

Laifual Drive (3952 HK)

A cost-driven disruptor in harmonic reducer market to ride humanoid robotics wave

Founded in 2013, Laifual Drive (Laifual) has emerged as one of the key players in China's harmonic reducer industry. The company captured a 21.4% domestic volume market share in 2025, ranking second after LeaderDrive (688017 CH, NR), according to industry consultant CIC. We expect Laifual to be a primary beneficiary of the exponential expansion in humanoid robotics over the next decade. We also project Laifual's harmonic reducer sales volume to surpass LeaderDrive's starting from FY27E, driven by its structural cost advantage. We initiate Laifual at BUY with a target price of HK\$150.00.

- **Exponential demand growth for harmonic reducers as humanoid robot sales surge.** CIC projects China's robotic harmonic reducer sales volume to rise from 1.4mn units in 2025 to 20.7mn units in 2030E with a 5-year CAGR of 72.4%, with humanoids applications accounting for 82% of total demand in 2030E, vs. 14% in 2025. We forecast global humanoid robot sales volume to surge at a 5-year CAGR of 163% to 2mn units by 2030E, which would translate into harmonic reducer sales volume of 32mn units by 2030E (a 5-year CAGR of 178%), as reducer density per unit also increases.
- **Superb cost control positions Laifual to capture market share.** We view Laifual as a cost-driven disruptor, undercutting incumbents with a "good enough" product at a lower price—mirroring a broader trend in China's precision manufacturing arena, where leaders emerge via aggressive cost optimization rather than pure technological breakthroughs. Backed by process innovation and design optimization, Laifual's structural cost edge should drive steady market share gains in China, positioning it to become the country's top volume player in China by 2027, in our view. Over the medium to long term, this cost-competitive advantage will also serve as the primary catalyst for its international expansion.
- **High entry barriers to anchor margin stability.** Managed by a young, dynamic and pragmatic leadership team, Laifual operates in a market that faces less competition than many other segments in China's broader robotic value chain, in our view, backed by extensive cycles for high-consistency mass production, closely guarded material secrets, strict patented gear tooth profiles and production equipment bottlenecks. These multi-year barriers to entry could set a solid floor for long-term margin stability.
- **Earnings/Valuation.** We project Laifual's revenue to rise at a 3-year CAGR of 62.3% to RMB419mn/741mn/1,116mn in FY26-28E, respectively. We expect its non-IFRS net profit to break even in FY26E and IFRS net profit to reach RMB135mn with a net margin of 12.1% in FY28E. We initiate with a BUY rating and apply a 40x FY30E P/E and discount back to derive our target price of HK\$150.00, which corresponds to 18x FY27E P/S. We view both valuation methods as well justified, given Laifual's long-term revenue and profit trajectory and LeaderDrive's current 48x FY27E P/S.

Earnings Summary

(YE 31 Dec)	FY24A	FY25A	FY26E	FY27E	FY28E
Revenue (RMB mn)	108	261	419	741	1,116
YoY growth (%)	13.9	142.2	60.7	76.8	50.5
Gross margin (%)	24.1	25.6	29.2	29.6	30.1
Operating profit (RMB mn)	(22.9)	(23.5)	(34.8)	66.5	142.9
Net profit (RMB mn)	(168.8)	(170.6)	(112.6)	59.5	135.2
Adjusted net profit (RMB mn)	(23.7)	(8.9)	14.7	76.6	135.2
P/S (x)	52.2	21.6	13.4	7.6	5.0

Source: Company data, Bloomberg, CMBIGM estimates

BUY (Initiate)

Target Price	HK\$150.00
Up/Downside	138.9%
Current Price	HK\$62.80

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Stock Data

Mkt Cap (HK\$ mn)	6,539.7
Avg 3 mths t/o (HK\$ mn)	98.8
52w High/Low (HK\$)	NA/NA
Total Issued Shares (mn)	104.1

Source: FactSet

Shareholding Structure

Mr. Zhang Jie	28.2%
Others	71.8%

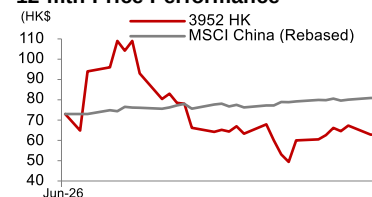
Source: HKEx

Share Performance

	Absolute	Relative
1-mth	-32.5%	-36.5%
3-mth	NM	NM
6-mth	NM	NM

Source: FactSet

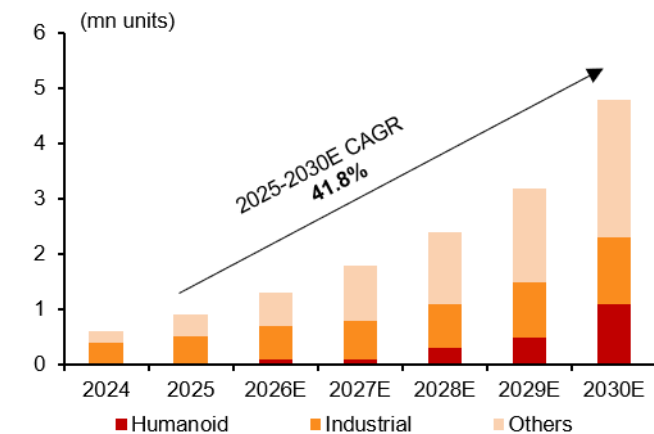
12-mth Price Performance



Source: FactSet

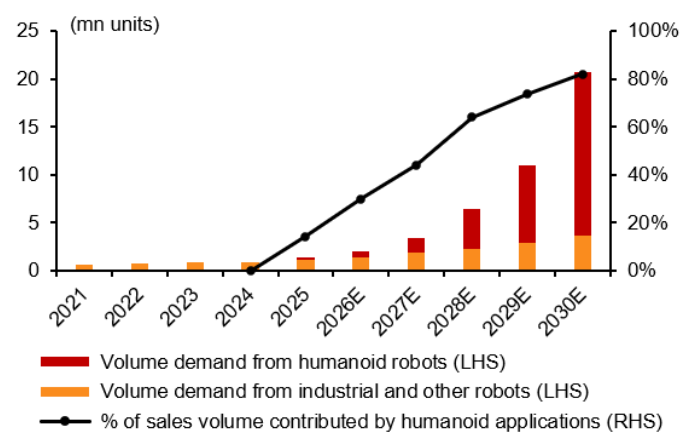
Focus Charts

Figure 1: China's robotics sales volume



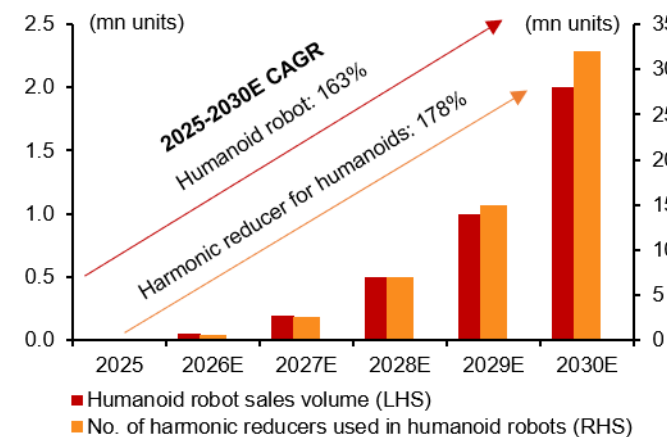
Source: CIC, CMBIGM

Figure 2: China's robotic harmonic reducer shipment



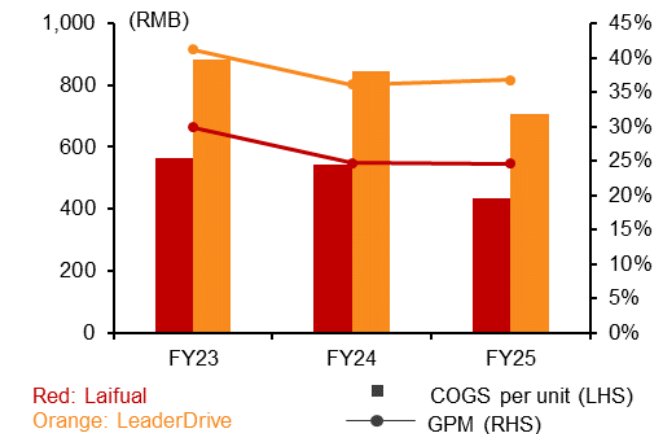
Source: CIC, CMBIGM

Figure 3: Our forecast for global humanoid shipment and corresponding harmonic reducer demand



