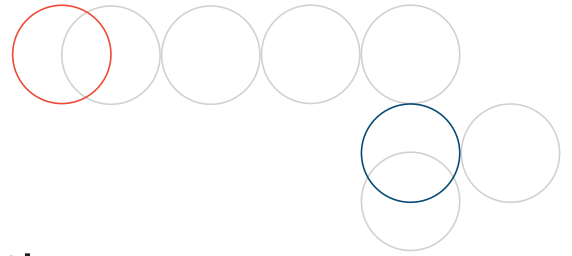


# Rethink Manufacturing



## Your One-Stop Automation Solution

Line installations that are fast, flexible and standardized

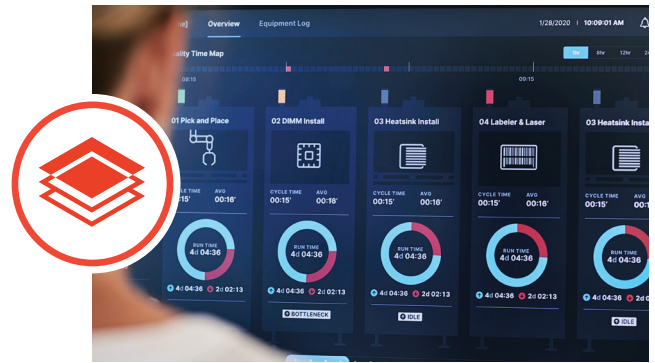
### Bright Machines® Microfactory

FULLY INTEGRATED, MODULAR  
PROGRAMMABLE ASSEMBLY LINE



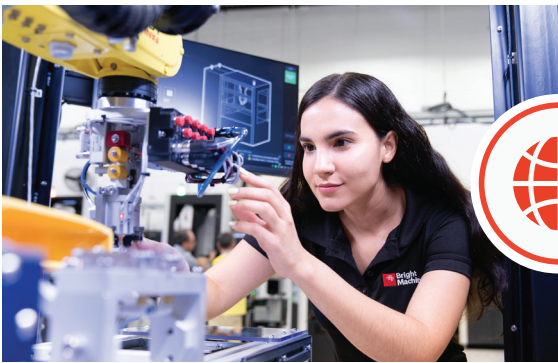
### Brightware® Platform

SOFTWARE FOR LINE OPERATION  
AND PRODUCTION VISIBILITY



### Bright Machines Delivery

TURNKEY SERVICE BY A GLOBAL  
TEAM OF AUTOMATION EXPERTS



### Brightware Studio

SOFTWARE FOR SELF-SERVE  
PRODUCTION LINE MANAGEMENT



## Manufacture Products and Subassemblies



COMPUTING



BATTERIES



APPLIANCES



AUTOMOTIVE



CONTROLS



# Improve Production Metrics

Bright Machines Microfactories are ideal for electronics assembly that require a high degree of factory efficiency and utilization. With software-driven automation that is easy to use, fewer operators are required, and they don't need to be experts to run the line. Microfactories help improve production metrics like units per hour and yield.

## Build more, with higher quality at a lower cost

### Automotive lighting subassembly

### Building control panel subassembly

#### Customer Problem

Labor cost, traceability, yield

Capacity, labor shortage, yield

#### Bright Machines Solution

Automated assembly for:  
Pick and place, barcode scan, labeling

Automated assembly for:  
Pick and place, inspection, labeling

#### The results

**75%**

More units per hour

**65%**

Fewer defects

**60%**

Fewer operators

**70%**

More units per hour

**60%**

Fewer defects

**60%**

Fewer operators







# Bright Machines Delivery

Bright Machines Delivery offers customers white-glove service including dedicated program managers that lead the planning, configuration, installation, and support of Bright Machines Microfactories. Bright Machines has regional integration centers located in the United States, Mexico, Europe and China.

