The Demo Economy

292 to 0	award projects, then no verified reorder
12 to 1	appearances to independent origins
0	verified repeat purchases in the record

The West keeps score in demo views and funding rounds.
The buyer's paper trail keeps a different score.

SERINYX · QUORUM SHOWCASE SERIES Robotics and AI

The Demo Economy

The West keeps score in demo views and funding rounds. The buyer's paper trail keeps score in inspections passed, money paid and repeat orders, and that side of the scoreboard is nearly blank.

292 → 1 → 0 → 0	12 : 1	0
awards, then one acceptance chain, then nothing	appearances to independent origins, flagship metrics	verified reorders anywhere in the public record

CAPABILITY DEMONSTRATED
Adjudication and de-biasing (hypothesis plus negation)

PUBLISHED
2 September 2026 · version 4.0 · general industry report

A showcase of the Quorum evidence pipeline. This report summarises a small part of a much larger body of research; the scale of that work, and how to commission it, are set out on the closing page.

Prepared by Serinyx GmbH. Every factual statement carries a superscript reference to a verified source list. AI disclosure: researched, drafted and checked by Serinyx's Quorum evidence pipeline under named human sign-off; it should empower human judgement, not replace it.

CONTENTS

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Every section header states the number of separately sourced claims that section rests on. Superscript numerals throughout resolve to the reference list; each figure and table carries the claim ids behind every value it prints.

EXECUTIVE SUMMARY

Coverage of frontier robotics runs on announcements: demos, funding rounds and pilot press releases, none of which carries a delivery obligation. This report follows the other trail, the one a buyer leaves behind: tenders, transacted prices, signed acceptances, payments and repeat orders.

The announcement side is thinner than it looks. The most-cited Western deployment's headline metrics appear twelve times in the reviewed record and trace to one origin, the vendor's own pilot dataset[3,5,6]. Eleven of twelve flagship claim lineages collapse the same way[3,24]. No flagship programme publishes its autonomy share, and the one measured reliability figure comes from a one-hour laboratory protocol[3,11].

The buyer's side is real, small and mostly Chinese. Audited humanoid demand counts in the low thousands: 1,079 units at UBTech in the 2025 financial year, 3,551 at Unitree over nine months[7,13]. The public procurement record discloses 292 award projects for 2025, on one compilation whose internal tallies disagree[1]. Deeper down the trail sit one documented acceptance chain, zero located payment remittances and zero verified repeat purchases[1–3]. Publishing those deeper stages is not mandated; the zeros are ceilings on what can be known, not floors on what happened[4].

Everywhere the two ledgers meet, announcements outrun audits. A 62-row census of announced deployment relationships holds not one verified paid repeat purchase and not one verified free pilot[3]. Across roughly 250 public sources, no customer has ever said why it ended a humanoid pilot[3]. The West's largest order book is milestone-contingent, anonymous and unfiled[14].

The counterweight is structural and serious. Private purchases never enter tender registers[3,4]; acceptance publication is not mandated[4]; the record is young[3]; part of the demand is policy-financed[17]. And the audited economics look like a business, not a performance. Every vendor that files accounts reports positive gross margin, the revenue left after the direct cost of making the goods[7,13,25]. The one vendor whose export and domestic price screens can be compared posts export stickers at or above its Chinese list[7,26]. Supplier filings corroborate the audited volumes[7,13,27,28]. The zeros say how little can be seen, not how little happened.

The cure is method. Every theme was pre-registered as a hypothesis and its explicit negation, and the negation of the headline bet was ruled half right[9]. This report measures the record, not the market, and shows the reader exactly where the record ends.

01 Three key numbers

RESTS ON 6 SEPARATELY SOURCED CLAIMS

292 → 1 → 0 → 0. The 2025 Chinese public record discloses 292 humanoid award projects (contracts won through public bidding), on one compilation whose internal tallies disagree[1]. Deeper down the trail: one documented acceptance chain (the buyer's signed inspection papers), zero verified payments, zero verified repeat purchases[1-3]. Publishing those deeper stages is not mandated; the zeros are ceilings on what can be known, not floors on what happened[4].

12 appearances, 1 origin. The most-cited Western deployment, Figure's part-placing pilot at BMW Spartanburg, has headline metrics appearing twelve times in the reviewed record; all trace to one origin, the vendor's own pilot dataset[3,5,6].

Up 335.36 per cent, reorders zero. Unitree, the record's largest filer, grew company-wide revenue 335.36 per cent in the 2025 financial year: more than quadrupled, across all its robots, not humanoids alone[7]. The reviewed record holds not one verified post-acceptance humanoid reorder[3,8].

02 The flagship numbers trace back to the seller

RESTS ON 12 SEPARATELY SOURCED CLAIMS

> *The zeros are ceilings on what can be known, not floors on what happened.*

Frontier-robotics coverage runs on announcements: demos, pilot press releases, launch films. None obliges anyone to deliver anything. Deployment is different: somebody pays, inspects, accepts and, if the robot earns its keep, buys again. This report follows that second trail.

At BMW Spartanburg, Figure's robots placed sheet-metal parts for 30,000-plus vehicles: 90,000-plus parts over 1,250-plus hours[3,5,6]. All twelve appearances of those metrics, the customer's own release included, collapse to the vendor's pilot dataset[3,5,6]. The method adds one caveat: a private pilot's numbers can only begin with the vendor, the customer or a hired auditor, and the first two count as one origin, so repetition adds no second measurement[9].

The collapse is the norm, not one bad case. Twelve flagship claim lineages were traced through the reviewed record; their apparent carriage runs from 2 to 14 media appearances, and eleven of the twelve collapse to a single origin[3,24]. The exception is dull: the only two-origin lineage is the 2026 Atlas allocation to Hyundai's application centre and Google DeepMind, a scheduling fact, not a performance claim[3,24]. Repetition is doing the work that corroboration should. The reader's defence is simple and worth internalising: when a robot statistic appears everywhere, count the measurements, not the mentions.

TABLE 1 **The origin-collapse census: apparent carriage against independent origins for the twelve flagship claims**

Claim lineage	Apparent appearances	Independent origins
Figure 02 at BMW headline metrics (30,000+ vehicles, 90,000+ parts, 1,250+ hours)	12	1
Unitree H1 3.3 m/s speed record assertion	12	1
Digit 100,000+ totes moved at GXO	12	1
Current Atlas is all-electric	14	1
Optimus 22-degree-of-freedom hand	13	1
Walker S2 three-minute battery swap and 24/7 architecture	11	1
Jetson Thor 2,070 FP4 sparse TFLOPS ceiling	11	1
Figure 03 fingertip 3 g sensitivity plus palm camera	10	1
Unitree Dex5-1 hand specification block	10	1

Claim lineage	Apparent appearances	Independent origins
UBTech Walker S2 order book above RMB 800 million	8	1
Digit 65,000 hours across nine committed facilities	7	1
Atlas 2026 allocation (Hyundai application centre and Google DeepMind)	2	2

Sources:[3,5,6], [3,24], [34–36].

What is not published matters more. No flagship humanoid programme publishes its autonomy share: the fraction of task time the robot runs itself rather than being teleoperated (remote-controlled by a human)[3]. Seven kinds of public record that would carry such figures were checked; all seven are silent while publishing adjacent numbers freely[3]. The BMW pilot published targets only, an 84-second task cycle, success above 99 per cent per shift, zero interventions (a human stepping in to rescue the robot) per shift; interventions were logged, attained counts never published[5]. The nearest thing anywhere to a demonstration-versus-production pair comes from one ecosystem[19]. It reported 99.99 per cent success over 64 hours and 99.98 per cent over 33 hours for the same programme, on windows and denominators that do not match[19].

