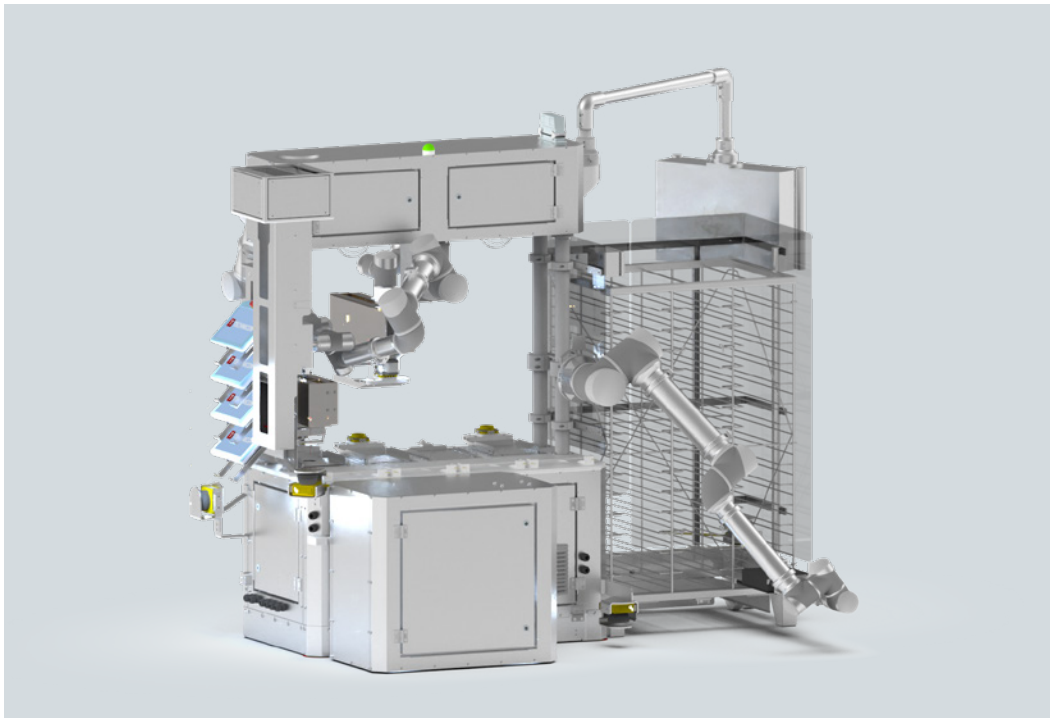


## AUTOMATIC CARTRIDGE OUTFEED

**Automatic Cartridge Outfeed** strengthens the scope of better jobs, improves EHS, improves productivity, secures product quality and frees up operators' time.



### Challenge

Up till now the repetitive process of handling the cartridges from the filling line to box and into racks has been done manually.

This is normally a field that requires trained operators with experience and skills to do the handling of the cartridges without risking causing chips and crack or crushers.

