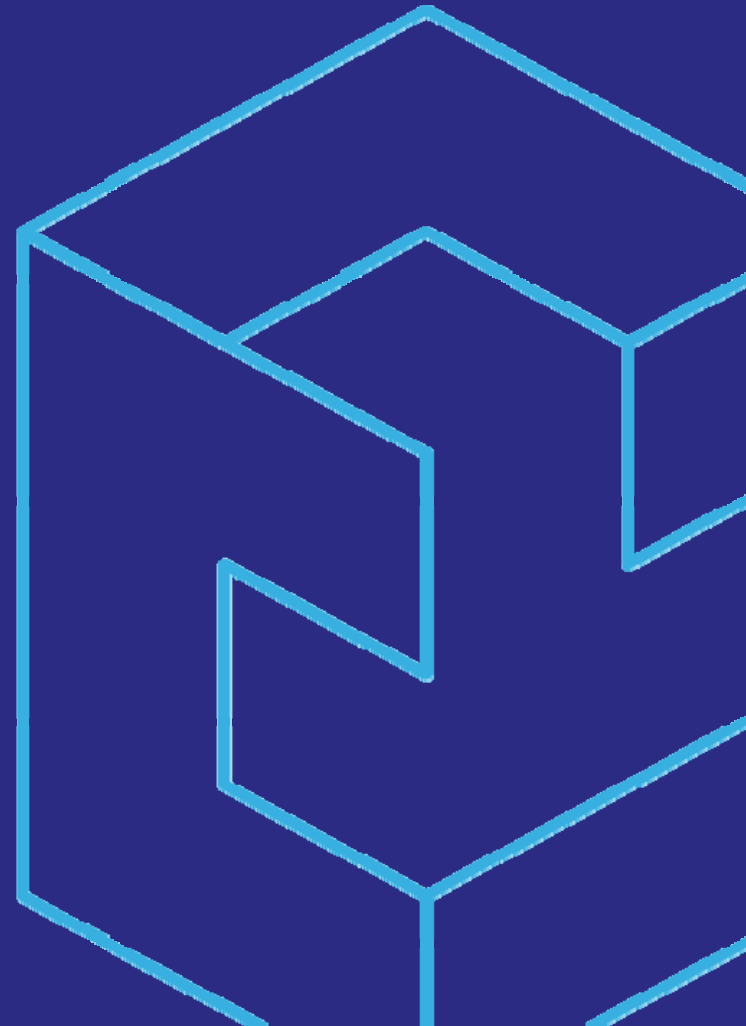




ELITE ROBOT
艾利特机器人

ELITE ROBOT

ALWAYS EASIER THAN BEFORE

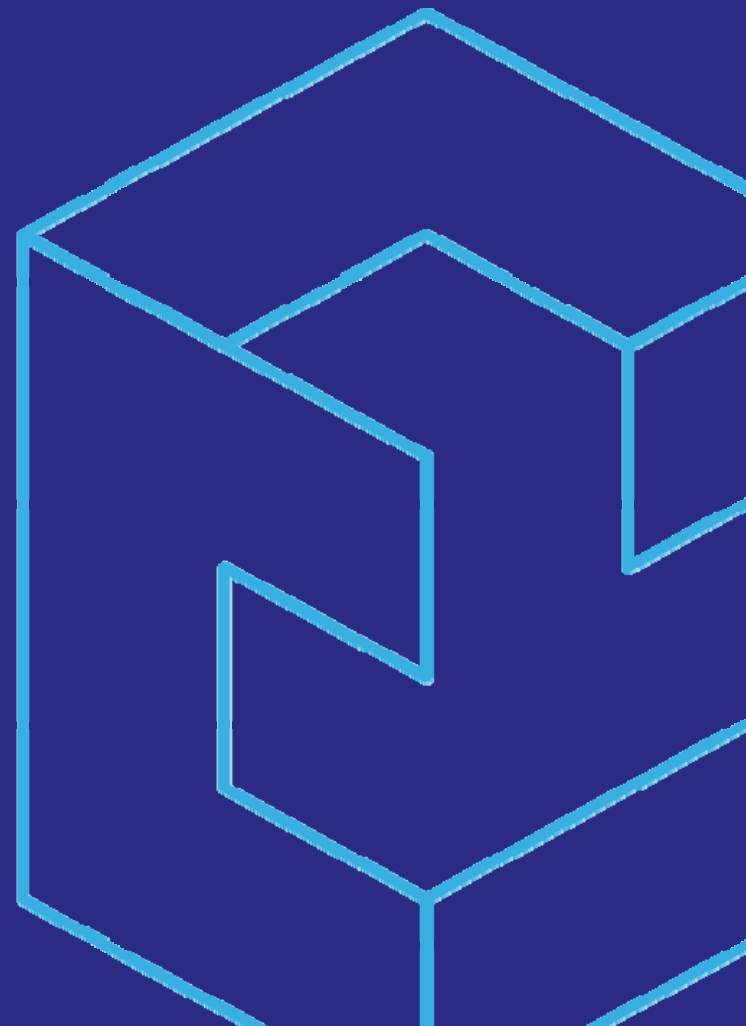




ELITE ROBOT
艾利特机器人

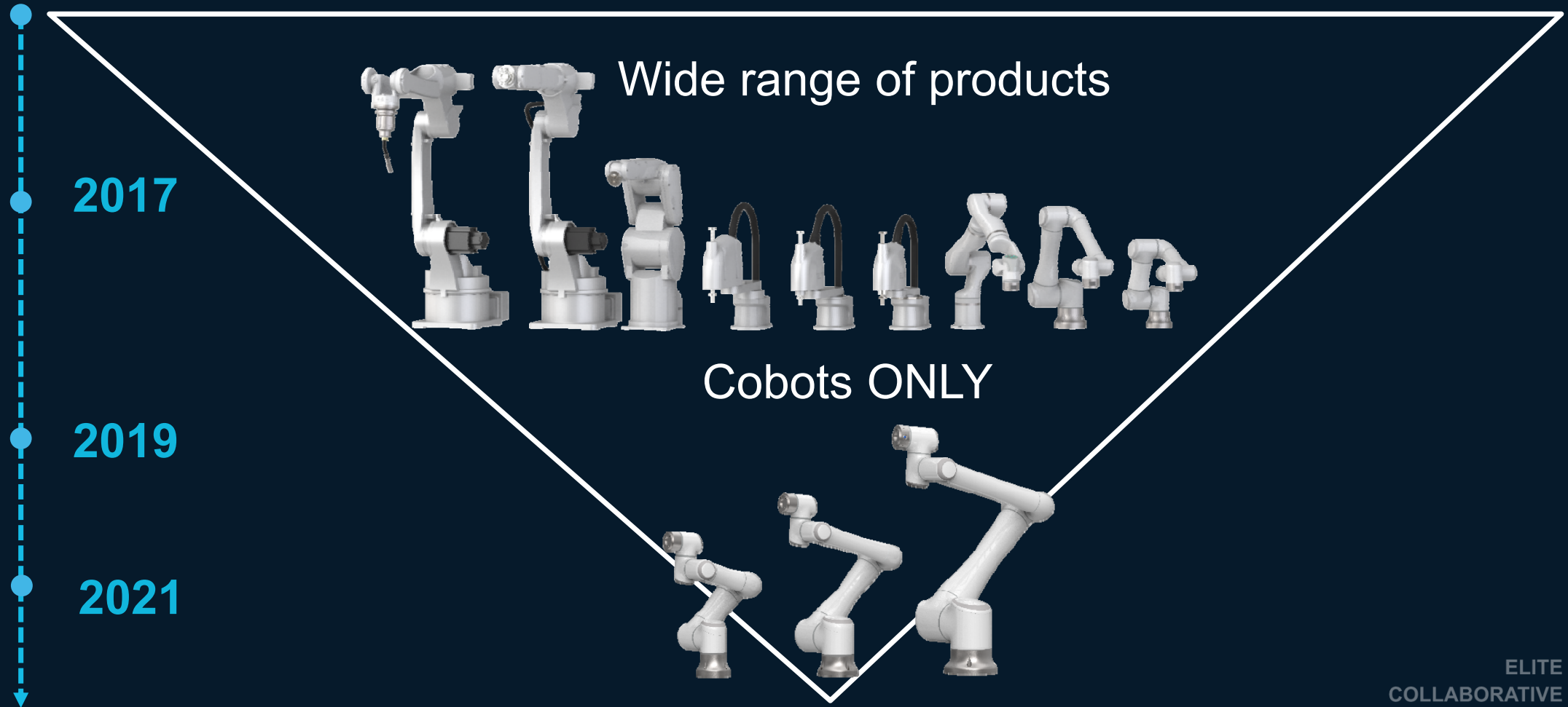
ABOUT ELITE

We are cobots experts





Change of Product Portfolio



before 2018

phased out



2018 - 2021

EC-series
3kg/ 6kg/ 12kg



2020 - 2021

CS-series
3kg/ 6kg/ 12kg







Cobot Applications



Screw driving



Polishing



Loading and unloading



Inspection



Unmanned Coffee/Bubble
Tea Store



Palletizing



Co-work with AGV



Machine Tending



Eliminate The Pain Points by Cobots

Current situation

- Price pressure
- Production line management challenges: flexibility and switching
- Increasing global competition
- Lack of labor
- Increasing demand for productivity
- Product quality requirements

Requirements

- ✓ Faster marketing
- ✓ More demanding manufacturing cycle
- ✓ Higher equipment efficiency
- ✓ Further reduce labor costs
- ✓ Market segmentation and precision marketing,
- ✓ Personalized order customization
- ✓ Increasing non-industrial demands

Traditional industrial robot



- High speed, high precision or heavy load and large working range requirements
- No man-machine cooperation or low frequency of line change, and insensitive space occupancy
- Bad working conditions such as welding and polishing or special process requirements