No humanoid on sale has an independently corroborated, quantified push-recovery result, and no documented paid workflow uses stairs, rough ground or shove recovery: what is demonstrated and what is paid for do not overlap[3]. Paid humanoid work runs on flat floors, structured and slow, which fits a young market as easily as a hollow one; the record does not yet say which[3]. It holds no independently documented intervention rate for sustained productive work and no mean time between failures (how long a machine runs before breaking); the one measured figure comes from a one-hour laboratory protocol, in minutes, not shifts[3,11].

Prices are announcements too. Across eleven checked first-party commercial and financial registers, no completed arm's-length unit price and no actual customer-specific rental rate is publicly disclosed for any US or EU humanoid[3]. Every circulating Western price is a refundable reservation anchor, the company's own assumption or an unverified relay[14,29,30]. 1X quotes a non-final $20,000 to own, or $499 per month, behind a fully refundable $200 deposit[14,29,30]. NEURA's EUR 98,000 and EUR 60,000 are expressly estimates, behind refundable EUR 100 reservations[14,29,30]. Agility's $8,500 per month is labelled by the company itself an illustrative assumption[14,29,30]. A circulating rate of about $25 per robot-hour is priced by Figure in no filing, and a roughly $320,000 Atlas figure was never issued by the company[14,29,30].

The financing side discloses four objects of four different kinds, none of them current cash paired with binding backlog[14,31–33]. Figure announced over $1 billion committed at a $39 billion valuation after the round, on one announcement origin[14,31–33]. Apptronik states over $935 million cumulative[14,31–33]. NEURA carries an up-to-$1.4-billion round maximum[14,31–33]. Agility pairs over $620 million of expected gross proceeds with milestone-conditional orders[14,31–33]. Announcement capital is abundant. Audited delivery is the scarce commodity, and the rest of this report goes looking for it.

03 Case by case, the Western pilots run short and price nothing

RESTS ON 24 SEPARATELY SOURCED CLAIMS

The West's most-told deployment stories, walked through one by one, share a shape: a dated start, a guarded middle, an unpriced end.

BMW and Figure. The best-documented arc is fully dated and unpriced[5,6]. The Figure 02 pilot at BMW Spartanburg completed, with its fleet retired in November 2025[5,6]. A Figure 03 successor logistics project was announced in June 2026, with no metrics published[5,6]. Payment terms stayed undisclosed by all parties from 2024 to 2026[5,6]. Two conflicts inside the engagement are carried unresolved rather than smoothed. The customer's own June 2026 release gives ten months in its body against eleven months in the quoted vendor statement[6,37]. And a Fortune account quoting a BMW spokesperson described one robot initially working non-production hours, a characterisation Figure's chief executive disputed[6,37]. The West's one finished engagement is the BMW pilot, completed, with successor work at the same plant[5,6].

GXO and Agility. Agility holds the only established paid service deployment at named arm's-length customer sites in the Western record, shipping at pilot scale rather than volume[3,34–36]. The arc runs from a piloted proof of concept to a multi-year RaaS agreement at GXO (robots as a service: the customer hires the robots over time instead of buying them)[34–36]. Behind it stands a vendor milestone counter, over 100,000 totes (plastic handling crates) moved at one site, with no rate, robot-hours or unit-count history[34–36]. A second post-pilot RaaS agreement has run at Toyota Motor Manufacturing Canada since February

2026[34–36]. Yet the demand state is unresolved on the customer's own accounts[34,38,39]. The signed instrument's commercial language conflicts with a later lab-environment characterisation by GXO's automation chief[34,38,39]. And GXO's 2025 annual filing names no robot supplier, so paid-repeat versus free-pilot is carried open[34,38,39]. The West's largest order book is a single document: over $300 million, roughly 270 million euros, of milestone-contingent orders from one anonymous customer, for 1,000 of Agility's Digit robots[14]. That customer also took warrants (rights to buy the vendor's shares cheaply later, so it gains if the vendor's story holds); the contract is unfiled and cannot be examined[14].

Amazon and Ford. Whether Amazon belongs in Agility's current commercial roster conflicts inside one June 2026 filing cycle[14,40]. A spokesperson described completed pilots, with future work contingent on the next Digit generation; one exhibit omits Amazon, and another lists it as performing useful work today[14,40]. The Amazon tote-recycling pilots themselves were reported ended in April 2024, in a single origin published in a layoffs context, with no next steps announced and no reason stated by either party[21]. Ford's last-mile Digit programme (robots for the final leg of a delivery) went dark with no closure record, and whether Ford ever formally closed it is itself unresolved[21].

Tesla. Tesla's Optimus performs no material productive factory work, on its own earnings-call framing, with no external customer site in reviewed disclosures through Q2 2026[10]. The clearest humanoid scale-down on the record is Tesla's own: the 2025 Optimus build target was cut from over 5,000 to about 2,000 units, with a mid-2025 production pause over hand and forearm issues[41]. That story is carried entirely through relays of one paywalled article that could not be opened at source[41].

Mercedes and Apptronik. The one independent operating-mode check in the Western record is a March 2025 Reuters report from the Mercedes site[42]. It found Apollo being trained by teleoperation, with autonomous repetition still a goal; the check rests on one article[42].

Boston Dynamics, 1X and NEURA. The remaining Western names sit before the market. Atlas's 2026 fleets are allocated to Hyundai's application centre and Google DeepMind, with a dated 2027 external-customer plan on unknown terms[3,24,43–45]. 1X and NEURA sell reservations rather than robots: refundable deposits behind non-final or expressly estimated prices[14,29,30].

Placed on one maturity ladder, the ordering inverts the narrative. Exactly three humanoid makers clear a volume test of at least 1,000 units in a year, and all three are Chinese[7,13,46]. Two of those volumes are filed, while AgiBot's roughly 5,168 units for 2025 rests on one analyst table rather than a filing[7,13,46]. The best-funded Western names sit at the piloted or demonstrated rungs, where operating mode is mixed or undisclosed and payment is mostly unestablished[3,34–36]. The scorecard grades itself thin in the study's own terms[3]. Seventeen disclosure families support the placements, the volume rows collapse to one filing or one analyst table each, and no row carries an independent field measurement[3]. The strongest Western evidence is real work. What never surfaces is the invoice.

TABLE 2 The maturity scorecard: who ships, who pilots, who demos, and on what evidence

Player (platform)	Rung on the evidence	What is actually established
Unitree (H1/G1 line)	Volume production, shipping	5,511 humanoids shipped FY2025 (filed); 5,215 recognised sales; 73.6% of humanoid revenue research and education
UBTech (Walker line)	Volume production, shipping	1,079 full-size units; RMB 820.6M humanoid revenue FY2025 (audited)
AgiBot	Volume production, shipping (per vendor and analyst)	~5,168 units 2025 on one analyst table; more than 5,100 company-attributed mixed-morphology count
Agility (Digit)	Paid deployment, shipping at pilot scale	Multi-year RaaS at GXO; 100,000+ totes (counter, no rate); second RaaS at Toyota Motor Manufacturing Canada since Feb 2026
Figure (02 to 03)	Productive pilot, then demonstrated	Pilot completed, fleet retired Nov 2025; successor project Jun 2026, no metrics; payment undisclosed 2024 to 2026; 10-vs-11-month duration conflict
Tesla (Optimus)	Internal pilot (captive)	No material productive factory work on the company's own framing; no external customer site through Q2 2026
Apptronik (Apollo)	Pilot, data collection	Teleoperation-trained at the Mercedes site per the one independent mode check (Reuters, Mar 2025)
Boston Dynamics (Atlas)	Related-party testing, demonstrated and piloted	2026 fleet allocations to Hyundai application centre plus Google DeepMind; dated 2027 external plan, terms unknown
1X (NEO)	Pre-delivery, demonstrated	$20,000 or $499-a-month non-final anchors behind refundable $200 deposits; Expert Mode is 60 min/robot-hour by design
XPeng (IRON)	Pre-production, demonstrated	1,000 units per month announced future capacity; dated 2027 external-customer plan after own-store trial use
NEURA (4NE1)	Pre-market, demonstrated	EUR 98,000 and EUR 60,000 expressly estimated

Player (platform)	Rung on the evidence	What is actually established
		anchors behind refundable EUR 100 reservations

Sources:[18], [10], [7,13], [7], [7,22], [7,13,46], [3,34–36], [7,46], [7,13,22,44,47], [3,24], [5,6], [6,37], [42], [14,29,30], [34–36], [24,43–45].

