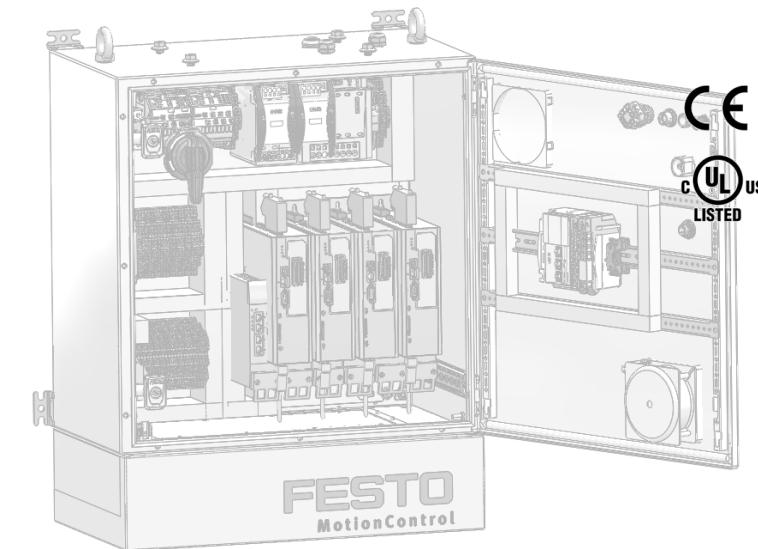


# Festo Motion Control Package FMCP-M Multikinematic

Powered by: FPosB EVO3.1

Studio 5000 Logix Designer®

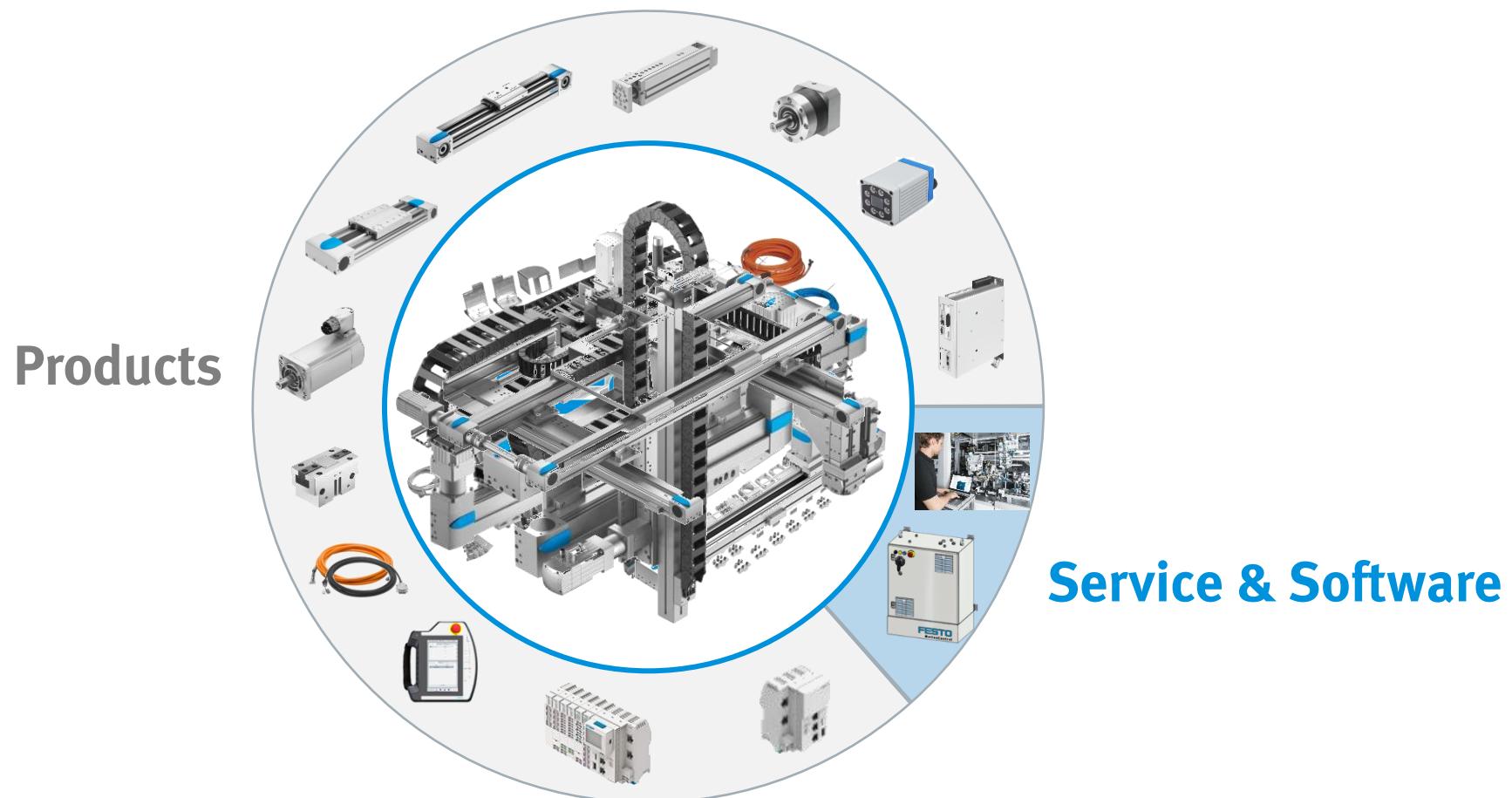


Alejandro Lopez

Festo Canada Controls Group  
Instrumentation and Control Engineer  
Specialized in advanced mechatronics and fieldbus technology

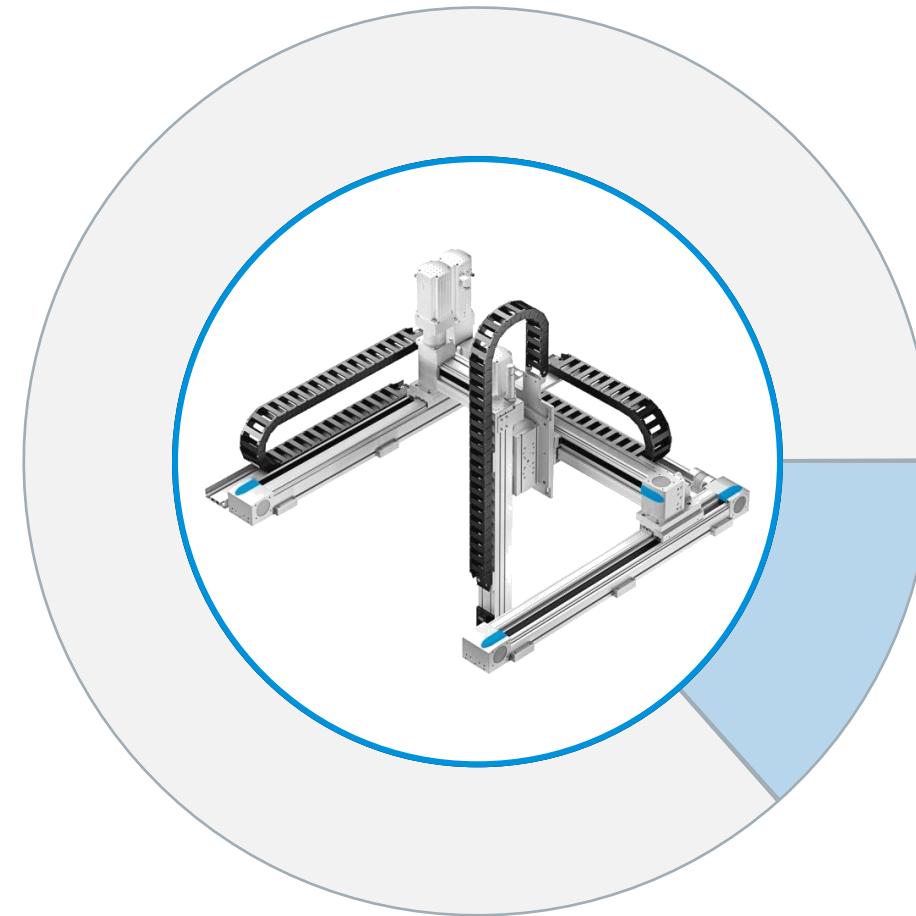
# Why FMCP-M?