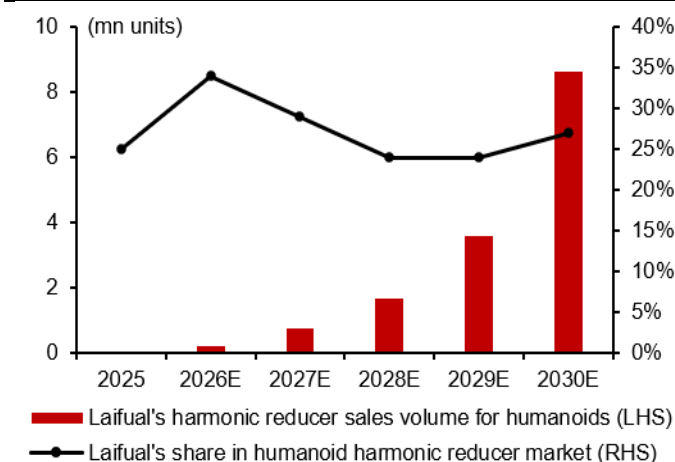
Source: CMBIGM estimates

Figure 4: Laifual vs. LeaderDrive: Harmonic reducers' gross margin and COGS per unit



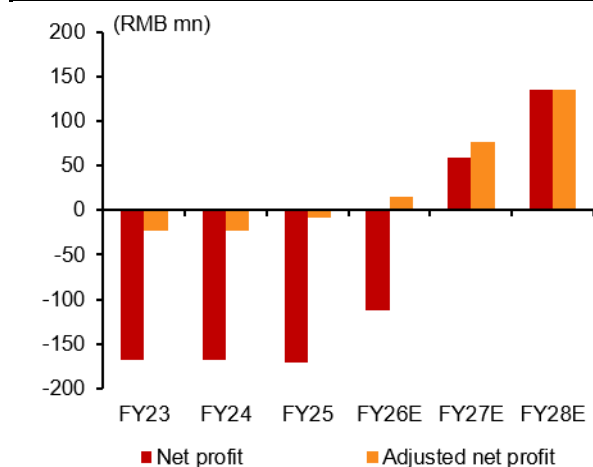
Source: Company data, CMBIGM

Figure 5: Our forecast for Laifual's harmonic reducer demand in humanoid applications and market share



Source: CMBIGM estimates

Figure 6: Our net profit (IFRS vs. non-IFRS) forecast for Laifual



Source: Company data, CMBIGM estimates

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Company Overview

China's second largest robotic harmonic reducer manufacturer

Founded in 2013 in Shengzhou, Zhejiang, Laifual manufactures core components for robotic precision transmission, starting from harmonic reducers in 2015 and later expanding into joint modules and robotic arms. The company ranked as the second largest robotic harmonic reducer provider in China in 2025, in terms of both sales volume and revenue, according to industry consultant CIC. It accounted for 21.4% of market share in view of China's robotic harmonic reducer sales volume in 2025, based on the same source.

Precision reducer is a core component that connects a motor and a load, in order to increase the torque by reducing the motor's output speed with the same power output through gearing mechanism. Precision reducers can be primarily categorized into harmonic reducers, RV (rotary vector) reducers and planetary reducers.

Harmonic reducer's largest advantages are high positioning accuracy and low weight, compared with RV and planetary reducers. Such features make harmonic reducers very suitable for humanoid robots' joints, which have limited space and require very high positioning accuracy. Tesla's (TSLA US, NR) *Optimus Gen 2* uses 14 harmonic reducers. Looking ahead, harmonic reducer density could rise to as many as 20 units per humanoid robot as costs continue to compress.

Figure 7: Comparison of robotic precision reducers

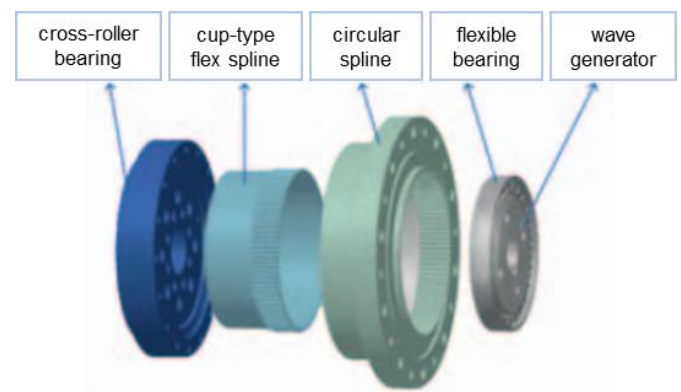
	Harmonic reducer	RV reducer	Planetary reducer
Precision	very high: widely used in low-speed stepping applications; 15-60 arcseconds	high: maintains accuracy and rigidity under heavy loads; 60-100 arcminutes	moderate: common in heavy-duty automation; 100-600 arcseconds
Backlash	<0.5 arcminutes	<1 arcminutes	5-10 arcminutes
Torque	0.5-1,000 Nm	100-28,000 Nm	10-10,000 Nm
Reduction ratio range	30-160	30-250	3-512
Application scenarios	precision motion with servo motors; industrial robots, service robots, small/medium-load robotics	medium-to-heavy-load industrial robots with long-life and high-rigidity requirements	robotic arms in cost-sensitive scenarios; machinery, machine tools, conveyors; automated manufacturing systems

Source: Company data, CIC, CMBIGM

Harmonic reducers are also widely deployed in industrial robotics. In fact, we believe that demand for harmonic reducers used in the industrial robots has been increasing amid the rise of small industrial robots, such as collaborative robots (cobots), which prioritize high precision and lightweight design over load capacity. A standard six-axis industrial robot uses an average of three harmonic reducers, whereas a cobot utilizes approximately six, according to CIC. Harmonic reducers are also used in CNC machine tools and other machinery which needs joint solutions capable of delivering precise motion control.

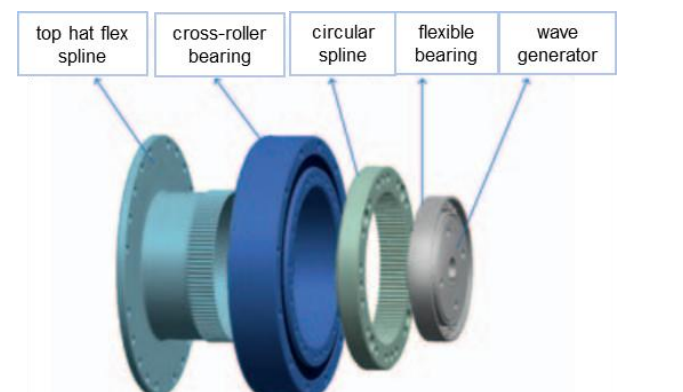
Unlike traditional gear systems, a harmonic reducer consists of a rigid circular spline, a flexspline (a thin and flexible gear that has fewer teeth than the rigid spline) and a wave generator (a flexible elliptical component). When the wave generator is inserted into the inner circle of the flexspline and starts to rotate, it creates an elliptical wave that travels through the flexspline, causing the flexspline to deform and engage with the rigid spline. For every complete turn of the wave generator, the flexspline rotates a fraction of that due to the difference in teeth count, resulting in a reduction in speed and an increase in torque.

