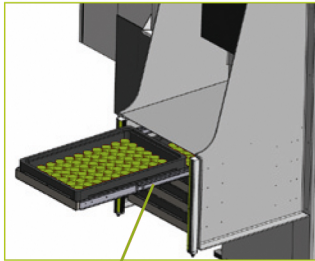


TECHNICAL DATASHEET

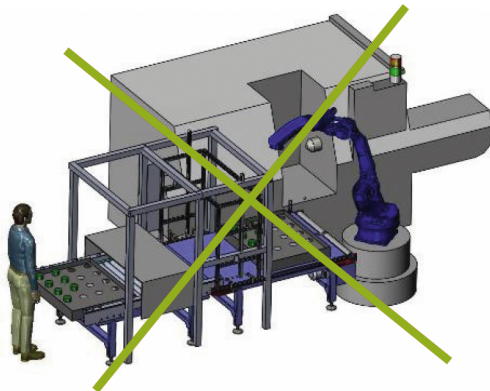
Automation solutions



KAAST-BOX TYP 1



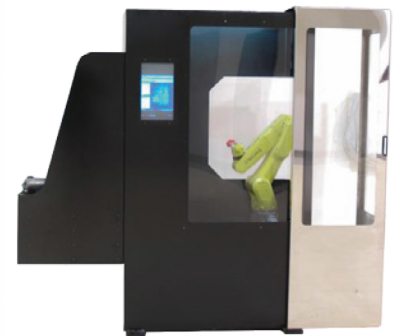
Drawer type stocker



FREE entrance design to provide



FREE working area provide work manually if necessary



Easy part changeover by FREE axis to machining area

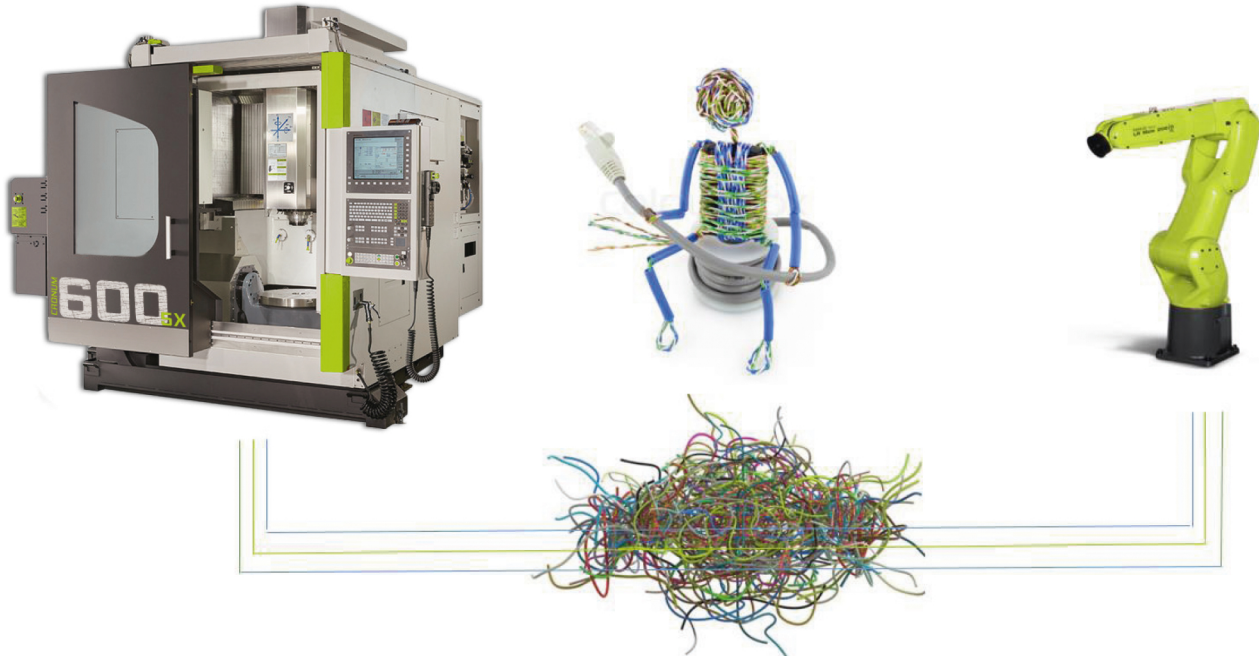


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PLUG & PLAY STRUCTURE – QUICK INTEGRATION IN CUSTOMER SITE

WITHOUT PLUG & PLAY



Long installation & integration time in customer place

WITH PLUG & PLAY

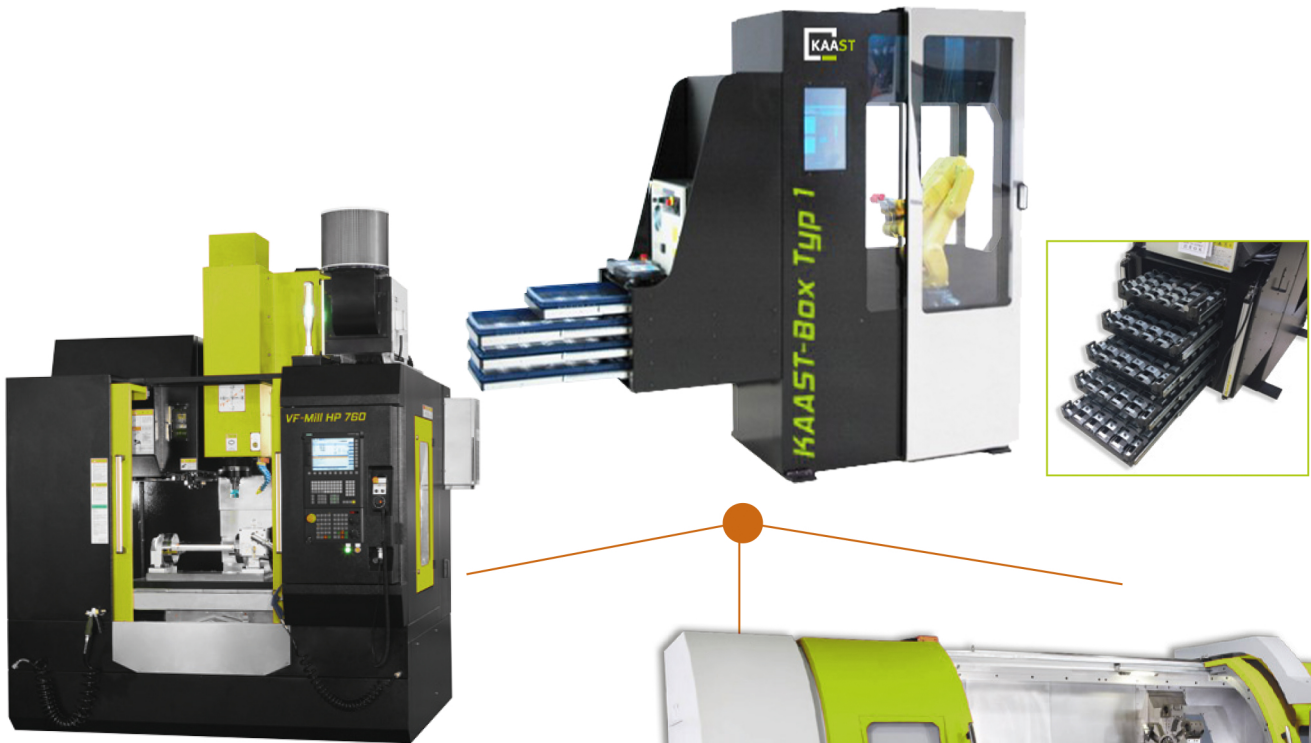


Short installation & integration time in customer place

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STANDARD SPECIFICATION - KAAST-BOX TYP 1



CNC MILLING MACHINE

Standard specification:

- ✓ Robot 7kg – 6th axis industrial robot
- ✓ Drawer type part stocker
- ✓ 5 drawers (600 x 400 x 100 mm)
- ✓ Single action gripper
- ✓ High speed loading & unloading
- ✓ 4 kg part loading & unloading capacity
- ✓ Excellent solution for short cycle time parts
- ✓ 1 day integration
- ✓ Operator free door design
- ✓ Quick set up for new part
- ✓ Possible manual usage & adjustment
- ✓ Easy part changeover by software
- ✓ Small footprint

Optional configuration:

- 6th drawer stocker (600 x 400 x 80 mm)
- Double action gripper
- Air clean system
- SPC station