## Single source for simple and complex kinematics



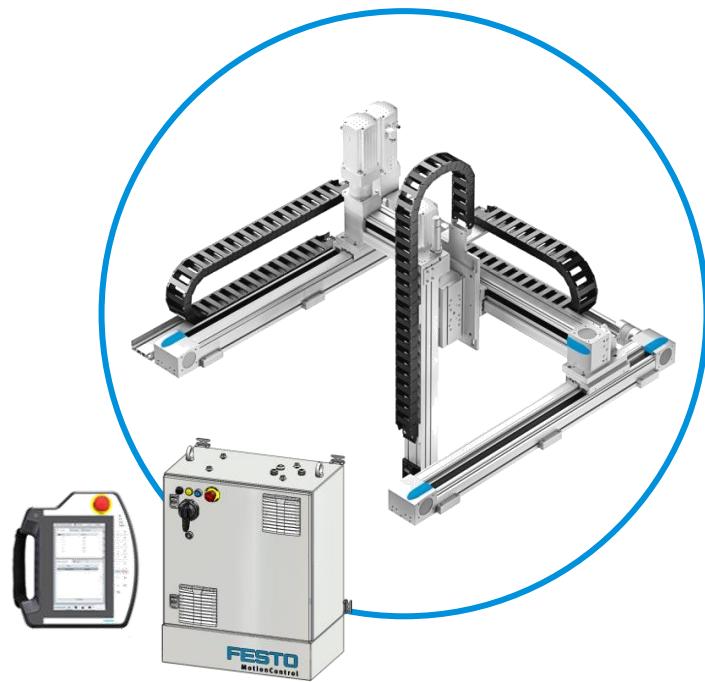
## Single source for simple and complex kinematics

Products



Service & Software

## Closing the gap between standard robots and cartesian robots...

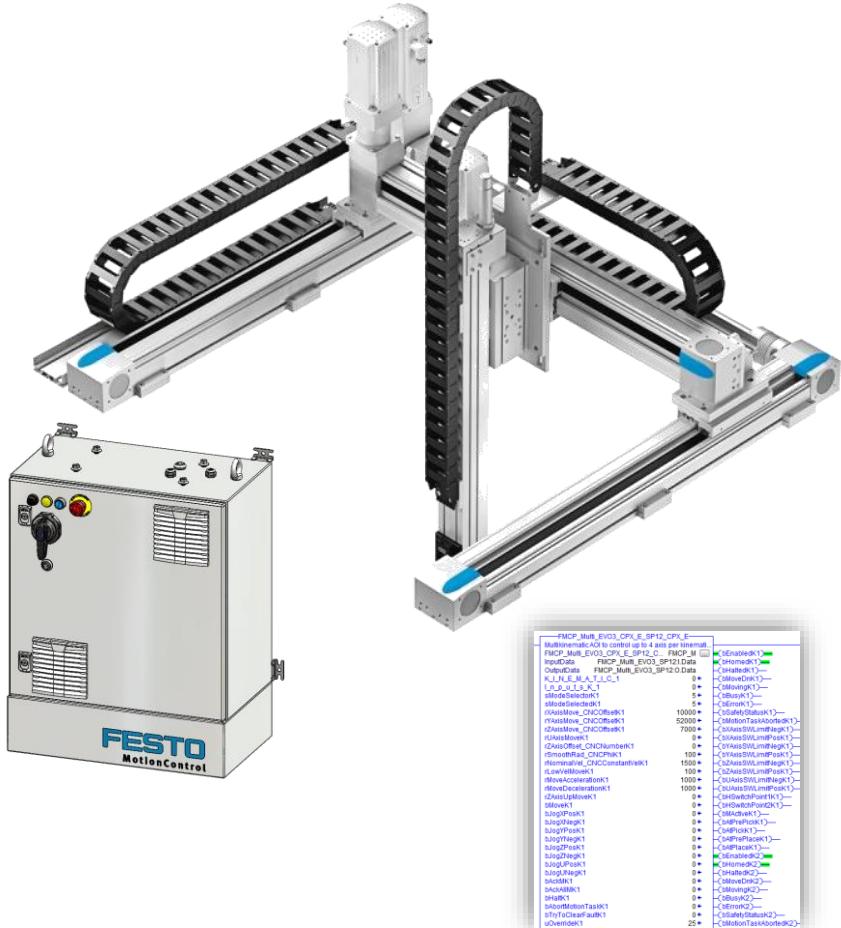


Robotic Controller  
Control Enclosure  
Teach pendant  
Plug and Play  
Re-deployable



More than +400  
units sold  
FMCP, FMCP-UR,  
FMCP-M

## What is it?



### Standardized & Cost effective

Control Enclosure to match eSeries UR Robotic controller  
and standard Festo kinematics

### Solution to control

Festo's mechatronic systems with multiple axis

Ideal for: **Gluing**, **Dispensing**, **Hight speed Pick & Place**  
Pre-programmed functions for linear and interpolated  
movements.

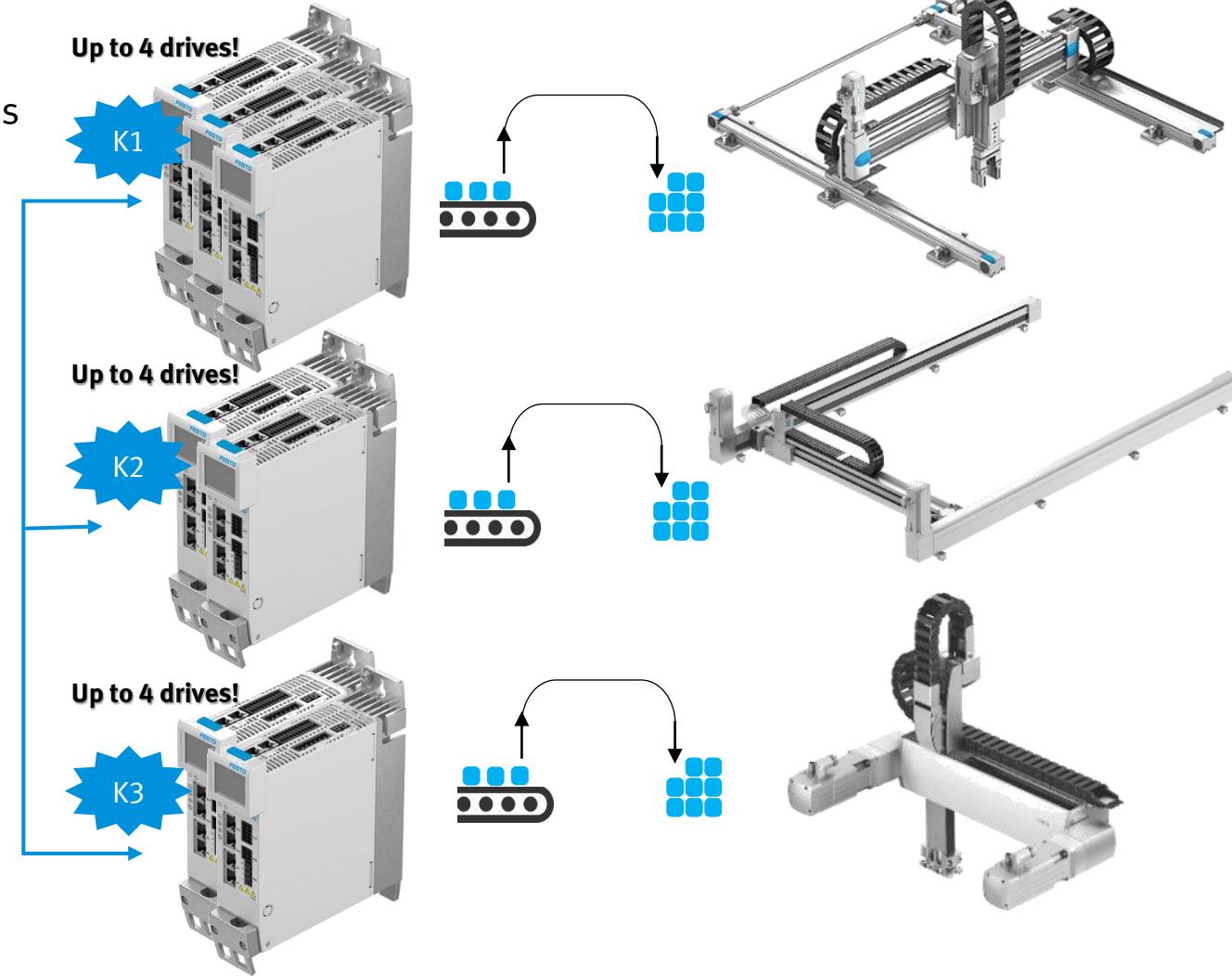
**Easy integration** with a preconfigured interface via  
Function blocks





