

CHINA INTERNATIONAL INDUSTRY FAIR

CIIF 2026

2026 Industry Fair Robotics Industry Review

New products, technologies and industrial applications

Research question: Which capabilities are becoming deployable, deliverable products with sustainable prospects?

12–16 October 2026 · Shanghai

Updated 16 October 2026

ABB IRB 1700ID welding demo cell

On-site photo [S02]

Industrial arms, mobile dual arms, joints and validation

These findings are supported by the cases reviewed, not evidence of industry-wide scale.

01

Fixed workstations evolve

ABB IRB 1700ID refines internal routing. DOBOT separates contact, speed and continuous processes into VEGA, PULSA and CRH. [S02, 05]

02

Mobile tasks diversify

Kargo50 specifies heavy lifting; SIASUN BR-MR73A shows tight-fit loading and car-lock inspection. Similar mobile dual-arm forms address different tasks. [S06, 09]

03

Core parts become integrated

KGU, HarmoCore and Welling joints combine transmission, drives, sensing and interfaces. Their value depends on heat, maintenance and installation. [S13, 26, 32]

04

Use evidence matters most

G2 has a named Longcheer line-validation record; multi-robot demos still lack long-term exception logs. Booth performance and customer operation require separate judgments. [S08, 18, 35]

ROBOATLAS VIEW The cases show competition in tasks, systems and evidence of use; they do not yet establish reliable, scaled operation of general-purpose robots.

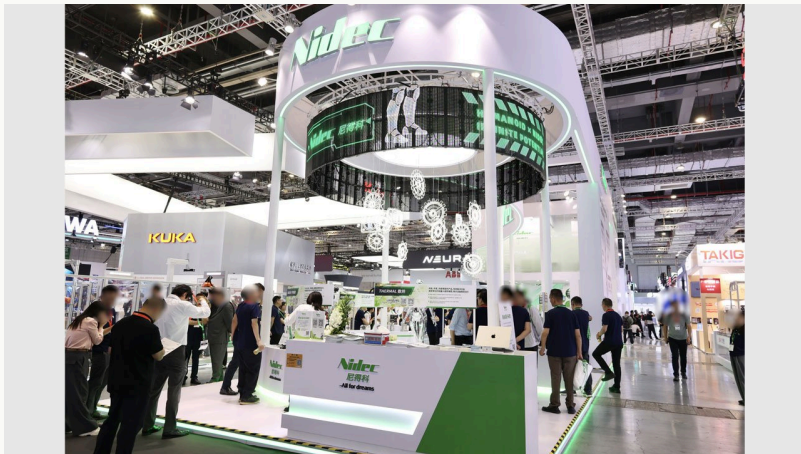
349 exhibitors span robots, components and software

The official robotics section covers industrial and collaborative robots, mobile robots and smart logistics; humanoids are one route.

349

Robotics exhibitors · Halls 7.1H / 8.1H

Hall 7.1H lists 169 and 8.1H lists 180: 349 in total. The official roster is dated 14 September 2026; actual attendance may differ. [S39]



Nidec Group booth

On-site photo [S25]

Robots & tools

ABB / DOBOT / JAKA / AGIBOT / DH-Robotics / SRT

Sensing & power

Mech-Mind / XJC / Leaderdrive / Tongchuan / Welling

Control & integration

SIASUN OneHub / Yaskawa / Elite Robots Primo

Customer processes

Assembly → Inspection → Sorting → Packaging → Logistics

ROBOATLAS VIEW

The report connects robots, parts and software through industrial tasks; exhibitor counts and robot shapes do not determine research priorities.

[S23] CIIF Robotics · [S24] RoboAtlas · [S25] Nidec · [S39] Official exhibitor directory (14 Sep.; robotics; printed pp.62–75)

Key products and reading guide

Find representative products, cases and chapters by research topic.

Research topic	Representative products / cases	Pages
01 Industrial robots & cobots	ABB IRB 1700 / 1700ID; DOBOT VEGA 7 / PULSA / CRH; Elite Robots CS66F	<u>13–15</u>
02 Mobile manipulation	SIASUN BR–MR73A; AGIBOT G2; JAKA Kargo50; ROKAE Zhuxing H	<u>07</u> / <u>12</u> / <u>17</u> / <u>19</u>
03 Logistics & scheduling	AiTEN TPX; SENAD M 2.0+Pro; SIASUN OneHub	<u>10</u> / <u>11</u> / <u>16</u> / <u>28</u>
04 Joints & transmission	Leaderdrive KGU; Tongchuan HarmoCore; Welling motors / reducers; GSA screws	<u>20–24</u>
05 End effectors & sensing	DH–Robotics UDH / ADH; SRT bionic hands; Mech–Mind vision; XJC sensors	<u>25–27</u>
06 Customer cases & acceptance	G2 × Longcheer; ABB × G–TEKT (historical case, 2021)	<u>29–35</u>
Read on	Full product index: page 39; sources and methodology: page 40.	

Robot lines link locating, gripping, processing and transfer

A workpiece passes through seeing, holding, processing, inspection and transfer from cell entry to line exit.