VS



Cobots

- ✓ Rapid deployment
- ✓ Energy efficiency
- ✓ Trajectory optimization

Efficient

Safe

- ✓ Collision detection
- ✓ Performance rate
- ✓ Security interface

Flexible

- ✓ Joint DOF
- ✓ Free installation
- ✓ Open interface

Easy-to-use

- ✓ Drag teaching
- ✓ Trajectory reproduction
- ✓ Parameter identification

- **More varieties, less batch production** and higher requirement for **simple operation**
- **Constrained space, man-machine shared space** and other occasions focusing on **safety**
- High requirements for **power consumption** and **weight**

Suitable

Suitable

Suitable



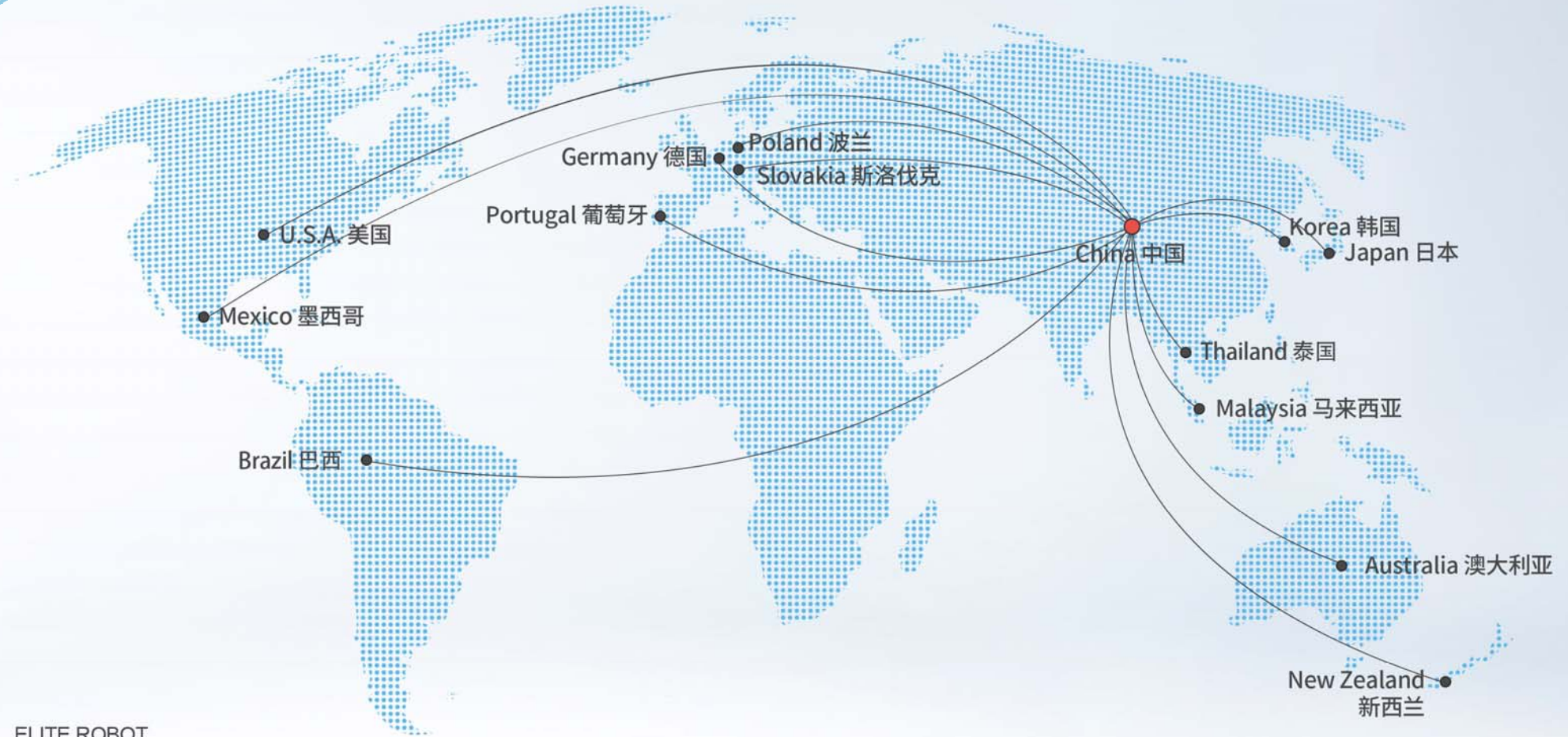
17 years automation background, **140** people, **60** R&D and tech function
1,000 pcs cobots sold in 2020