Figure 8: A cup-type harmonic reducer



Source: Company data, CMBIGM

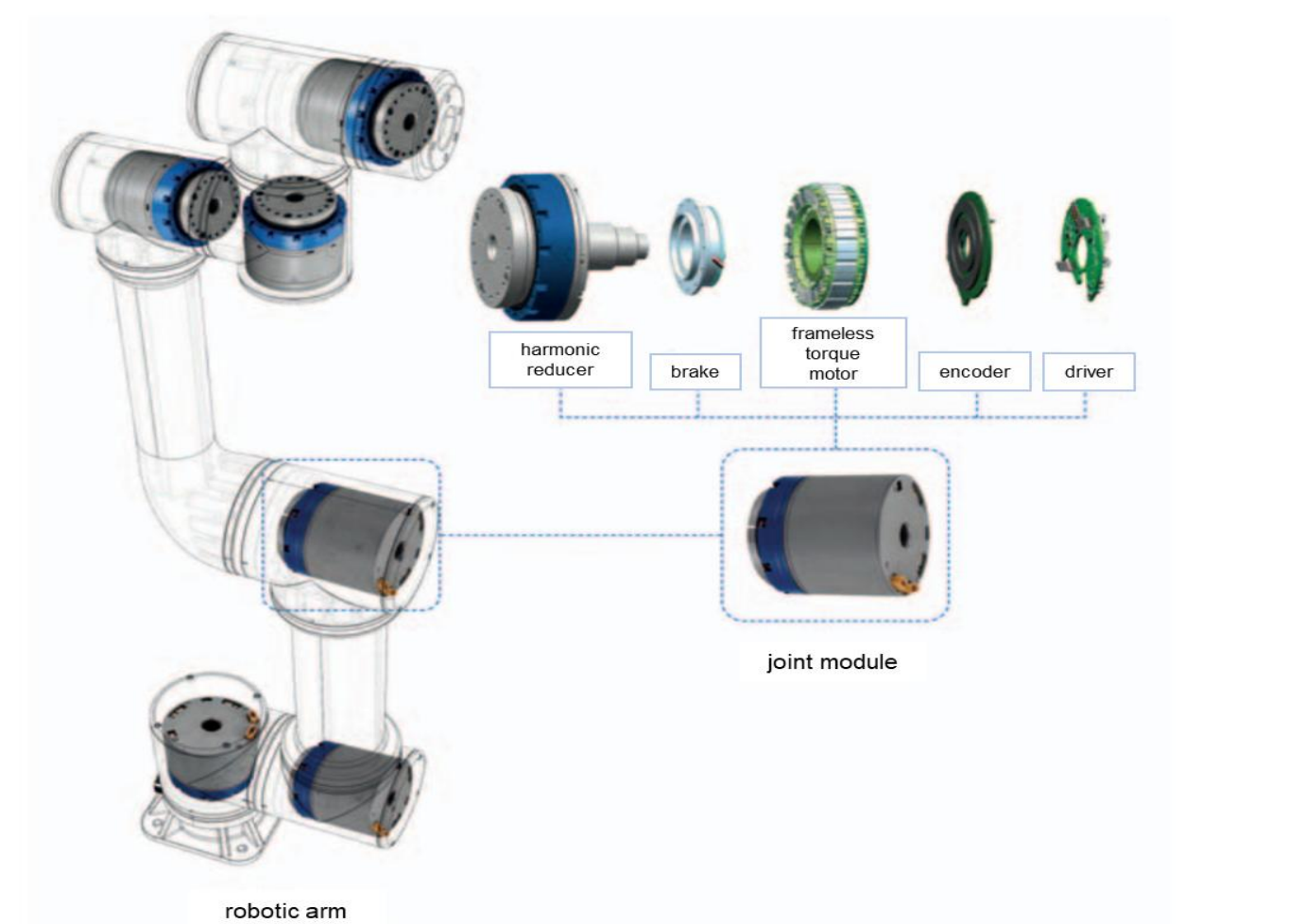
Figure 9: A hat-type harmonic reducer



Source: Company data, CMBIGM

A joint module consists of precision reducers, frameless torque motors, brakes, encoders and drivers. Robotic arms are assembled from multiple joint modules, each providing the torque, precision and control required at different axes of motion. Fig. 10 illustrates the typical structure and major components of joint modules and robotic arms.

Figure 10: From harmonic reducers to joint modules and robotic arms



Source: Company data, CMBIGM

Despite being a young player, Laifual has been catching up with leaders in both China and globally in key technologies such as positioning precision and service life. Its harmonic reducers achieved position precision of ± 15 arcseconds with a service life of 10,000 hours

in 2025. Laifual was one of the only two Chinese manufacturers that had delivered harmonic reducers used for humanoid robots as of 31 Dec 2025, according to CIC. Based on our compiled technical data, Laifual's key product metrics, including service life, angle transmission accuracy, backlash, hysteresis loss and torque density, are almost the same as those of LeaderDrive, China's largest harmonic reducer manufacturer. Relative to global market leader Harmonic Drive (6324 JP, NR), the only notable performance gap is service life.

■ Rapid capacity expansion to cope with soaring demand

We are of the view that Laifual is well positioned to capture the rising demand for robotic harmonic reducers, as it has been continuously investing in new production capacity in anticipation of future exponential growth. Its total designed annual production capacity for harmonic reducers doubled from 0.16mn units in 2023 to 0.32mn units in 2025. In Aug 2025, Laifual relocated its production equipment from a leased factory in Shaoxing to a self-owned factory with about 47,000 square meter site area in the same city. Its designed monthly production capacity increased to 39,600 units in Dec 2025, vs. 13,400 units in Jan 2023. We expect Laifual's production capacity to continue ramping up in the self-owned factory and reach 80,000 units per month by 3Q26, which means this factory will contribute an annual production capacity of 0.96mn units from 2027E.

The company has also confirmed a new and larger production base in Shaoxing. We expect the new factory to start mass production in 2H27E, as the construction takes about one year, based on Laifual's experience in constructing its self-owned factory in Shaoxing. We expect the new factory to contribute a total production capacity of about 0.44mn units in 2027E and 1.54mn units in 2028E for harmonic reducers.

Figure 11: Our estimated annual production capacity at Laifual

(000' units)	FY23	FY24	FY25	FY26E	FY27E	FY28E
Total capacity	161.3	167.0	322.3	700	1,400	2,500
Leased factory in Shaoxing (production ceased in Jul 2025)	161.3	167.0	145.9			
Self-owned factory in Shaoxing (SOP in Aug 2025)			176.4	700	960	960
A new factory in Shaoxing					440	1,540