01

See clearly

Mech–Mind ·
Positioning and
measurement

02

Hold firm

DH–Robotics /
SRT ·
End–effector
contact

03

Process

ABB / DOBOT ·
Assembly and
continuous
motion

04

Inspect

SIASUN ·
Reorientation and
multi–view
inspection

05

Transfer

TPX / OneHub ·
Handling and
scheduling

ROBOATLAS VIEW Evaluate the whole process: high precision or speed in one step does not directly establish final output.

FPC assembly: precise measurement and reliable insertion

Flexible cables, plugs and harnesses deform; correct geometry alone does not ensure reliable contact.



Mech-Mind FPC assembly station

Video frame [S16]

Mech-Mind FPC cell

The exhibited cell combines UHP-040-5M measurement with robotic insertion. The vendor reports insertion success above 99.7%, specific to this cell.

Metric	Applies to
0.017 mm	Camera XY resolution
±1 μm	Repeat measurement accuracy in a specified direction
>99.7%	Vendor's FPC cell insertion success
Elite Robots CS66F also showed optical-module insertion/removal and cable-tie threading. Different parts cannot be ranked by success rate without a common test.	

ROBOATLAS VIEW Precision assembly requires checks on incoming variation, contact control and final yield; camera accuracy is not the whole station's assembly error.

[S16] Mech-Mind release / IMRobot · [S18] Elite Robots

SIASUN mobile dual arms: machine tending and lock checks

SIASUN combines arrival, alignment, insertion and observation in one mobile manipulator.



SIASUN BR-MR73A machine tending

Video frame [S09]



SIASUN BR-MR73A car-lock inspection

Video frame [S09]

BR-MR73A · Die-bonding machine tending

Tight cassette-to-inlet fits make alignment and insertion after arrival critical. Public material demonstrates the task without long-term cycle or failure records.

BR-MR73A · Multi-view car-lock inspection

Two arms reorient the part while head and wrist cameras inspect different views. Gripping actions and inspection order must be coordinated.

ROBOATLAS VIEW Moving from delivery beside a machine to feeding it adds fine manipulation. The evidence here is this year's public demonstration.

[S09] SIASUN

Continuous processes: CRH motion and Elite welding systems

Progress in continuous processes includes cable routing, recovery and changeovers as well as trajectory speed.



DOBOT CRH demonstration

On-site photo [S05]

01

DOBOT CRH: continuous motion

The cocktail demo and product material highlight smooth motion, internal routing and motion recovery. They do not replace weld or coating quality acceptance. [S05]

02

Elite CWT13 / CWF: welding

The company's show release describes seam recognition and coordinated floor-rail motion for varied, large parts. Without customer parts, process windows or long-term yield, this remains a system demonstration. [S18]

ROBOATLAS VIEW Assess weld quality, surface consistency, rework and changeover time. Insufficient customer grinding/coating data warrants combined coverage, not extra pages.

[S05] DOBOT release / Chuandong · [S18] Elite Robots

Packaging: damage, pose changes and conveyor tracking

Fixed feeds, random piles and fragile materials impose different demands on vision, tooling and motion planning.



SRT soft actuators

On-site photo [S15]

Conditions	Case	Checks needed
Soft / fragile	SRT soft actuators	Deformation, grip damage, air supply and cleaning
Varied shapes / poses	Primo + CS66F gripping demo	Novel-object success; recovery after failure
Fixed conveyor cycle	ABB IRB 360 (technical reference)	Conveyor tracking, tools and packaging process

SRT and Elite are exhibits from this show. IRB 360 is an existing technology reference, not a new launch or a customer case from this event.

ROBOATLAS VIEW

Test incoming-material variation separately; gripping one type of object does not establish capability across the full packaging process.

[S15] SRT · [S18] Elite Robots · [S37] ABB

In-plant logistics: truck loading, pallets and heavy loads

Logistics robots differ in loading interfaces, load carriers and route conditions.



SENAD exhibition area · iLoabot-X
On-site photo · Not the M2.0 model [S12]



AiTEN TPX
Product image [S13]

