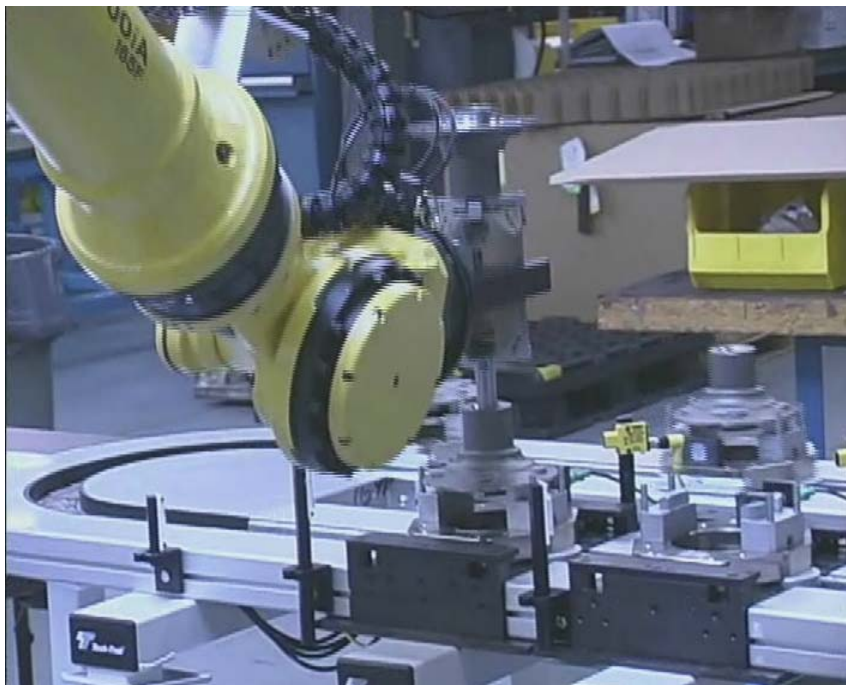




Robot Integration Concepts

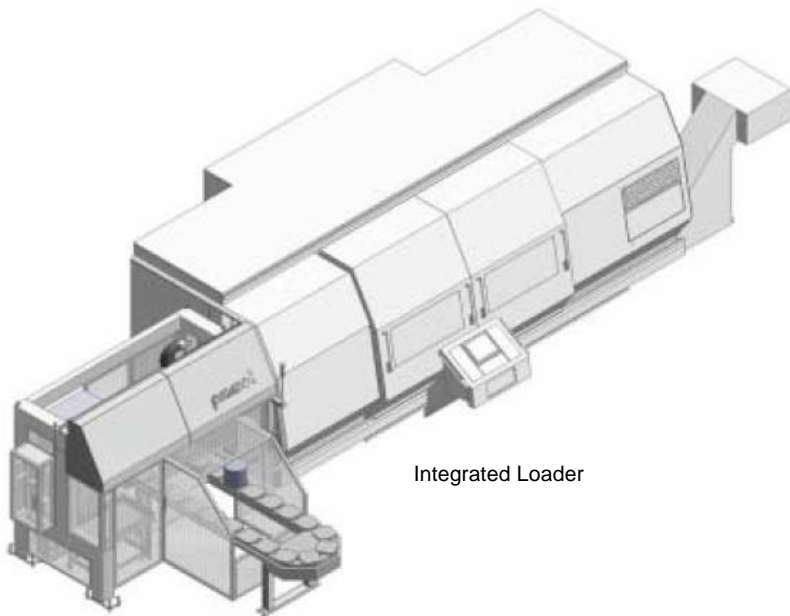




Machine Tool Automation

Continuous unattended operation of a machine center or a manufacturing cell with multiple machine tools.

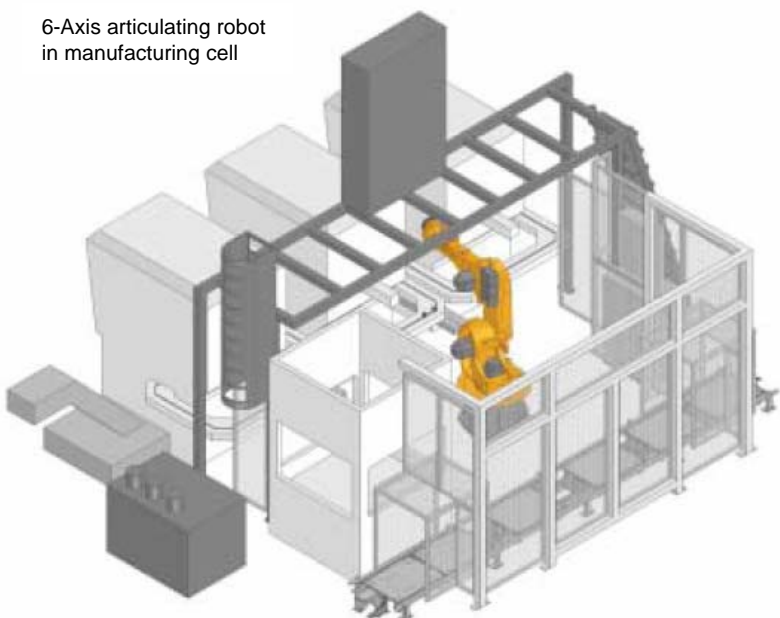
- ◆ Automated loading/unloading
- ◆ Buffering