## Multikinematic P&P

Control up to 12 axis combined in up to 3 different kinematics



## Multikinematic P&P

Control up to 12 axis combined in up to 3 different kinematics

AOI/FB [32I/32O]

Target  
V/A/D  
(X,Y,Z)  
Go!  
Ap:Dn:E#



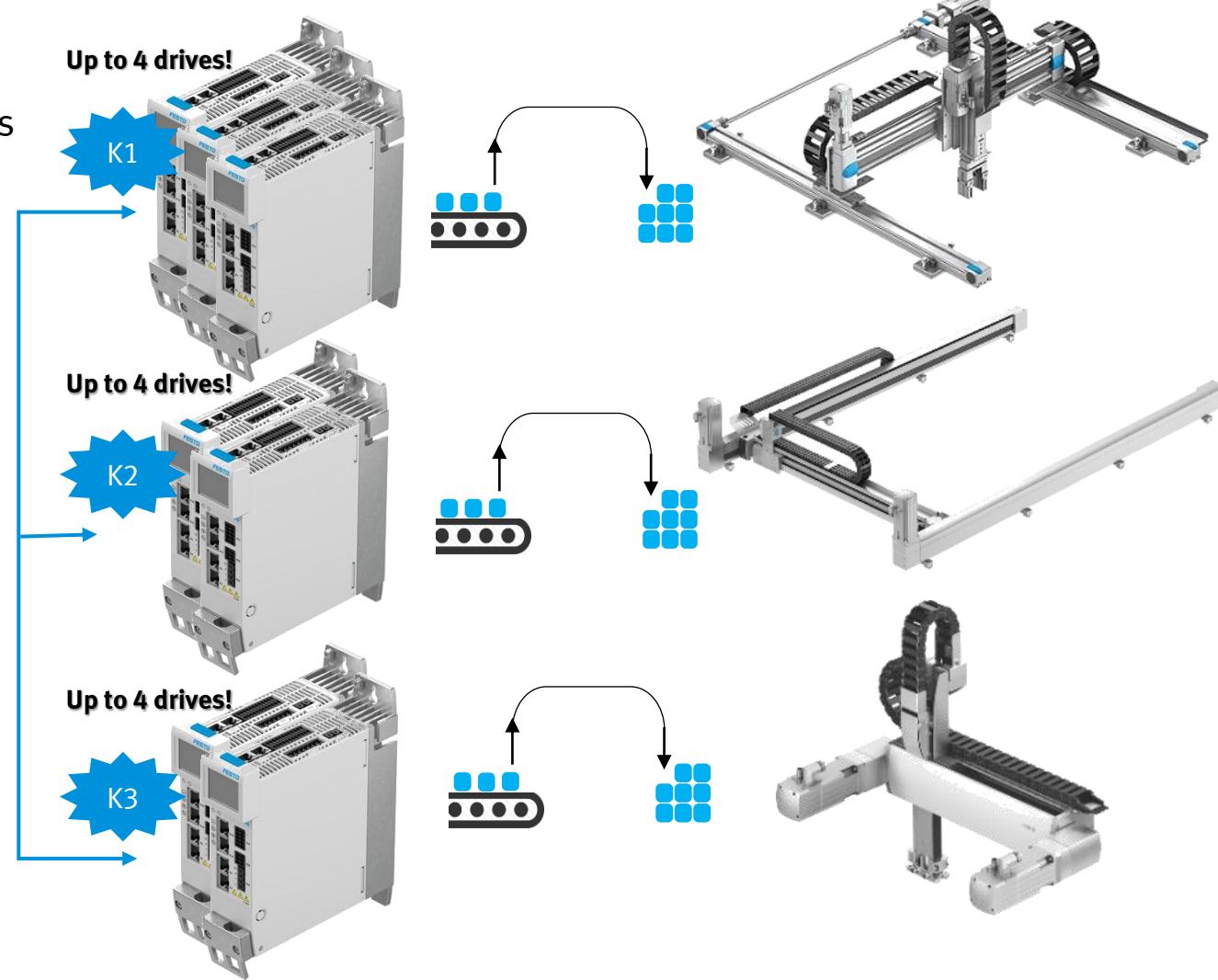
Target  
V/A/D  
(X,Y)  
Go!  
Ap:Dn:E#



Target  
V/A/D  
(Y,Z)  
Go!  
Ap:Dn:E#

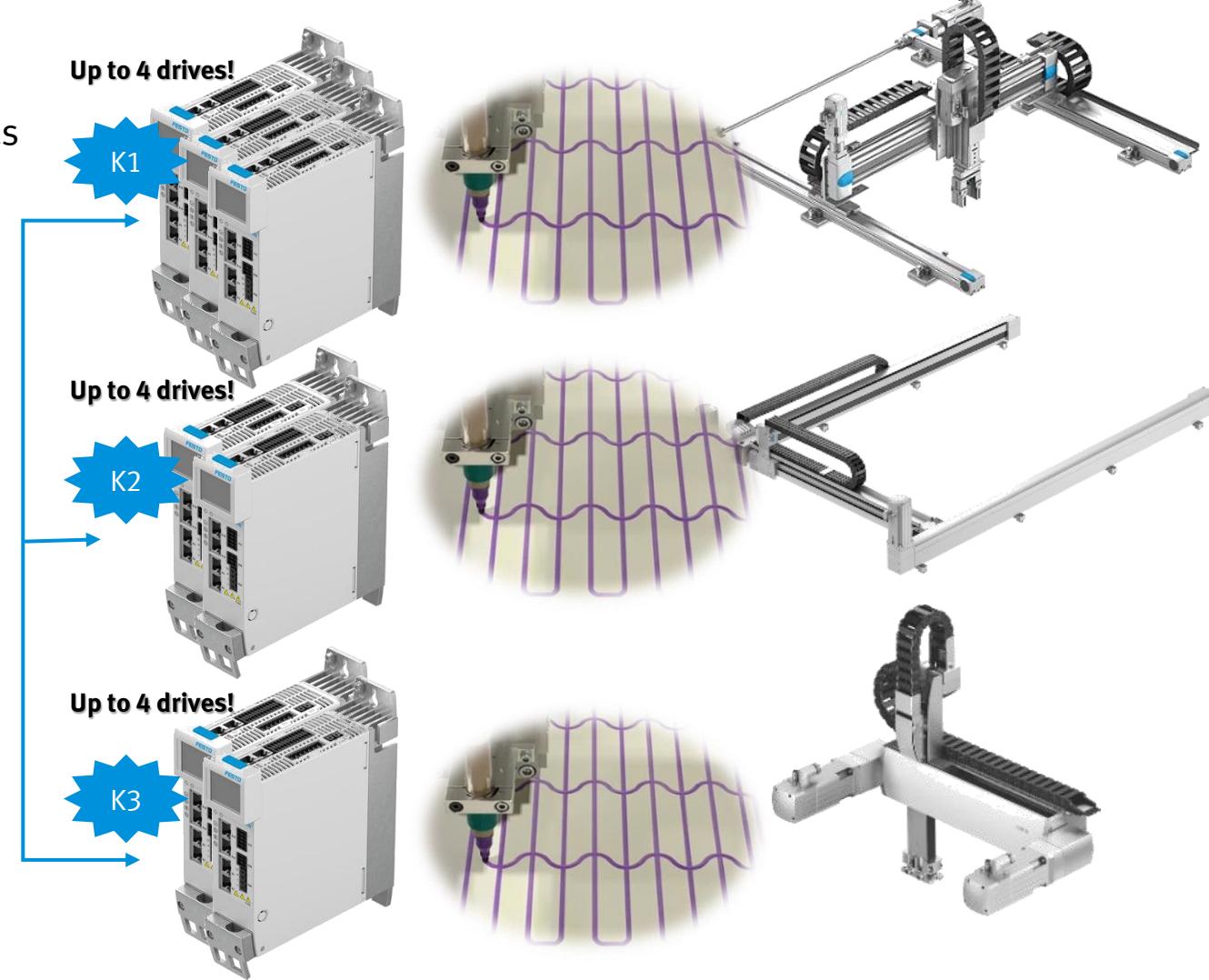
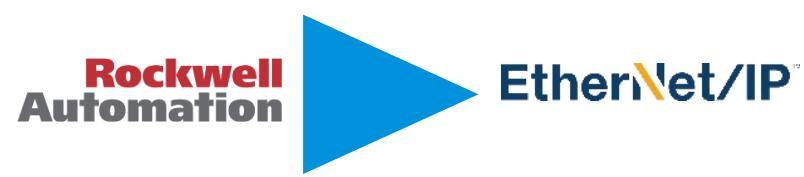


EtherNet/IP



## Multikinematic Dispensing

Control up to 12 axis combined in up to 3 different kinematics



## Multikinematic Dispensing

Control up to 12 axis combined in up to 3 different kinematics

AOI/FB [32I/32O]

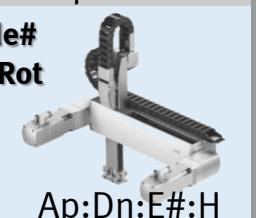
CNC/Gcode#  
V/Offset/Rot  
Go!