8-12 months ROI

Shanghai, Suzhou, Beijing, Shenzhen, Knoxville, TN



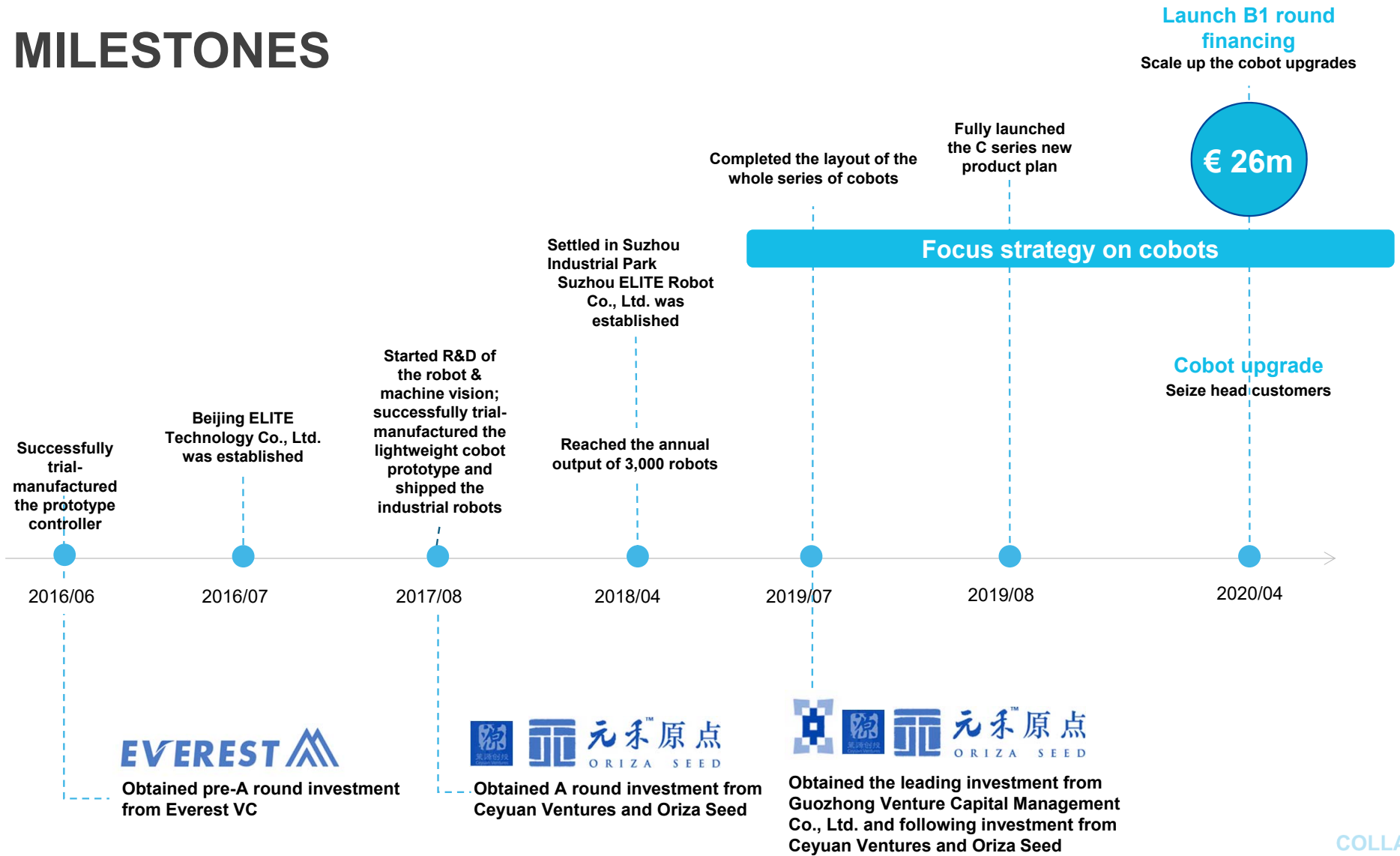
Overseas Market



ELITE ROBOT
Channel Partner Roadmap



MILESTONES



ELITE
COLLABORATIVE
ROBOT



Technology Foundation



Dark: finished



Light: in progress



White: under planning

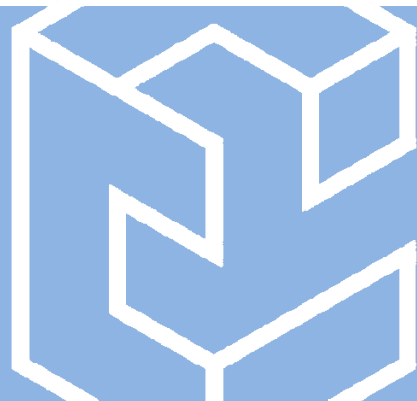
Cobots	Force control	Man-machine safety Simple teaching	Force control instruction Assembly/grinding		Force/torque sensor	Sensor/transmission combination	
	Machine vision	2D object recognition and segmentation 2D/3D registering	Deep box/mixed palletizing and depalletizing Obstacle avoidance planning		Vision and control integration	Hand-eye coordination	
	Servo drive	Motor drive High precision encoder	Integrated joint		High safety Double closed-loop	Real-time stiffness control	
Robot controller	Motion control	Trajectory planning Dynamics	Adaptive Trajectory planning	7-axis Two-arm	High safety High openness	Flexible body control	AI motion planning
	Robot	6-axis Industrial robot	6-axis/7-axis Cobots		Second generation Whole series of cobots	Industry/Services Multipurpose	