04 The human minutes are real, priced and mostly unpublished

RESTS ON 6 SEPARATELY SOURCED CLAIMS

Announced pilots have a public birth and no public death.

Every autonomy claim hides a denominator: how many human minutes prop up each robot-hour. No flagship humanoid programme publishes an autonomous-versus-teleoperated share of task time or a measured human-minutes-per-robot-hour value[3]. One vendor states the extreme case by design: 1X's Expert Mode is one-to-one VR teleoperation, so during an Expert session human-minutes per robot-hour is 60 by definition, and the fleet share of Expert-Mode time is unpublished[18].

The published fragments cannot form a curve, because no two share a denominator[18,48–50]. The record holds 60 minutes per active session-hour, by design, at 1X[18,48–50]. It holds 15.30 and 2.718 hands-on minutes per episode-hour in XPeng laboratory tasks[18,48–50]. A vendor's illustrative model gives 9.0 operator minutes per robot-hour, at an assumed 85 per cent autonomy[18,48–50]. And a six-week, two-robot Digit pilot at an unnamed Midwestern warehouse operator logged 0.373 to 0.560 human-assist events per productive picking hour[18,48–50]. Minutes, episodes and events are different rulers. The BMW pilot, for its part, published a target of zero interventions per shift and never the attained count[5].

The minutes have prices, just not in robot marketing. Chinese data collectors earn about 200 yuan per day base, while agencies book an explicit spread on hourly billing[51–53]. Indian workers earn about 400 rupees per day against factory billing of 450 to 500 rupees per hour, with footage resold at $15 to $50 per hour[51–53]. Tesla recruited onshore data-collection staff at $25.25 to $48 per hour, in a stale 2024 posting[51–53]. The nearest operating teleoperation service is adjacent and non-humanoid[54–56]. Filipino operators at $250 to $315 per month remotely handle exceptions for shelf-restocking robots in over 300 Japanese convenience stores, at an intervention rate around 4 per cent[54–56]. No live customer-facing humanoid teleoperated service with disclosed operator economics exists in any of the five register classes checked[54–56]. The only disclosed outcome for a pure teleoperation-service company in the record is Phantom Auto's shutdown[54–56].

Until a programme publishes its human minutes, autonomy remains a claim about labour costs with the labour redacted.

05 Where buying is public, the ledger is real, and small

RESTS ON 21 SEPARATELY SOURCED CLAIMS

Humanoid buying leaves one public trail: where procurement (rule-bound institutional buying) is public, Chinese portals publish line-item prices with buyer, model and quantity, a class no Western channel provides[2,12]. An industry alliance compilation counts 292 humanoid tender-award projects in 2025 (a tender is a public invitation to bid), worth over RMB 1.81 billion, roughly 230 million euros (RMB, the Chinese yuan; rates in the small print)[1]. Education buyers took 66 per cent of projects on one internal reading; a second disagrees, and the original could not be retrieved to check[1].

The line items are unusually concrete. One university tender bought ten Unitree H1-2 units at a published RMB 700,000 per unit, near the trade-quoted list level, with no visible volume discount at ten units[12]. The five relays behind that record are transcription, not corroboration[12]. The same buyer took a single flagship G1-Edu with a dexterous hand at a published RMB 367,800, against a list price of contact-sales[12,26]. That record prices the transaction while refusing the premium comparison, for want of a public denominator[12,26]. The vendor's own storefront anchors the floor: the G1 base sticker fell about 14 per cent, from a 99,000 launch to 85,000 yuan tax included[26]. The R1 lists at 39,900 yuan domestically against $5,900 on the global page, an export ask at parity or above the domestic one[26]. Realised prices sit far above that sticker. Unitree's realised G1 mean of roughly 155,900 yuan over the first nine months of 2025 runs about 1.83 times the filed 85,000 base list[7]. The filing does not decompose the gap, and a dearer-model mix is excluded as the cause[7]. Realised humanoid revenue per unit runs about 167,600 yuan over the same window[7].

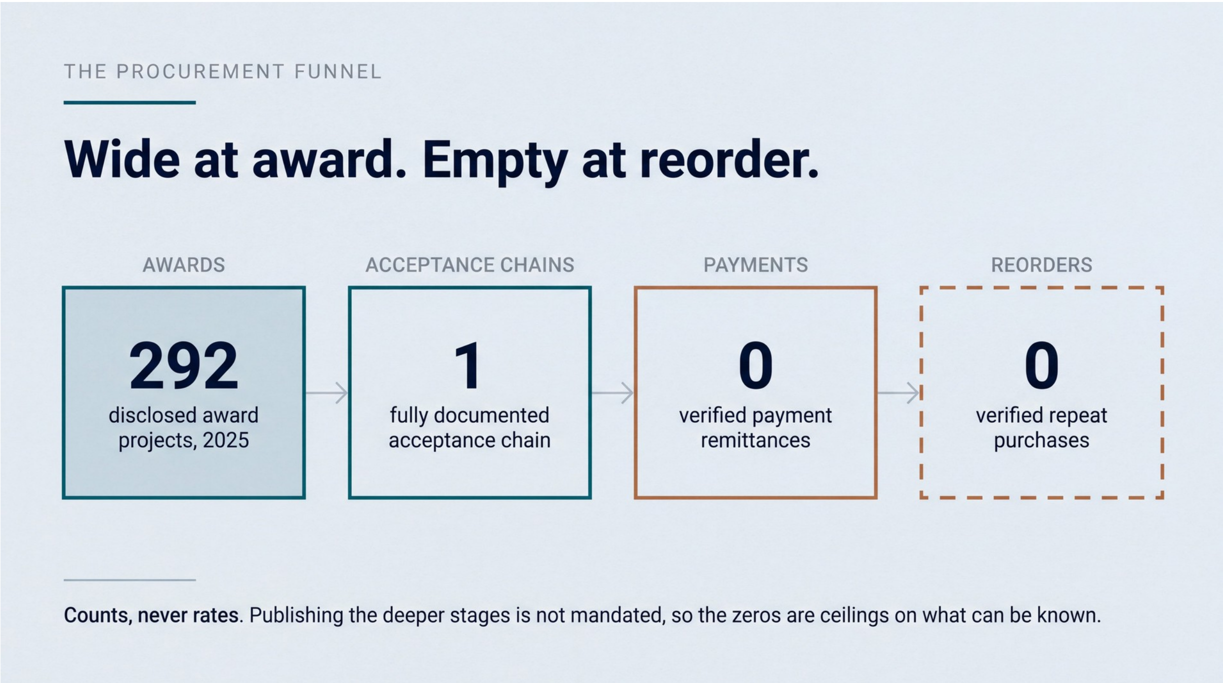
TABLE 3 **Transacted Chinese price points against their public comparators**