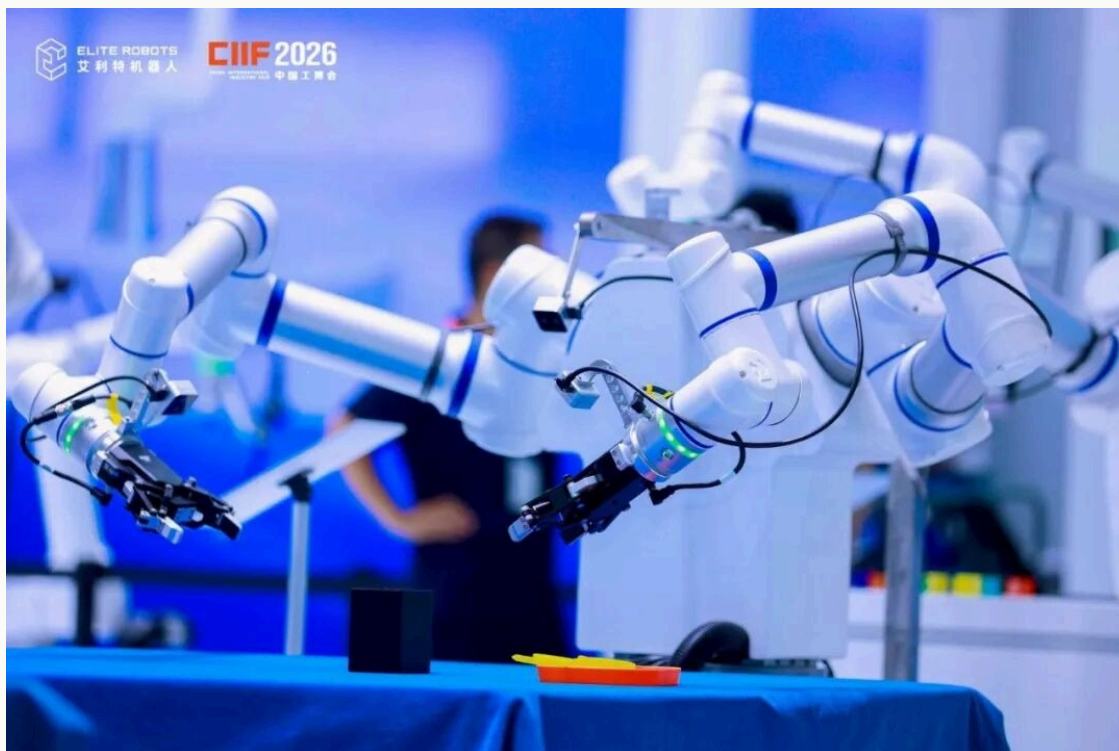
Task	Product / system	What is established
Truck loading	SENAD M 2.0+Pro	Linked-task system; photo shows the exhibited iLoabot-X
Pallet transfer	AiTEN TPX	Under-pallet fork pickup; product material, not customer acceptance
Heavy-load transport	Langyu Yuqilin	Award-entry series data; series maximum not assigned to a single unit
Semicon. feed	DUCO air-ground coordination	Demonstration linking overhead and ground equipment

ROBOATLAS VIEW

Assess handling with aisles, pallets, floors and transfer equipment. These four tasks lack common conditions for an overall ranking.

Multi-robot coordination: process roles and task scheduling

Elite demonstrates processes across robot forms; SIASUN OneHub shows scheduling. Both address handoffs.



Elite Robots CS66F dual-arm exhibit

On-site photo [S18]

**Unpacking /
sorting**

Humanoid exhibit

**Material
transfer**

Wheeled exhibit

**Picking /
insertion**

Mobile-manipulator exhibit

**Testing /
inspection**

Cobot and wheeled exhibits

The diagram follows Elite's show system. OneHub organizes logistics through equipment status and task allocation. Exception rates and customer line output were not disclosed.

ROBOATLAS VIEW

System acceptance must cover waiting, interfaces and fault recovery; multiple robots on one stand do not prove line-wide efficiency gains.

[S18] Elite Robots · [S09] SIASUN

Evidence of use: G2, Zhuxing H, Kuavo 5W and Kargo50

A successful action, customer–line validation and reliable long–term delivery are different levels of evidence.



Leju Kuavo industrial exhibit
On–site photo [S10]

Leju's industrial platform here is Kuavo 5W, not the bipedal Kuavo.

Subject	Available evidence	Still missing
G2 x Longcheer	Named line validation; supplier statistics	Raw intervention and fault logs
Zhuxing H x Schaeffler	ROKAE says it is used in the customer's plant	Customer confirmation, quantities and operating records
Kuavo 5W	Industrial tasks and on–site interviews at this show	Named customer cells and verifiable results
Kargo50	New model and heavy–load specifications	Independent customer results for this model

ROBOATLAS VIEW

Named workstations take priority. Without acceptance and continuous–operation evidence, cases are not classified as reliable scaled operation.

[S06] Caiwen · [S10] Caiwen / Eastmoney · [S11] ROKAE · [S35] DH–Robotics

ABB: reach and routing; DOBOT: force and motion tasks

ABB differentiates specifications and routing; DOBOT separates contact, speed and continuous-process tasks.



ABB IRB 1700 series

On-site photo · Variant not specified [S02]

ROBOATLAS VIEW

Pair payload and reach for the same variant. Explain launches by cell suitability; do not combine maxima across the series.

[S02] ABB · [S03] ABB · [S04] ABB · [S05] DOBOT release / Chuandong

Six-axis, SCARA and Delta: structures and suitable tasks

Products from one vendor illustrate structural differences; the latter two are background, not claimed as launches or exhibits here.

01

6-axis · ABB IRB 1700

Serial joints suit handling and assembly with varied approach angles. Standard variants are 12 kg / 1.45 m and 10 kg / 1.65 m; these are not one combined specification. [S03]

02

SCARA · ABB IRB 920/920T

For assembly and pick-and-place. Official variants offer 6 kg and 450/550/650 mm reach. Selection also requires vertical stroke and orientation limits. [S36]

03

Delta · ABB IRB 360

For fast pick-and-place and packaging, with 1/3/6/8 kg variants. Workspace is stated as diameter, not directly comparable with six-axis reach. [S37]

Use actual part-plus-tool mass, required orientation, real paths, cycle time and acceptance conditions for comparison. No speed ranking across structures is given.

