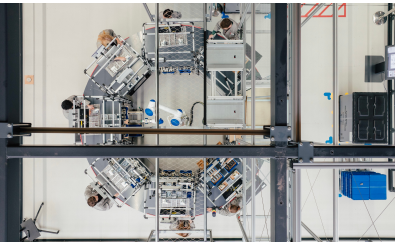
Smart O-Cell: The Integrated Micro-Factory

This partially automated manufacturing O-cell revolutionizes assembly processes. It features an innovative design where workstations are arranged around a central robot. This robot serves as an integrated, automated warehouse, supplying items directly to each station. By bringing storage to the point of use, the cell eliminates lengthy material transport, optimizes the factory footprint, and creates a highly efficient, self-contained production unit.



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Granted Patent in AT, CH, CZ, DE, HU, IT, PL, RO, SI, SK
2020

Faster, safer and more compact production.

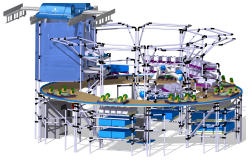
Our manufacturing O-cell offers unparalleled efficiency by minimizing the distance between storage and assembly. The smart layout prevents interference between the robot and human operators, ensuring a safer work environment. Its compact, vertical design optimizes floor space, while the modular structure allows for flexible and scalable production lines.

01 Significantly boost productivity by decoupling the cell from a central warehouse, ensuring a constant, buffered supply of materials.

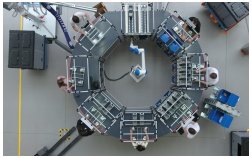
02 Enhances operator safety by separating robot and human work areas.

03 Maximize your factory footprint by utilizing vertical space.

04 Flexibility with a system that can be scaled and reconfigured.



Integrated automation at the O-Cell's core. Spatial separation with functional integration creates a lean, compact and highly efficient production.



O-Cell circular layout from above: workers positioned around the perimeter access, while centralized material supply from the cell's core eliminates external logistics traffic.

This invention is part of the Next-Generation Manufacturing Patent Portfolio.

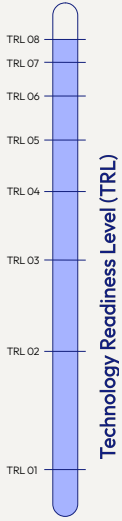
REFERENCES:
- O-Cell Details
- View video

CHALLENGE

Traditional assembly lines face constant challenges: long material supply routes from a central warehouse cause delays and inefficiencies. This dependency creates a high risk of production standstills. Furthermore, conventional layouts often waste valuable floor space and create potential safety hazards where automated logistics and manual labor intersect. Our O-cell directly addresses these critical pain points by redesigning the flow of materials and people for optimal performance.

INNOVATION

The true innovation lies in the architectural integration of logistics and production. Unlike traditional setups, this cell treats the automated warehouse not as a separate entity but as the central core around which manufacturing happens. This paradigm shift, creating a self-sufficient 'micro-factory', enables a circular workflow, minimizes material handling to near-zero, and introduces a unique system where the robot serves racks from the back, ensuring seamless, safe human-robot collaboration.



01 Basic principles observed · **02** Technology concept formulated · **03** Experimental proof of concept · **04** Technology validated in lab · **05** Technology validated in relevant environment · **06** Technology demonstrated in relevant environment · **07** System prototype demonstrated in operational environment · **08** System complete and qualified

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