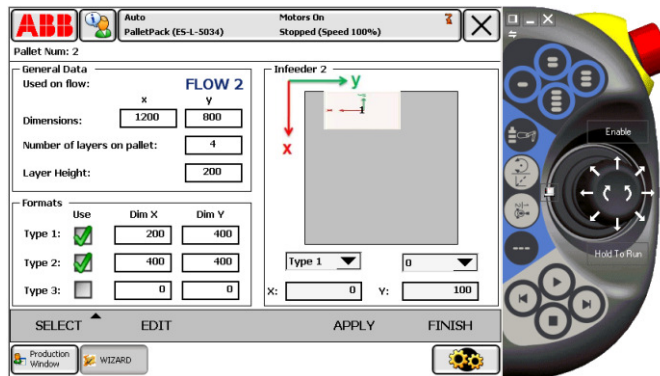
## Part Edition



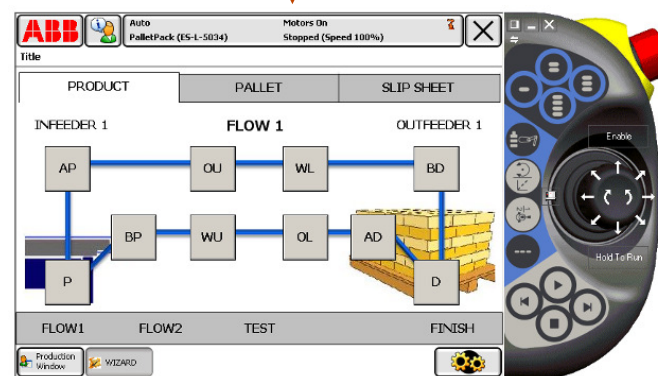
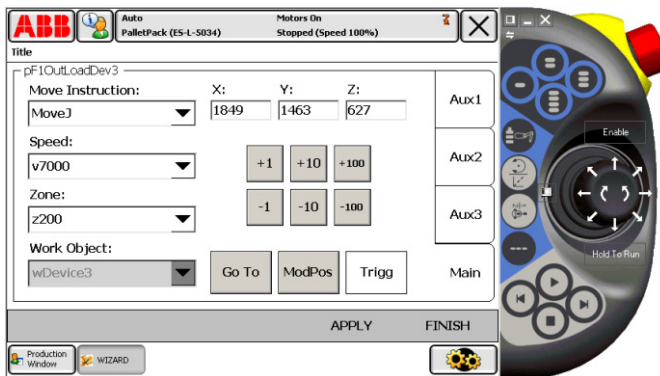
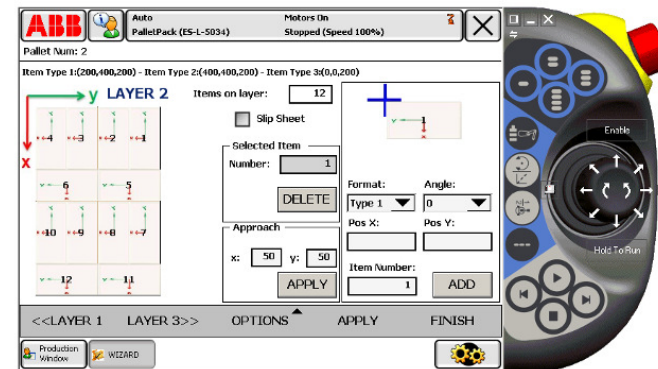
## Common Movements

# The software & graphical HMI Palletware WIZARD

## Pallet & Pick Setup



## Pallet Pattern Setup



## Movement Edition

## Path Profile Edition

# The PLCs

## Cell Control via the ABB AC500 PLC



- Flexibility
- Modularity / Scalability
- High communications possibilities
- High process speed
- One common software platform for all PLCs

# The PLCs

## Cell safety via the JOKAB Safety PLC



- Flexibility
- Modularity / Scalability
- High communications possibilities
- Easy to use software platform
- All-Masters system
- Economic solution
- Certified function blocks