CNC TURNING MACHINE



CNC GRINDING MACHINE

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KAAST LINE-LOAD TYP 2

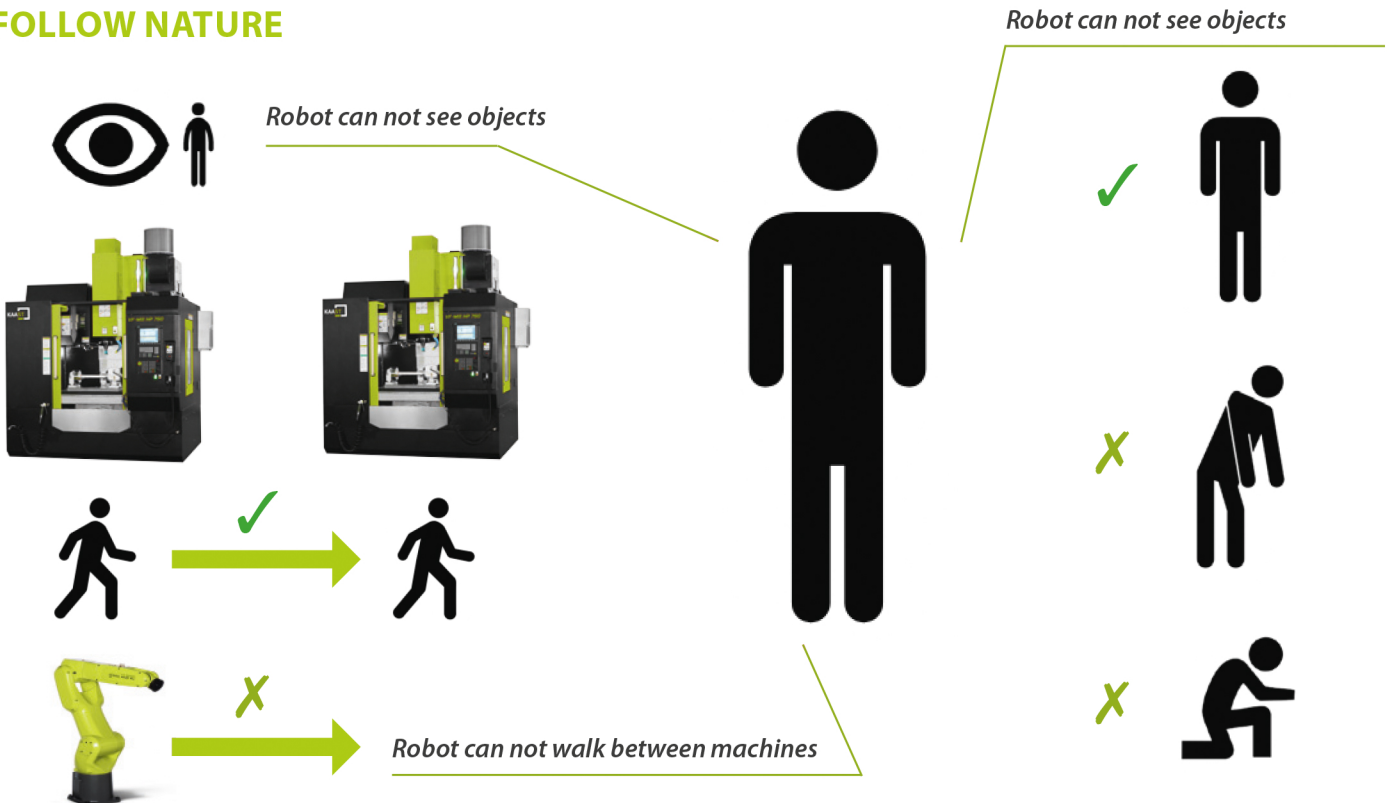


Advantages of Multi Rapid Autoloader

Compact automation system – applicable for different kind of CNC control machine

- ✓ 7th axis & 8th axis design provide loading & unloading on different size of machines
- ✓ Modular structure to able increase no of machine in future
- ✓ Plug & Play design –short integration time in customer place
- ✓ Possible to use machines separately (in case of one machine need maintenance, other machines continue to work)
- ✓ Automation management software
 - No master & slave structure / control machine & robot and peripherie
 - Quick part changeover
 - Quick recovery function
 - Easy scheduling & easy setup new part
 - Remote control against troubleshooting

