

Case Study

Digital Robot HORST at CyFa-Tech.ch Manufacturing Solutions Ltd.

EFFICIENCY INCREASE thanks to
automation of loading and unloading of
a milling machine





Briefly introduced: CyFa-Tech.ch Manufacturing Solutions Ltd.

CyFa-Tech.ch Manufacturing Solutions, a Swiss company based in Wiedlisbach, is specialized in CNC turning, milling and measuring, primarily for the hydraulics industry. The services include, for example, the production of hydraulic valve blocks and guides for linear systems. The portfolio of the company also includes components of drive spindles for milling machines and parts for the automation industry. For milling the parts in the case described above, a Famup MCP-45 machine with two pallets is used.

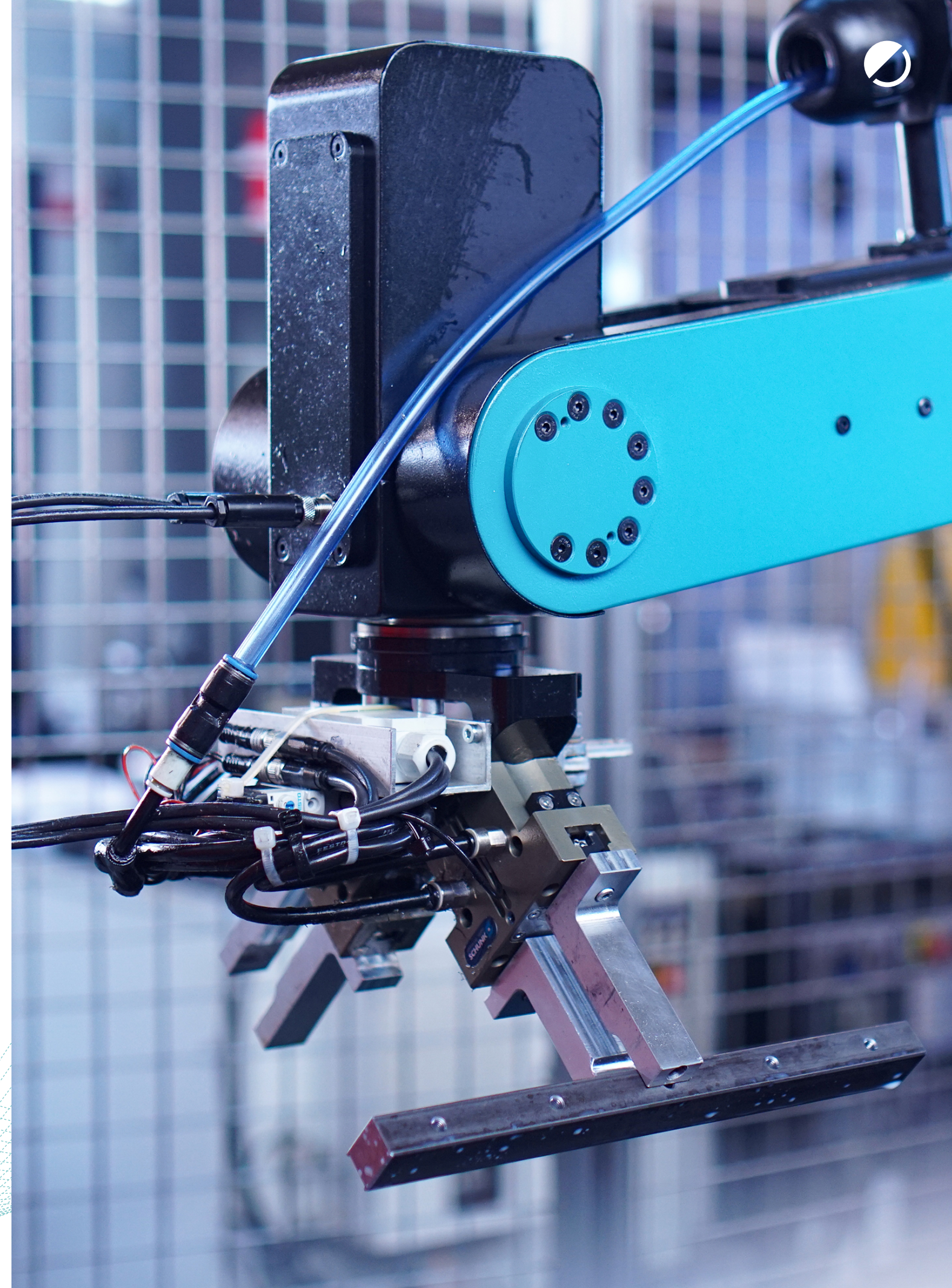


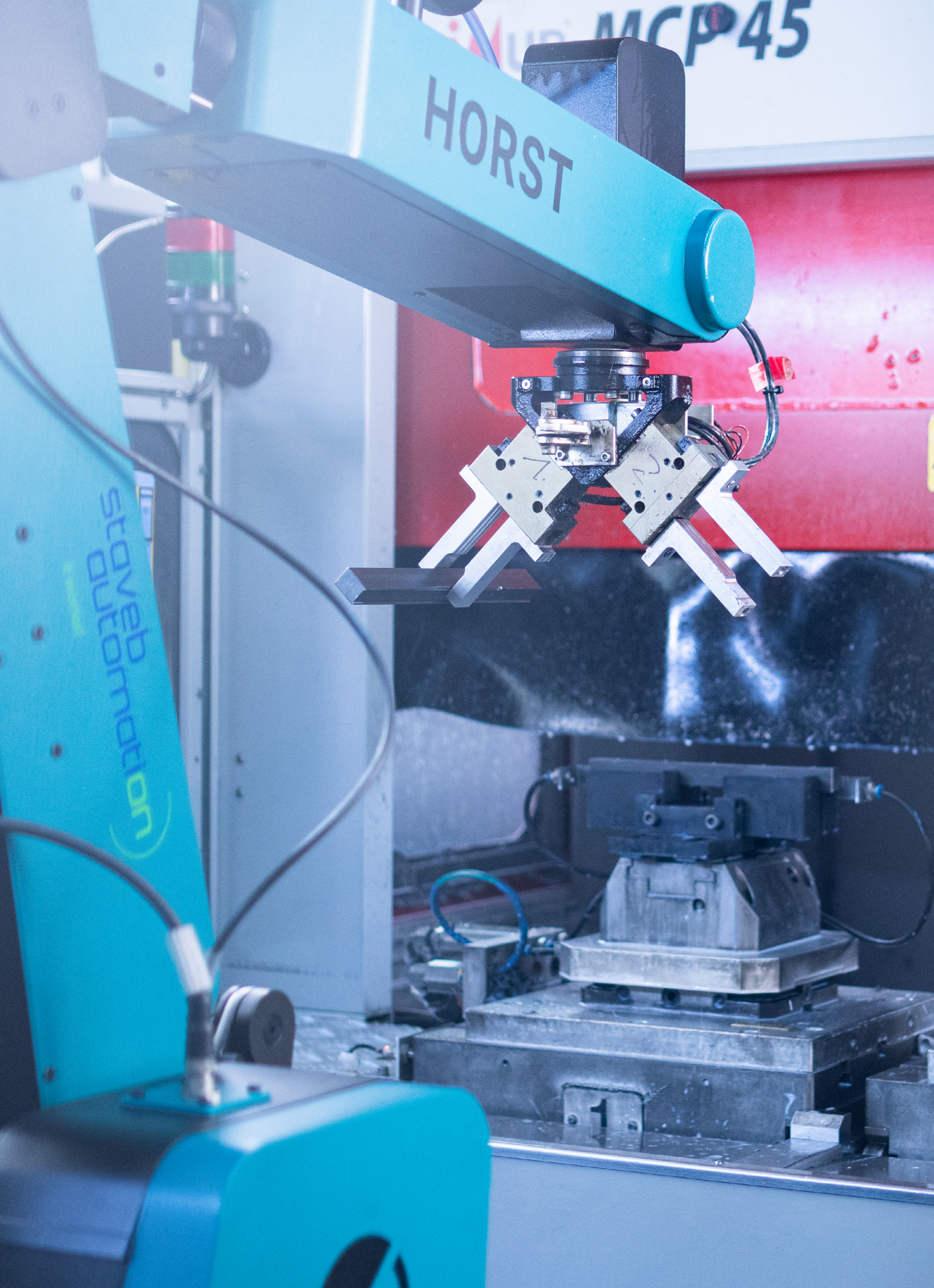
- **Area of application:**
Machine loading & unloading
- **Industry:**
Metal processing
- **Company size:**
Small company (6 employees)
- **Series size:**
10 - 50,000 parts
- **Robot amortization time:**
3 months

Milling parts on the CNC machine at CyFa-Tech.ch Manufacturing Solutions was characterized by a monotonous and capacity-binding way of working. This monotony was stressful for employees and costing the company a lot of money. The aim was to automate the loading and unloading process of the CNC milling machine.

Challenges

- ✓ **Process reliability:** Parts must be reliably and consistently picked up and set down
- ✓ **Reliability:** Parts must always be positioned in the exact same place
- ✓ **No errors:** No technical errors are to occur during loading and unloading
- ✓ **Efficiency:** Ideally, operation should be possible 24 hours a day, seven days a week, even in ghost shifts





With the support of Staveb Automation AG, a certified system partner of fruitcore robotics, the loading and unloading process was fully automated. Only the raw material must be replenished by the employees.

Solution