Integrated Loader

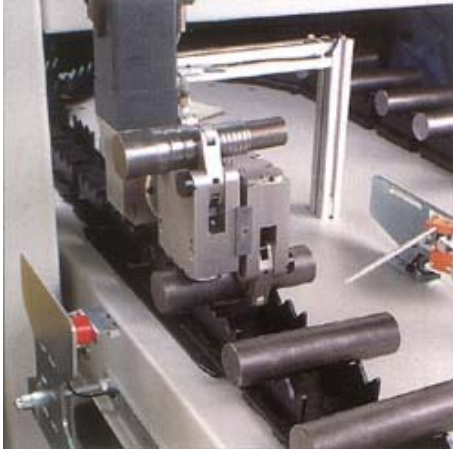


6-Axis articulating robot in manufacturing cell

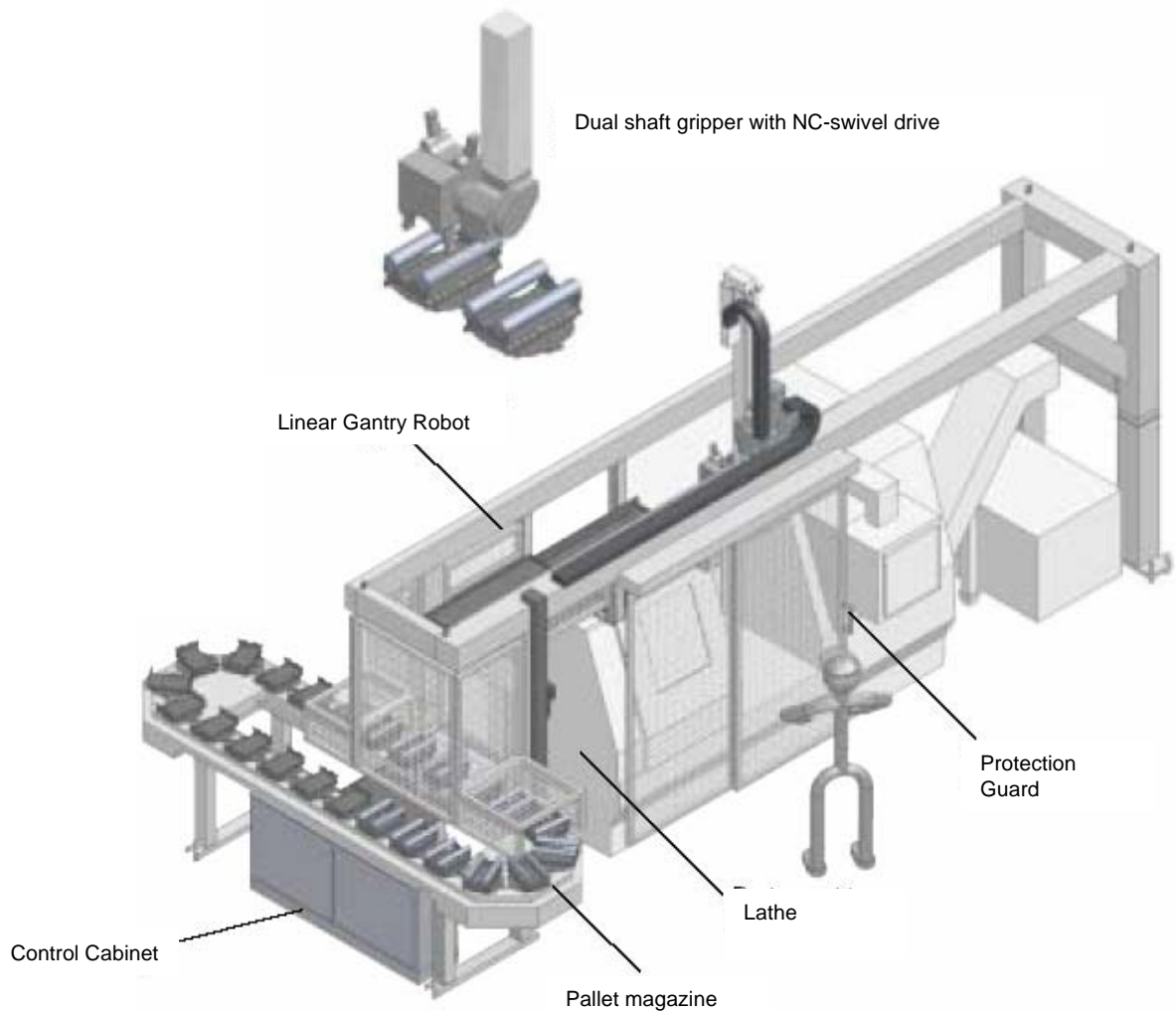




Integration Concepts

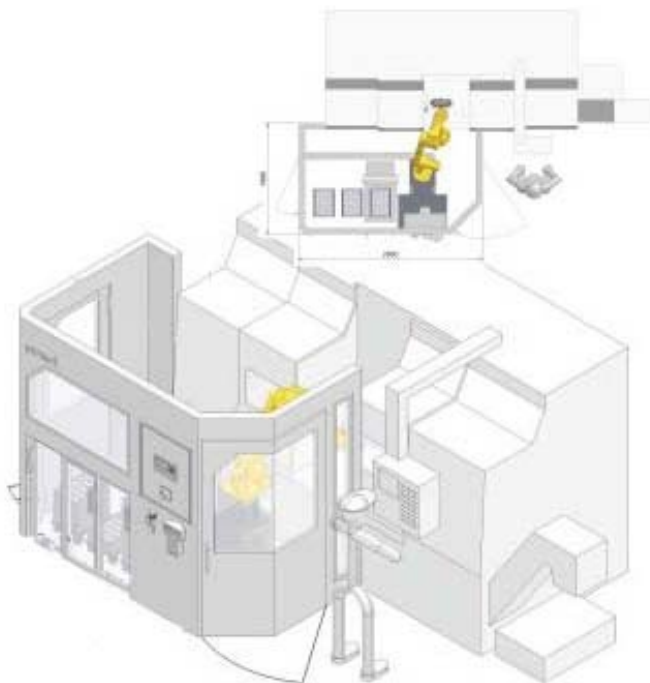
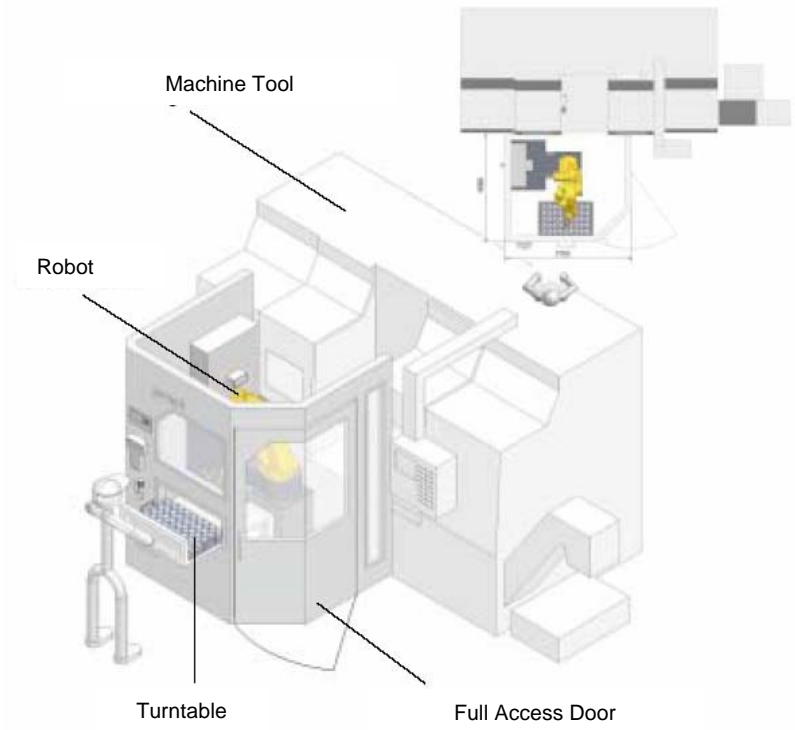