Record	What was bought	Published price (RMB)	Public comparator
Tongji University, body line	10 Unitree H1-2 units	700,000 per unit	Trade-quoted list at the same level; no visible volume discount at ten units
Tongji University, single unit	Unitree G1-Edu flagship with dexterous hand	367,800	List price: contact sales (no public denominator)
Vendor storefront (current)	Unitree G1 base, tax included	85,000	Launch sticker 99,000 (down about 14%)
Vendor storefront (current)	Unitree R1	39,900	Global page USD 5,900 (export ask at or above domestic)
Vendor filing (realised)	Blended humanoid selling price, Jan to Sep 2025	167,600 per unit	260,700 (2024); 593,400 (2023)
China Mobile (Hangzhou) framework	Contract-manufacturing packages	124.05M total: 78M (AgiBot), 46.05M (Unitree)	No unit count published
Largest single-vendor award	UBTech robot equipment project	90.51M total	No item schedule
College package (Qitaihe)	14 education humanoids	160,213 / 31,098 / 32,998 per unit; package 992,818	Itemised award notice
College package (Guangzhou)	Leju rows incl. VR teleoperation, 3 data-collection scenes, data platform	3,483,180 of a 3,879,200 package; platform 496,000	Itemised award notice
Acceptance chain (Zhengzhou)	8 humanoid-class units	645,000 per unit	95% of payment gated on acceptance plus audit

Sources:[12], [2], [7], [12,26], [26], [8,57], [58], [7].

The one audited cost curve bends awkwardly for any simple story. Blended unit cost ran 73,200 to 82,300 to 62,200 yuan across 5, 410 and 3,551 units[7]. Average selling price fell from 593,400 to 260,700 to 167,600 yuan: price down 35.7 per cent against a 24.4 per cent cost fall over the comparable window[7].

EXHIBIT 1

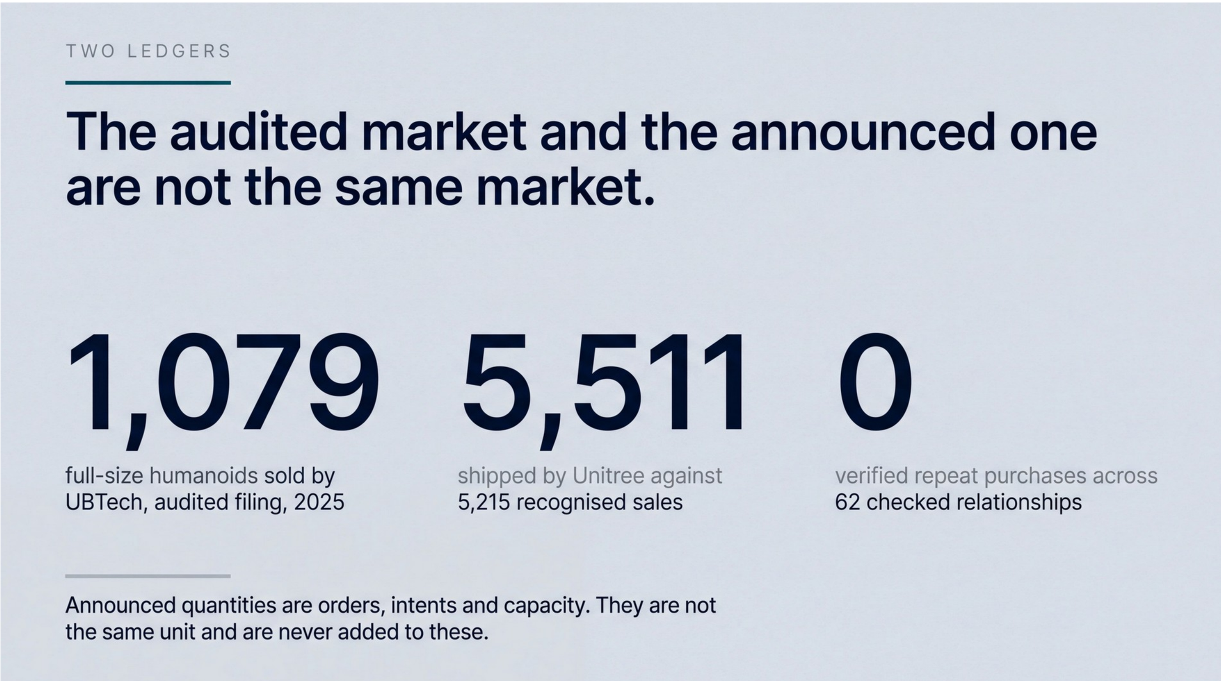


Serinyx Quorum evidence ledger; every plotted value traces to a claim id.

What the machines are bought for is written in the item schedules. Qitaihe Technician College's RMB 992,818 package prices 14 education humanoids at RMB 160,213, RMB 31,098 and RMB 32,998 per unit[58]. Guangzhou Industry and Trade Technician College's RMB 3,483,180 of Leju rows inside a RMB 3,879,200 package include VR teleoperation, three data-collection scenes and a RMB 496,000 data platform[58]. The biggest awards disclose totals with no unit count[8,57]. A China Mobile Hangzhou framework worth RMB 124.05 million splits RMB 78 million to AgiBot and RMB 46.05 million to Unitree, with no unit count published[8,57]. The largest single-vendor award, RMB 90.51 million to UBTech, has no item schedule[8,57]. And UBTech's announced regional stack of RMB 126 million, 159 million, 264 million and 143 million rests on company announcements, with no buyer-side notice opened[8,57]. Counting the machines is genuinely hard: eleven attempted counts of humanoid units named in award notices over the last 12 to 18 months span 4 to over 2,000 units, decomposing into definitional strata rather than converging[3,58]. The one directly read sample holds 44 biped units across 10 award events, every buyer an education, research or municipal innovation-centre body[3,58].

By project count this is an education market; by money it is not. Education buyers took 55.5 per cent of over 218 first-half 2026 projects on the same compilation lineage[1,3,20]. In one three-day live-notice window, 16 of 18 buyers were research, education or training institutions[1,3,20]. The academic-plus-public floor for the 2026 half is 76.1 per cent, before classifying state-owned enterprises[1,3,20]. By money the buyer picture inverts[20]. Data-training centres (sites where robots are driven, often by teleoperation, to generate training data) took nearly 400 humanoids and nearly 40 per cent of disclosed procurement spend in the first three quarters of 2025, on a single analyst origin[20]. UBTech's municipal data-collection, testing and training centres are the largest identifiable block of its order book[23]. Six centres compose RMB 829.42 million, about 59 per cent of the book, resting on one analysis[23]. Two secondary computations converge on 57.69 to 59 per cent of one vendor's announced 2025 order value going to data-collection and training centres rather than production work, a bound on one issuer's order destinations, not a market conversion rate[3,23]. And what share of tenders is demonstration, pilot or research versus operational deployment is published nowhere[1,3]. No checked register carries a reproducible purpose-coded share, and the compilation's own fields disagree, so the study carries the absence rather than inferring a split[1,3].

EXHIBIT 2



Serinyx Quorum evidence ledger; every plotted value traces to a claim id.

Buyer and seller are sometimes financially adjacent, short of control. A buyer-affiliated corporate fund closed an investment about three weeks before the RMB 124.05 million award[7,8]. It holds 0.5986 per cent of the vendor after issue, whose founder holds 68.7816 per cent of voting rights, which affirmatively disproves buyer-group control[7,8]. On every measure available, productive-work absorption of Chinese humanoid volume runs under 10 per cent[7,22]. Just 9.0 per cent of one filer's humanoid revenue is industry application, against 73.6 per cent research and education[7,22]. And 4 per cent of 2025 sold units went to industrial logistics, against 42 per cent research-education and 19 per cent data collection[7,22].