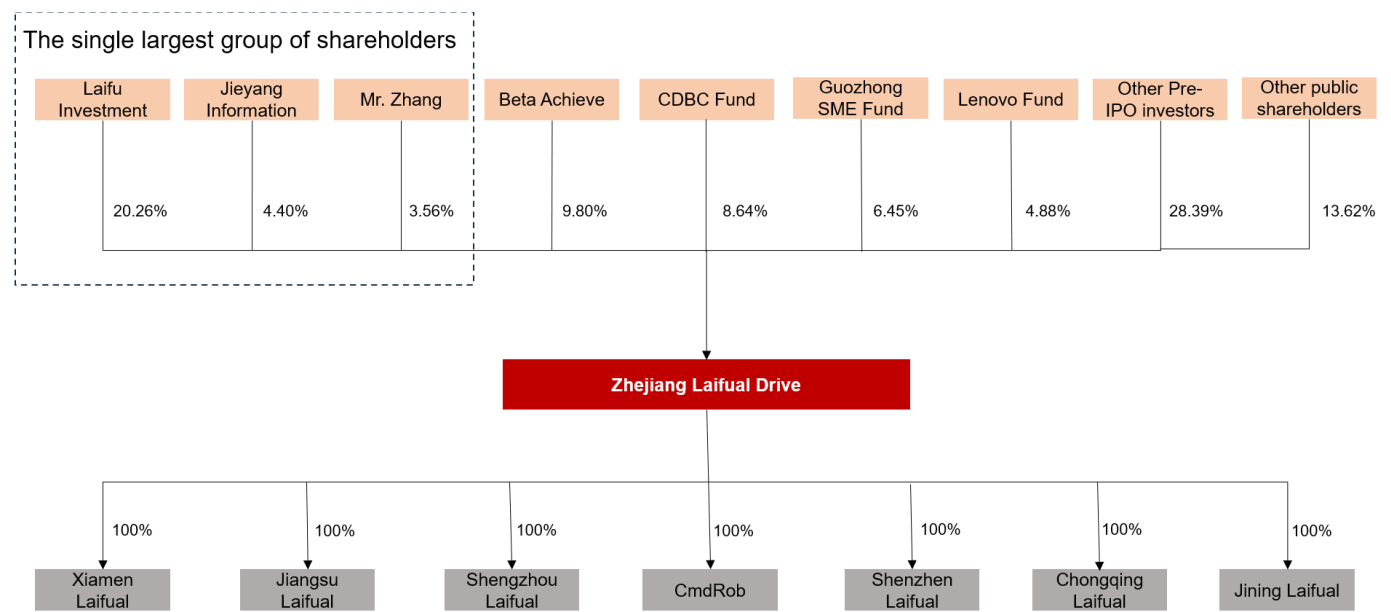
Source: Company data, CMBIGM estimates

Laifual's aggregated capex during FY23-25 was about RMB228mn, which could roughly translate into an investment of RMB7mn for every 10,000 units of new annualized production capacity including land use right, based on our estimates. We expect future capex for new production capacity to decrease gradually, as some imported production equipment is likely to be replaced by domestic alternatives.

■ Young, dynamic and pragmatic management team

Laifual went through several rounds of fundraising (Series A through Series F) and raised about RMB473.5mn in total during 2017-2023. The company completed its Hong Kong IPO on 30 Jun 2026, offering shares at HK\$85.50 per share and raising total gross proceeds of approximately HK\$1,209.1mn (or HK\$1,132.9mn net of related fees). Immediately following the IPO (including the exercise of the over-allotment option), Mr. Jie Zhang collectively owns 28.22% equity interest of the company and controls 28.22% of the voting power, comprising:

- 1) 3.56% owned directly,
- 2) 20.26% held through Laifu Investment which is ultimately controlled by Mr. Zhang,
- 3) 4.40% held through an employee share ownership platform named Jieyang Information, where Mr. Zhang acts as the general partner.

Figure 12: Corporate structure immediately after the completion of the IPO over-allotment option

Source: Company data, CMBIGM

Laifual is led by a young, dynamic and pragmatic management team that is well positioned to capture the potential humanoid-robot boom, in our view. Mr. Zhang, the chairman of the board and the general manager of the company, is 34 years old with over 10 years of management experience in the company. The average age of executive directors in the company is only about 38.

Laifual had 574 employees as of 31 Dec 2025. R&D personnel accounted for 22% of total employees and production related personnel made up about 69%. We see significant room for workforce efficiency improvement in the future, driven by greater economies of scale and higher automation level. We expect this operating leverage to be especially pronounced in joint module and robotic arm businesses, which have just started to grow rapidly in sales volume from 2025.

Figure 13: Number of employees by function

	No. of employees
Research and development	126
General administration and management	29
Sales and procurement	21
Production and quality control	398
Total	574

Source: Company data, CMBIGM; Note: Data as of 31 Dec 2025.

As of 31 Dec 2025, Laifual had 50 granted invention patents, 26 utility model patents and three design patents, as well as 27 patent applications filed which were pending approval.

■ Diversified customers and suppliers to minimize operational risks

The majority of Laifual's revenue came from China in the past three years, which may include some clients headquartered overseas. Customers located outside China contributed about 2.8%/4.3%/2.7% of Laifual's total revenue during FY23-25, respectively.

Laifual sells its products through both direct sales and distributors. Direct sales accounted for 58.4%/57.2%/49.0% of total revenue during FY23-25, respectively. The decreasing revenue contribution trend, along with the reduction of number of direct sales customers,

reflects Laifual's strategic optimization to reduce inefficient sales and low-margin businesses.

Laifual's top five customers contributed about 29.3%/37.7%/39.9% of its total revenue in FY23-25, respectively. That, along with the largest customer accounting for 12.1% of total revenue in FY25, reflects Laifual's low risk in customer concentration, in our view. Our channel checks indicate that Laifual directly or indirectly supplies the majority of China's leading industrial and humanoid robotics companies, underscoring its deeply entrenched position within the domestic supply chain.

Laifual's top five suppliers accounted for 29.4%/28.4%/30.5% of its total purchase amount in FY23-25, respectively, also reflecting limited supplier risks. Laifual's suppliers mainly include 1) raw material providers such as steel, alloys and bearings for production; 2) suppliers offering forging and turning services for components; and 3) manufacturing equipment suppliers.

Figure 14: Laifual's top five customers in FY25

Customer	Revenue (RMB mn)	As % of revenue	Payment term
Customer A	31.6	12.1%	90 days
Customer B	23.4	9.0%	90 days
Customer C	22.2	8.5%	90 days
Customer D	15.4	5.9%	180 days
Customer E	11.5	4.4%	30 days

Source: Company data, CMBIGM

Figure 15: Laifual's top five suppliers in FY25

Supplier	Purchase amount (RMB mn)	As % of purchase amount	Payment term
Supplier A	30.4	11.8%	30 days
Supplier B	26.8	10.4%	Prepayment
Supplier C	8.5	3.3%	Payment upon delivery
Supplier D	6.5	2.5%	Prepayment
Supplier E	6.3	2.5%	30 days

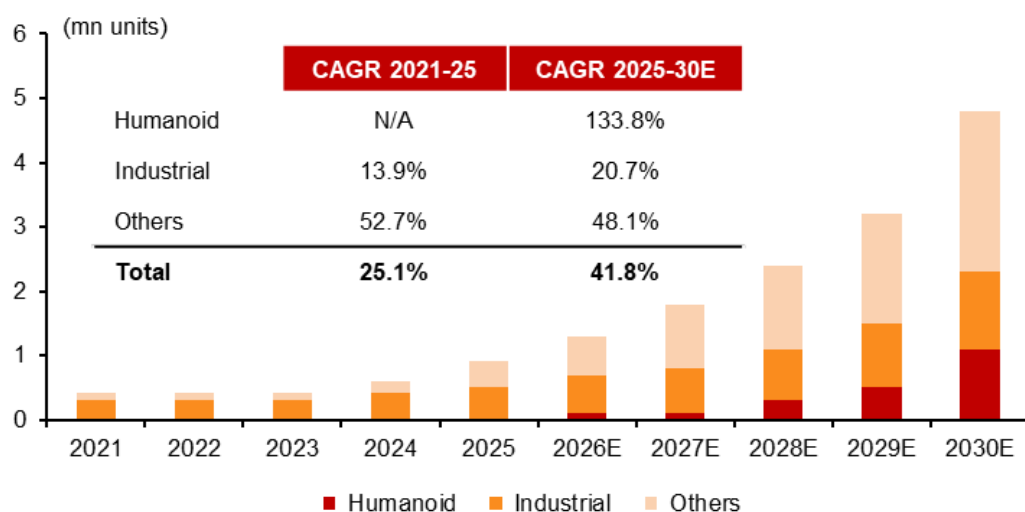
Source: Company data, CMBIGM

Industry Overview

China robotics: Humanoids poised to spearhead next-generation demand surge

As robotics drives the majority of demand for harmonic reducers, the robotics outlook, especially in China, is pivotal to Laifual's revenue and profit growth. China has become the world's largest robotics market with a sales volume of 0.8mn units in 2025, according to CIC. CIC projects sales volume of robotics to surge at a 5-year CAGR of 41.8% to 4.7mn units in 2030E. That would correspond to a market size of RMB491.4bn in 2030E (a 5-year CAGR of 19.7%) in China, according to CIC. CIC also expects China to account for 38.1% of global robotics revenue in 2030E.