99 patents

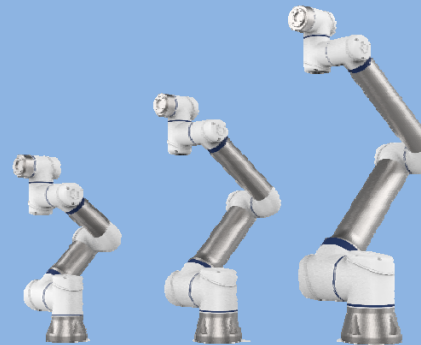
€ 3.85m per year for R&D

60 front-end and application side R&D personnel

90% master degree or above



Easier/ Safer/ Stronger/ More Efficient





Business Mode & Eco-system



ELITE ROBOT
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Training

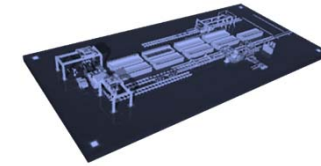
ELITE Cobots



Distributor / Integrator

Eco-system
partners

Fixture, AGV, vision and
tooling



① Flexible
production line



② Flexible
production station

Terminal
customer

3C

Automobile

Home
appliances

Medical
treatment

Electric
power

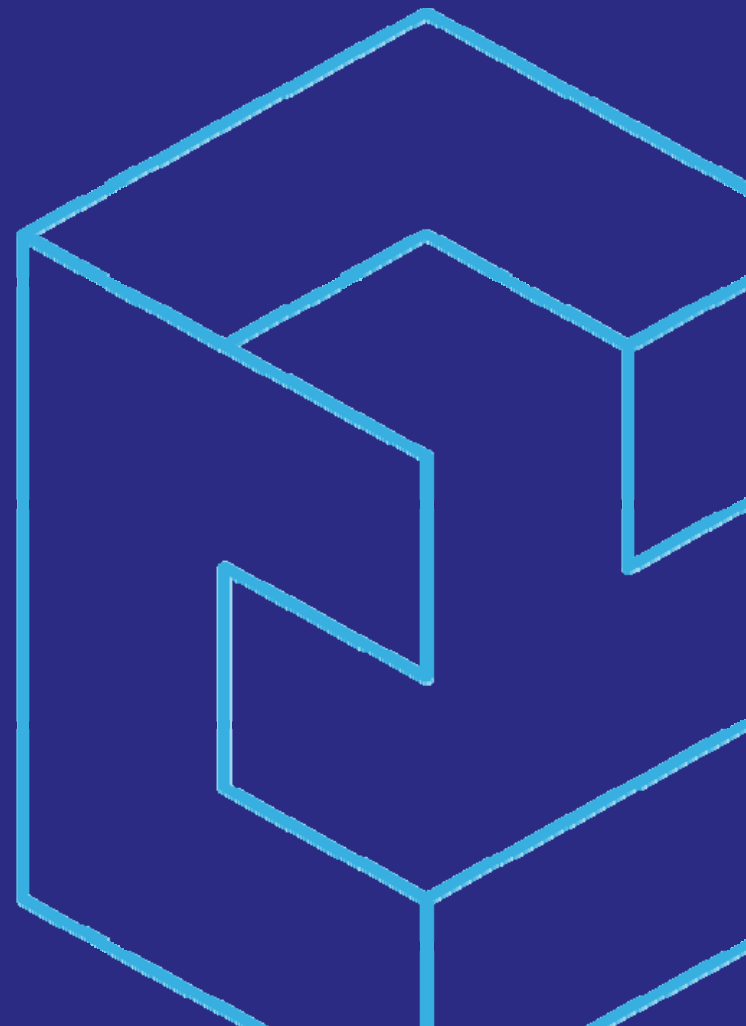
New
consumption

.....



OUR TEAM

We know cobots market





Management Team

Core executives with technical product marketing genes



Cao Yunan | Chairman & CEO

- **Doctor of Robotics Institute, BUAA, Postdoctoral of Tsinghua University**, former research fellow, Department of Computing, Hong Kong Polytechnic University;
- **17 years of experience in CNC/robot industry**, experience in GSK, Dalian Gona and other product projects, familiar with the development process, project management and requirements of the robot industry;
- Responsible for the core algorithm development; corporate structure design; enterprise development strategy formulation; market/brand building and import of important resources



Sun Kai | CTO

- **Doctor of Robotics Institute, BUAA**, former research fellow, Department of Computing, Hong Kong Polytechnic University, **a second prize at the provincial and ministerial level**
- Mainly oriented at **the design and development of robot, CNC, servo drive and other hardware and software**, rich experience in the robot structure design, motion control algorithm, embedded mechatronic design R&D and management; responsible for ELITE product direction development and technical support
- Director of the new C series, founder of the new-generation cobots and technical concept promoter