Two footnotes belong beside this ledger. The loudest circulating production targets are not in the policy instruments[59–61]. Shanghai's 100,000-robots-into-factories figure does not appear in the instrument it is pinned to, whose quantified content is a RMB 50 billion core-industry scale[59–61]. The national guidance contains no unit-volume target at all, and the circulating one-million-units-by-2027 figure has no first-party source[59–61]. The register's only true annual output target is Zhejiang's 20,000 complete units a year by 2027[59–61]. And the one bound humanoid insurance price on the public record anywhere is Chinese[62]. One Wuhan policyholder pays about RMB 5,000 per robot-year against a RMB 500,000 limit for two 60-kilogram humanoids, bound in November 2025, the premium's subsidy status unknown[62]. No dedicated bound humanoid product or filed programme was located in US, UK or EU markets[62]. The ledger is the world's best evidence that humanoids are bought at all. It is also blunt about who does the buying: schools, researchers and data centres, far more than factories.

06 Wide at award, empty at reorder

RESTS ON 20 SEPARATELY SOURCED CLAIMS

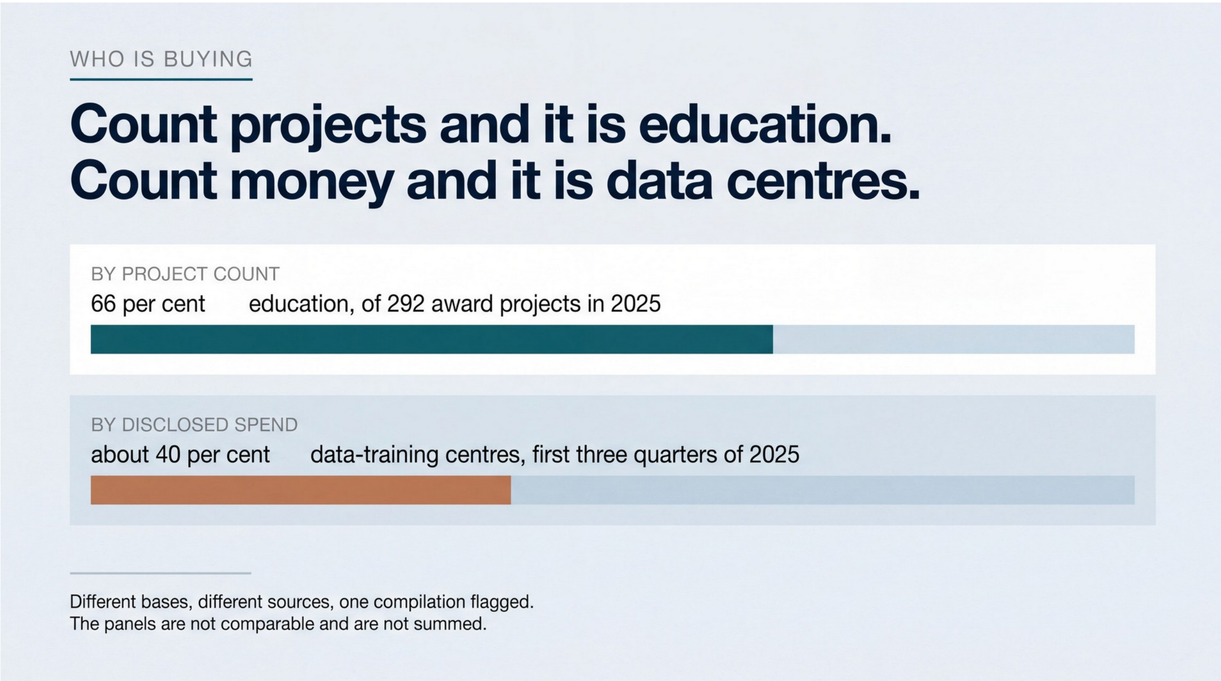
Audited delivery is the scarce commodity, and the rest of this report goes looking for it.

Audited demand is real, in the low thousands. UBTech recognised (booked as audited revenue) RMB 820.6 million of full-size humanoid revenue on 1,079 units in the 2025 financial year[7,13]. Unitree booked RMB 595.2 million on 3,551 humanoids over nine months, mostly research and education[7,13]. Unitree is also the largest filer: company-wide revenue grew 335.36 per cent to RMB 1,708.2 million, though a second version of the same prospectus (a company's share-sale filing) carries RMB 1,699.27 million, never reconciled[7].

The trail runs deeper than an award, and there it thins. The 2025 record publishes one full acceptance chain: award, contract, acceptance report (the buyer's signed confirmation the goods passed inspection) and rectification report (the signed fix-list)[2]. It covers eight units at RMB 645,000 each, with 95 per cent of payment gated on acceptance and audit[2]. Zero payment remittance records (proof money moved) were located for any award in the reviewed record; yet that contract pays out mostly after its signed acceptance, so its payment very likely moved, unpublished[2]. Acceptance is not rare, only unpublished: Unitree shipped 5,511 humanoids in the 2025 financial year against 5,215 recognised sales, 296 units still pending signature or customer acceptance[7]. The 5,215 sit past that gate: acceptance at four-digit scale, without published paper[4,7].

The record is a funnel with a narrow throat: 292 awards, one acceptance chain, zero payments, zero reorders[1–3]. The cover's cautions ride along: a flagged compilation under the 292[1], unmandated publication under the zeros[4]. These are counts, not a rate; the record cannot say what share of awards gets accepted, and this report does not guess[1–3]. The audited channel differs: recognised sales past the acceptance gate count in thousands[7].

EXHIBIT 3



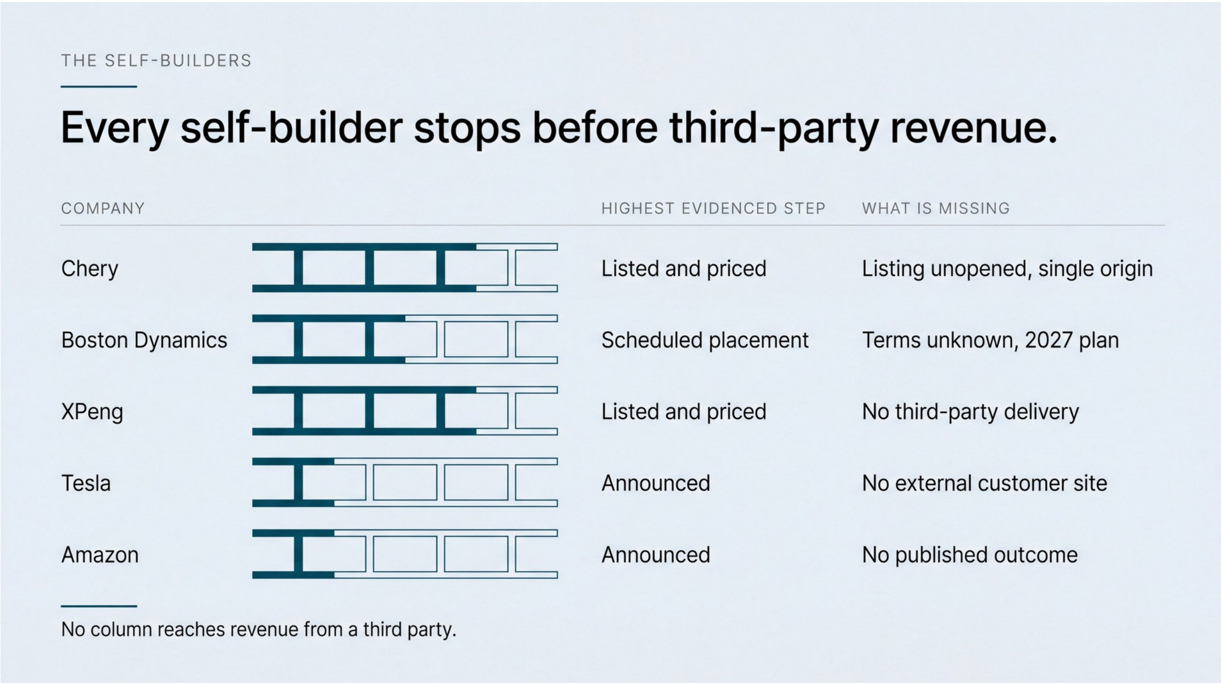
Serinyx Quorum evidence ledger; every plotted value traces to a claim id.