Linear Gantry with pallet magazine





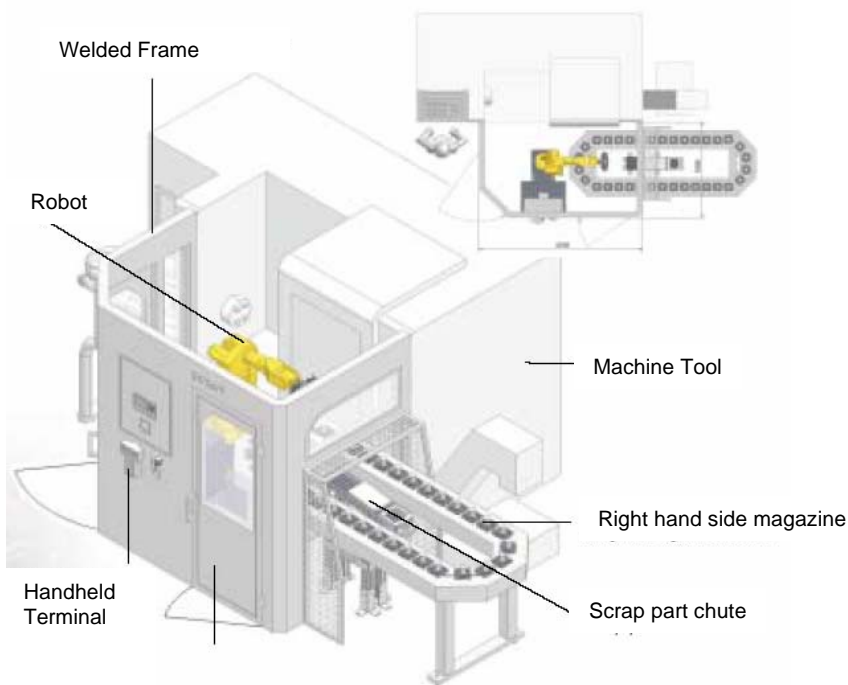
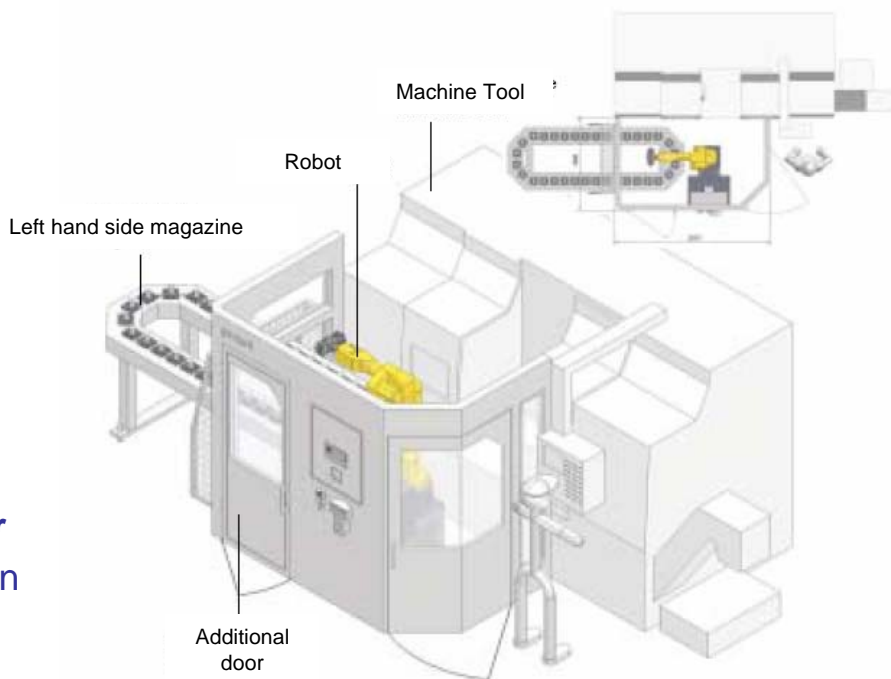
Integration Concepts