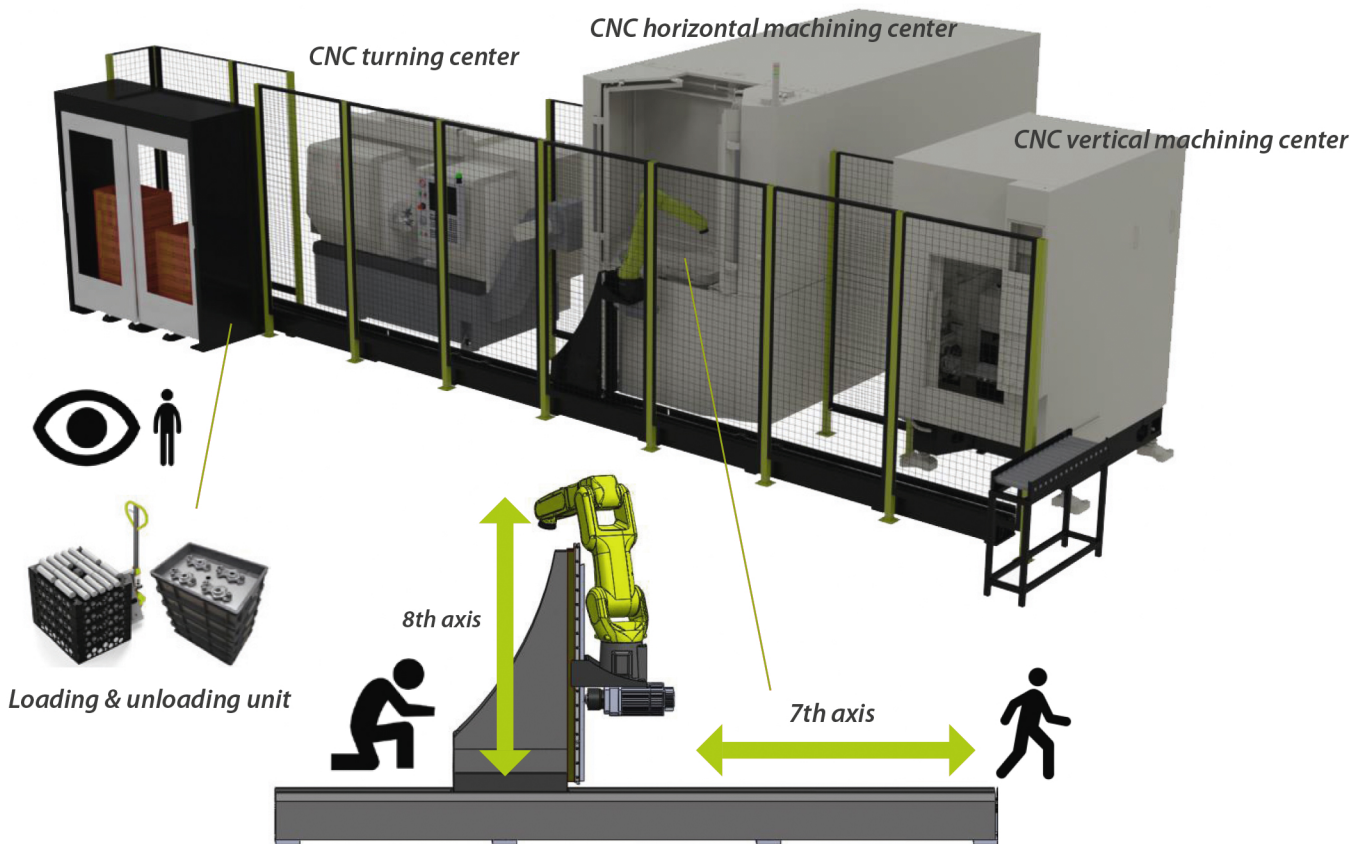
FOLLOW NATURE



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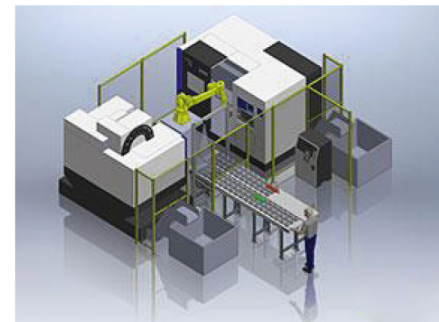
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EXCELLENT SOLUTION TO COMBINE DIFFERENT TYPE OF MACHINES