ROBOATLAS VIEW Structure follows the task. Align units and measured quantities before judging speed or suitability.

VEGA7, CS66F and CRH: contact and motion tasks

VEGA 7, CS66F and CRH all address flexibility, but their demonstrations tackle different difficulties.



DOBOT VEGA 7
Product image [S05]

Product	Tasks shown here	Verify before procurement
DOBOT VEGA 7	Insertion, force sensing and dual-arm coordination	Continuous payload, tools and contact tolerance
Elite CS66F	Optics plug/unplug; grip; thread cable ties	Part variation; misinsertion; recovery
DOBOT CRH	Continuous motion and motion recovery	Process quality, operating conditions and downtime

Arm force control or collision sensing is only part of a complete cell. Tools, parts, speeds and human access must be validated for each project.

ROBOATLAS VIEW

Collaboration should reduce modification and changeover effort while preserving quality. No comparable deployment–cost data supports a vendor ranking.

[S05] DOBOT release / Chuandong · [S18] Elite Robots

Mobile work systems: fork pickup, loading and transport

Fork pickup, loading and scheduling operate at different levels; software and robot hardware should not share one comparison category.

Identify / lift

TPX · Load-carrier
interface

Load & stack

M 2.0+Pro · Trucks /
cargo boxes

Move / pass

DUCO air-ground
coordination ·
Equipment interfaces

Schedule

OneHub · Status and
sequence

ROBOATLAS VIEW

Select mobile robots against completion of a material handoff. Navigating to position and completing the task require separate acceptance checks.

Operating conditions for fixed arms, wheels and bipeds

Fixed arms, wheeled dual arms and bipedal humanoids entail different baseline costs and burdens.



ROKAE Zhuxing H
On-site photo [S11]

Structure / case	Suitability conditions	Additional burden
Fixed arm · IRB 1700	Material can be fed to a fixed cell	Fixtures, feeding and cell layout
Wheeled dual arm · Zhuxing H / G2	Level aisles; operations across cells	Base pose, charging, move/grip handoff
Bipedal humanoid (reference)	Site genuinely requires legged access	Balance, energy, payload and reliability validation

This page compares robot structures. P19 compares complete systems for the same machine-tending task; the questions differ.

ROBOATLAS VIEW First establish a need for mobility or legs before accepting the added complexity. No common cost or fault data supports an overall structural ranking.

[S02] ABB · [S10] Caiwen / Eastmoney · [S11] ROKAE · [S35] DH-Robotics

Distinct roles of embodied models, arms and controllers

Separate recognition, task understanding, execution and recovery to identify the model's actual contribution.

Understanding & sensing

Primo: language, vision and action demonstrations

Fine manipulation

CS66F: insertion, harnesses and gripping

Low-level execution

YNX1000: control platform, not an embodied model

Recovery & generalization

No public cross-part, cross-factory evaluation

Elite's release describes on-device Primo deployment and coordination across robot forms; Yaskawa describes NEXT and YNX1000 control platforms. The material does not prove zero-tuning operation on new parts or isolate the model's efficiency contribution.

ROBOATLAS VIEW Link model names to observable tasks. Robots, controllers and models are distinct products; demonstrations alone do not establish generality.

Machine tending: fixed arms, cobots and mobile dual arms

Compare methods of completing the task, including software, fixtures and integration effort.

System / reference	Conditions needed	Main inputs	Acceptance focus
Fixed arm + vision / ABB technology route	Fixed cell; material flow can be organized	Fixtures, vision calibration and offline programming	Real paths, changeover time and conforming output
Cobot + force control / VEGA, CS66F	Contact assembly or varied parts	End effectors, process settings and contact tuning	Error tolerance, damage and recovery
Mobile dual arm / BR-MR73A, G2	Cross-cell or machine interaction required	Navigation, recharging and motion/manipulation integration	Success after arrival, waiting and interventions

Virtual validation ABB RobotStudio: check layouts and paths first	On-site commissioning Equipment interfaces, fixtures and process results	Operation management OneHub: task allocation and status handoffs
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ROBOATLAS VIEW

The same task need not yield the same robot form. Economics depend on site changes, commissioning, maintenance and effective output.

Robotics value chain: drives, sensing, control and robots

The diagram shows functional roles; it does not imply that any robot maker buys from the listed suppliers.

Power & transmission

Welling motors / reducers; KGU; HarmoCore

Contact & sensing

DH-Robotics / SRT; XJC; Mech-Mind

Control & computing

Yaskawa YNX1000; Primo; OneHub

Processes & robots

ABB; DOBOT; SIASUN; AGIBOT

ROBOATLAS VIEW

Component value depends on loads, heat, contact and process requirements; exhibiting together does not establish a supply relationship.

Integrated joints: functions and maintenance conditions

KGU, HarmoCore and Welling force-controlled joints combine multiple functions in one assembly.