Integration Concepts

**Pallet Conveyor
Left Configuration**

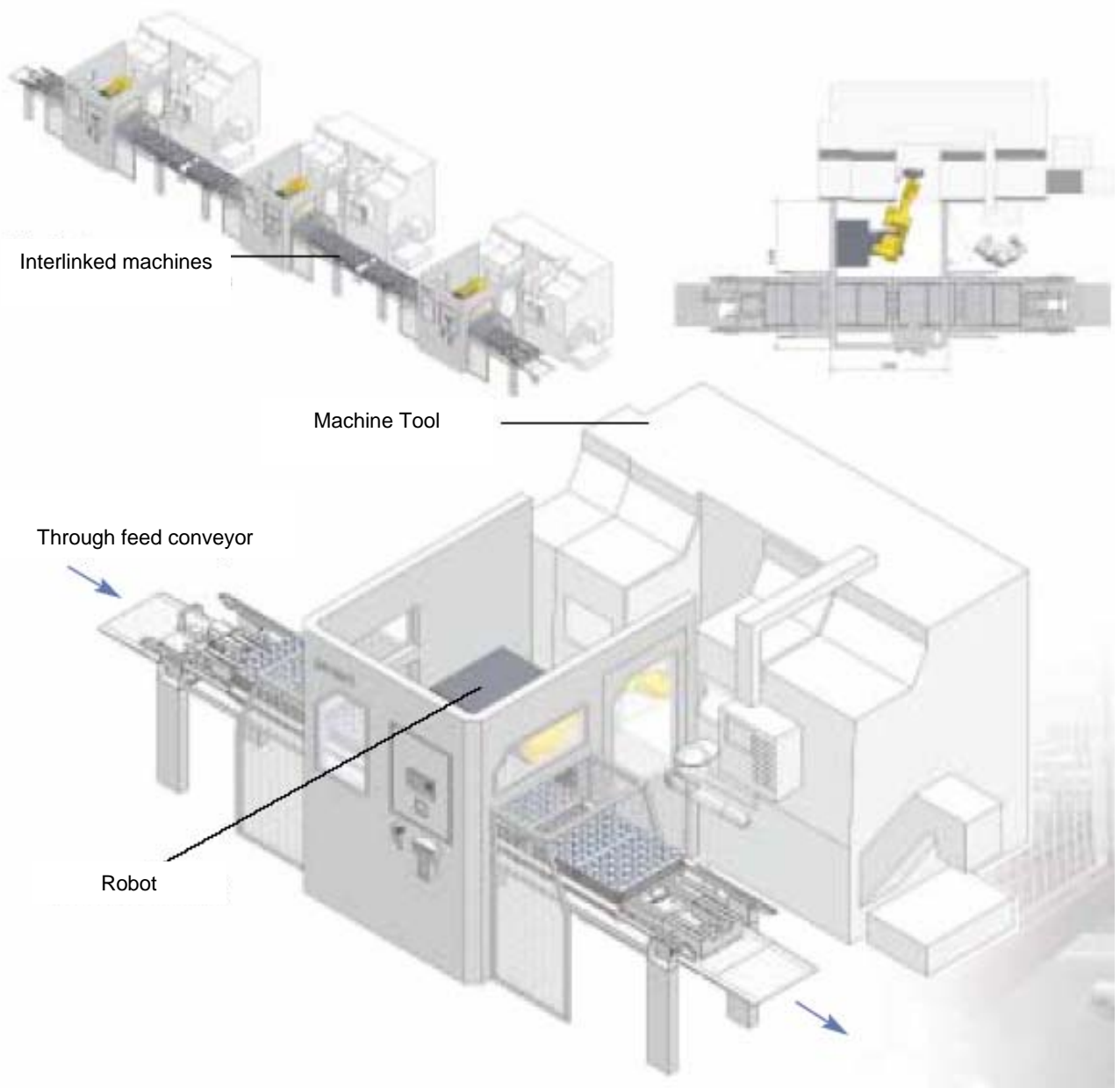


**Pallet Conveyor
Right Configuration**



Integration Concepts