CNC/Gcode#  
V/Offset/Rot  
Go!



CNC/Gcode#  
V/Offset/Rot  
Go!



EtherNet/IP™



Up to 4 drives!

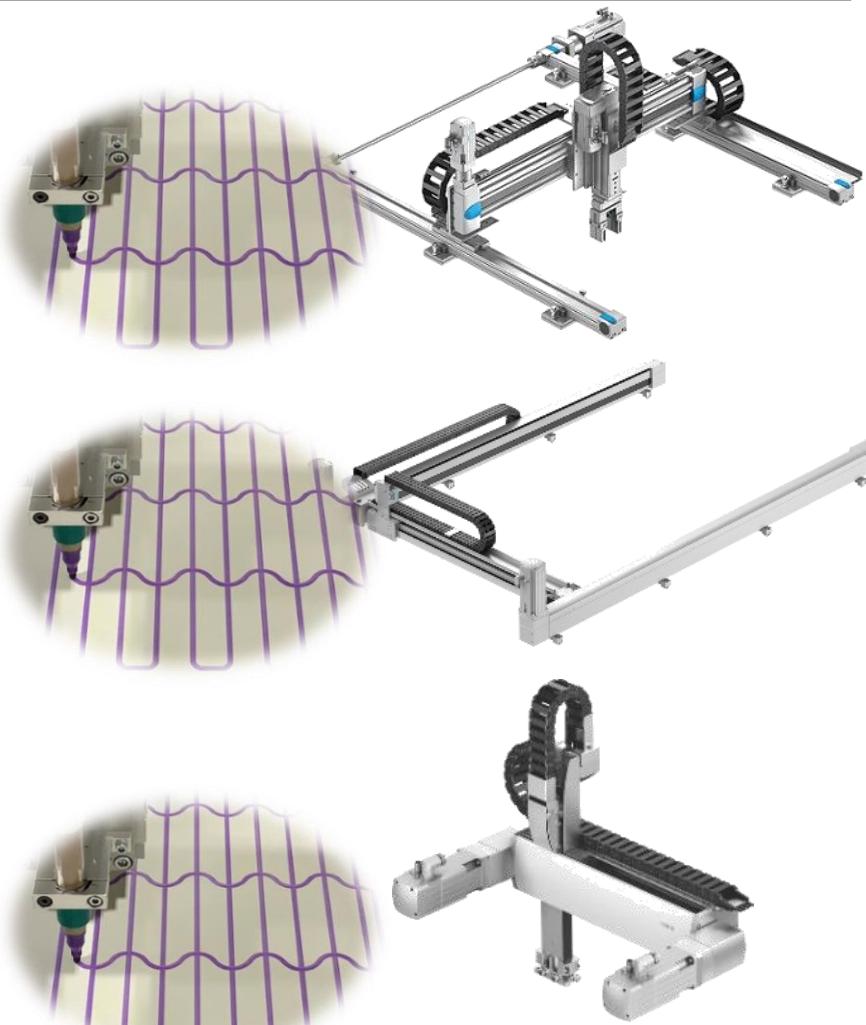
K1

Up to 4 drives!

K2

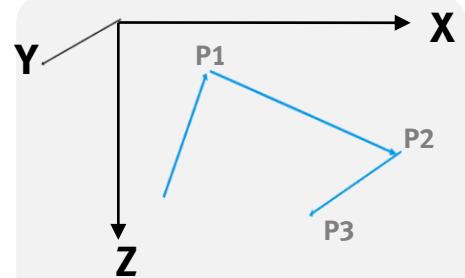
Up to 4 drives!

K3



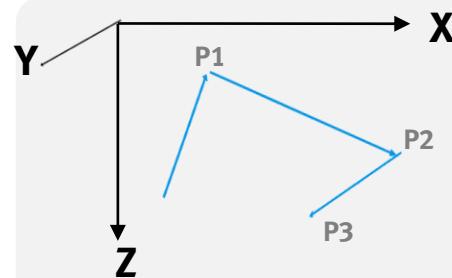
## Motion functionality

### JOG (Mode 3)



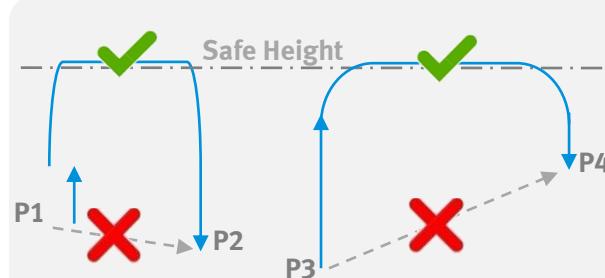
- Individual axis jogging from Boolean tags

### PTP (Mode 5)



- Linear Interpolation

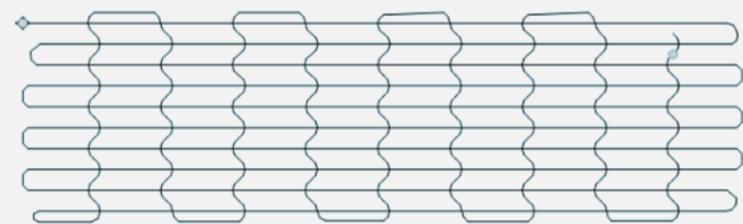
### Safe Move (Mode 6)



- Safe height in every motion to protect EOAT. (*Z axis will move first until it reaches the Safety Height*)
- Smoothing radius

### Dispensing (Mode 7)

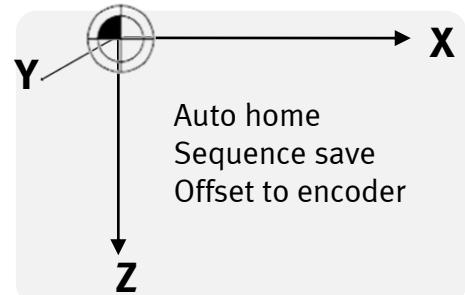
Start point with offset/rotation



M & H Functions across the path

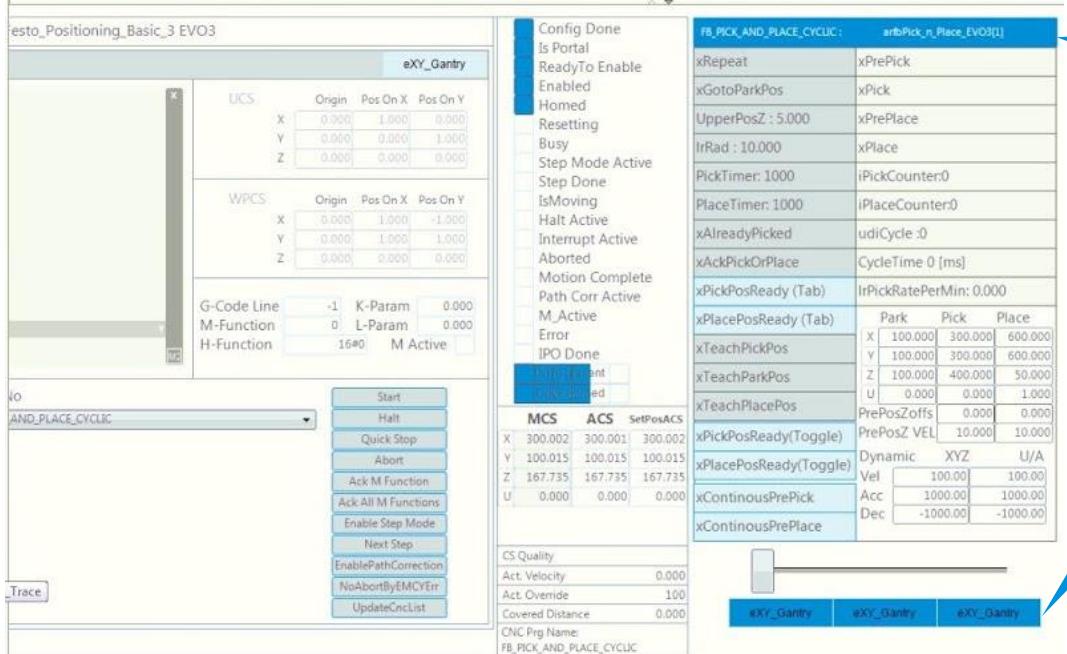
- Dedicated function for glue dispensing and constant speed:
  - H Function to trigger external signals.
  - M Function to pause during the path.