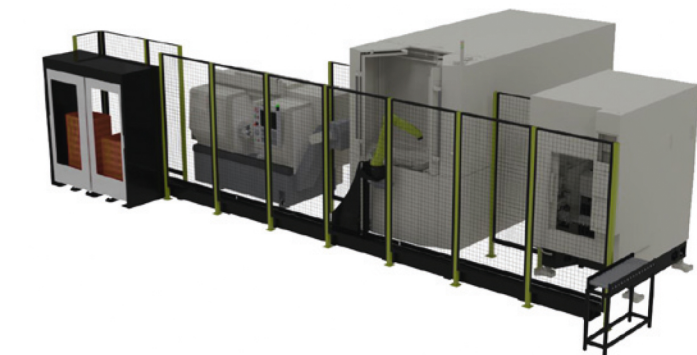


DON'T STOP SYSTEM DURING MAINTENANCE

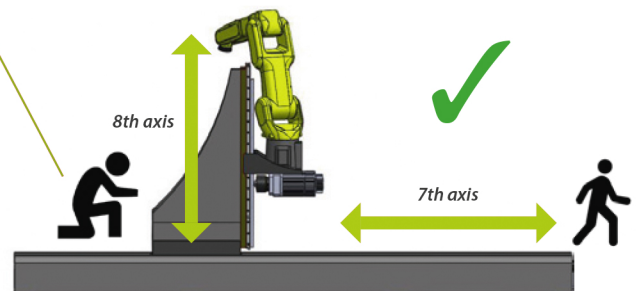
Conventional layouts – face to face machine layout



Need big size robot to reach loading & unloading position



With CE safety fence

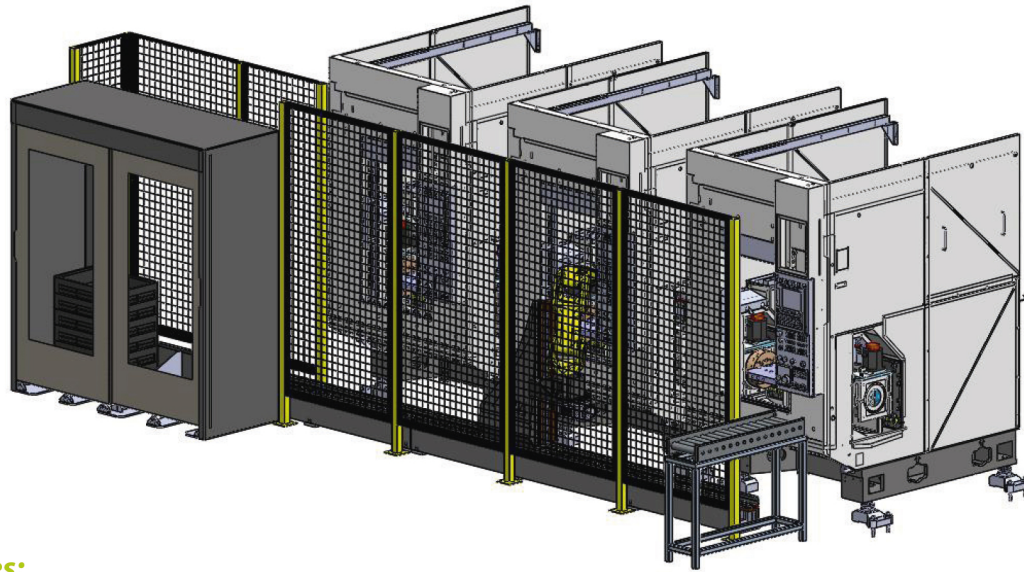


In case of one machine stop; all the system stop

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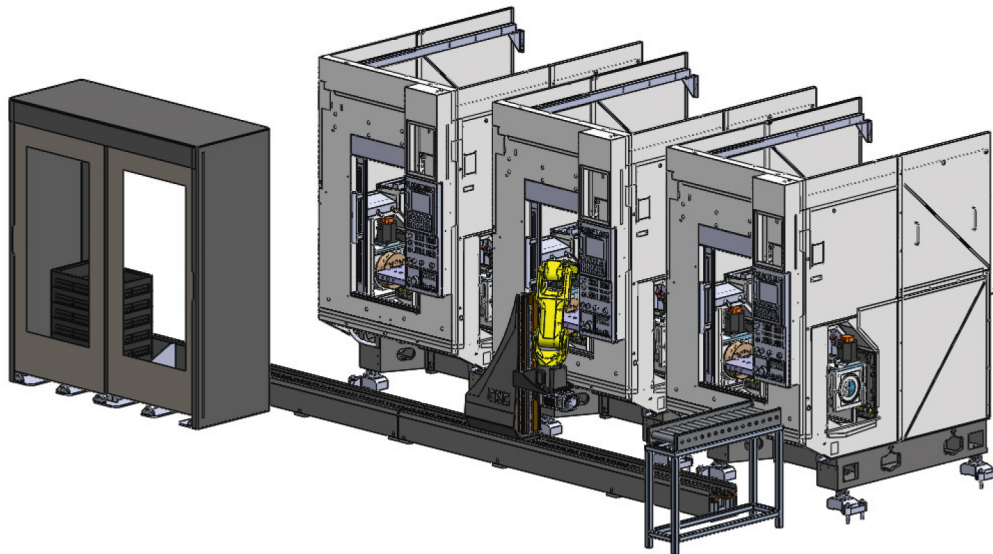
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FEATURES