Figure 16: China's robotics sales volume



Source: CIC, CMBIGM

Humanoids are set to lead China's robotics sales volume growth, from about 15,200 units in 2025 to approximately 1.1mn units in 2030E, with a 5-year CAGR of 133.8%, according to CIC.

Sales volume growth for industrial robots, including six-axis robots, cobots, automated guided vehicle (AGV) and autonomous mobile robot (AMR), is also expected to be solid, from 0.4mn units in 2025 to 1.2mn units in 2030E, with a 5-year CAGR of 20.7%, according to CIC.

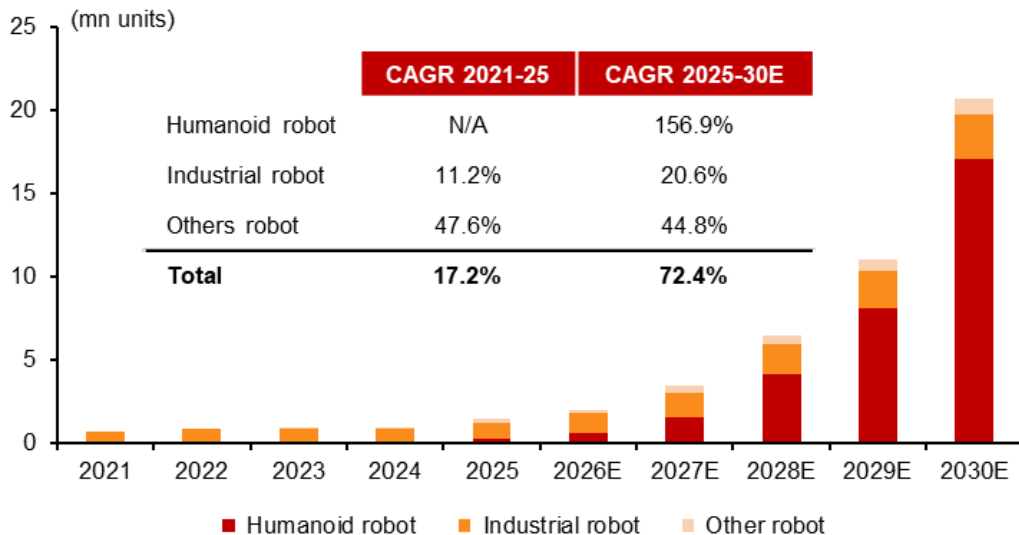
CIC also projects demand for other robots—comprising service robots and specialized robots tailored for non-manufacturing applications—to surge from approximately 0.4mn units in 2025 to about 2.5mn units in 2030E, representing a 5-year CAGR of 48.1%. This expansion is principally driven by demographic shifts and heightened requirement for personnel safety. However, this category currently carries the lowest harmonic reducer intensity among robotic platforms. Based on the derived CIC data, harmonic reducer content is expected to average just 0.3-0.4 units per robot during 2026-30E. While future innovation may introduce dexterous joint applications that raise harmonic reducer density, this category's contribution to total harmonic reducer demand may remain constrained compared with industrial and humanoid segments.

The humanoid compounding effect: Unlocking exponential demand for harmonic reducers

Sales volume for harmonic reducers in China is set to outpace the overall robotics market due to a powerful compounding effect: sales volume for humanoids is poised to surge much

faster than other types of robots, and each humanoid requires a substantially higher volume of harmonic reducers than industrial or service robots. Tesla's *Optimus Gen 2* uses 14 harmonic reducers. CIC estimates as many as 20 harmonic reducers to be deployed in one humanoid. They are used in joints like wrists, elbows, hips and shoulders, enabling human-like flexibility in tasks requiring delicate manipulation.

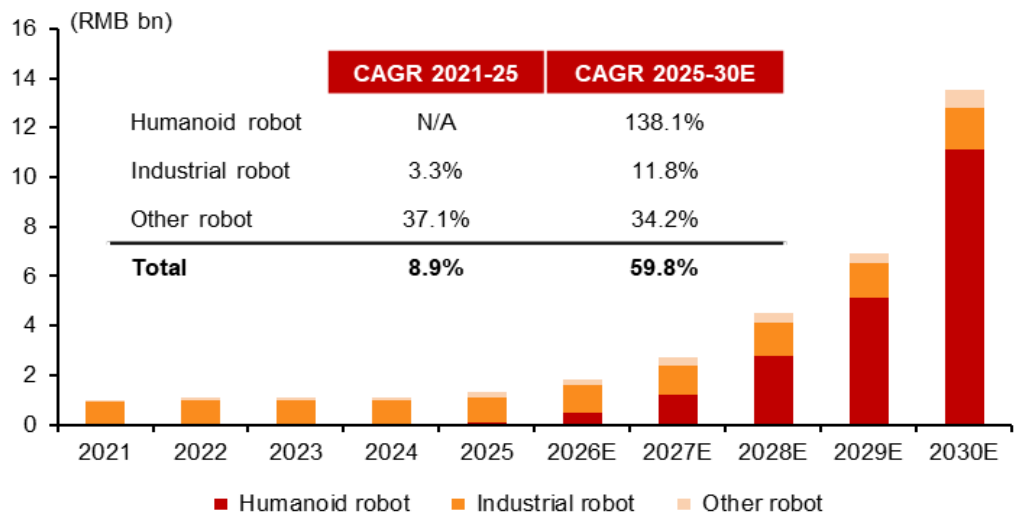
Figure 17: Sales volume of robotic harmonic reducers in China



Source: CIC, CMBIGM

CIC projects total sales volume of robotic harmonic reducers in China to surge from about 1.4mn units in 2025 to approximately 20.7mn units in 2030E, with a 5-year CAGR of 72.4%. Harmonic reducers used for humanoid robots are to account for about 82.1% of total sales volume in 2030E, up from less than 15% in 2025, according to CIC.

Figure 18: Total addressable market for robotic harmonic reducers in China



Source: CIC, CMBIGM

Driven by projected explosive sales volume growth, CIC projects the market size for robotic harmonic reducers in China to expand from RMB1.3bn in 2025 to RMB13.4bn in 2030E, with a 5-year CAGR of 59.8%, assuming a moderate average selling price (ASP) decline. We derive that ASP for robotic harmonic reducers in China is to decrease at a 5-year CAGR of 7.0% in 2025-30E, compared with a CAGR of -7.9% during 2020-25, based on the CIC data.

CIC also projects global harmonic reducer market size in the robotic sector to grow from RMB3.3bn in 2025 to RMB24.4bn in 2030E, with a 5-year CAGR of 48.9%. It also implies that China is set to account for about 55% of global robotic harmonic reducers' revenue in 2030E, up from approximately 39% in 2025.

High concentration of harmonic reducer makers could imply high barrier to entry

China's robotic harmonic reducer market exhibits high market concentration, with the top five manufacturers—including Harmonic Drive, the sole foreign player—commanding an aggregate 75.8% sales volume share in 2025, according to CIC. In our view, this consolidated market structure could imply a high barrier to entry for this industry.