Wu Fei | National sales director

- **Fudan University - EMBA**
- **Industry sales manager in SMC for 6 years**, responsible for the new business import and team building; **double the achievements for 3 consecutive years**;
- **East/Central/North China Sales Manager in UR for 3 years**; the first regional manager in 3 regions; **achieves the sales volume accounting for 2/3 of the UR sales volume in China** and won the order (Huayu) with the world's largest order in the cobot industry;
- Won the sales champion and global outstanding sales manager award for 3 consecutive years; **achieved the annual regional sales growth of 50%**;
- **Develop benchmark customers for cobots in various industries**: Valeo, Unilever, Continental Automotive, FAW-Volkswagen, Huayu; AAC Technologies, Yijiahe, TINAVI and L'Oreal



Cai Songlin | Director of Application and Product Department

- **Tsinghua University - Master of Instrument and Meter Engineering**
- Shanghai Jiaotong University- Bachelor of Mechanical Engineering Automation
- **Cobot assembly and application manager in ABB Robot Division for 3 years**, and core Chinese developer in ABB Yumi dual-arm robot R&D team, responsible for application and software development;
- **UR+ and application manager in UR for more than 3 years**, responsible for the application development of 5 scenarios of UR.
- Collaborate with the sales team to develop benchmarking applications for specific application scenarios in China: dual-arm collaboration, AGV+ mechanical arm mobile platform, force control assembly and 3D mobile platform;
- **Global UR+ ecological platform hardware and software product certification and development of UR+ partners in China**



Management Team



Zhang Xiaochuan | Software and Algorithm R&D Director

- Bachelor of Tianjin University,
- Former manager of the Robotics Department of Beijing Bochuang Co., Ltd., engaged in CNC/robot product research and development for a long time;
- Maintain, upgrade and improve the control system and the drive-control integrated products; and have rich experience in the robot process application ;
- Cobot software development and algorithm, iterative maintenance, test management and team management
- China's first robot control system developer



Ren Yi | Marketing Director

- Shanghai Jiaotong University - MBA
- 10 years ebm-papst marketing manager for 10 years, and head of the Asia-Pacific Market Alliance of ebm group; establish the strategic cooperation with the industry benchmark customer brands: F1 Mercedes, Haier, Huawei and China South Railway;
- Serve as marketing manager of UR for more than 2 years, establish the industry benchmarking brand status of UR China, promote UR+ ecological platform concept, initiate the first UR+ Developer Conference in China, compile the first blue book of cobot industry in China and become the cobot industry template;
- Responsible for the UR digital marketing strategy in Greater China



Lu Suwen | HR and Admin Director

- Undergraduate, Nanjing University of Information Science & Technology
- HRBP of SiFO Smart Automation Incorporated Company for 2 years, responsible for the internal engineering service department HRBP ,
- HR consultant in listed HR companies in UK and China for more than 7 years, major customers: LILLY, ROCHE, Nexteer and Bosch



Wang Tianmiao | Consultant

- Current subject review panel member of the academic degrees committee of the State Council, expert group leader of robotics topics of National 863 Program, deputy leader of manufacturing information engineering expert group of the Ministry of Science and Technology, member of the Robotics Professional Committee, member of Academic and Academic Degrees Committee of Beihang University, IEEE member and , Director and professor of Robotics Institute, BUAA. Current expert group leader in the advanced manufacturing field of National "11th Five-Year" 863 Program, chairman of Embedded Systems Expert Committee of Chinese Institute of Electronics, President of College of Mechanical Engineering and Automation, BUAA



