

YUANDA
ROBOTICS



Industrial Robot Assistant

with human senses and
artificial intelligence



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YUANDA ROBOTICS GMBH

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YUANDA

ROBOTICS



60 EMPLOYEES AT TWO LOCATIONS

YUANDA ROBOTICS GMBH

est. 02/2017 in Hanover, GER

- Headquarter
- Global R&D center
- Pilot production
- ...

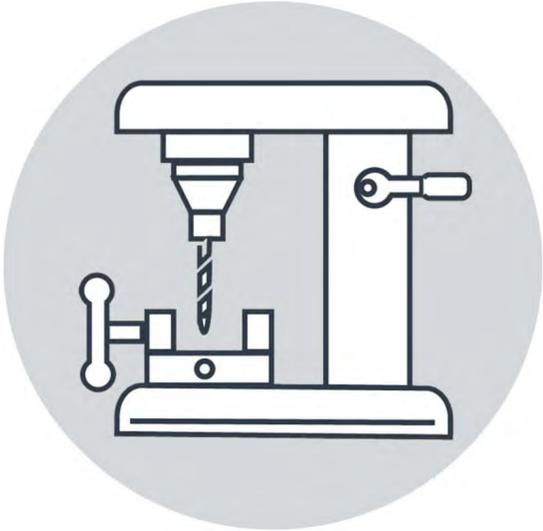
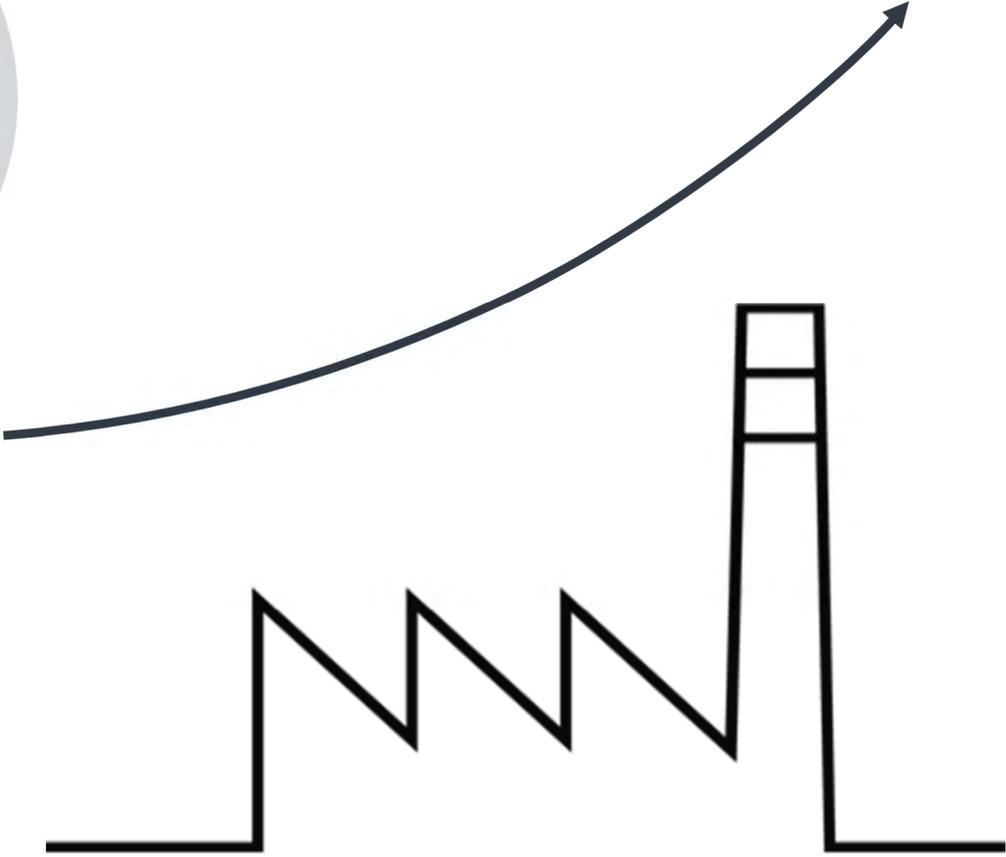
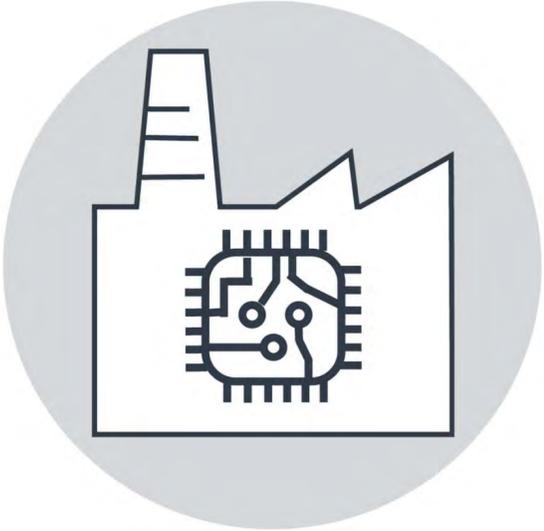
YUANDA ROBOTICS SHENYANG CO., LTD.