## DESIGN

PLAN MICROFACTORY LINE  
BASED ON CUSTOMER'S SPEC

## DEPLOY

CONFIGURE USING BRIGHTWARE AND  
INSTALL LINE WITH ACCEPTANCE TESTING

## MAINTAIN

PROVIDE ONGOING SUPPORT  
AND MAINTENANCE OF LINE



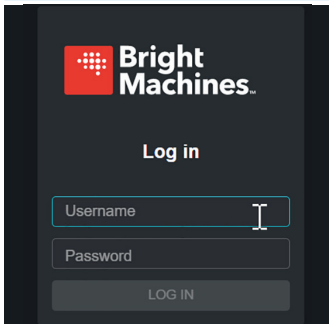
**100+ microfactories deployed in 13 countries serving more than 40 global manufacturing companies**



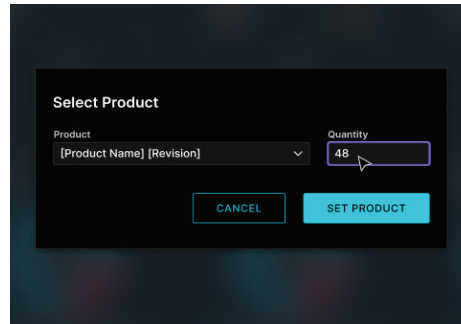
# Brightware Platform

Bright Machines Microfactories are powered by the Brightware Platform. Line operators will find it easy to use the graphical controls to operate and monitor the line.