# The gripper

## Two FlexGripper options - Claw or Clamp



- Reduced engineering, cost saving
- Easy to integrate, easy to use
- Lean configuration, lightweight
- Graphical User Interface (GUI) provided on robot FlexPendant for easy gripper setup, tuning, and production monitoring.
- Shorter cycle times



# FlexGripper – Claw

## Key features



- For heavy duty bag palletizing to 50 kg
- Pneumatically actuated mechanism to clamp the bag from sides
- Bag centering plates provided with 200 mm adjusting stroke for different bag size
- Clamp pads provided that contact the top of the bag to hold it in position
- Stroke of clamp pads :130mm
- It has replaceable stainless steel fingers



# FlexGripper - Claw

## Key data



Specification	Data
Handled product	1
Max. weight/lift	50 kg
Gripper weight	60 kg
Finger interval	80 mm
Bag height range	120 – 250 mm
Bag length range	300 – 750 mm
Bag width range	250 – 450 mm
Cable rotation range	+/-180 °
Air pressure (bar)	4-6 bar

# FlexGripper – Clamp, Single Zone

## Key features



- Wide clamping stroke adapts to different case width
- Rubber pad to increase friction force
- Sensors to verify presence / absence of case provided
- Hook unit provided as standard to ensure case clamping with high speed movements