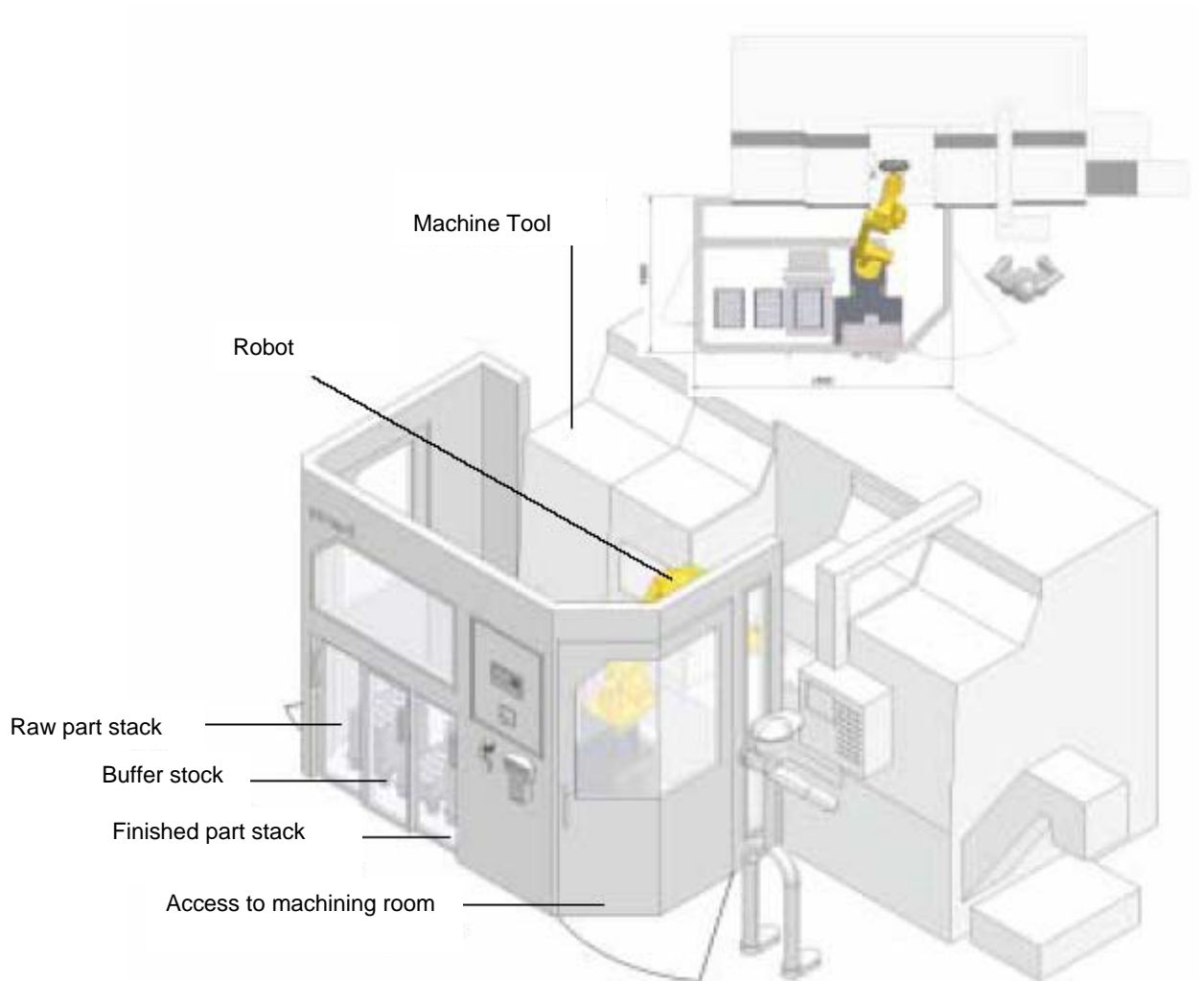
Through Feed Conveyor





Integration Concepts

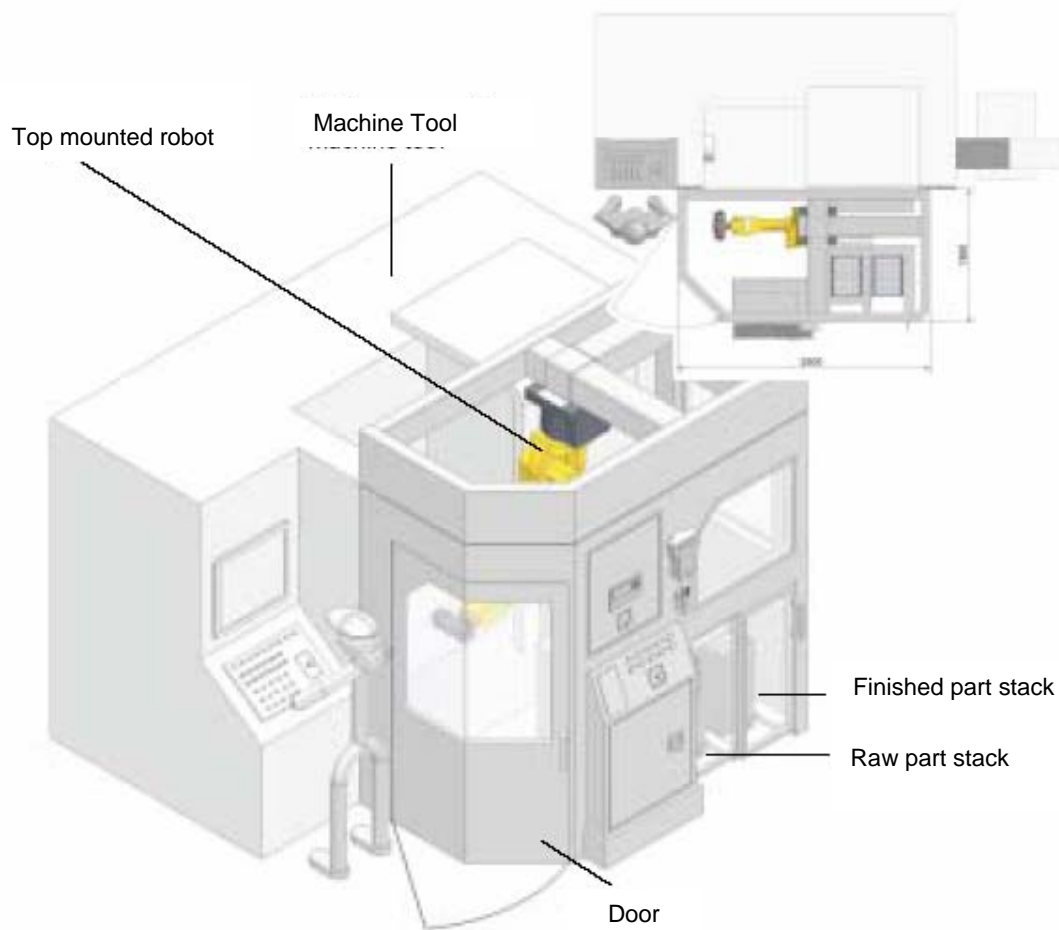
Stacking Cell (3 stacks)