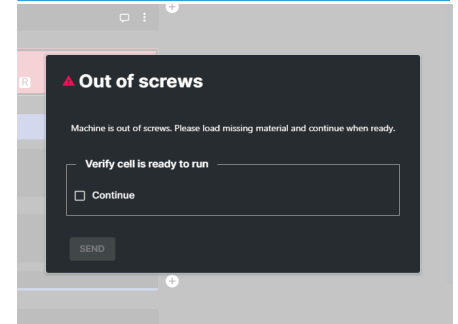
## SECURE USER LOGIN



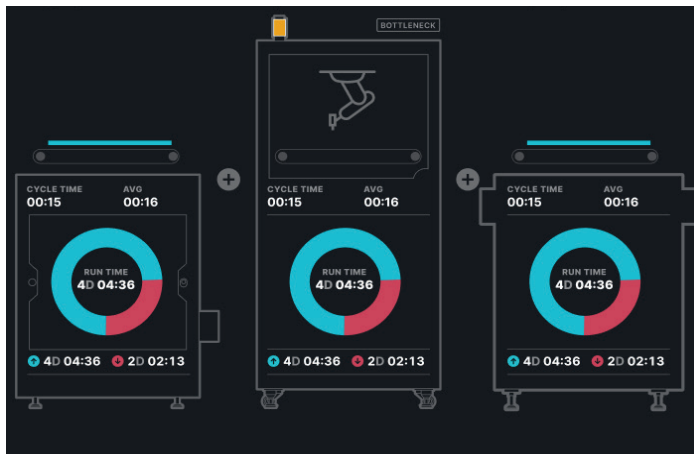
## SELECT PRODUCT TO BUILD



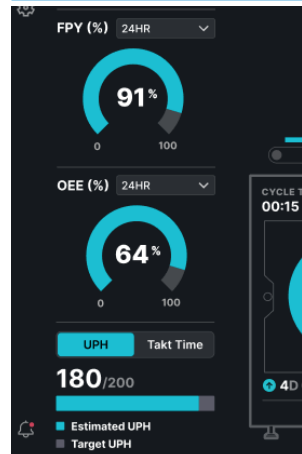
## RECOVER FROM ERRORS



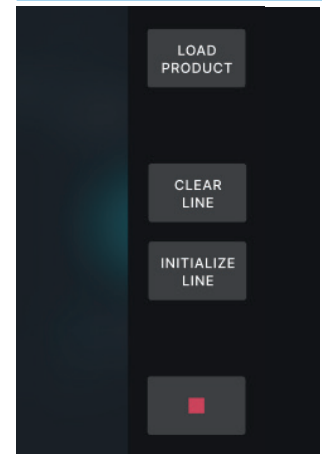
## MONITOR REAL TIME STATUS



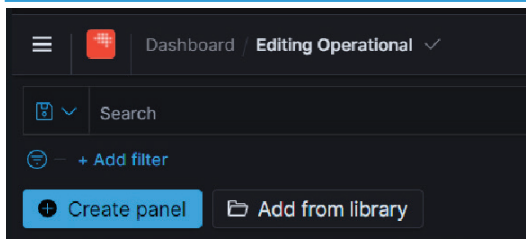
## TRACK PRODUCTION METRICS



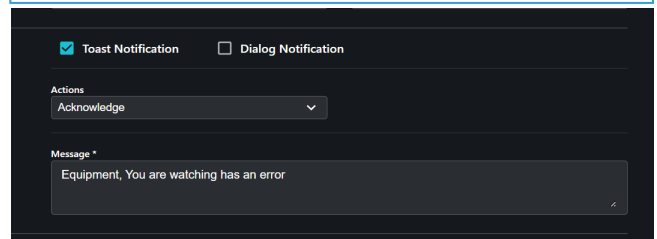
## CONTROL THE LINE



## SEARCH, FILTER AND QUERY DATA



## SETUP ALERTS AND NOTIFICATIONS

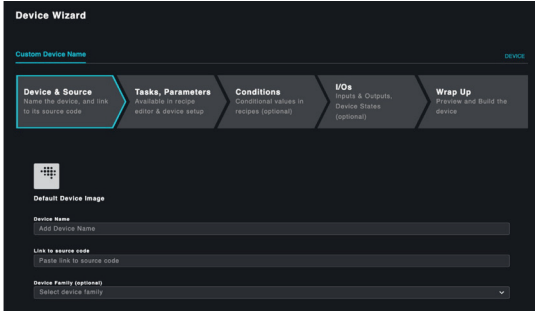




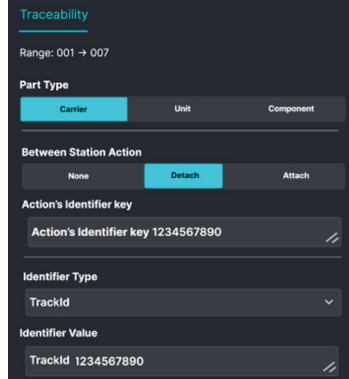
# Brightware Studio

Brightware Studio enables technicians to make modifications without complex programming or expensive change orders. Brightware Studio is accessed on the microfactory's touch screen display or via a browser on the local factory network.