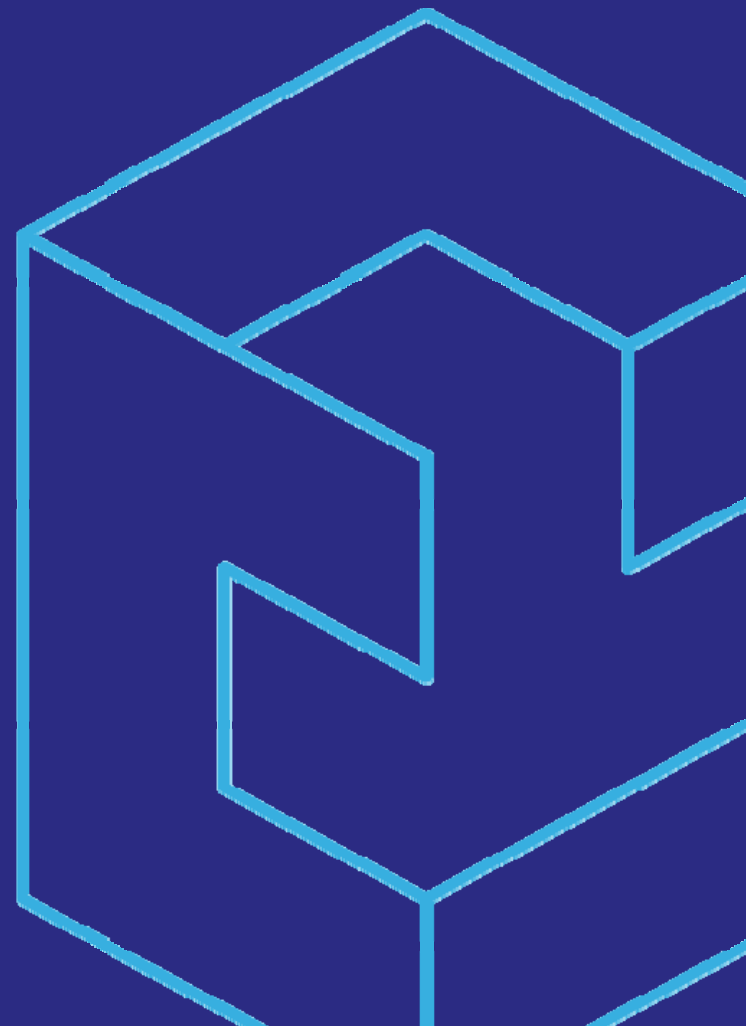
Team Work





OUR PRODUCTS & APPLICATIONS

We know cobots tech





Product Matrix



EC - Series

Cost Competitive/ Capable/ Reliable

CS - Series

Superior/ Scalable/ Sustainable



Cost-competitive EC-Series



EC63 6-axis collaborative robot



EC66 6-axis collaborative robot



EC612 6-axis collaborative robot



Dead weight 13kg,
load 3kg



Working radius
624mm



Repeated positioning
accuracy $\pm 0.03\text{mm}$



Dead weight 17.5kg,
load 6kg



Working radius
914mm



Repeated positioning
accuracy $\pm 0.03\text{mm}$



Dead weight 31kg,
load 12kg



Working radius
1304mm



Repeated positioning
accuracy $\pm 0.03\text{mm}$



Extreme kinematic and dynamic design

- Trajectory smoothing algorithm based on the acceleration jerk prospect, and high energy efficiency;
- Self-identification of dynamic parameters, sensitive dragging and high collision detection;



Modular hardware structure design

- Fully self-designed embedded cost-effective motherboard;
- Joint servo and high speed servo bus;



Flexible and reliable adaptive software

- Multilingual combination: JBI+Lua+ soft PLC, flexible and efficient;
- Stable and reliable JBI, smallest set; Luastrong external expansion capability, easy extension; the software PLC achieves logic programming conveniently and quickly;



Industries of Cobots

- > Auto parts
- > 3C electronics
- > Metal processing and Machine tending
- > Packing & packaging
- > Medical treatment and health
- > New consumption and people's livelihood
- > Textile power





Applications of Cobots

- Handling, pick & place, loading and unloading
- Assembly and Screw driving
- Packaging and palletizing, depalletizing and sorting
- Quality and appearance inspection
- Material removal, polishing, grinding and degating
- Hybrid Robot
- Dispensing and gluing