Tongchuan HarmoCore portfolio

Product image [S26]



Welling integrated force-controlled joint

On-site photo [S32]

Series	Confirmed product direction	Comparable data not obtained
Leaderdrive KGU	Transmission, motor, drive, encoder and brake integration	Continuous torque / heat rise / life / price under common conditions
Tongchuan HarmoCore	Force-position loop; integral cables; mounting options	As above; select models against individual technical tables
Welling force-controlled joint	Show exhibit with torque sensing and control	As above; variant not verified in this review

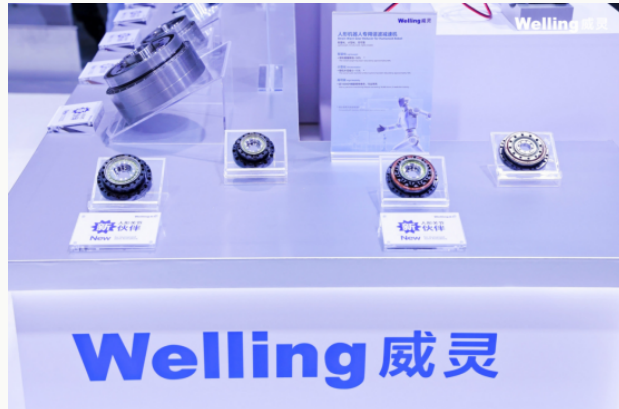
KGU and HarmoCore have official records predating this show. Weight-reduction percentages use different baselines and cannot rank brands.

ROBOATLAS VIEW Integration reduces connections and assembly layers but couples heat dissipation, repair and replacement. Peak torque or weight savings alone are insufficient.

[S13] CIIF Robotics / Leaderobot · [S26] Tongchuan · [S27] Tongchuan · [S28] Leaderdrive · [S32] Welling release

Harmonic and cycloidal reducers: loads and selection

Welling exhibited both harmonic and cycloidal designs; one accuracy figure cannot describe every operating condition.



Welling harmonic reducers

On-site photo [S32]



Welling RV / MC exhibits

On-site photo [S32]

01

Harmonic: compact and light

Common in space-constrained joints. Welling's humanoid harmonic-reducer exhibits and HarmoCore integration both emphasize dimensions and structural interfaces.

02

RV / MC cycloidal: loads and shocks

Welling distinguishes MC and MCH applications. Compare continuous loads, shocks, backlash changes, stiffness and lubrication conditions.

No raw, matched-specification life-test data or disclosed transaction prices were obtained. Separate vendor tests cannot establish an overall technology ranking.

ROBOATLAS VIEW Select reducers alongside motors, bearings, output flanges and robot motion; claims of advanced technology cannot replace project suitability.

[S26] Tongchuan · [S32] Welling release

Frameless motors: sustained output, cooling and duty cycle

Frameless motors are integrated into joints; sustained output depends on heat dissipation and duty cycle.



Welling frameless torque motors

On-site photo [S32]

>4.5×

Welling release: overload capability

60 K

Welling release: rated temperature rise

Both figures come from company show material. Model, cooling and duty cycle are not fully disclosed; direct comparison with other test conditions is invalid.

Linked system	Evidence needed
Motor + drive	Current limits; continuous / peak output
Joint structure	Thermal paths, encoders and cable interfaces
Robot motion	Duty cycle, thermal stability, derating logs

ROBOATLAS VIEW

Assess usable motor output after thermal stabilization; an overload multiple is not sustained handling capacity.

[S32] Welling release

GSA linear transmission: standard, recirculating and inverted

GSA's show preview points to linear transmission; official material distinguishes standard, recirculating and inverted structures.

Rotary input Motor and drive	Linear conversion GSA RGT / RGTR / RGTI / RGTRI	Support & guidance Bearings, rails and mounting datums	Operating acceptance Thrust, stroke, lubrication and accuracy retention
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Product / evidence	Established information	Conclusions not supported
GSA RGT / RGTR	Standard and recirculating product families	Series size coverage is not a particular robot joint specification
GSA RGTI / RGTRI	Inverted structures for compact integration	Structure alone cannot establish lower cost or longer life
Show preview	Organizer–supplied release links it to CIIF 2026	Conflicting booth numbers omitted; volume delivery not established

No bearing models and life data for a common application were obtained. Support conditions are discussed together; no bearing–launch list is invented.

ROBOATLAS VIEW Transmission opportunities involve design, consistency and manufacturing. Separate samples, series maxima and deliverable customer specifications.

Dexterous hands, soft grippers and parallel grippers

Finger count, active motion, contact method and maintenance conditions jointly determine task suitability.



DH-Robotics ADH-5-13
On-site photo [S14]



SRT bionic dexterous hand
On-site photo · Variant unspecified [S15]

Product	Known structure / use	Comparison limits
UDH-3-7	3 fingers / 7 active DoF	Do not rank hand types by finger count
ADH-5-6 / ADH-5-13	5 fingers / 6 or 13 active DoF	Active DoF is not total mechanical joints
Leadshine DH116	5 fingers / 11 total DoF / 6 active	Separate total and active DoF
SRT soft gripper	Compliant contact; irregular objects	Air supply, grip force and maintenance
DH-Robotics PGC	Parallel electric gripper in G2 Longcheer validation	Customer case; specific variant not inferred

ROBOATLAS VIEW

Five fingers are not essential for every process. Defined grips, parts and operating conditions guide end-effector selection better than appearance.