Laifual ranked No. 2 in China's robotic harmonic reducer market in 2025, in terms of both sales volume and revenue, trailing only market leader LeaderDrive. Laifual captured a 21.4% volume share and a 12.9% revenue share, reflecting an intentional, volume-driven pricing strategy. Derived CIC data indicates Laifual had the lowest ASP among the top five players in 2025, whereas Harmonic Drive's ASP was more than triple that of Laifual.

Figure 19: Top five robotic harmonic reducer makers in terms of sales volume in China in 2025

Rank	Company	Sales volume ('000' units)	Market share
1	LeaderDrive	374	27.5%
2	Laifual	291	21.4%
3	PICEA Motion	170	12.5%
4	TC Drive	135	9.9%
5	Harmonic Drive	60	4.4%

Source: CIC, CMBIGM

Figure 20: Top five robotic harmonic reducer makers in terms of revenue in China in 2025

Rank	Company	Revenue (RMB mn)	Market share
1	LeaderDrive	360	27.6%
2	Laifual	167	12.9%
3	Harmonic Drive	115	8.8%
4	PICEA Motion	110	8.6%
5	TC Drive	80	6.3%

Source: CIC, CMBIGM

Investment Thesis

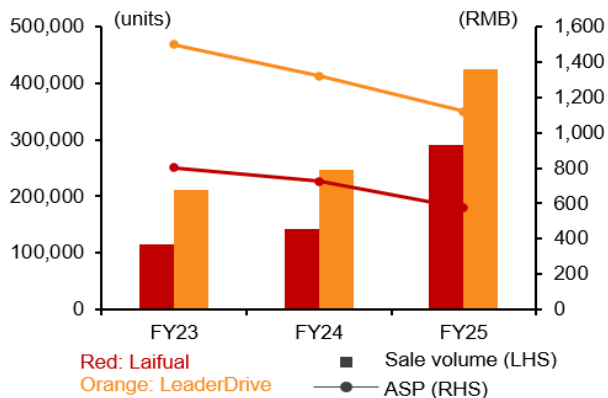
Superb cost control capabilities to help Laifual gain market share

While a strong industry outlook paves the way for Laifual's future growth, we are of the view that Laifual's most critical competitive edge lies in its rigorous cost control. We expect such capabilities to help it gain market share, especially during potential periods of industry overcapacity.

■ Laifual delivers lower unit COGS and faster cost deflation than LeaderDrive

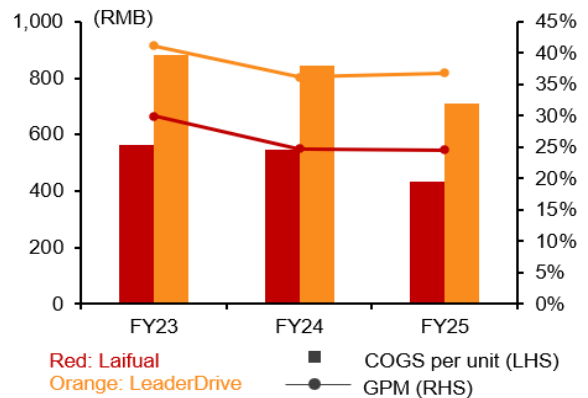
In FY25, Laifual sold approximately 0.29mn standalone harmonic reducers (excluding units integrated into joint modules and robotic arms), generating a segment revenue of RMB167mn with a segment gross margin of 24.6%. That brought Laifual's COGS per unit down to RMB433, a 20.7% decrease YoY. By comparison, LeaderDrive sold about 0.43mn harmonic reducers (excluding units integrated into joint modules and robotic arms) in FY25, generating a revenue of RMB476mn with a 36.9% gross margin. That implies a unit COGS of RMB709, 63.8% higher than Laifual's. LeaderDrive's unit COGS fell by 16.0% YoY in FY25, trailing Laifual's 20.7% YoY decline.

Figure 21: Laifual vs. LeaderDrive: Harmonic reducers' sales volume and ASP



Source: Company data, CMBIGM

Figure 22: Laifual vs. LeaderDrive: Harmonic reducers' gross margin and COGS per unit



Source: Company data, CMBIGM

■ Drivers of Laifual's cost advantage: process innovation, design freedom and partnership

We attribute Laifual's cost advantage into three reasons:

- 1) More efficient gear manufacturing process: Laifual was the first player in China to adopt power skiving technology for harmonic reducer production, compressing gear processing cycle time down to roughly 3 minutes per unit. This represents throughput improvement over traditional gear shaping and even more significant outperformance over low-speed wire electrical discharge machining. While peers have just started to follow suit, the transition will take time, including accumulating power skiving equipment, optimizing production yields and absorbing underutilization costs of legacy assets.
- 2) Better teeth profile design: Harmonic Drive's 3D IH-Tooth patent (US 5918508A) was expired in 2016, just three years after Laifual's establishment. That created a vital development window for Laifual to optimize tooth geometries without the IP infringement risks that restricted earlier market entrants such as LeaderDrive. Additionally, by solving meshing stress through geometry rather than surface coatings, Laifual avoided extra processing steps that substantially drag production yields and increase costs.

- 3) OEM partnership with Harmonic Drive accelerates operational synergies: Laifual has established a contract manufacturing partnership with Harmonic Drive, producing non-core components to assist the Japanese market leader in reducing its production cost. Beyond generating incremental revenue, this relationship grants Laifual firsthand exposure to world-class operational management and manufacturing know-how. In our view, applying these Japanese production standards internally could improve Laifual's operational efficiency, translating into sustained unit cost reductions across Laifual's broader production lineup.

■ From cost edge to volume leadership: Laifual likely mirrors China's classic cost disruption playbook

As we expect Laifual's cost advantage to persist at least for the next few years, we view Laifual as a cost-driven disruptor in the harmonic reducer market, undercutting incumbents with a "good enough" product at a fraction of the cost. In China's fiercely competitive precision manufacturing sectors, we often see that market leaders are frequently recognized for their unmatched cost-optimization capabilities rather than pure technological breakthroughs.

Based on the capacity expansion pace and our channel checks, we expect Laifual to continue narrowing its volume gap with LeaderDrive in FY26E. We project Laifual's sales volume (excluding units integrated into joint modules and robotic arms) to surge 133% YoY to 0.68mn units in FY26E. By comparison, Visible Alpha consensus (S&P Global) pegs LeaderDrive's FY26E sales volume at 0.78mn units. This narrows LeaderDrive's lead over Laifual from 29% in FY25 to just 15% in FY26E.

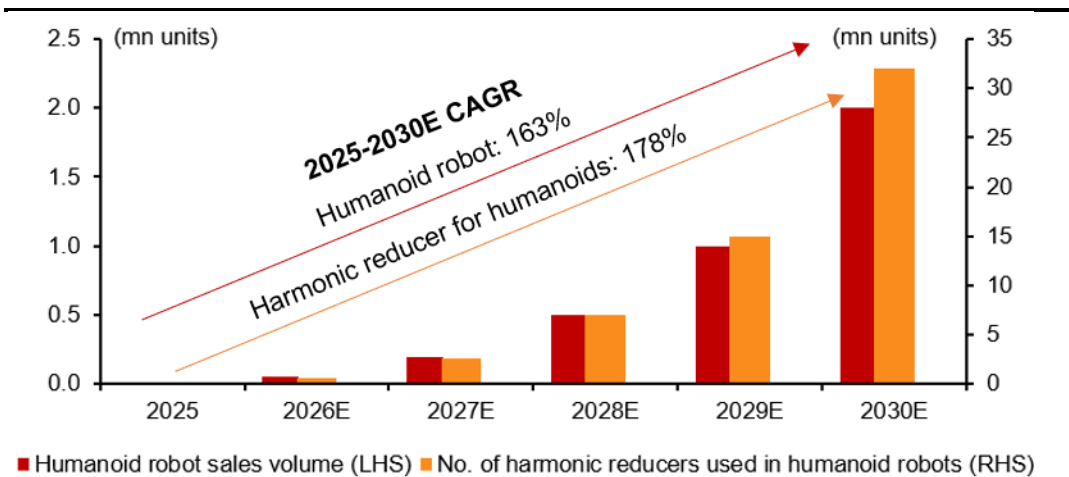
We expect Laifual's structural cost advantage to become increasingly visible in FY27E, as initial capacity bottleneck eases. We believe cost sensitivity is significantly higher among humanoid robot OEMs than traditional industrial robot makers, driven by the greater density of joint modules per unit and an intensifying competitive landscape. Consequently, as humanoid manufacturers prioritize cost-efficient supply chain when more industry capacity is available, we forecast Laifual to overtake LeaderDrive as China's largest harmonic reducer manufacturer by sales volume in FY27E.