### HOME (Mode 2)



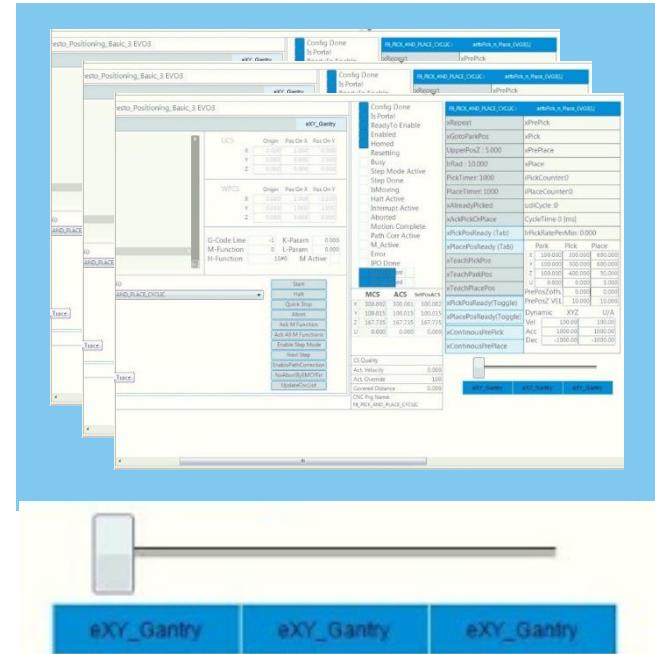
Auto home  
Sequence save  
Offset to encoder

## The magic behind the FMCP-M



Integrated  
U Pick and Place

3 Different instances  
of FPosB running at  
the same time



SIMPLIFIED LAYER CODE  
TO INTERFACE WITH CUSTOMER's FB/AOI



standardized  
Mapping structure

EtherNet/IP™

**Rockwell**  
**Automation**

# Festo Motion Control Quick Selection Guide

STANDALONE CONTROLLER

OMRON

Rockwell  
Automation

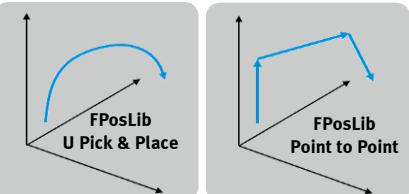
BECKHOFF

SIEMENS



Modbus  
TCP

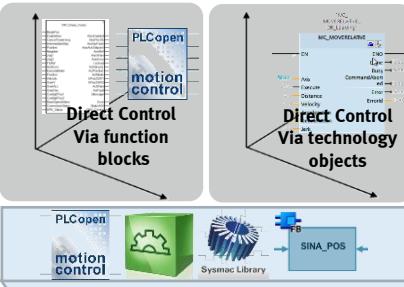
OPC UA



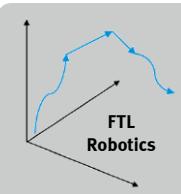
Standalone / Interpolated via  
**FESTO**



EtherCAT®

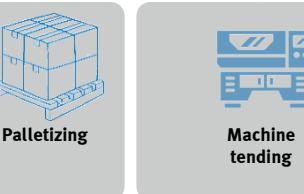


EtherNet/IP™

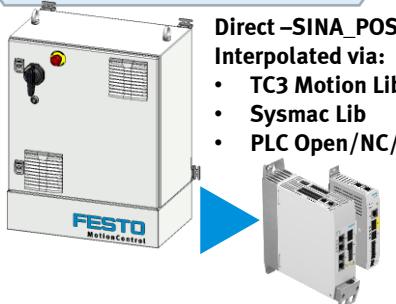


PROFINET

Modbus  
TCP



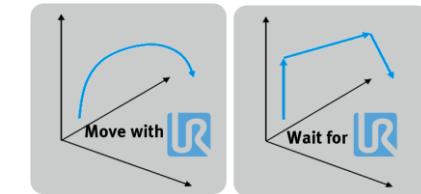
Standalone / Interpolated /FTL via  
**FESTO**



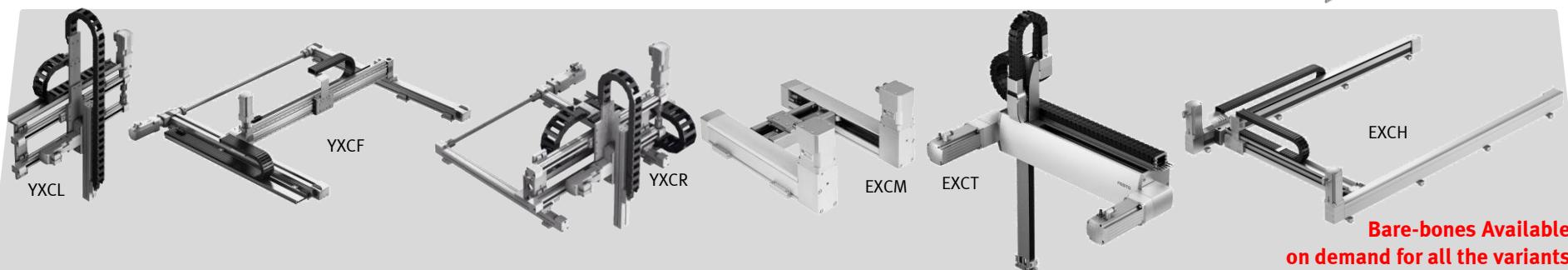
Direct –SINA\_POS  
Interpolated via:  
• TC3 Motion Lib  
• Sysmac Lib  
• PLC Open/NC/Gcode/CNC



Direct – Point To Point  
Interpolated via:  
• FPosLib  
• FTL



Direct control  
Wait for & Move with



# Complete solution delivered!

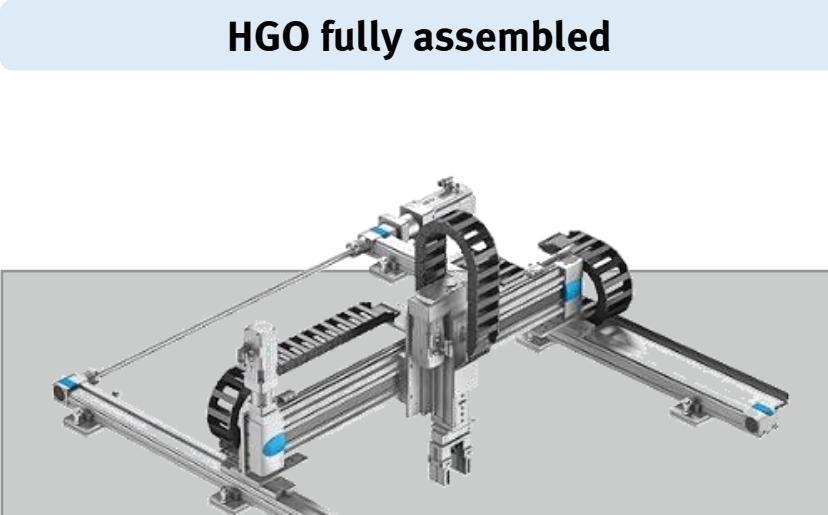
Ready to Install Solution



What you get...