Read together, the two channels reconcile rather than contradict. The portals show awards without published follow-through; the filings show acceptance-gated sales in the thousands with no portal paper behind them[4,7]. The seam between them is a disclosure boundary, not a dispute, and this report keeps both in view.

Set the announced ledger beside the audited one and they describe different markets. Unitree's three circulating volume figures are three different quantities[7,46]. Its own filing has over 5,500 humanoids shipped in 2025; production output runs over 6,500 units; a cumulative single-model count reaches roughly 11,000[7,46]. Omdia's estimate of about 4,200 is a rival measurement, not corroboration[7,46]. The nine Chinese volume headlines resolve into six quantity types that cannot be summed[7,13,22,44,47]. They span filed shipments, audited annual sales, a company-attributed mixed-morphology count, a stale vendor claim, announced future capacity or stated capability, and order or cumulative claims with no reconciled denominator[7,13,22,44,47]. Every numeric volume is single-origin at the primary level, almost always the vendor itself[7,13,22,44,47]. Analyst totals for 2025, about 13,000 to 13,318 units across houses, use incompatible inclusion rules[7,13,46]. They cannot support a captive-versus-merchant split (captive: built for the builder's own use; merchant: sold to outsiders)[7,13,46]. The bounded diagnostic that survives is merchant-heavy: two vendors' filings alone put over 6,579 merchant units in 2025, and no comparable accepted captive count is disclosed by anyone[7,13,46].

Order books wobble even inside one vendor's announcements. The vendor-announced late-November Walker order book stood at RMB 1.3 billion, and at RMB 1.1 billion three days earlier, an unresolved perimeter change[13,57]. Named state-platform projects take its state-linked share to about 50.5 per cent if the Miyi award sat inside the book, or 47.2 per cent if outside, both explicitly conditional constructions on vendor-announced components[13,57].

EXHIBIT 4



Serinyx Quorum evidence ledger; every plotted value traces to a claim id.

The supplier trail is quieter than the order-book talk. No listed Chinese supplier filing discloses a Tesla or Optimus order of any size, and one supplier formally refuted the circulating order rumour by announcement[3,63]. The trade-claimed multi-billion orders-in-hand figures appear in no filing[3,63]. The capacity utilisation implied for the most aggressive new entrant sits at 0.9 to 2.3 per cent, on a contested single-report reading[3,63]. Exactly one listed component supplier isolates a humanoid line anywhere in a filing[27]. Zhaowei's embodied-robot product revenue was RMB 23.87 million in the 2025 financial year, 1.39 per cent of group revenue, up 297.17 per cent from RMB 6.01 million[27]. None of the four flagship suppliers publishes a humanoid-specific selling price, revenue split, unit count, capacity allocation or backlog in any regulatory filing[27].

TABLE 4 **Two ledgers, one market: what is audited or filed against what is announced**

Subject	Audited or filed (single origin: the filing)	Announced or claimed
UBTech	RMB 820.6M full-size humanoid revenue, 1,079 units, FY2025	Conflicting media order tallies of RMB 1.1bn / 1.3bn / 1.4bn; state-linked share 50.5% or 47.2%, both conditional constructions
Unitree	RMB 1,708.2M FY2025 revenue, up 335.36% (second prospectus reading 1,699.27M); 5,511 shipped, 5,215 recognised	Orders in hand RMB 282M company-wide (up 93.15%), not humanoid-only
Agility	65,000 hours of operations, as stated in an SEC-hosted investor exhibit; run hours claimed, not independently audited, and not separated from committed hours	$300M milestone-conditional orders, one anonymous 1,000-robot customer, warrants attached, contract unfiled

Subject	Audited or filed (single origin: the filing)	Announced or claimed
Market-wide	under 10% of more than 18,000 humanoids produced in 2025 entered real application scenarios (single analyst estimate)	292 awards; 0 verified reorders; 0 payment remittances located
Suppliers	0 Tesla or Optimus orders in any listed-supplier filing; most aggressive entrant at 0.9 to 2.3% implied utilisation (contested)	Trade-claimed multi-billion orders in hand appear in no filing

Sources:[3,8], [7,13], [7], [7], [14], [1–3], [15,16], [13,57], [34–36], [3,63].

Outside estimates carry a gap and a floor. One analyst house put under 10 per cent of the 18,000-plus humanoids produced in 2025 in real application scenarios, its own category, single origin; a later release used different figures on another basis, kept separate[15,16]. Even so, that implies up to roughly 1,800 units in real use, far above the eight in the one published chain[2,15,16]. And UBTech's gross receivables (money billed, not yet collected) equal about 92 per cent of group revenue, about 29.3 per cent of that provisioned, written down as unlikely to arrive; the figure is group-wide, not humanoid-only[13].

The reorder stage is where a robot proves it earns its keep, and it is empty rather than zeroed: nobody must publish there, and reorders can only follow acceptances, so a young record is youngest here[3,4,8]. Whether the emptiness also describes the robots is the counterweight's question.

07 Pilots have public births and no public deaths

RESTS ON 16 SEPARATELY SOURCED CLAIMS

A 62-row registry of every publicly announced humanoid deployment relationship shows the same shape as the funnel[3]. Not one row verifies as a paid repeat purchase, not one as a genuinely free pilot[3]. Seven are verified paid-first; twelve related-party (buyer tied to vendor by investment, joint venture or supply); ten intent letters; eight state buyers; four vendor self-deployments; one committed order, purchaser undisclosed; twenty, the largest class, no payment evidence either way[3]. The nearest repeats sit at the edge: two purchases by one China Mobile subsidiary, the second's timing unverifiable[3,8], and BMW's successor work, re-engagement without a documented repeat purchase[5,6].

TABLE 5 The 62-row deployment registry's payment vector

Payment class	Rows
Verified paid-repeat purchase	0
Verified paid-first	7
Related-party	12
Vendor self-deployment	4
Public or state-owned-enterprise procurement	8
Committed order, purchaser undisclosed	1
Intent-only (letters, memoranda, reservations, frameworks)	10
No payment evidence either way	20
Verified free pilot	0

Sources:[3], [3].

Across roughly 250 public sources, not one customer has publicly said why it ended a humanoid pilot; every stated reason is vendor-side[3]. Announced pilots have a public birth and no public death: a pilot graveyard, with a warning attached, since terminations are announced by nobody and a silent pilot is unresolved, not dead[3]. Only two cases in the record have the exact shape of a named customer pilot with a sourced ending[21]. They are the Amazon tote-recycling pilots, ended with no next steps announced, and the Ford last-mile programme, gone dark with no closure record[21]. The other endings on the register are vendor-side. Tesla's own 2025 build target was cut from over 5,000 to about 2,000 units[41]. K-Scale Labs shut down in November 2025, on a founder-and-customer letter lineage[64]. CloudMinds contracted under funding distress, its closed or vacant Shanghai and Guangzhou facilities corroborated by two newsroom site investigations against the company's claim of continuing teams[65].