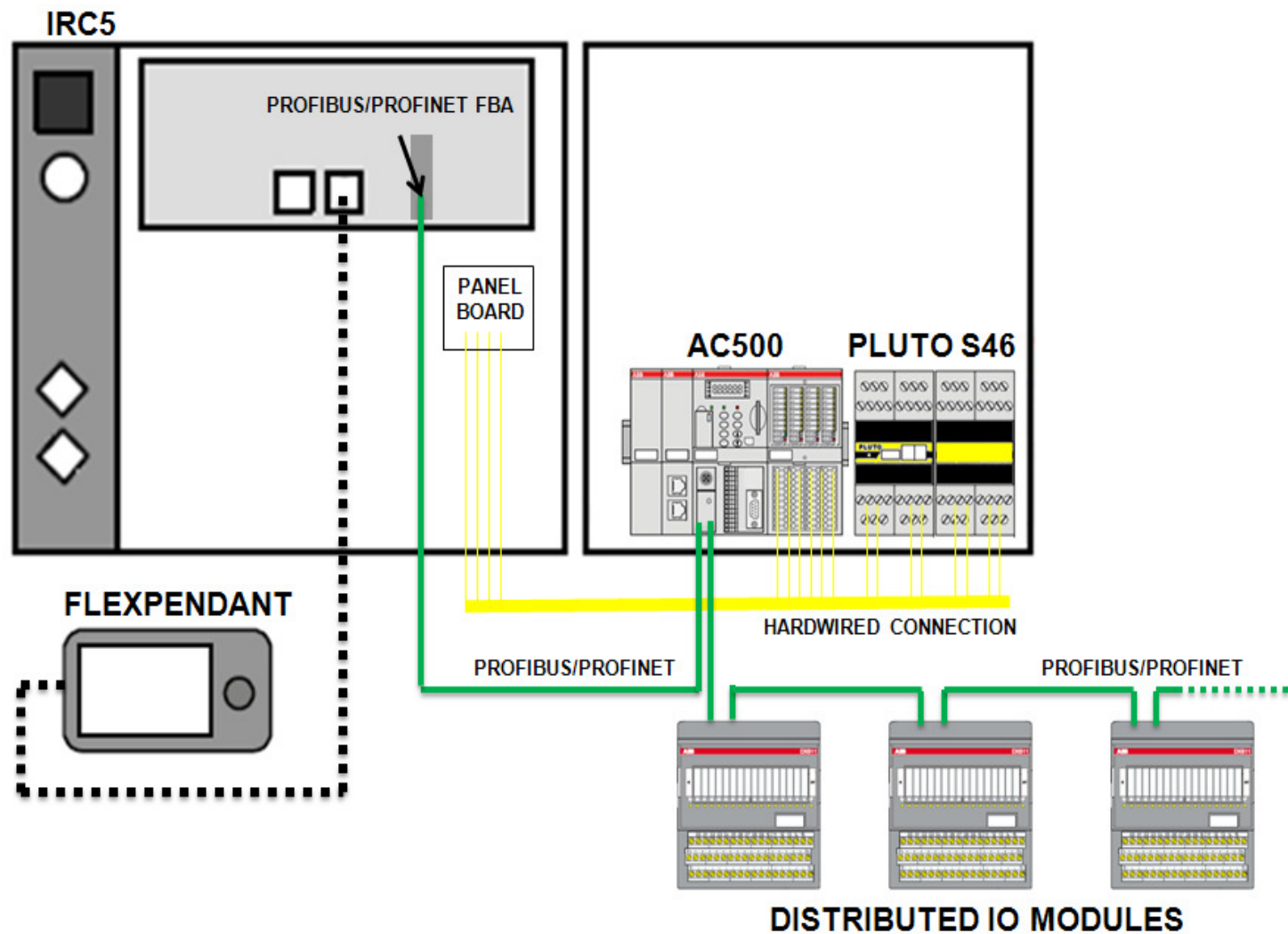
# FlexGripper – Clamp, Single Zone

## Key data



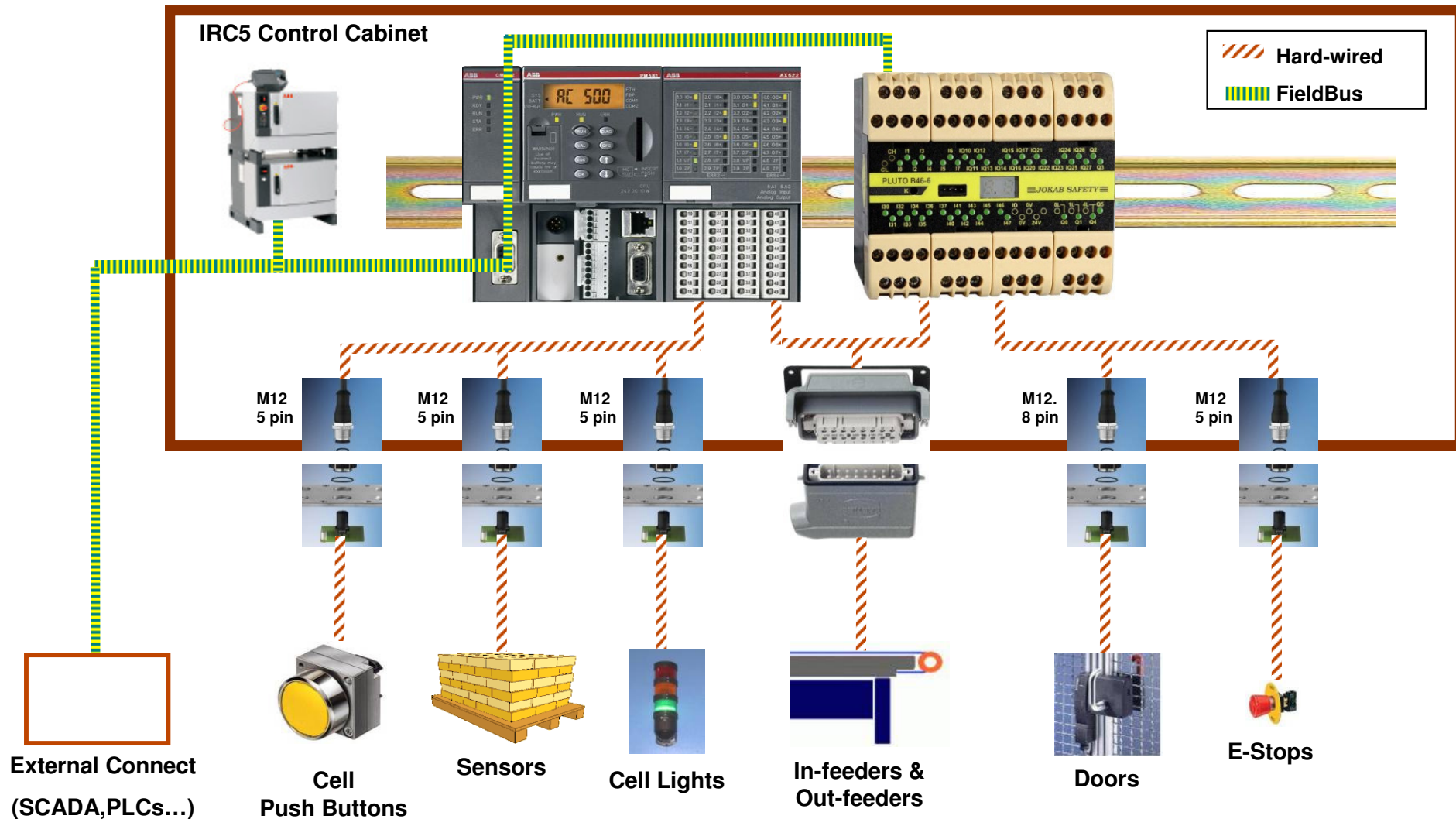
Specification	Data 1 - Zone
Optimize	IRB460
Handled product	1-2
Max. weight/lift	40 kg
Gripper weight	45 kg
Bag height range	150 - 330 mm
Bag length range	200 - 650 mm
Bag width range	200 - 500 mm
Cable rotation range	+/-180 °
Air pressure (bar)	4-6 bar