## Complete solution delivered!

HGO fully assembled



Cabinet



Ready to Install Solution

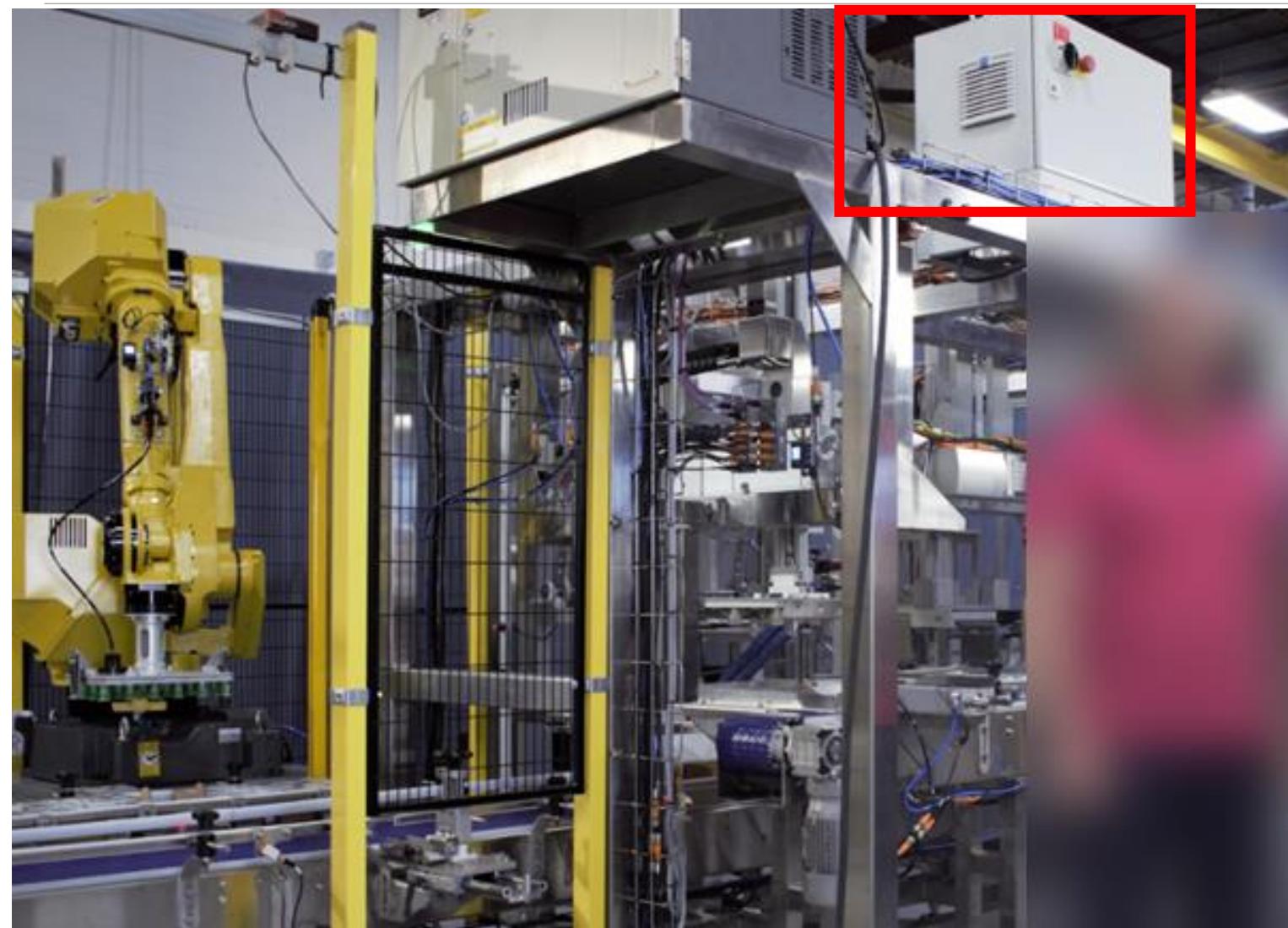


In stock for fast  
delivery