Integration Concepts

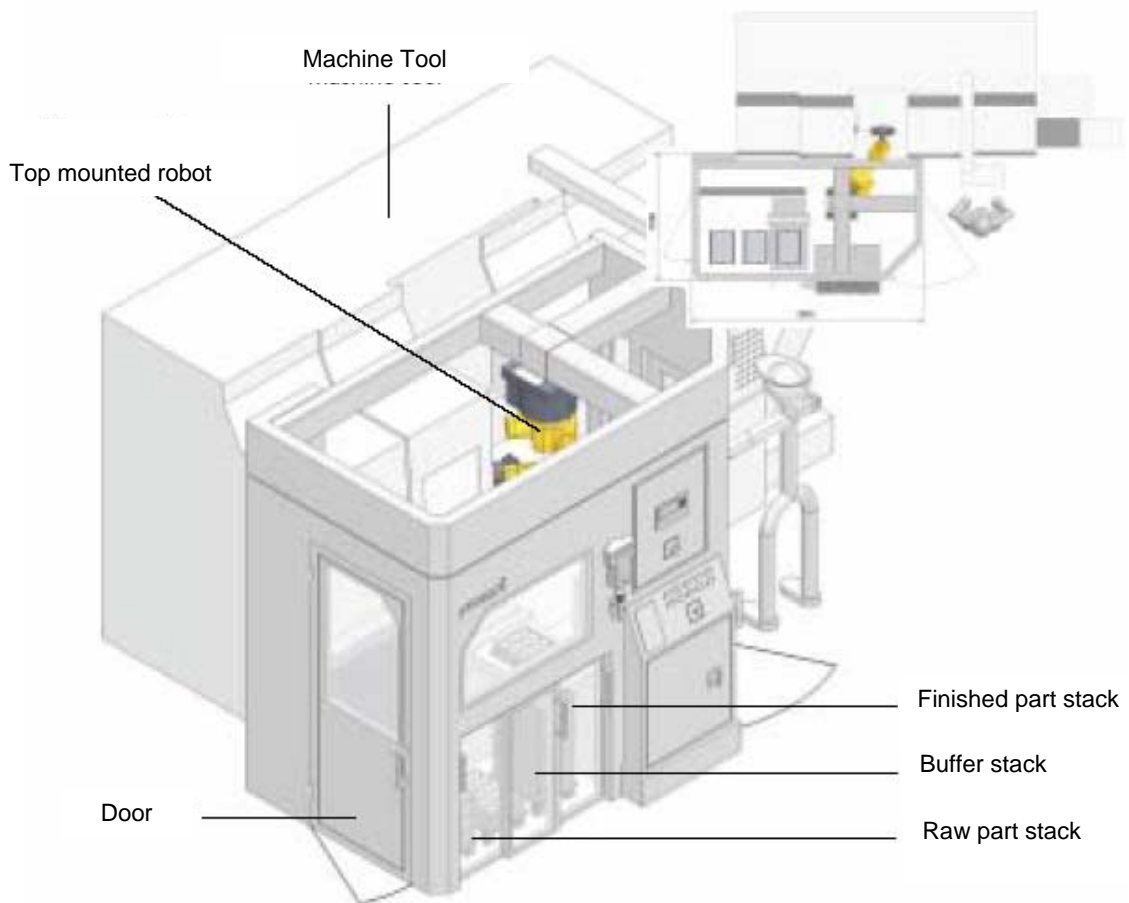
Stacking Cell (2 stacks, top mounted robot)





Integration Concepts

Stacking Cell (3 stacks, top mounted robot)





Pallet Magazines & Accessories



- ◆ For small size parts
- ◆ Relatively small buffer requirements
- ◆ Loading/unloading of parts stack
- ◆ Gantry robot or articulating robot



Stacking Pallet Magazine Table



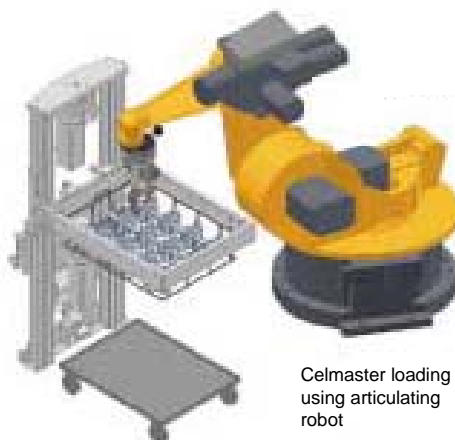
Indexing slat conveyor



SPC
Drawer



Greasing
station



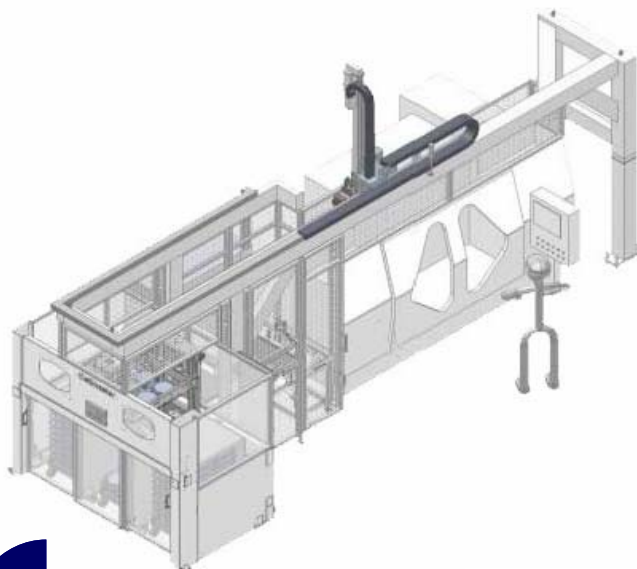
Celmaster loading
using articulating
robot