[S14] NE Times · [S15] SRT · [S22] Leadshine / Dexterous Control · [S35] DH-Robotics

ULTRA M and UHP-040-5M: imaging and measurement

ULTRA M and UHP-040-5M address different vision problems; their metrics are not interchangeable.

01

ULTRA M · Complex imaging

For transparent, thin-walled and other targets. The official 0.08 s minimum is single-frame acquisition, excluding complete recognition, planning and robot motion.

02

UHP-040-5M · Fine metrology

Used in the FPC cell here. XY resolution is 0.017 mm; repeat measurement accuracy in a specified direction is $\pm 1 \mu\text{m}$. Neither is whole-cell assembly error.

ROBOATLAS VIEW

Preserve the object and conditions behind vision specifications. Ultimately, verify conforming processing at the actual production cycle.

Six-axis force, joint torque and tactile sensing

Six-axis force/torque, joint torque and surface tactile sensing have different measurement targets.



XJC XJC-D5.5-12.6

Product image [S13]

Target / product	Verified information	Limits of this review
Six-axis force / XJC-D5.5-12.6	5.5 mm diameter, 12.6 mm height	Pre-show product image; range and drift not compared
Joint torque / Welling force-controlled joint	Exhibit integrates force control and sensing	Sampling rate is not control bandwidth
Force-position loop / HarmoCore	Embedded torque sensing and control	Model and load still require checking
Tactile arrays	No comparable product and task data obtained	Force control does not imply tactile skin

ROBOATLAS VIEW

Miniaturization addresses mounting space. Range, cross-talk, thermal drift and calibration also govern measurement quality; size alone does not establish performance.

[S13] CIIF Robotics / Leaderobot · [S26] Tongchuan · [S32] Welling release

Controllers, scheduling and layout/path simulation

Control executes motion, scheduling organizes tasks and simulation prepares deployment; operating records reveal results.



SIASUN OneHub

Video frame [S09]

Controllers

Yaskawa YNX1000: motion and equipment control

Models & inference

Primo: sensing, task and manipulation demos

Scheduling & interfaces

OneHub: task allocation and equipment handoffs

Simulation & testing

RobotStudio: historical layout and path project reference

ROBOATLAS VIEW

These functions may reduce engineering effort, but comparable commissioning hours and data-transaction evidence are absent; mature new markets are not established.

Robot use evidence: demonstrations to scaled operation

Evidence is graded for each claim. Different claims about the same product can have different statuses.

Status	Minimum evidence	Treatment in this report
01 Public demonstration	Traceable booth / official demo	BR–MR73A and CS66F tasks at this show
02 Company testing	Defined cell, period and statistical scope	G2 Longcheer June validation; supplier data
03 Customer pilot	Confirmed customer, task and pilot scope	Siemens' open scenarios are a plan, not completed pilots
04 Actual delivery	Named customer and delivery / acceptance evidence	ABB x G–TEKT is a 2021 historical use case, not a new deployment here
05 Reliable operation at scale	Multiple projects/units; continuous operation and exception data	Insufficient evidence for new general–purpose robot samples at this show
ROBOATLAS VIEW	Claims of deployment still require verification. A production–line test is not commercial acceptance, still less proof of operation at scale.	

[S09] SIASUN · [S18] Elite Robots · [S20] Siemens · [S35] DH–Robotics · [S38] ABB

Customer cases: G2 × Longcheer and ABB × G-TEKT

Named workstations make use evidence specific; retain case dates and data attribution together.

G2 × Longcheer Nanchang June 2026

DH-Robotics' official case identifies PGC grippers in tablet quality checks covering multimedia, audio, radiated spurious emissions and coupling tests. Data comes from a participating supplier; customer acceptance and raw exception records are missing.

ABB × G-TEKT Historical case (2021)

ABB's named-customer report records three IRB 360-6/1600 robots, PickMaster 3 and integrator MES Koshin for steel-sheet inspection and stacking. This offers more specific use evidence, but is not a new 2026 deployment.

ROBOATLAS VIEW Present customer, task, date and product version together. Supplier case studies must retain the elements not independently verified.

G2 operating records and gaps in reliability evidence

Operating duration, oil-change intervals and product reliability are different metrics.

64 h

G2 Longcheer public validation period · Supplier scope

20,000 h

ABB's stated maximum oil-change interval

These figures are not comparable: one records a validation period, the other a maintenance interval, not a promise of failure-free operation.

Review item	Available G2 evidence
Downtime and cause distribution	Raw logs not obtained
Human takeovers / time spent	Not obtained
Recovery after failure	Complete statistics not obtained
Revalidation after changeover	Not obtained
Spares, maintenance and long-term degradation	Customer records not obtained

ROBOATLAS VIEW

Reliability requires complete operating logs. Duration of one run cannot replace long-term fault, maintenance and recovery data.

G2 case: 64,828 operations and 17,625 products

Public G2 figures allow scope checks, but improvement rates require comparable baseline conditions.

64,828

Robot operations

17,625

Tablet-line product output

99.99%

Task success rate · Supplier cell statistics

$17,625 \div 64 \approx 275.4 \text{ units/h}$

Average line output over the disclosed period, not a single robot's cycle rate.