100 % subsidiary, est. 06/2019 in Shenyang, CN

- Mass production
- CN marketing, sales & service

Robotics Era

Everyday robotics



Robotics Era

Everyday robotics

What drives the market?

- Demographic change
- Rising labor costs
- Smaller batch sizes and higher product variability
- Social distancing in production
- Reshoring of production

What is the key to success?

- Simple operation and easy integration
- High flexibility
- Integrated intelligence
- Cost efficiency / fast ROI



Collaborative Robot

For a safe coexistence

Human-machine interaction with safety in perfection according to EN ISO 10218-1 & 13849-1, PL d, Cat. 3 including

- Safe inputs and outputs
- Joint space monitoring (position, speed)
- Workspace monitoring (position, speed)
- **Force and power limitation**

Safe collaboration for optimal interaction between humans and robots is the basis of industrial assistance robotics.



Human Senses

And artificial intelligence

Environmental sensing and smart interaction for robust automation in unstructured and changing environments

- **Feel:** Joint-integrated torque sensing for physical interaction
- **See:** Integrated vision and image processing to complete environmental perception
- **Understand:** Neural processing unit for machine learning at runtime



Collaborative Robot and Human Senses

live demo

Awesome Usability

And unlimited functionality for every user

Easy to use thanks to graphical interface and endless possibilities thanks to text-based expert interface

- **Graphical user interface**, browser-based on any device
- **Digital twin** for visual commissioning and in-process monitoring
- **Custom Command Builder** for continuous realization of new capabilities



Awesome Usability

live demo

Easy integration

And unlimited connectivity

Endless integration possibilities thanks to text-based expert interface and latest communication standards

- **Python-based API and UI builder** for seamless integration of ecosystem components
- **Plug & play interfaces** for end of arm tools and periphery
- **OPC UA** as communication standard and generic (cloud-enabling) interface for industry and research



Modern Assistance Robotics

Industrial power tool

Economical, flexible use and automation of various (standardized) processes on a daily basis

- Automatic referencing at workstations
- Recognition and localization of arbitrary handling objects and automatic calculation of gripping positions
- Recognition of machine states and human-like interaction
- In-process quality control and capturing



Industrial Power Tool

Simple setup

Economical, flexible use and day-by-day automation of various processes and process steps, for example at different machines

- Recognition of the QR tag and automatic referencing at the machine
- Identification of the machine and the process
- Automatic adaptation according to the task



Industrial Power Tool

See and recognize

Flexible and fault-tolerant infeed and outfeed of different components

- Recognition and localization of any handling objects and automatic calculation of gripping positions
- Classification and visual inspection of the components to be fed and discharged including appropriate handling