# PalletPack 460 system control Architecture diagram

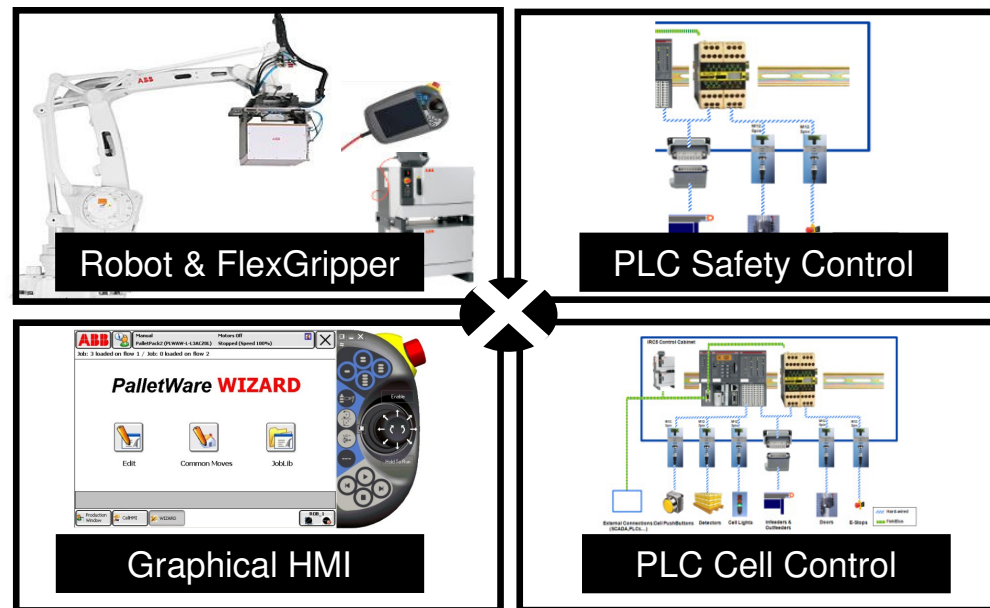


# PalletPack 460 system control

## Architecture for internal / external connectivity



# PalletPack 460 Palletizing Function Package Summary



**A complete pre-engineered solution for palletizing cells with up to 2 in-feeds & 2 out-feeds. Benefits incl.**

- Easy to specify, easy to integrate, easy to use
- Modular design based on “well proven” ABB products
- PLC style “wizard” programming. Robot knowledge not needed
- Greatly reduces engineering time in cell design & build

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