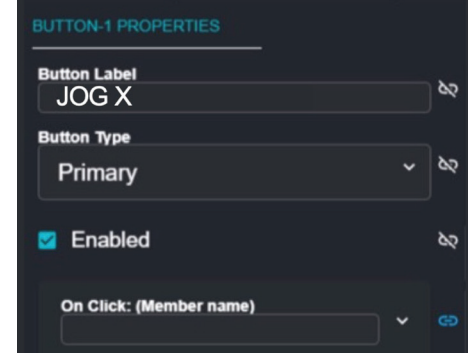
## ONBOARD NEW DEVICES



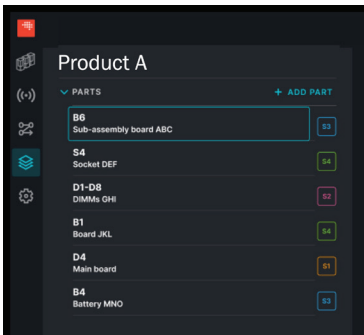
## IMPLEMENT PRODUCT TRACEABILITY



## CUSTOMIZE USER SCREENS



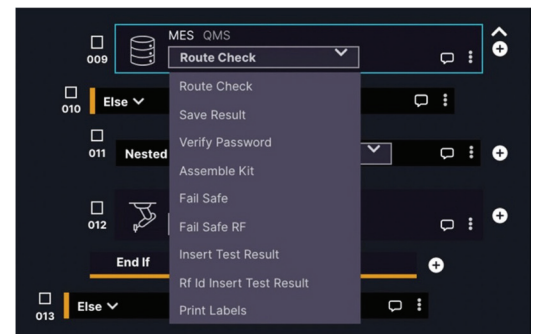
## ADD NEW PRODUCTS



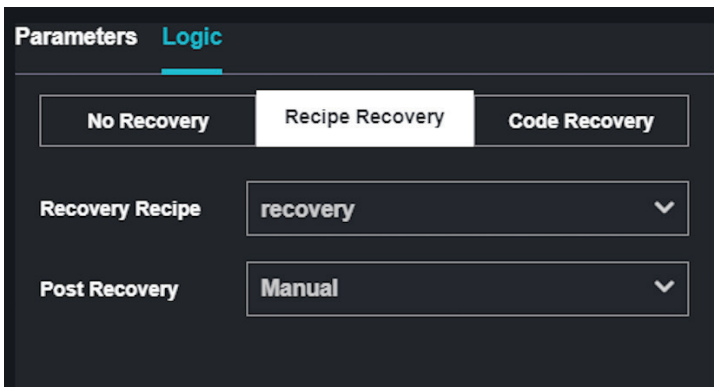
## DEFINE LAYOUT OF STATIONS



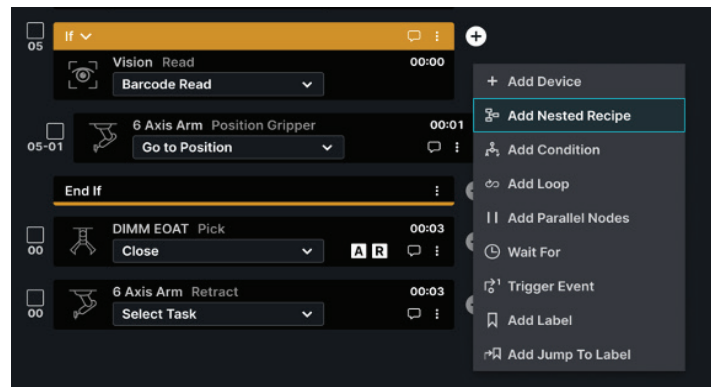
## CONFIGURE MES DATA FLOW



## SETUP NEW RECOVERY RULES



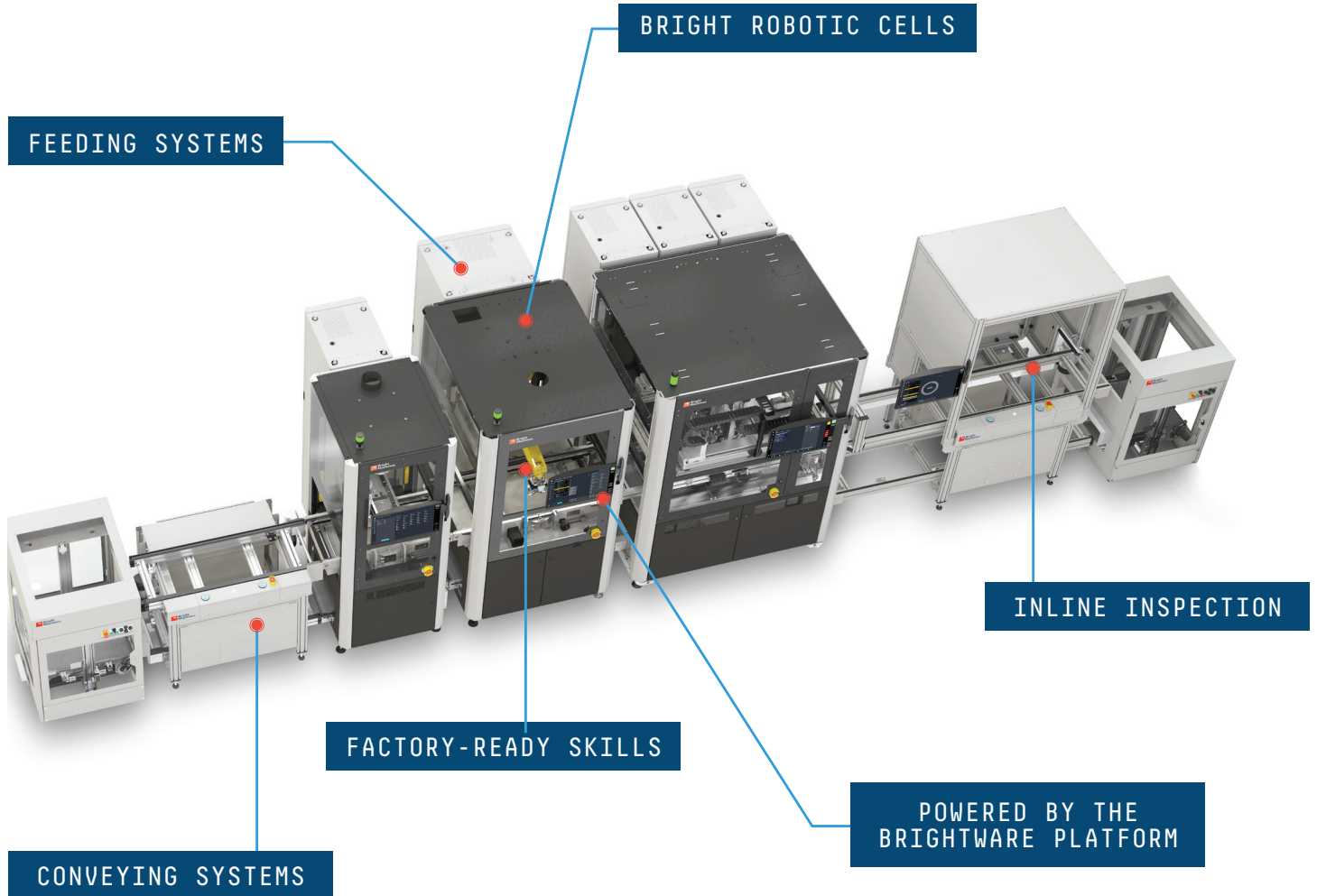
## MODIFY ASSEMBLY INSTRUCTIONS





# Bright Machines Microfactory

Powered by the Brightware® Platform, Bright Machines Microfactories leverage programmable building blocks that can be quickly configured to form flexible, scalable assembly lines.