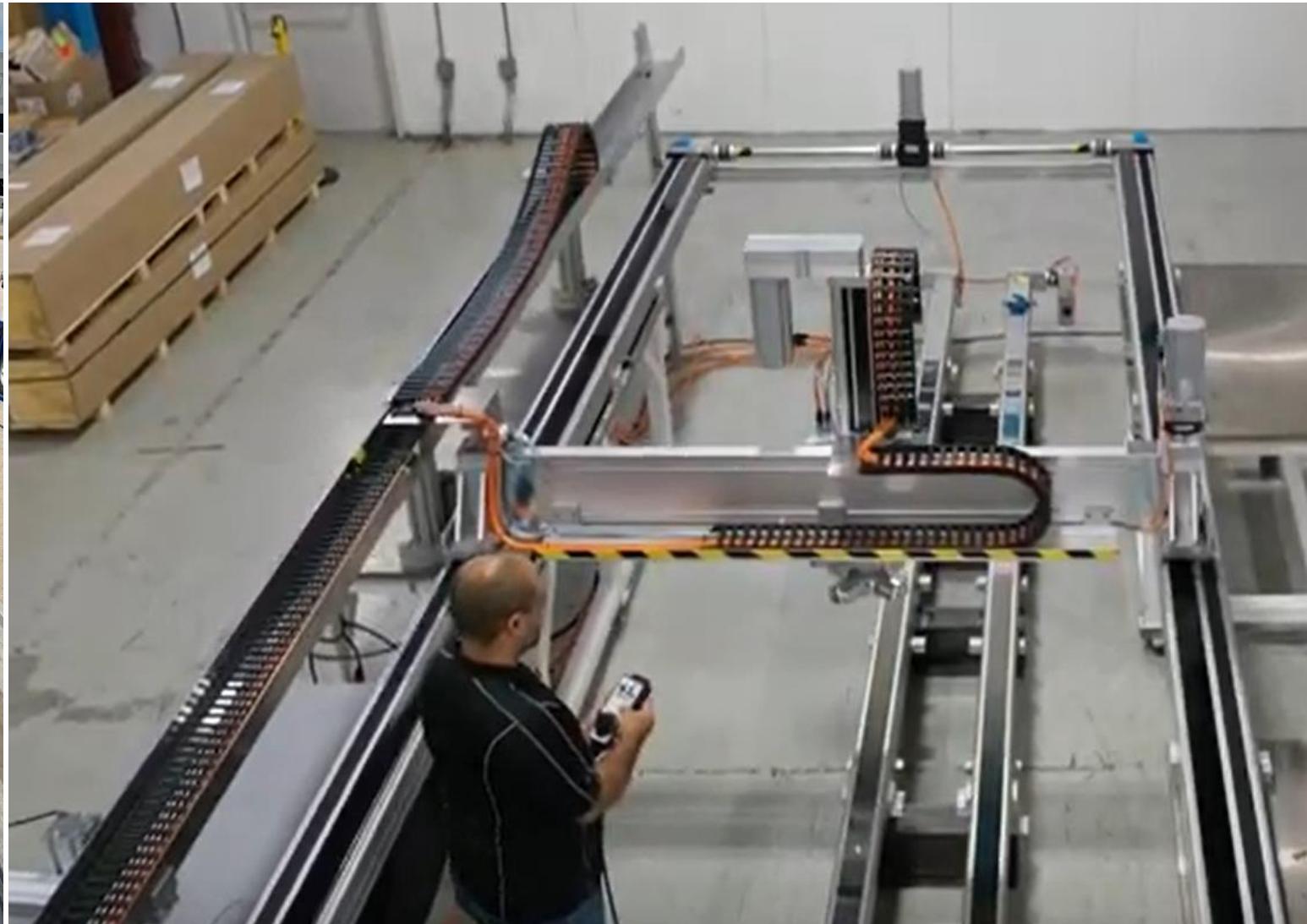


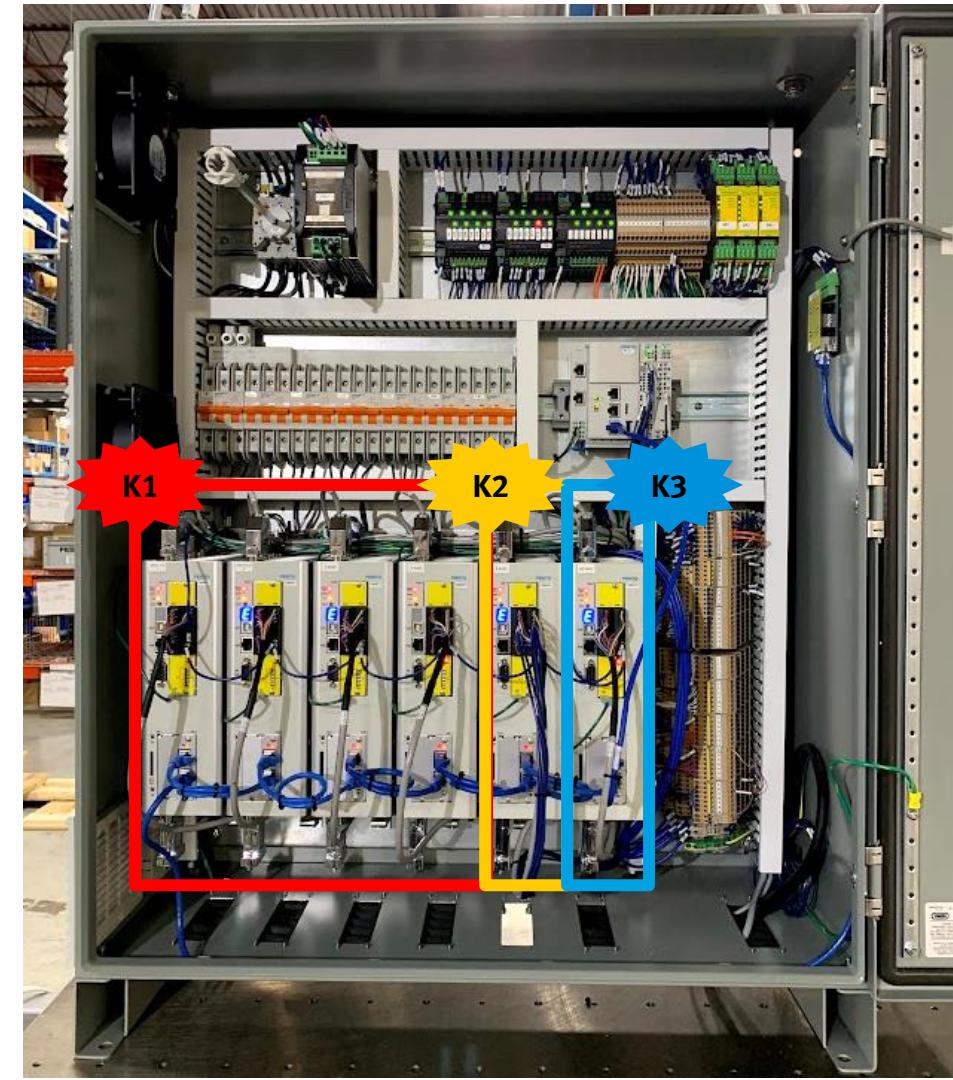




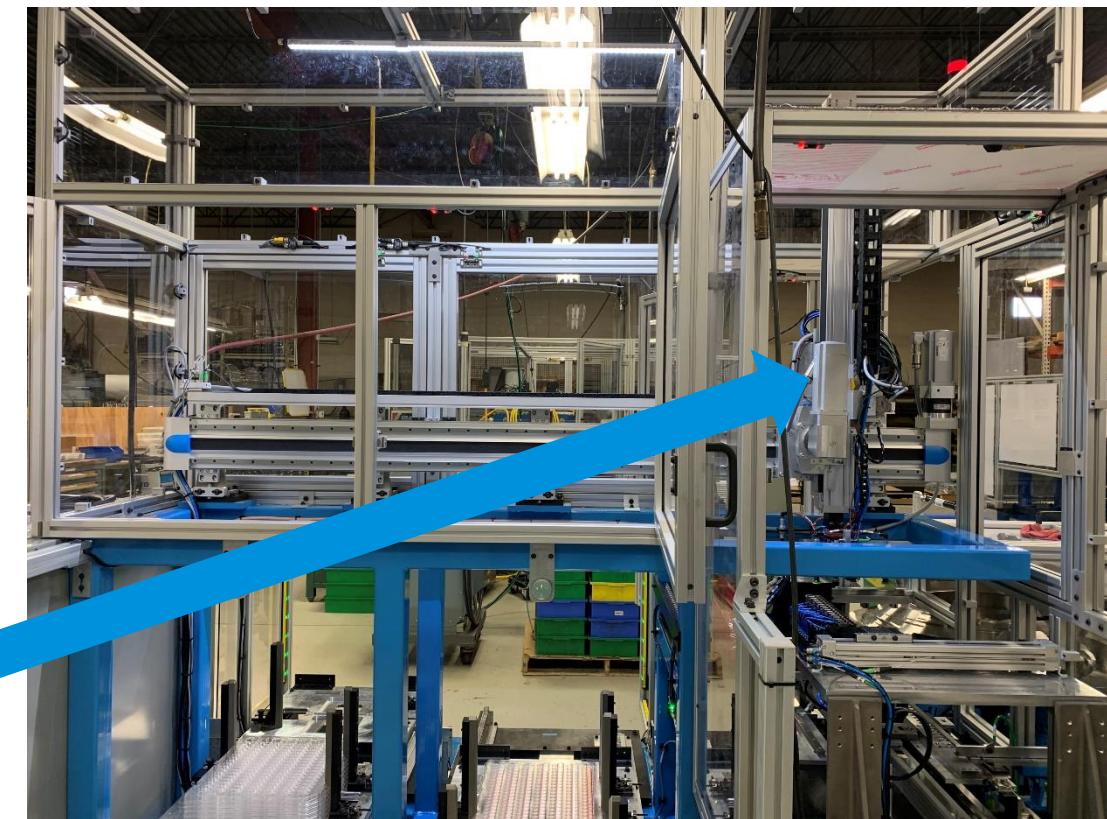
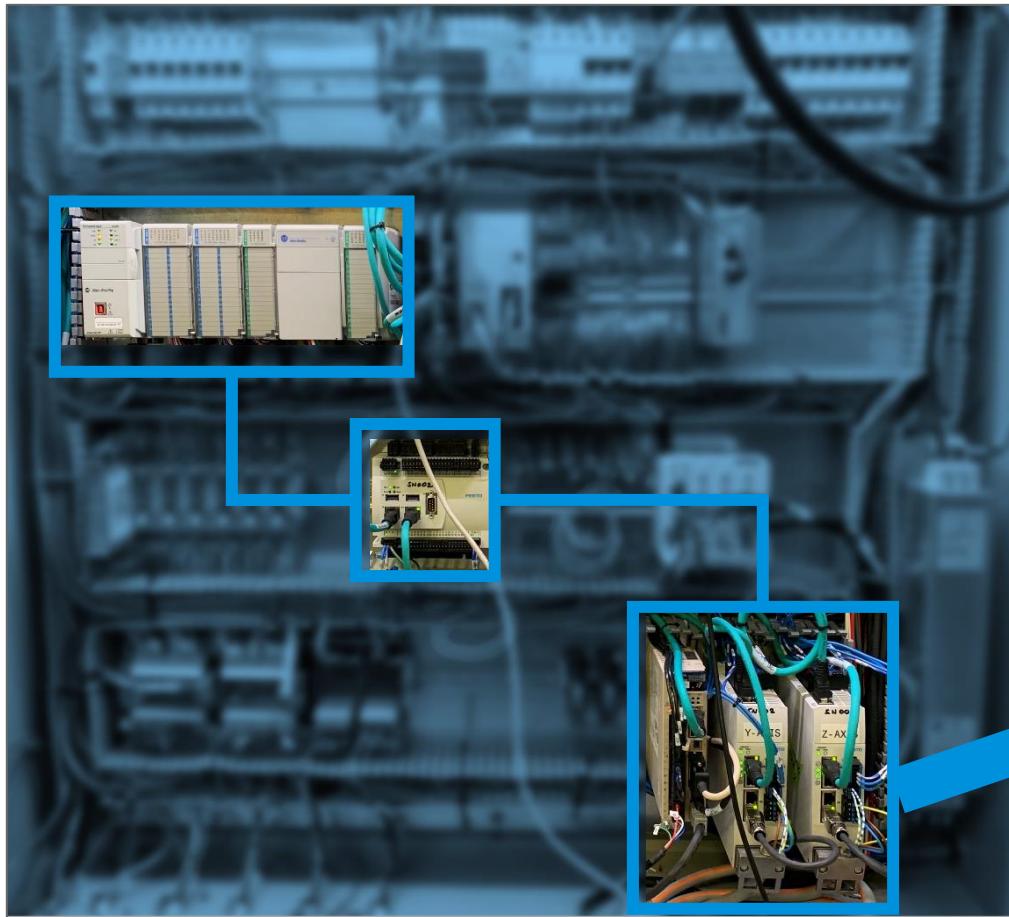