A robot may handle one product repeatedly; operation counts are not tablet output. Without a matched manual baseline, uptime and intervention effort, this report does not calculate efficiency gains or workers replaced.

Calculation uses the same historical case in S08 / S35. The 64 h is the disclosed validation/live-stream period, not necessarily 64 h for each robot.

ROBOATLAS VIEW Public figures aid verification, but only a baseline with the same task, quality and time boundaries can demonstrate actual efficiency gains.

Robot costs: hardware, integration, upkeep and returns

Use G2 + PGC and fixed-arm + vision systems as references to define the full cost scope first.

Initial investment Robot + tools / fixtures + vision / force sensing	Engineering / downtime Integration + commissioning + modifications + acceptance	Recurring costs Maintenance + spares + energy + software / operation	Realized returns Extra conforming output + realizable labor savings
Calculation	Credible public data obtained	Supported conclusion	
Whole-cell price and integration	No complete quote for one customer	Robot price cannot establish full-cell cost	
Annual net savings	No labor, downtime or maintenance baseline	No credible average payback period	
Simple payback	Total investment ÷ annual net savings (only if positive)	Calculation framework only; no assumed values supplied	

ROBOATLAS VIEW

A credible payback period cannot be stated. Recording gaps is better than inventing industry averages; procurement needs total cell investment and net returns.

Welling / Tongchuan: capacity, shipments and targets

Growing upstream manufacturing capability does not automatically establish realized demand for general-purpose robots.



Welling booth at this show

On-site photo [S32]

Company disclosure	Definition	Use in this report
Welling: annual delivery capacity of 200,000 reducers and 60,000 joint modules	Delivery capacity; expansion ongoing	Not actual shipments or robot installations
Tongchuan: nearly 200,000 units shipped in 2025	Past shipments, all product categories	Not all attributable to HarmoCore
Tongchuan: 500,000 units in 2026	Annual capacity target	Not an achieved scale

Volume production also requires batch consistency, traceable quality, spares and repeat purchases. Comparable data was not obtained.

ROBOATLAS VIEW

Manufacturing readiness and commercial realization are separate evidence streams. Capacity targets, component shipments and reliable customer use are not interchangeable.

[S27] Tongchuan · [S31] Midea Group

Robot acceptance: tasks, operation, changeovers and costs

Checks address gaps in the preceding cases and apply to site demonstrations, technical discussions and project evaluation.

Acceptance item	Specific question	Case in this report
Task boundaries	Are parts, tools, quality and cycles matched?	FPC: vendor cell insertion >99.7%; retest with the same part
Operation & recovery	Are intervention, downtime and recovery logs available?	G2 × Longcheer: 64 h statistics, but no complete exception logs
Changeover & transfer	How many people, days and what data for new parts?	Primo / cobots
Delivery & maintenance	Who owns whole-cell acceptance, spares and faults?	KGU / HarmoCore / robot integration
Economics & repeat orders	Are full-cell cost, net savings and repeat-order evidence available?	Fixed arm + vision / mobile dual arms

These are RoboAtlas research recommendations, not evidence that the products passed these checks. Mark unsupported items as unverified rather than replacing evidence with marketing claims.

ROBOATLAS VIEW Validate with the same workpiece and real constraints, turning demonstration success into measurable project-acceptance criteria.

Four findings: processes, mobile manipulation, joints and use

Conclusions cover only the cases reviewed; unsupported market inferences are not stated as facts.

Observation	Evidence above	What could limit / overturn it
Products specialize by process difficulty	ABB routing; DOBOT's three routes · P13–15	Improvements fail to deliver process or maintenance benefits
Mobility and manipulation connect	SIASUN loading/inspection; logistics scheduling · P07/10–11	Waiting, intervention and charging offset task value
Integrated parts link to robot engineering	HarmoCore, KGU, Welling · P20–23	Heat, life and repair costs do not improve
Evidence of use becomes decisive	Named G2 validation; multi-robot cases mostly demos · P29–34	No subsequent repeat purchases or sustained operation
ROBOATLAS VIEW	The clearer finding is specialization of capabilities and engineering problems. These samples cannot establish an industry-wide commercial scaling inflection.	

[S02] ABB · [S05] DOBOT release / Chuandong · [S09] SIASUN · [S26] Tongchuan · [S32] Welling release · [S35] DH-Robotics

Five open questions: transfer, legs, hands, joints and orders

Key comparative evidence remains missing. Specify where the next evidence should be sought.

01

Can general models transfer?

Primo lacks a common public evaluation across new parts, lighting and factories. Booth tasks do not cover all distribution shifts. [S18]

02

Do legs add net value?

Many industrial tasks here use wheels. Same-task evidence of bipedal benefits and reliability relative to wheels is still missing. [S10, 11]

03

Are extra hand DoF worth it?

DH-Robotics' hand designs and PGC case show task specialization. Active DoF does not directly determine success or economics. [S14, 35]

04

Can light joints sustain output?

No raw, comparable-condition continuous-torque, thermal or life tests were obtained for HarmoCore and Welling. [S26, 32]

05

Does capacity match real orders?