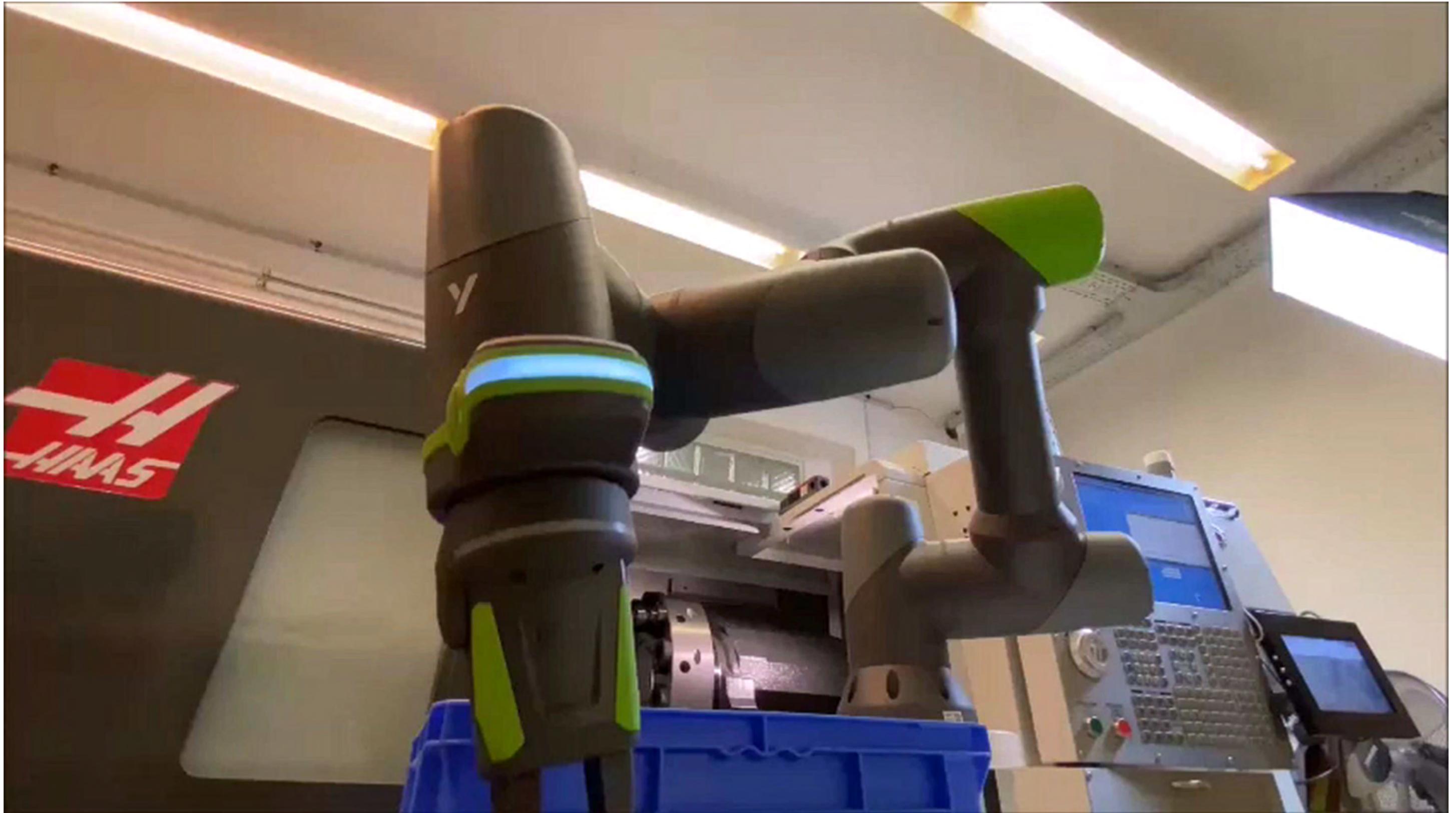
Industrial Power Tool

Visual machine communication

Integration of machine states into the overall process without classic interfacing

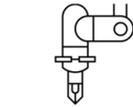
- Machine state detection and human-like interaction
- Context-dependent sequence and program parameterization
- Gateway to “Industrie 4.0”



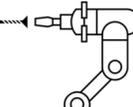


Modern Assistance Robotics

Assistance in industry



Testing



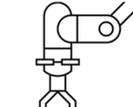
Screw Driving



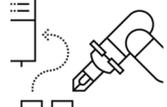
Assembly



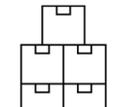
Gluing & Dispensing



Pick & Place



Machine Tending



Palletizing



Quality Control



Modern Assistance Robotics

Assistance in industry and beyond



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artificial intelligence



Consulting and (online) demonstration

sales@yuanda-robotics.de

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Industrial Power Tool

Flexible efficiency

Max payload	7 kg 5 kg
Max reach	850 mm 1000 mm
Velocity	up to 2.0 m/s
Repeatability	± 0.05 mm
Protection class	IP 54
Safety level	EN ISO 10218-1 EN ISO 13849-1 PL d, Cat. 3
Interfaces (controller)	16 DI, 16 DO, 4 AI, 4 AO, Ethernet 8 SafeDI, 4 SafeDO integrated OPC UA gateway
Interfaces (media flange)	M8 (8 pin), M8 (6 pin), spring probe: 2 DI, 1 DO, 2 AI/ModbusRTU, 1DI/O/IOLink 2 DI, 3 DO, 2 AI/ModbusRTU, 1DI/O/IOLink