TABLE 6 The pilot graveyard register, with what each entry actually supports

Event	Class	What the record supports
Amazon and Digit tote-recycling pilots	Customer-side ending	Reported ended April 2024 (layoffs-context single origin); no next steps; no reason stated
Ford last-mile Digit programme	Went dark	No closure record; formal closure unresolved
Tesla Optimus 2025 build plan	Self-deployment scale-down	Target cut from over 5,000 to about 2,000; mid-2025 pause over hand and forearm issues (paywalled single origin, relays only)
K-Scale Labs	Vendor shutdown	November 2025, founder-and-customer letter lineage
CloudMinds	Vendor contraction	Closed or vacant Shanghai and Guangzhou facilities; two newsroom site investigations
Unitree FY2025 shipment gap	Accounting stage, not an ending	296 units (5.37% of 5,511) shipped, not yet accepted or recognised
UBTech FY2025 receivables	Collection risk	Gross receivables about 92.0% of group revenue; about 29.3% provisioned (group-wide)
Customer-stated termination reasons, ~250 sources	The empty column	0 found; all stated reasons vendor-side

Sources:[7], [3], [21], [13], [21], [21], [41], [64], [65].

The sellers who build robots for themselves tell the same story from the other side. On the merchant-turn ladder (the climb from building robots for your own use to selling them to outsiders), every self-builder stops before revenue[24,43–45]. Chery's reported RMB 285,800 web listing is a single-origin claim whose underlying page no checked source opened[24,43–45]. Boston Dynamics holds a scheduled placement at Google DeepMind, plus a dated 2027 external-customer plan on unknown terms[24,43–45]. XPeng holds a dated 2027 plan after own-store trial use[24,43–45]. BYD's external-sale statement is an undated conditional, its reported 20,000-unit internal target denied by the company[24,43–45]. Tesla's located external-sale timing has already lapsed once: the mid-2026 window in which the next Optimus would likely be sold to other companies passed with no offer[66,67]. The separate $20,000-to-$30,000 late-2026 business package rests on one mutually citing relay cluster, with one relay putting early business pricing above $100,000[66,67]. A circulating claim of over 1,000 units already working in Tesla factories traces to a generated-content cluster and is rejected[66,67]. No self-builder has recognised third-party humanoid revenue in any register opened[24,43–45]. A young category would look like this. So might a stalling one. The registry cannot tell the two apart, and says so.

EXHIBIT 5

Serinyx Quorum evidence ledger; every plotted value traces to a claim id.

08 The cure is method, not cynicism

RESTS ON 7 SEPARATELY SOURCED CLAIMS

A market like this deserves neither belief nor a sneer; it deserves a procedure. Before evidence collection, the study behind this report locked ten themes and pre-registered, for each, a hypothesis and its explicit negation: the bet written down, both ways, before looking[9].

The method caught its own thumb on the scale. The seed framing (the study's first draft of its questions) pre-registered a preferred answer; all seven adversarial challengers, separate AI models set against it, flagged the bias[9]. Every theme was rewritten neutral, and the adversarial budget was retargeted at the panel's favoured thesis, not the one it already doubted[9].

The headline bet: verifiable paid autonomous deployment runs ten to a hundred times below what the demo narrative suggests[9]. The registered form was quantified rather than directional, and carried a second limb: teleoperation above 50 per cent of autonomous-labelled manipulation demos[9]. Its negation: a narrow, real autonomous-productive frontier already exists in structured settings and is expanding fast[9]. The negation was scored, not decorated, and ruled half right; the frontier is real, the fast expansion nowhere in the record[9]. Verdicts came limb by limb[9]. The demand adjudication sustained and sharpened the pre-registered expectation, ruled the teleoperation limb not measurable on the record, and holds the opposing reading not refuted but without evidentiary support[9]. The evidence, not the author, drew the line.

The other bets took the same treatment, and the panel's side did not always win. One pre-registered negation carried its own kill condition, a trade-remedy response lag (the wait before tariffs or similar measures arrive) of more than two years[9]. It failed on its own clock, because horizontal measures and a market-access wall arrived within months; for humanoid items specifically, no remedy clock has started at all[9]. On the incumbent-response theme, the adjudication ruled the pre-registered negation closer to the record than the hypothesis, in stratified form[9]. Acquisition was established and selective; blocking was not established in any checked register, though confidential terms are unobservable; and deletion was not established, and is presently contradicted by the best-audited facts[9]. Losing a bet in public is the feature. A method that cannot lose cannot be trusted when it wins.

THE COUNTERWEIGHT: WHAT THE PAPER TRAIL CANNOT SEE

The strongest case against this reading is structural. First, private purchases sit outside the public tender record by construction: state and academic buyers carry notice duties a private factory does not, so the corpus over-samples them and cannot count private direct orders[3,4]. The census bounds announced demand rather than demand: what share of paid deployments never surfaces publicly at all is declared uncovered[3]. No measured disclosure base rate was located in any comparable capital-equipment market[3]. Purchases drawn down against a framework agreement surface as internal orders rather than award notices[3]. Part of the repeat-purchase question is therefore unobservable by design, and the study declares it unsettled rather than reading silence as churn[3].

Second, downstream silence is often the rule's product: acceptance publication is not generally mandated for ordinary goods procurement in China, so an absent notice cannot be read as non-delivery[4]. The near-empty acceptance trail is also partly a coverage artefact[2,3]. The one published chain proves acceptance publication is possible, but it is one project origin that cannot yield a share[2,3]. And the province-by-province acceptance sweeps behind this record have been run for Henan, and not yet for the other provinces[2,3].

Third, the record is young: the big awards of late 2025 and 2026 may simply not have aged into acceptance by August 2026; payment and reorder age later still[3].

Fourth, part of the demand is policy-financed. One development zone pays a 10 per cent rebate on actual sales, capped at 1,000 units and RMB 10 million per firm per year[17]. It adds first-set support of RMB 1 million, about 125,000 euros, per unit; first-set means the first units of a new machine class put into service[17]. That support exceeds every humanoid price quoted here; it is printed as published, and the realised subsidy per robot is unobservable, since no payout ledger exists[17]. The same instrument prints a 30 plus 20 per cent scene-and-enterprise support line under a combined RMB 5 million cap[17]. It adds a components line of 10 per cent of supply value capped at RMB 5 million, and data vouchers of RMB 100 million per year[17]. The tender trail itself is tilted: from January 2026, Chinese government procurement rewards China-produced goods with a 20 per cent price-evaluation deduction attaching to place of production[68,69]. Sampled tenders carry import-exclusion clauses resting on a 2007 customs-origin rule, so the tender record cannot be read as a neutral market verdict[68,69].

Yet the subsidy reading meets its own counterweight in the audited accounts. Every Chinese humanoid vendor that files accounts reports positive gross margin at transacted prices[7,13,25]. UBTech runs 37.7 per cent blended; Unitree's humanoid margin is 62.91 per cent, closing a filed series of 87.67, 68.44 and 62.91 per cent; Leju runs 40.78 per cent blended[7,13,25]. The base is thin, three filing corpora, and every private vendor's margin is structurally unobservable[7,13,25]. The producer-side subsidy ledger cannot carry that margin story[7]. Unitree's booked government grant of RMB 17.97 million equals 6.25 per cent of net profit and cannot account for its margins[7]. The identified producer-level subsidy envelope runs 1 to 3 per cent of revenue[7]. The posted-price screens point away from below-cost export selling: Unitree's export stickers sit at or above contemporaneous conversion of its Chinese list, a seven-model mean of 4.90 per cent above[7,26]. Because the record holds zero matched export-versus-domestic transaction pairs, below-cost selling is treated as not evidenced rather than disproved[7,26]. At realised 2025 scale, the listed-supplier trails corroborate rather than contradict the audited volumes[7,13,27,28]. Supplier disclosures rise together with the audited counts of 1,079 and over 5,500 units, with no divergence signalling overstated demand[7,13,27,28]. That finding is graded thin, because the humanoid-specific mapping underneath it is unobservable[7,13,27,28]. Margins, export prices and supplier books would be harder to stage than demos; on the record, nobody has had to.