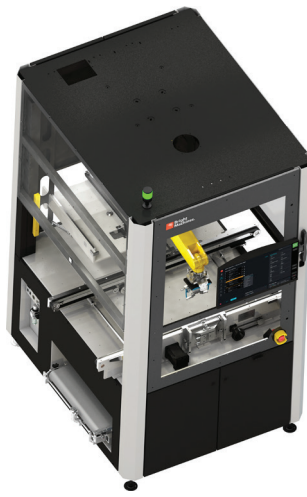


# Bright Robotic Cells

Bright Machines Microfactories use one or more robotic cells to form an automated assembly line.

## STANDARD CONFIGURATION

BRC35	BRC70	BRC100
-------	-------	--------



Internal volume of chassis (excluding electrical cabinet)		
35 cubic feet	70 cubic feet	100 cubic feet
External dimensions of chassis (excluding embedded conveyor)		
850 x 1000 x 2200 mm	1206 x 1505 x 2200 mm	1700 x 1505 x 2200 mm
Weight		
450 kg	900 kg	1150 kg
Maximum pallet size		
700 x 450 mm	700 x 600 mm	1200 x 600 mm
Robot manipulators		
Nachi EZ06 4-axis, 5 kg payload	Fanuc LR Mate 200iD/7L 6-axis, 7 kg payload	Dual gantries

There are three sizes of cells available. The [BRC35](#), [BRC70](#), and [BRC100](#) have internal volumes of 35,70, and 100 cubic feet. The three cells can be used together on the same line to assemble products with heights up to 220 mm and weights up to 30 kg. Each BRC has a standard configuration which includes the chassis, electrical cabinet, robot manipulators, 200-230VAC power supply, and 21" touch screen display.



# Feeding Systems

Bright Machines Microfactories support automated material feeding, enabling the assembly line to run for extended periods of time without requiring human operators to load materials into it.

## STANDARD CONFIGURATION

TRAY FEEDER 305

TRAY FEEDER 600



External dimensions of chassis	
1360 x 490 x 2246 mm	1360 x 780 x 2246 mm
Weight	
450 kg (no cart) 650 kg (cart with max payload)	530 kg (no cart) 680 kg (cart with max payload)
Maximum payload	
10 kg per tray 250 kg per cart	10 kg per tray 250 kg per cart
Maximum part size	
280 x 380 x 200 mm	560 x 380 x 200 mm

The [Tray Feeder 600](#) and [Tray Feeder 305](#) each support 25 trays with a cycle time of 6 seconds to switch trays and are compatible with the BRC70 and BRC100 fitting onto the back side of the cell.





# Conveying Systems

Bright Machines Microfactories support conveyance of payloads up to 30 kg. Embedded conveyors move pallets from cell to cell for processing a sequence of operations. Return conveyors bring pallets back to the start of the line.

## STANDARD CONFIGURATION

### PALLET ELEVATOR



### EXTENSION CONVEYOR



#### External dimensions of chassis

1119 x 921.5 x 1274 mm

1400 x 1100 x 1040 mm

#### Weight

220 kg

130 kg

[Pallet elevators](#) are used in the line to transport pallets vertically between the embedded conveyor and return conveyor.

[Extension conveyors](#) can be placed in the line where needed to accommodate human operator run stations or automated stations which don't require a cell.



# Application Subsystems

Bright Machines Microfactories use a variety of application subsystems to implement factory-ready skills and inline inspection.

## STANDARD CONFIGURATION

### END OF ARM TOOLS



### VISION STATION



Factory-ready skills
Pick and place
Screwdriving
Computer vision
DIMM insertion
Labeling
Soldering
Heat sink assembly
Dispensing
And more...

External dimensions of chassis
1400 x 1100 x 2200 mm
Weight
780 kg

**End of Arm Tools** are configured to implement a variety of factory-ready skills.

The **Vision Station** can be used to check that a pallet was properly kitted at the front of the line or to perform final inspection of the assembled product at the end of the line.