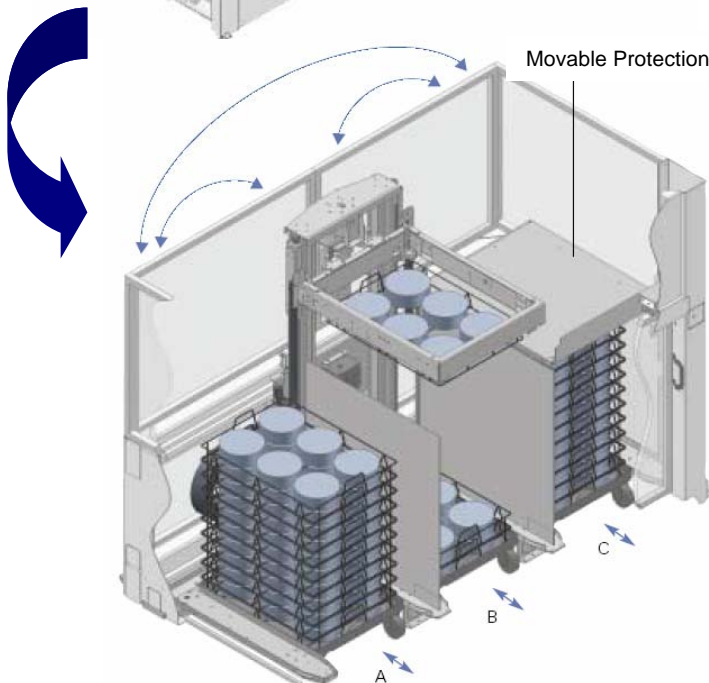
Stacking Cells



Continuous unattended operation of a machine center or a manufacturing cell with multiple machine tools in linear lay out that can be loaded/ unloaded by a single gantry robot.



- ◆ For larger size parts that can be stacked
- ◆ Large buffer requirements
- ◆ Stacking cell loaded/ unloaded in the beginning of a shift or multiple shifts



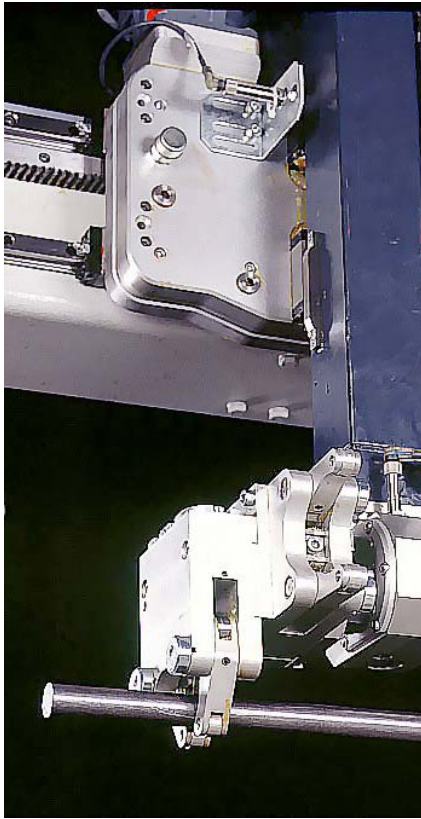
Celmaster concept where a stacking cell provides the means to buffering the parts for unattended machine tool loading and unloading by a gantry robot.

- A. Raw Parts Stack
- B. Finished Parts Stack
- C. Buffer Stack (to permit stack changing parallel to machining)



Gantry Robots

Practical and economical gantry robot solutions with standard machine tool interface that simplifies integration of the loader to most lathes, machining centers and grinders. World Class blend of modular parts handling, specialized gripper design, and standardized controls.

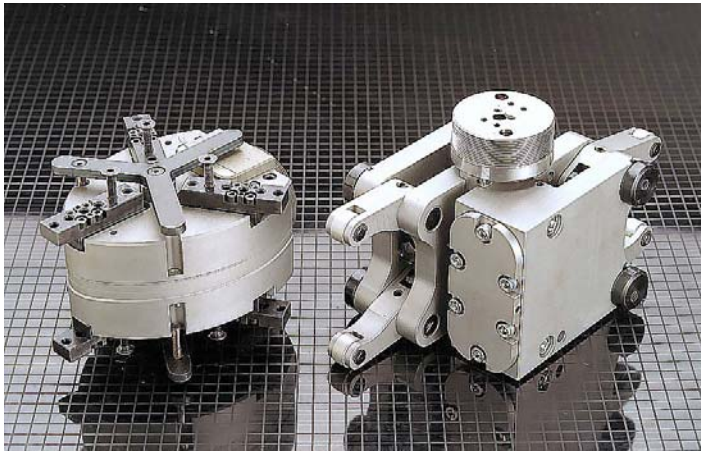


Hundreds of Applications and Installations





Grippers



Standard Grippers



Custom Grippers