Fifth, and hardest: the funnel can be read as an instrument problem. With publication unmandated and the record young, near-empty downstream stages are roughly what these portals would show for many an equipment category[3,4]. The decisive check, the same funnel on a mundane 2025 category, is missing: the corpus holds no comparator, a limit How-we-know records. Until then, the zeros speak of disclosure before they speak of robots.

The graveyard needs the same care: conversions are announced by both sides, terminations by neither, so the failure rate cannot be observed from public records, and silence is unresolved, not failure[3]. Nor is a quiet ending proof of death: the BMW pilot completed into successor work, and multi-year service contracts hide repeat payments inside the contract by design[5,6]. Autonomy is not wholly unwitnessed either: one narrow register class records control mode by rule[70]. At the August 2026 World Humanoid Robot Games, three track events required full autonomy outright, a locomotion-only signal whose transfer to manipulation the record leaves open[70].

Taken together, the true market is larger than the verified one: the zeros say how little can be seen, not how little happened. What the counterweight cannot add is a second verified acceptance chain, a first payment remittance or a first verified reorder[2,3,8]. So this report measures the record, not the market, and hands the trust dials to the reader.

HOW WE KNOW

This report showcases adjudication and de-biasing: all ten themes were pre-registered as hypothesis plus explicit negation, and adjudicated evidence decided which side survived[9]. Eight AI models framed the themes; seven adversarial challenger models attacked them before collection[9]. Roughly 250 public sources were reviewed[3]. Every finding carries a grade from a fixed vocabulary (corroborated, thin, single-origin, contested, absence-established), and a component inherits the worst grade it rests on[9]. That inheritance has teeth: one landscape component records eleven apparent carriers collapsing to a single origin, and prints the collapse[9]. A hard gate fails any chapter that uses a thin, contested or single-origin finding without stating in the sentence how firmly it is held[9]. The rule: silence on a solid claim is correct, silence on a weak one is not[9]. Corroboration counts independent origins, never articles: a vendor and its customer are one origin[9]. Origins are decorrelated at the component level, so one announcement answering two questions still counts once[9]. Panel disagreement is filed rather than smoothed: one adjudicated question on subsidy mechanisms is carried at the grade contested, with the dissenting objection kept on the record[9]. Nine of twenty demand-side questions shipped as declared non-coverage rather than filled with an estimate[9]. The scale behind a single component is registered too: the supplier-filings component alone runs 14 atomic questions, 74 reportable findings and 49 distinct origins[9]. Grades are not printed here; the interactive version opens each claim card to its grade and origin count. This method account is the pipeline describing itself; the audit trail is the check.

Cut-off: the procurement record to August 2026[3]; the reviewed Optimus disclosures to Q2 2026[10]. Not established: the share of awards reaching acceptance[2,4]; any payment remittance[2]; any customer-stated pilot ending[3]; the pilot-to-lapse rate, unobservable from public records[3]; the purpose split of tenders between demonstration and operation[1,3]; and how an ordinary category would score on these portals: the missing comparator. Two admissions. The corpus holds no aggregate of demo counts or funding rounds, so none is quoted; that is a method note, not a tagged claim. The collection fleet's size sits in the study's registries, not in this claim map, so no count is quoted. A further note on links. Several load-bearing primary documents, among them the tender compilation and the acceptance chain, live on Chinese procurement portals that do not resolve from outside China[2,12]. The reference list marks those as not publicly linkable rather than substituting secondary links.

WHAT WOULD CHANGE OUR MIND

1. **A verified post-acceptance reorder.** A published chain of acceptance, payment and repeat purchase by one buyer

would break this report's central zero[3,8]. Nearest cases to watch: the China Mobile subsidiary's second purchase[3,8]and BMW's successor work ripening into a documented repeat[5,6]. Watch the portals that publish line-item awards and prices[2,12].

2. **Attained numbers replacing targets.** A flagship programme publishing its achieved success rate, autonomy share or an intervention rate measured in shifts would start closing the gap[3,5,11]. Watch the seven kinds of public record that stay silent on exactly these[3].
3. **The big awards ageing into acceptances.** If the late-2025 and 2026 awards yield published acceptance and rectification reports, the funnel widens and the lag argument wins[3]. Watch acceptance publications against the 2025 award cohort[2].
4. **A mundane category scored on the same portals.** If an ordinary 2025 equipment category shows the same near-empty acceptance and payment stages, the funnel is measuring disclosure, not robots, and this report's central image loses force[4]. Publication is not mandated for ordinary goods either, so the comparison is fair[4]. Watch the acceptance sweeps extending beyond the one province run so far[2,3].

09 Small print

RESTS ON 2 SEPARATELY SOURCED CLAIMS

AI disclosure. Researched, adjudicated and composed by an AI evidence pipeline under human sign-off. Every factual sentence carries a claim tag resolving to an audited evidence record; interpretive sentences carry no tag. Figures, tables and the explorable model (this report's interactive version) compute only from tagged claims. **Currency.** Euro figures are rounded handles at mid-2026 rates: about RMB 8 and $1.10 to the euro. **Sources.** A claim map distilled from the source study's adjudicated evidence packs and method registry; tags[3,5,6]to[9]resolve in this report's audit trail. Named companies are public-record subjects; none commissioned or endorsed this report. **Corrections.** Errors are corrected in place and logged in the web rendition's correction log.

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ABOUT THE RESEARCH CORPUS

This report is a summary of a much larger evidence base. The figures below state the size of the research corpus synthesised here, measured on the working corpus at build time.

Full study corpus	29,111 files · 3.6 GB · approximately 50.1 million words of working research text
Adjudicated synthesis base	78 evidence packs and 10 chapter drafts, themselves the product of 263 atomic research tasks
Distilled into this report	100 tagged claims across two harvest rounds
Independently referenced	70 references; 40 with live verified public links
Review before release	4 external review seats plus a consolidated review · 77 findings resolved · 7 gates passed

Corpus word counts cover machine-readable text files; total sizes include datasets and rendered assets. Sources marked adjudicated passed the source study's own multi-model verification before this report used them.

THIS IS A SHOWCASE

You have read about one word in seven thousand.

7,000
words in this report

50.1 million
words in the study’s working corpus

3,027
separate model reports collected before a chapter was written

A commissioned engagement is not a longer version of this document.
It is the study underneath it, run on your question.

THIS IS A SHOWCASE

About one word in thirty-six of the finished chapters. About one in seven thousand of the corpus.

This report runs to roughly 7,000 words. It is a summary of one part of a study whose written chapters alone run to about 256,000 words, over a working corpus of approximately 50.1 million words in 29,111 files. That study asked 263 atomic research questions, collected 3,027 separate model reports against them, and ran 4,250 audits of those reports before a single chapter was written.

What you have read here is a showcase. It demonstrates a handful of Quorum's capabilities on a topic chosen to be legible in twenty minutes. A commissioned engagement is not a longer version of this document; it is the study underneath it, run on your question, with your sign-off on the brief and a full audit trail you can hand to a board.

For a full piece of research or advisory work, contact Lorenz at lorenz@serinyx.com.

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