■ Cost edge secures overseas competitiveness upon offshore capacity rollout

Laifual's cost edge could also facilitate international expansion over the medium to long term. CIC's robotics industry forecasts in Laifual's IPO prospectus focus primarily on China, as the company generates little overseas revenue due to a lack of offshore manufacturing capacity. While China accounted for over 80% of global humanoid robot sales volume in 2025—a dominant position persists in 2026 given the timeline uncertainty from the Tesla *Optimus*—investors remain heavily focused on Tesla's supply chain given its category-defining influence. Laifual submitted samples to Tesla at the end of 2025, but has not yet secured a formal supplier nomination, likely due to Tesla's supply chain mandate requiring overseas production footprints to hedge against geopolitical and trade risks.

We forecast global humanoid robot sales volume to scale from under 20,000 units in 2025 to 2.0mn units in 2030E, representing a 5-year CAGR of 163%, despite high near-term adoption uncertainty at this nascent stage. By comparison, CIC forecasts domestic China volume to reach 1.1mn units by 2030E. Consequently, we forecast global harmonic reducer demand for humanoids to surge from about 0.19mn units in 2025 to 32.0mn units in 2030E, assuming a gradual increase in harmonic reducer's density per robot. That represents a 5-year CAGR of 178%.

Figure 23: Our forecast for global humanoid robot sales volume and corresponding harmonic reducer demand

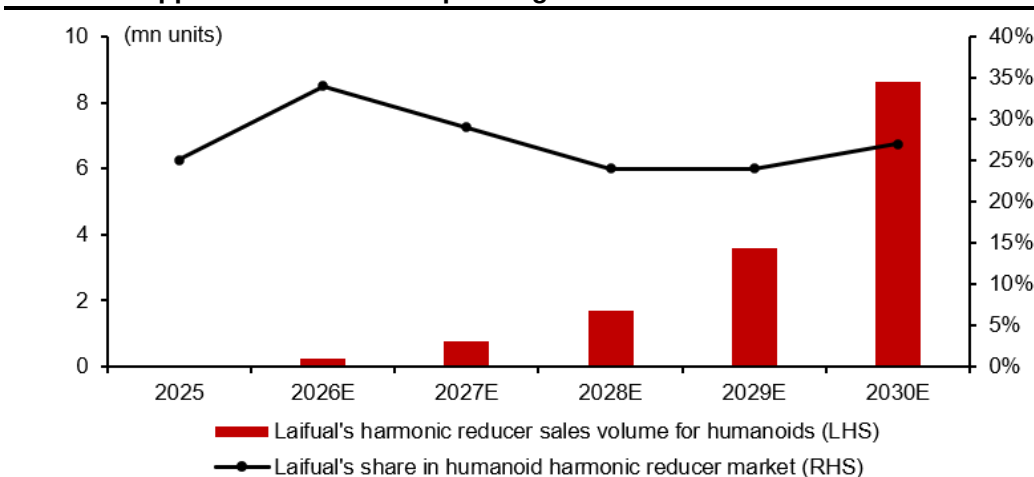


Source: CMBIGM estimates

We project Laifual's harmonic reducer sales volume deployed in humanoids to more than quadruple to 0.22mn units in FY26E, accounting for approximately 32% of its total harmonic reducer sales volume, vs. only about 16% in FY25. That would position Laifual to capture a 34% global market share in the humanoid harmonic reducer segment, based on our global demand estimate of 0.65mn harmonic reducers for humanoid applications in 2026.

While we expect Laifual to sustain market share gains in China as noted earlier, its global market share in humanoid reducers may experience temporary compression starting from 2027 as volume production for the Tesla *Optimus* ramps up. However, we project Laifual's global share to rebound by 2030E, as its cost advantage could make it competitive in the overseas markets. We expect the company to start exploring overseas manufacturing base no later than 2027, in a bid to capture this long-term international opportunity.

Figure 24: Our forecast for Laifual's harmonic reducer sales volume for global humanoid applications and corresponding market share



Source: CMBIGM estimates

Consequently, we project Laifual's harmonic reducer sales volume for humanoid applications to reach 0.22mn/0.75mn/1.68mn/3.60mn/8.64mn units over FY26-30E, representing a 5-year CAGR of 183%. Notably, we expect sales volume for humanoid applications to exceed that for industrial robots and others from FY27E. By FY30E, we estimate humanoid applications to account for over 90% of Laifual's total harmonic reducer sales volume.

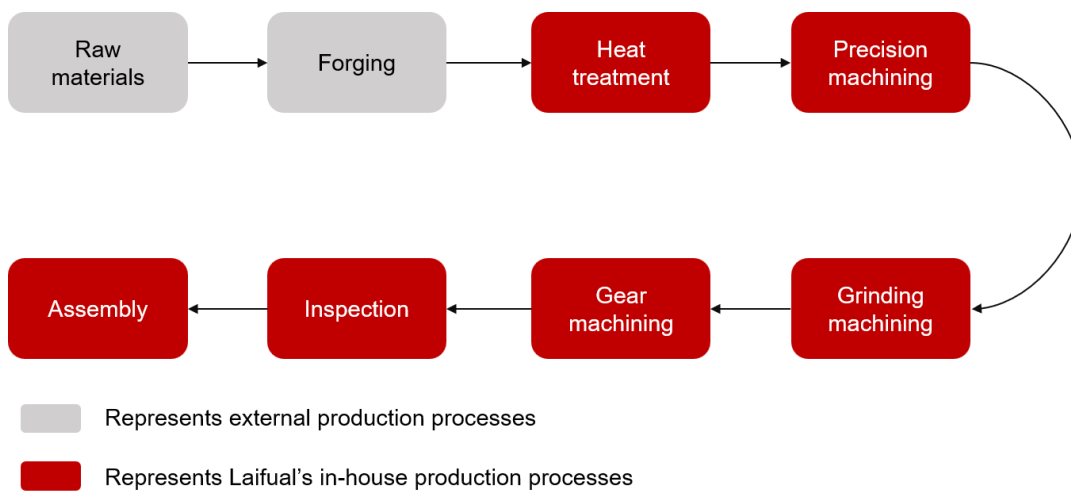
High entry barriers to anchor margin stability

As noted in our “Industry Overview” section, harmonic reducer market in China is relatively concentrated with the top five makers accounting for 75.8% of total sales volume in 2025. We view this as a reflection of high barriers to entry in this industry and we summarize such barriers into four aspects.

1) Production process optimization could take years

This bottleneck could often be underestimated by investors, yet it represents the most critical barrier to entry for newcomers, in our view. Achieving a satisfactory yield rate could require years of production process optimization and the cultivation of a highly skilled workforce. As harmonic gear production operates under microscopic tolerance, a tiny manufacturing deviation could result in backlash or noise, drastically shortening the component's service life. We believe that achieving high-consistency mass production is far more challenging than delivering prototype samples in China's precision manufacturing industry today.