Welling and Tongchuan disclose different scopes for capability, targets and historical shipments; new-robot demand cannot be inferred. [S27, 31]

ROBOATLAS VIEW

These questions require repeatable tasks, long-term logs, customer confirmation and cost data. More trade-show demonstrations do not resolve them.

Track delivery, sustained operation and repeat orders

From October 2026, track the same tasks over time to see whether products clear the next threshold.

Subject	Specific leads	Evidence needed to update the assessment
Robots	G2, BR-MR73A, Kargo50, Zhuxing H	Named customers, delivered models, interventions/downtime and repeat orders
Components	KGU, HarmoCore, Welling, GSA	Saleable models, matched-condition life, batch consistency and lead times
Software & models	Primo, YNX1000, OneHub	Before/after commissioning hours, transfer cost and exception recovery
Integrators / site operators	Siemens plan: 5 plants, 6 scenario types	Started projects, test boundaries, acceptance and subsequent use
Procurement teams	Fixed-cell and mobile dual-arm systems	Full costs, conforming output, realizable savings and service responsibilities
ROBOATLAS VIEW If operating and economic evidence remains absent over the next year, lower the maturity assessment; update it gradually when customer results prove repeatable.		

[S09] SIASUN · [S20] Siemens · [S26] Tongchuan · [S31] Midea Group · [S35] DH-Robotics

Index of 34 products and systems in this report

Grouped by research entry; series, models and systems are identified separately, not inflated by counting configurations.

Company / product	Public status	P.
ABB · IRB1700 / 1700ID	New here [S02]	13–14
DOBOT · VEGA7	Released here [S05]	13/15
DOBOT · PULSA	Released here [S05]	13
DOBOT · CRH	Released here [S05]	08/15
JAKA · Kargo50	New model here [S06]	12
AGIBOT · G2	Existing; user validation [S35]	12/30–32
SIASUN · BR–MR73A	Task demo here [S09]	07/19
Leju · Kuavo 5W	Industrial exhibit here [S10]	12
ROKAE · Zhuxing H	Task demo here [S11]	12/17
SENAD · M2.0 / Pro	Existing; show system [S12]	10/16
AiTEN · TPX	Award–entry data [S13]	10/16
Langyu · Yuqilin	Award–entry series [S13]	10
SIASUN DUCO · Air–ground coordination	Task demo here [S09]	10/16
DH–Robotics · UDH–3–7	Hand–design data [S14]	25
DH–Robotics · ADH–5–6 / ADH–5–13	Hand–design data [S14]	25
Leadshine Dexterous Control · DH116	Existing tech reference [S22]	25
SRT · Soft actuators / bionic hands	Exhibit; variant unstated [S15]	09/25

Company / product	Public status	P.
XJC · XJC–D5.5–12.6	Award–entry data [S13]	27
Leaderdrive · KGU	Entry; predates show [S13]	21
Tongchuan · HarmoCore	Entry; released 2025 [S27]	21
Welling · Integrated force–control joints	Exhibit; variant unverified [S32]	21/27
Welling · Frameless torque motors	Series exhibited here [S32]	23
Welling · Harmonic / RV & MC reducers	Series exhibited here [S32]	22
GSA · RGT / RGTR / RGTI / RGTRI	Preview; structure group [S29]	24
Mech–Mind · ULTRA M	Existing; award entry [S17]	26
Mech–Mind · UHP–040–5M	FPC cell here [S16]	06/26
Elite Robots · CS66F	Task demo here [S18]	06/15/18
Elite Robots · Primo	Model system here [S18]	11/18
Elite Robots · CWT13 / CWF	Welding system here [S18]	08
SIASUN · OneHub	System demo here [S09]	11/16/28
Yaskawa · NEXT / YNX1000	Control–platform data [S19]	18/28
DH–Robotics · PGC series	Past user validation; not confirmed here [S35]	25/30
ABB · IRB920/920T;IRB360	Existing technology; not confirmed here [S36]	14
ABB · RobotStudio / PickMaster3	Named 2021 user case [S38]	19/28/30

ROBOATLAS VIEW Award entry does not mean a win or an on–site exhibit. Distinguish launches, existing exhibits, historical cases and technical background.

[S13] CIIF Robotics / Leaderobot · [S24] RoboAtlas

Methodology, sources, image dates and limitations

Information cutoff: 15 October 2026, during the exhibition. This is not a complete post-closing statistical report.

01 Research method

Start with task-based questions, then select cases with verifiable images, parameters or use records. Attribute company tests and label editorial judgments separately; record missing data as not obtained, not zero.

02 Sample and statistical scope

This report has 34 research groups. The official robotics roster for 7.1H and 8.1H lists 349 exhibitors as of 14 September 2026; actual attendance prevails. [S39]

03 Images and dates

Label on-site photos, product images and video frames separately. Added Tongchuan images are official product shots. Xinhua's G2 image is dated 12 October; other dates are not inferred. No historical WRC placeholders are used.

04 Use and limitations

News images are for internal review; rights remain with their owners. Attribution is not commercial publication permission. Full image records, factual sources and deletion/merger notes accompany the source package.

ROBOATLAS VIEW The report frames traceable research questions. Missing exact exhibit images, customer acceptance or pricing data are presented within known limits.

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