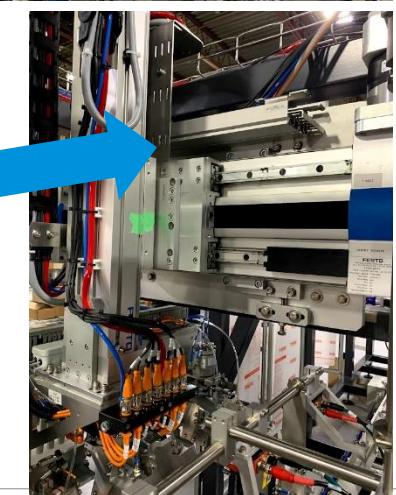
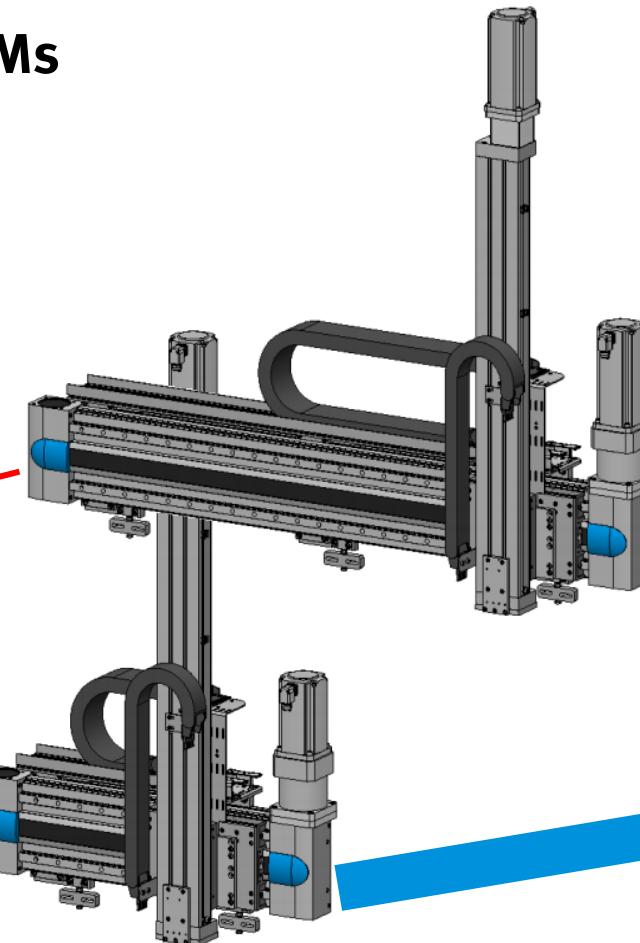
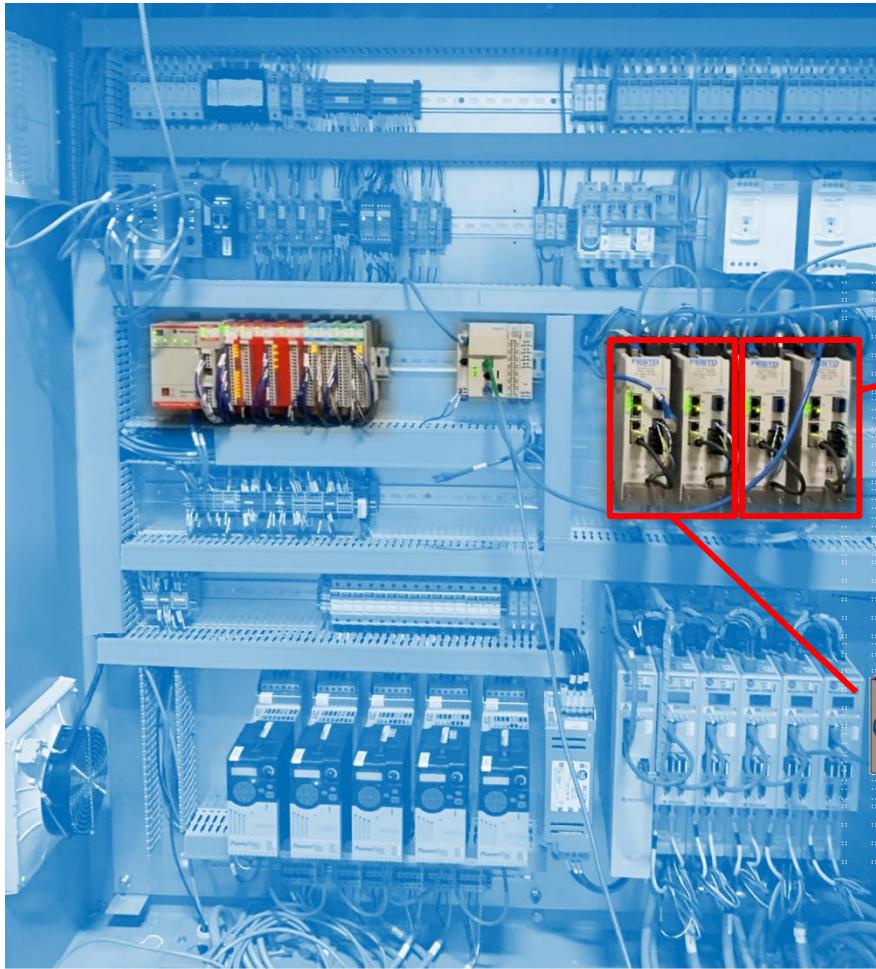




## FMCP-BB Bare bones solution for OEMs



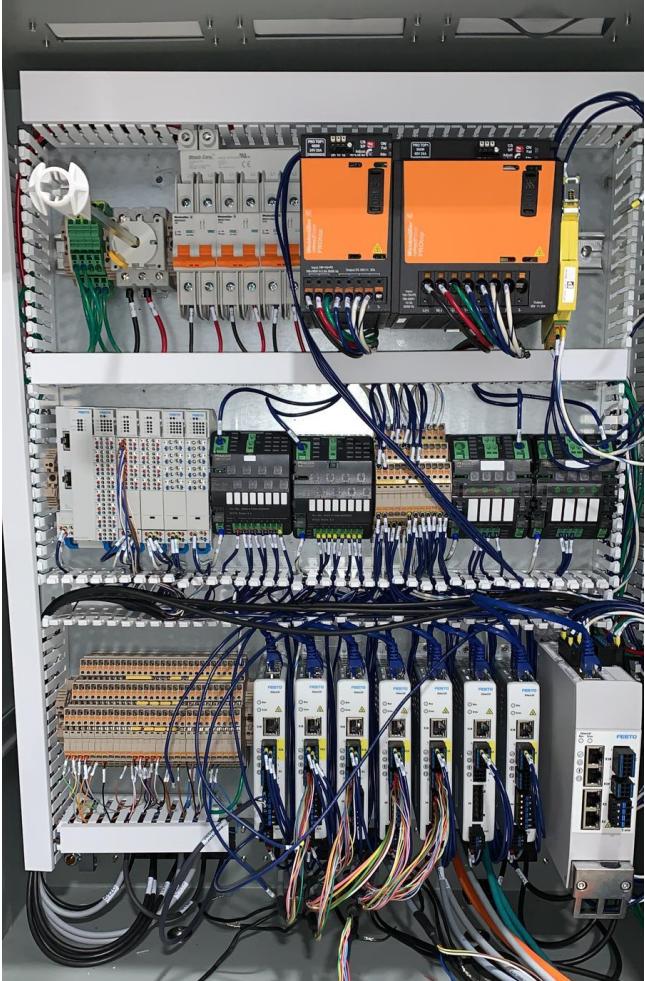
## FMCP-BB Bare bones solution for OEMs



## MERIDIAN MB9500 with FESTO drives and FMCP



## Sunshine project – FMCP-M + CMMT-ST Via PtP Libraries



## FMCP Used in FMAS For sanding applications



Thanks