System includes:

- ✓ 7kg 6 axis industrial robot
- ✓ 7th & 8th axis
- ✓ 7th axis slider on ground & 8th axis on column
- ✓ Loading & unloading unit
- ✓ Gripper & gripper fingers
- ✓ Separators
- ✓ Include 7 pieces for each unit.
- ✓ Automation software
- ✓ Integration & training
- ✓ 3 days Integration for 1 machines
- ✓ 5 days Integration for 2 machines



Standard specification:

- ✓ Robot arm reach 900 mm
- ✓ Separator size: 800 x 600mm
- ✓ No of separators: 7 pieces (changeable according to part height)
- ✓ Maximum loading & unloading: 7 kg (including gripper)
- ✓ Maximum separator weight: 1000 kg
- ✓ Dimensions: depends on number of machine
- ✓ Applicable for milling & turning and other CNC control machines
- ✓ Applicable for multi machine applications

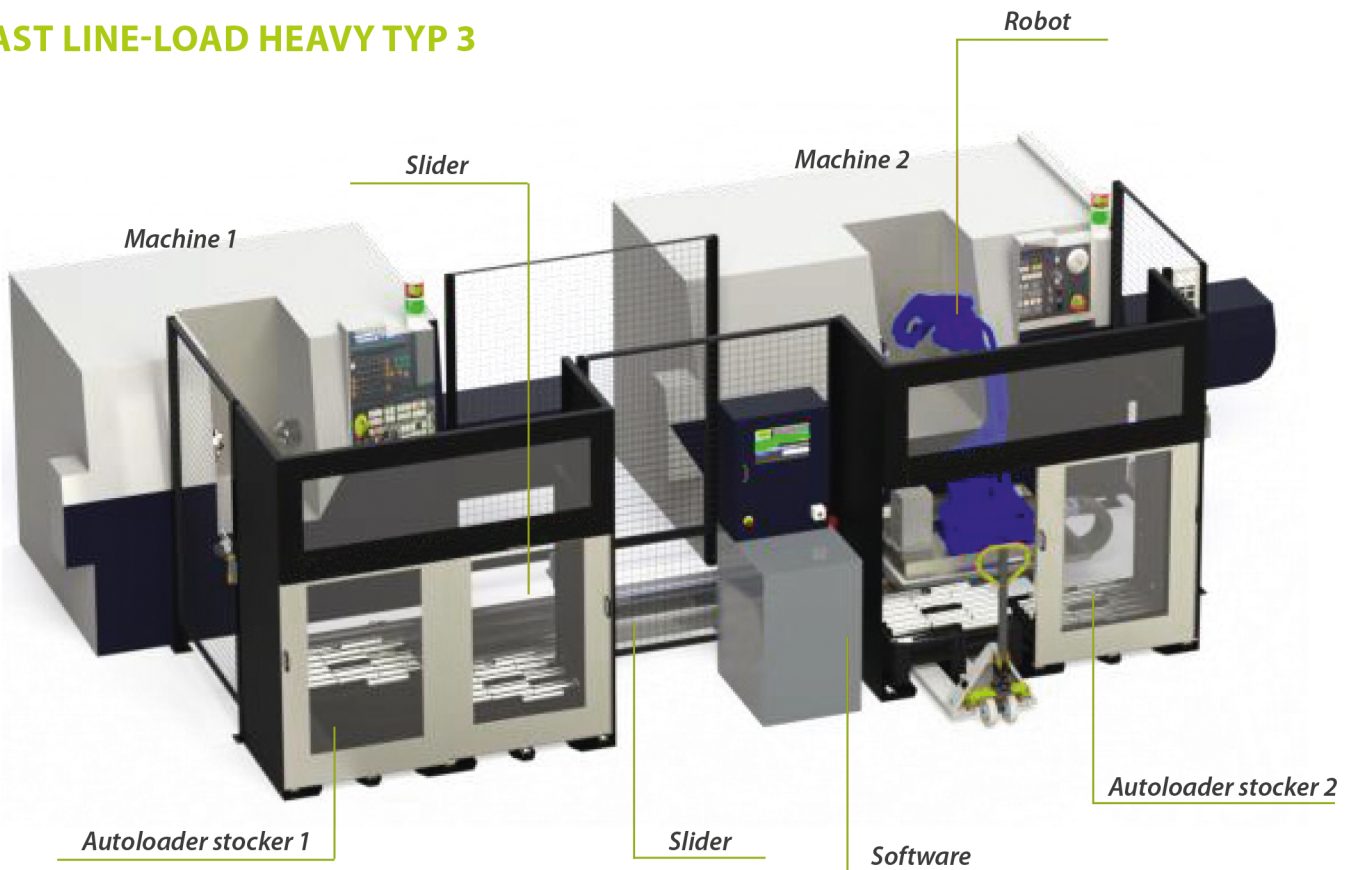
Optional configuration:

