Wire cobots

Approved
UNIBZ
Smart Mini
Factory Lab

Cobot table for taping electrical cables.

modular, reconfigurable, easy to program

CARRETTA
Since 1990, INDUSTRIAL AUTOMATION

Make it fast and flexible

the start of a robotic task.

Developed in collaboration with the Smart Mini Factory Laboratory of the Free University of Bolzano, Wire Cobots is an anthropocentric robotic equipment for assembling and nastrating cables: it is proposed as a collaborative solution able to assist the operator during the most repetitive tasks contributing to the substantial improvement of the ergonomics and efficiency of the production station. The workstation was designed using an algorithm developed by the Unibz group that allowed to map manual tasks that have the potential to be performed in collaboration with a robot combined with an automatic nastrature gun, based on considerations of safety and ergonomics of the operator, product and/or process quality and production efficiency.

Ergonomic workplace design

Compactness

to facilitate positioning in production environments

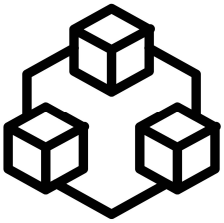
Integrazione / Interazione

Task programmable LED signal tower

I / O inputs to connect third party equipment

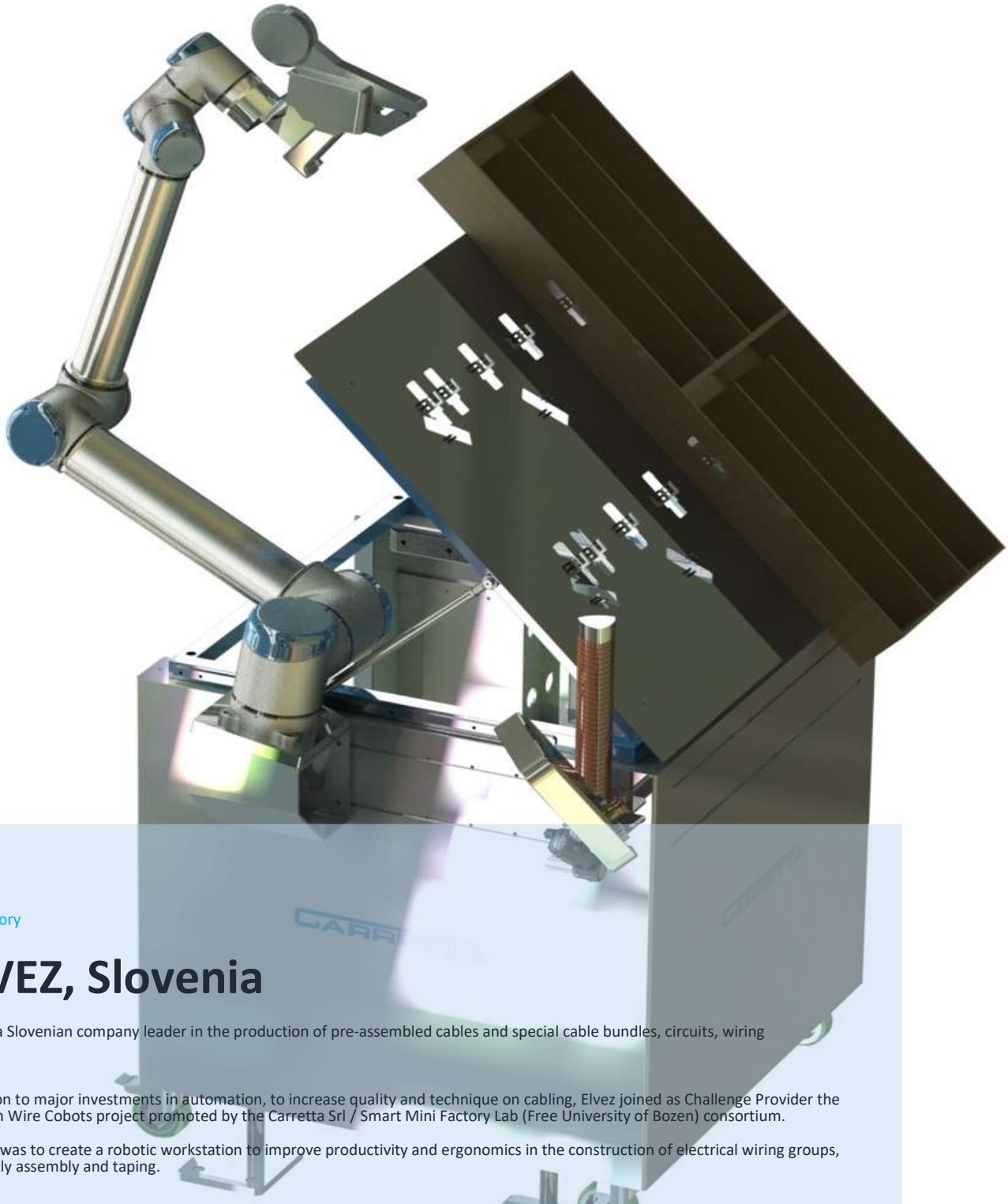
Robot flange compatible with the main Cobots on the market

Robot fixing available on 3 sides Predisposition for laser scanner



Modular design composed

Case history



Case history

ELVEZ, Slovenia

Elvez, is a Slovenian company leader in the production of pre-assembled cables and special cable bundles, circuits, wiring

In addition to major investments in automation, to increase quality and technique on cabling, Elvez joined as Challenge Provider the European Wire Cobots project promoted by the Carretta Srl / Smart Mini Factory Lab (Free University of Bozen) consortium.

The goal was to create a robotic workstation to improve productivity and ergonomics in the construction of electrical wiring groups, specifically assembly and taping.

After identifying - with an algorithm developed by the Unibz group - the manual activities that had the potential to be performed in collaboration with a robot, the assembly station was redesigned by introducing a collaborative robot to support the operator in taping operations (the most demanding in terms of biomechanical overload) and an adjustable workbench able to meet the operator's needs.

The equipment created has allowed new potential in terms of process automation by incorporating:

- Ergonomic workplace design
- Mobility, compact unit and easy to relocate in production environments
- Flexibility, interchangeable templates on the bench and universal flanges
- Programmable visual signaling for visual checks
- Speed in the setup of a task
- Cycle time equal to or less than human.

Technical specifications

Dimensions (LxPxH) 950x950x840 mm

Power supply 220 V

Reach cobot 1300 mm / 51.2 ins (EU10e)

Payload cobot 10 kg / 22 lbs (UR10e)

Functional features

- Kabatech Spot KTH gun
- Signal light tower
- Interchangeable dimes on the work plane