Cobot + Visual Camera

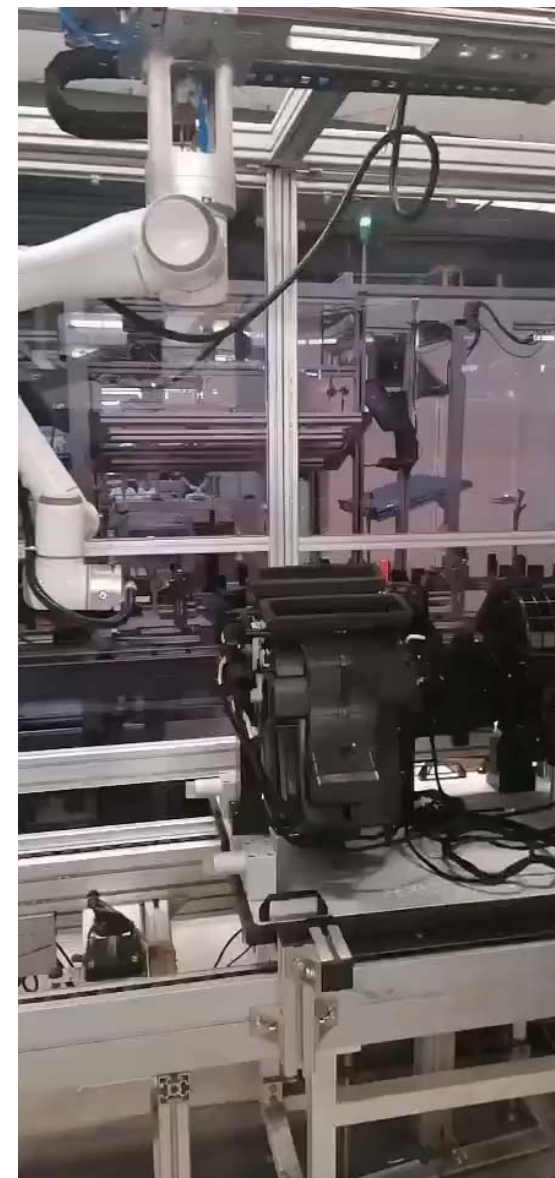
COGNEX

SICK **OMRON**

KEYENCE

SOLOMON

HIKVISION
海康威视





Cobot
+
Gripper





ELITE ROBOT
艾利特机器人

**COBOT
SUPERIOR**
全新CS系列
New CS series

ELITE ROBOT





ELITE ROBOT
艾利特机器人

Simple

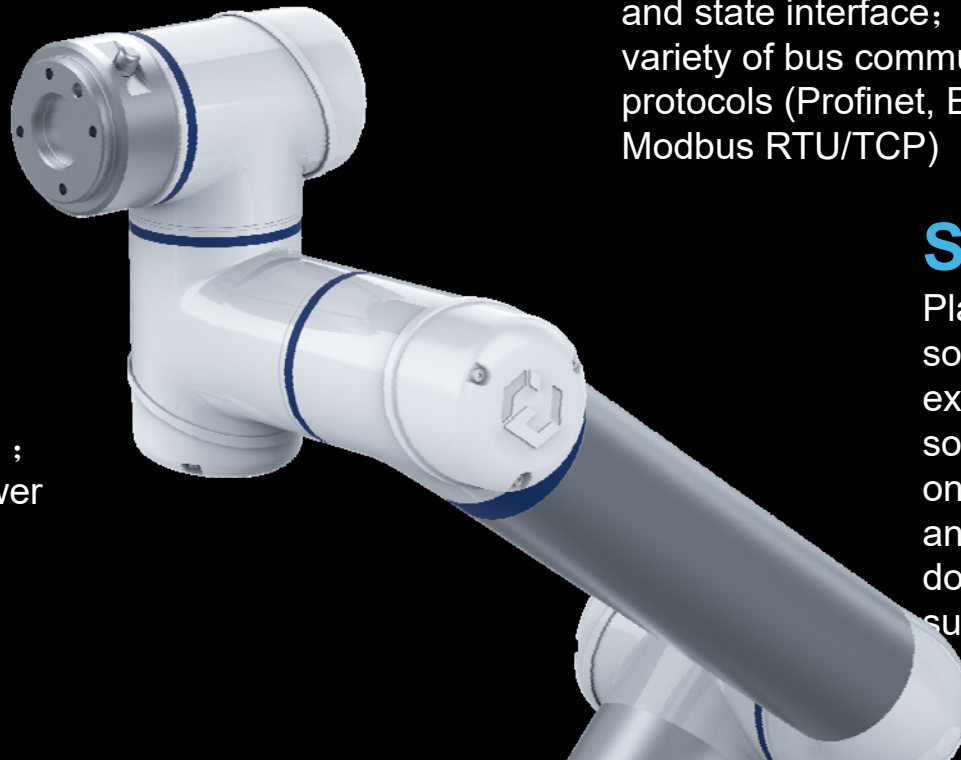
Efficient and flattening graphical interface based on the workflow; rich, dynamic and friendly programming with Python language; easy-to-maintain integrated motherboard and quickly replaceable joints

Superior

Faster external information exchange (frequency 500Hz) ; more I/O ports and stronger power supply capacity; more communication interfaces (3 Ethernet interfaces)

Safe

18 safety functions, , covering speed, position, force, power and momentum, are fully designed according to ISO13849-1 Cat3 PLd, TS ISO 15066



ELITE platform level New cobot

Scalable

Scalable modular software framework; open underlying control and state interface; support a variety of bus communication protocols (Profinet, EthernetIP, Modbus RTU/TCP)

Sustainable

Platform level hardware design, software definition and extended functions; all software and firmware support one-click upgrade ; continuous and comprehensive documentation and technical support



New hardware and software architecture

- ✓ Powerful tool I/O interface and power supply capability (3A)
- ✓ New joint structure and internal circuit design
- ✓ 3-joint wrist rotation without pinch point

- ✓ Safe and powerful servo drive integrating multiple sensors
- ✓ New high-precision encoder system
- ✓ Built-in attitude and acceleration sensor



- ✓ Integrated motherboard control system
- ✓ More User I/O (24 inputs and 24 outputs)
- ✓ DC and OEM version



- ✓ Python based robot language
- ✓ Optimized graphical instruction and operation flow
- ✓ Functional extensible architecture based on JAVA and network



ELITE ROBOT
艾利特机器人

COBOT SUPERIOR

全新CS系列协作机器人

New CS series cobot

CS612



CS66



CS63





CS Series

Product Launch
Sep., 2020

In-house Testing
6 months

**Sample Testing
by customers**
6 months

Overseas Demo
Jun., 2021

CS see the difference
匠心铸梦 智享未来
艾利特新品CS系列协作机器人发布仪式



ELITE ROBOT
艾利特机器人



ELITE ROBOT
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COLLABORATIVE ROBOT EXPERT

YASKAWA

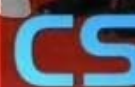
YAS

COLLABORATIVE ROBOT EXPERT

ELITE ROBOT

绿动未来

8.2
↑
8.1



see the difference
匠心筑梦 智享未来
艾利特新品CS系列协作机器人发布会

THANKS FOR YOUR TIME



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