- Robot with bigger payload
- Extension of system
- Double action gripper
- Gripper changer
- Camera
- Additional unit – to use different parts in system
- SPC station

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KAAST LINE-LOAD HEAVY TYP 3



Compact loading and unloading system up to 100 kg & 5 machines:

- ✓ Free access on machining area
- ✓ Use machines separately & different parts different missions
- ✓ In case of one machine stop, continue to work with other machine
- ✓ Advanced automation software – quick recovering
- ✓ Easy to extend system & flexible design

Standard specification:

- ✓ Robot 35 kg – 6th axis industrial robot
- ✓ Modular design
- ✓ Possible to extend system in future
- ✓ 7th axis – robot will run between machines - linear
- ✓ Type part stocker
- ✓ 800 x 600 mm box or separators
- ✓ 1 unit of part stocker
- ✓ Single action gripper
- ✓ High speed loading & unloading
- ✓ Applicable from 1 machine to multi machine
- ✓ Easy part changeover
- ✓ Small footprint
- ✓ Short time integration
- ✓ 2 days for single machine applications
- ✓ 3 to 5 days for multi machine applications

Optional configuration:

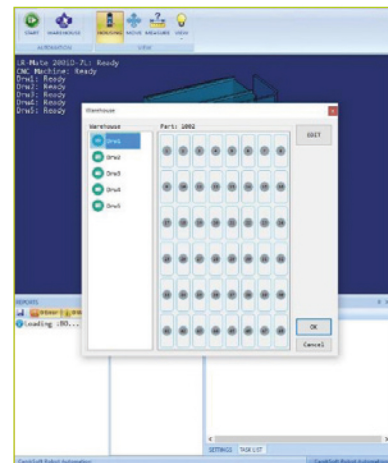
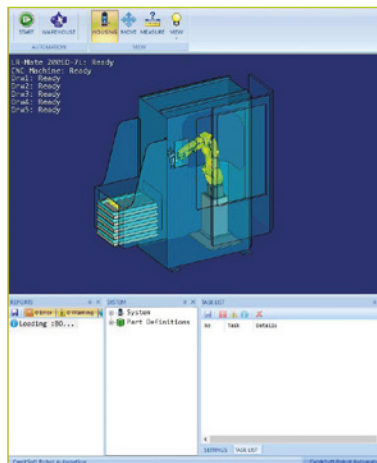
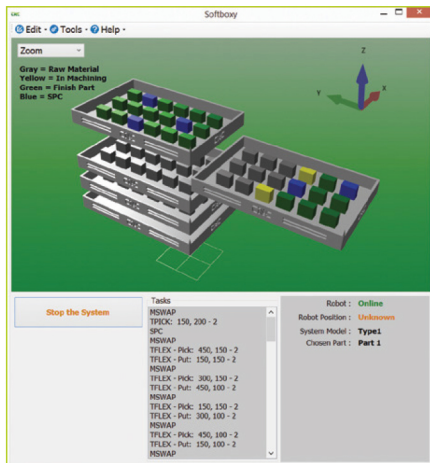
- 50 kg / 100 kg or 150 kg robot
- Extension of system – modular structure
- Double action gripper
- Gripper changer
- Camera
- Additional unit –to use different parts in system
- SPC station

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UNIQUE SOFTWARE TO MANAGE ALL KIND OF AUTOMATION SYSTEMS

- ✓ Prepare program by software instead of to teach robot positions
- ✓ Easy new part implementation
- ✓ Quick part changeover
- ✓ Quick recovering system
- ✓ Easy to connect factory ERP systems
- ✓ User friendly interface
- ✓ Matrix type dialog programming
- ✓ Dynamic scheduling
- ✓ Remote access against troubleshooting



EFFICIENCY OF WORKING HOURS

Company without automation



- Higher part cost
- Non-reliable production

- ✓ High Labor Cost
- ✓ Less Efficiency
- ✓ More Management Attention
- ✓ Delivery Problems
- ✓ Quality Problems

Loading and unloading by operator

22,5 hours x 280 days x 0.80 efficiency
5.000 working hours



Company with automation



- Less part cost
- Reliable production

- ✓ Low Labor Cost
- ✓ High & Constant Efficiency
- ✓ Less Management Attention
- ✓ Constant Delivery
- ✓ Constant Quality