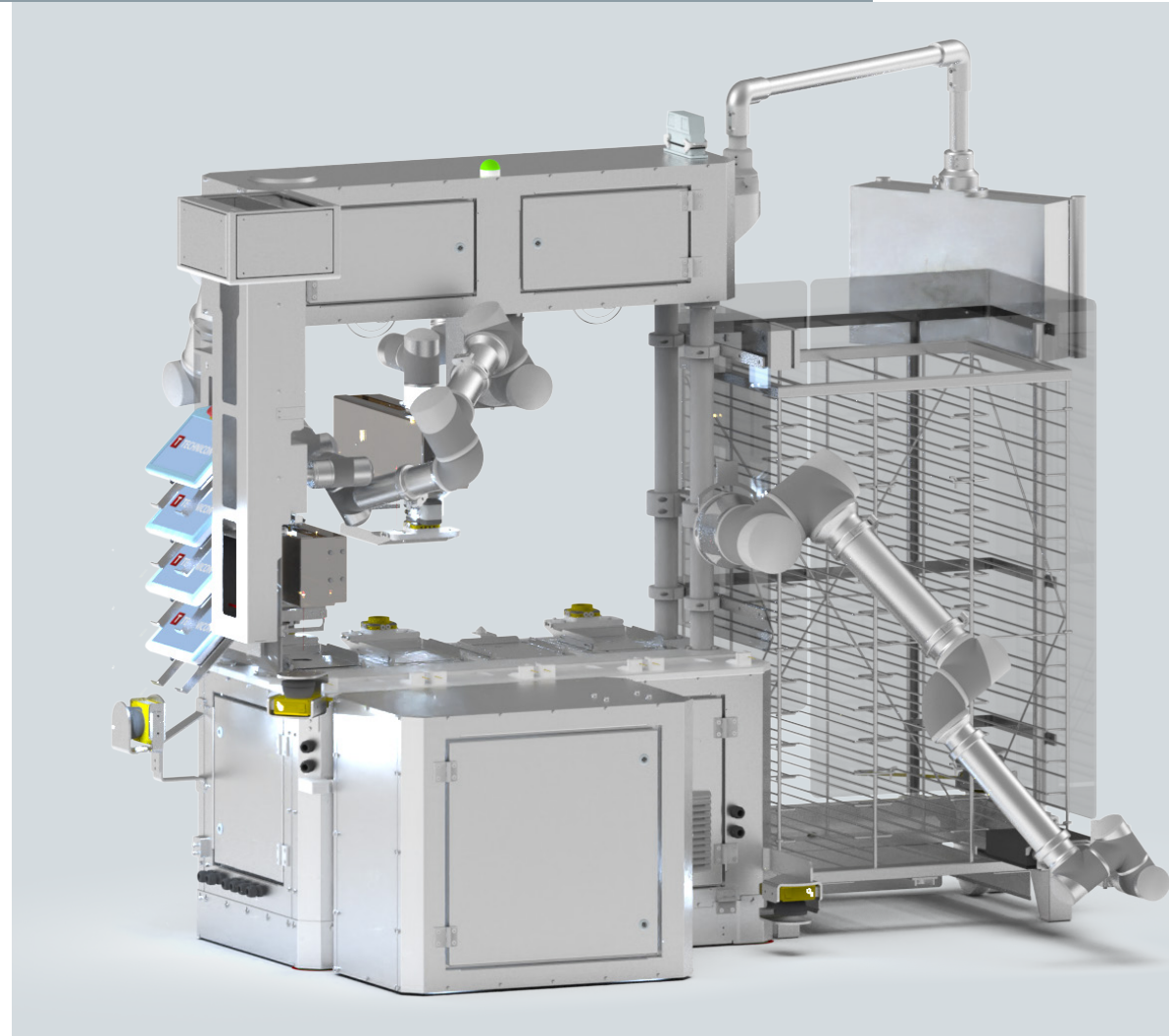
# SOLUTION OVERVIEW

The automated process is as follows:

- + Cartridges are fed from the filling line into robot tool. A UR cobot with a unique designed robot tool (gripper) adds a controlled and gentle back pressure on cartridges moving the cartridges to a folding station.
- + The second UR cobot closes a box, and then the cobot moves the box to a pick-up station, where a third UR cobot picks up the box. The third UR cobot labels the box and checks labels before the box is gently finally placed into a rack.

All motions in the system are based on forced-based motions, which means that the robots are “feeling” the way forward, this give a very high robustness to variance in material, such as racks and aculux which are flexible and subjected to high tolerances.

This force-based approach is the key to achieving a +99% up time.





TECHNICON CASE

## Solution Benefits

- + **Automatic Cartridge Outfeed** is modular and scalable and can thus be applied to any filling line within the entire global pharma industry. The interface to filling line is robotic motions, which means that this machine can be adopted by most filling lines.
- + It has a very small footprint (1 x 2 meters) and therefore the system can be integrated in areas with limited space. Thereby **Automatic Cartridge Outfeed** enables companies within the global pharma industry to add more value-creating, minimizing the risk of unplanned stop and more motivating tasks: e.g., monitoring to their daily processes.
- + The solution contains force control and limits everything that touches the products. This provides a standardized and data driven handling of cartridges to ensure a high level of quality of products, by e.g., avoiding chips and cracks.
- + The filling line runs more stable with a robot system to off-load, as it does not require operators at the outlets constantly. Operators typically have many connected tasks around to outlet, and if they are away for more than a minute from the outlet, they can stop the line. Having a robot there, these stops of the filling lines are drastically reduced. Furthermore, stops caused by tilted cartridges are avoided.



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