- ✓ The intelligent industrial robot HORST takes the raw material and places it in the machine
- ✓ Once the first operation has been completed, the robot opens the machine and removes the part. HORST then turns it and places it back in the machine for the second operation
- ✓ After this step, the Digital Robot opens the machine again, removes the part and places it on a conveyor belt, which transports the finished parts away
- ✓ The process then starts again, with HORST removing new raw material
- ✓ During this time, the employees focus on other tasks, such as deburring the parts, without any downtime occurring

Benefit



Efficiency increase: Generally, CyFaTech.ch Manufacturing Solutions operates with HORST 24 hours a day, seven days a week, has fewer downtimes and is more cost-effective.



Relief for employees: Monotonous activities have been reduced significantly. While HORST carries out its work in unmanned operations, Fabian Pfister and his team can devote themselves to more productive tasks.



Process reliability: HORST loads and unloads the CNC milling machine with repeat accuracy and reliability.



Maximum flexibility: The company was even able to carry out the mechanical and electrical installation itself with just a few queries thanks to the simple operation. The connection was made by the IO interface via the M functions of the machine, the coupling of the safety functions via the safety relays.



Additional application: At CyFa-Tech.ch Manufacturing Solutions, further robots are to be used in production to automate measuring processes, for example, or to equip other CNC machines.



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We have achieved a huge increase in efficiency with HORST. We are now producing twice as many parts and have been able to increase our turnover significantly. The robot was already amortized after three months, or after the first series of 16,000 parts.

Fabian Pfister

CEO and Founder of CyFa-Tech.ch Manufacturing Solutions Ltd.