Loading and unloading by autoloader

24 hours x 350 days x 0.95 efficiency
7.980 working hours

2.980 MORE WORKING HOURS PER YEAR!

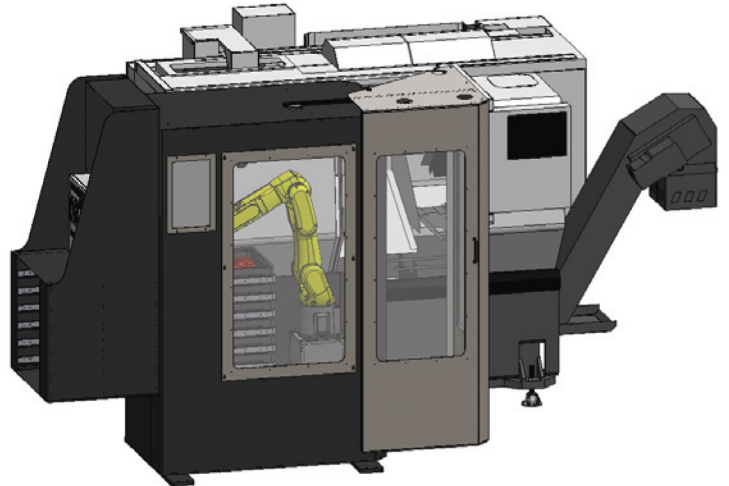
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SUMMARY

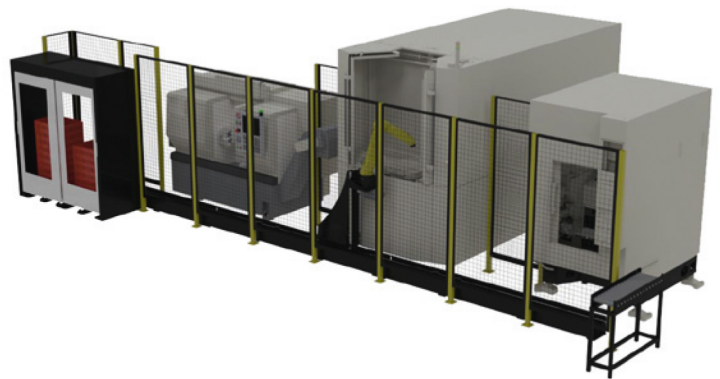
KAAST-BOX TYP 1

- ✓ Excellent solution for stand alone machine applications
- ✓ High speed loading & Inloading
- ✓ 4 kg part loading & unloading capacity
- ✓ Suitable for turning, milling and grinding applications
- ✓ Recommended for small size parts (80 x 80 x 80 mm)
- ✓ Free entrance to machining area & operator panel
- ✓ 1 day integration



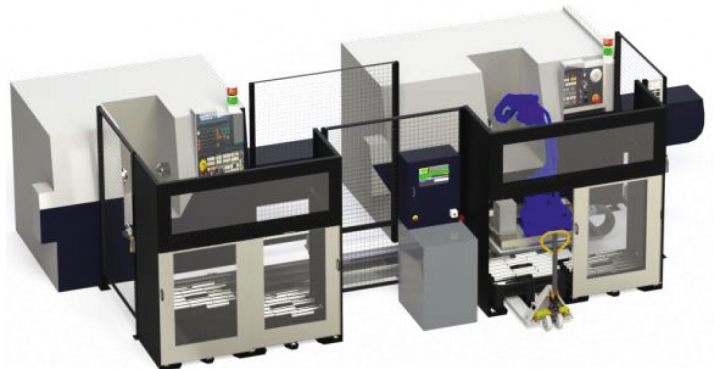
KAAST LINE-LOAD TYP 2

- ✓ Modular system & possible to add machine in future
- ✓ 7th and 8th axis movement
- ✓ High speed loading & unloading
- ✓ 4 kg or 9 kg part loading & unloading capacity
- ✓ Applicable for different type of parts in same system
- ✓ Excellent solution for different type of machines
- ✓ 3 to 5 day integration (depends on no of machine)



KAAST LINE-LOAD HEAVY TYP 3

- ✓ Modular system & possible to add machine in future
- ✓ 7th axis movement – linear layout
- ✓ Suitable for heavy duty applications
- ✓ 20 kg to 150 kg part loading & unloading capacity
- ✓ Applicable for different workpiece in same system
- ✓ Excellent solution for different type of machines
- ✓ 3 to 5 day integration (depends on no of machine)



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