Figure 25: Principal steps of the production process for harmonic reducers



Source: Company data, CMBIGM

2) Material science in flexspline

The metal used for flexspline must be substantially strong yet flexible enough to withstand billions of cycles of elastic deformation without cracking. That largely determines the service life of a harmonic reducer, apart from the tooth profile. The chemical composition and heat-treatment recipes are top-level secrets for any harmonic reducer players.

3) Tooth profile patent walls

Tooth profile on harmonic gears, or the specific geometric shape of the gear teeth, is critical to harmonic reducer's torque density, lifespan and accuracy. Leading players have patented their specific tooth geometries, forcing new entrants to carefully design around these restrictions to avoid costly infringement lawsuits. While the 2016 expiration of Harmonic Drive's 3D IH-Tooth patent has lowered technological barriers, developing proprietary, high-performance tooth geometry remains a time-intensive R&D bottleneck for new entrants.

4) Production equipment bottleneck, length verification time to deter new entrants

Although we expect production equipment localization in the future, Chinese harmonic reducer makers now still rely heavily on imported machinery, especially for core production process. Given the limited production capacity and extensive backlogs of those global equipment vendors, new entrants could face multi-year lead time. This equipment bottleneck, combined with the lengthy verification cycles required by robot OEMs, creates a high entry barrier that reinforces the first-mover advantage of established incumbents.

These barriers to entry could be reinforced by the rise of humanoids, in our view, as their joint systems impose more stringent requirements for torque density, impact resistance and service life than industrial robots.

High entry barriers are also one of the structural drivers behind our projection of Laifual's expanding market share. Furthermore, we believe these barriers set a floor for robust margins at harmonic reducer manufacturers. Therefore, we project gross margin for Laifual's harmonic reducers and other precision components to widen from 24.6% in FY25 to 29.0%/29.5%/30.0% during FY26-28E, respectively.

Component suppliers offer greater investment certainty than OEMs in early cycle

We believe upstream component suppliers present significantly higher investment certainty than OEMs during the industry's initial commercialization phase, given the volatile competitive dynamics at the OEM level. Currently, the strategic focal point for humanoid OEMs is shifting from baseline kinematics ("body movement") to AI-driven embodied intelligence ("brain algorithm"). We believe OEM technology roadmap carry elevated execution risk, as consensus has yet to form around a winning algorithmic paradigm.

We draw a parallel to the EV industry over the past decade: as shown in the table below, rankings among top EV makers in China experienced dramatic churn between 2015, 2021 and 2025. By contrast, key upstream component suppliers, such as battery cell manufacturers, maintained far more stable market shares and consolidation patterns.

Figure 26: China's top 10 EV makers by sales volume in 2015, 2020 and 2025, vs. China's top 10 battery cell manufacturers in 2020 and 2025

Rank	2015		2021		2025		Rank	2020		2025	
	OEM	Market share	OEM	Market share	OEM	Market share		Battery manufacturer	Market share	Battery manufacturer	Market share
1	BYD	27.2%	BYD	18.1%	BYD	29.4%	1	CATL	50.0%	CATL	43.3%
2	Chery	25.9%	Tesla	14.3%	Geely	10.9%	2	BYD	14.9%	BYD	21.5%
3	BAIC Group	14.3%	SGMW	13.8%	SGMW	6.1%	3	LG Energy	6.5%	CALB	7.0%
4	Zotye	11.0%	SAIC PV	4.9%	Changan	5.9%	4	CALB	5.6%	Gotion High-tech	5.6%
5	SAIC PV	5.0%	Great Wall	4.1%	Tesla	5.5%	5	Gotion High-tech	5.2%	EVE Battery	4.1%
6	Kandi	4.5%	JAC	4.0%	Chery	5.4%	6	Panasonic Energy	3.5%	SUNWODA	3.2%
7	Geely	3.9%	GAC Motor	3.6%	Leapmotor	3.9%	7	EVE Battery	1.9%	SVOLT	2.7%
8	ZD EV	2.8%	Changan	2.9%	Seres	3.0%	8	REPT BATTERO	1.5%	REPT BATTERO	2.5%
9	JMEV	2.4%	Chery	2.9%	Xpeng Auto	2.8%	9	Lishen Battery	1.4%	Zenergy	2.1%
10	Lifan Auto	2.0%	Li Auto	2.7%	Xiaomi Auto	2.7%	10	Farasis Energy	1.3%	ENERGEE	2.0%
CR10		98.9%	71.4%		75.7%		CR10		91.8%	94.0%	

Source: CAAM, CABIA (China Automotive Battery Innovation Alliance), CMBIGM.

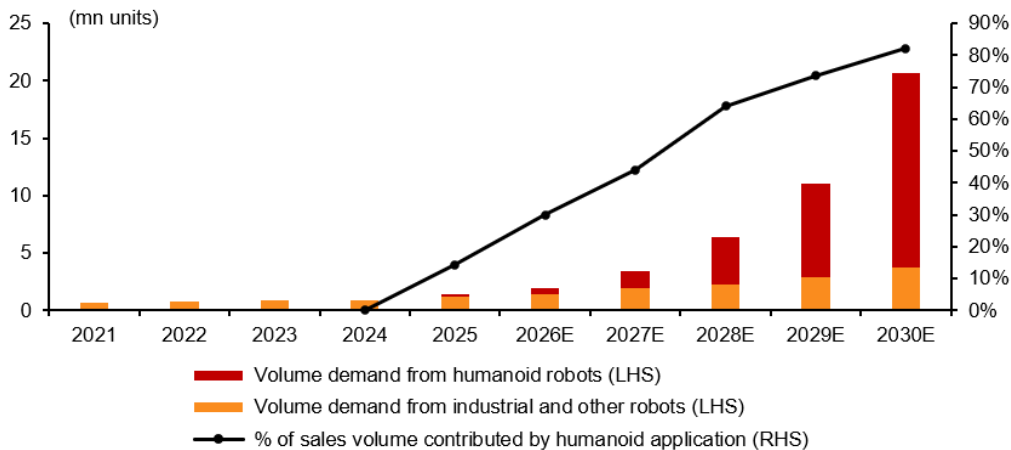
Note: Listed companies include: BYD (002594 CH/1211 HK, BUY/BUY), Chery (9973 HK, NR), Zotye (000980 CH, NR), Kandi (KNDI US, NR), Geely (175 HK, BUY), Tesla (TSLA US, NR), Great Wall (601633 CH/2333 HK, BUY), JAC (600418 CH, NR), Changan (000625 CH, NR), Li Auto (LI US/2015 HK, BUY), Leapmotor (9863 HK, BUY), Seres (601127 CH/9927 HK, NR), Xpeng Auto (XPEV US/9868 HK, BUY), Xiaomi (1810 HK), CATL (300750 CH/3750 HK, NR), LG Energy (373220 KS, NR), CALB (3931 HK, NR), Gotion High-tech (002074 CH, NR), Panasonic (6752 JP, NR), EVE Energy (300014 CH, NR), REPT BATTERO (666 HK, NR), Farasis Energy (688567 CH, NR), Sunwoda (300207 CH, NR), Zenergy (3677 HK, BUY)

Humanoid's multiplier effect to fuel exponential volume surge of harmonic reducers through 2030E

As highlighted in our "Industry Overview" section, China's total sales volume of robotic harmonic reducers is expected to exhibit a stellar 5-year CAGR of 72.4%, surging to approximately 20.7mn units in 2030E, according to CIC. Such growth will be heavily driven

by the humanoid robotics segment, which is expected to log a 2025-30E CAGR of 156.9%, fueled by the powerful multiplier effect outlined previously. CIC's projection assumes an intensity of 14-16 harmonic reducers per humanoid robot during 2026-30E. We see potential upside to these estimates if falling component costs and technology improvement drive higher harmonic reducer adoption per robot. Our proprietary forecasts for global humanoid robot deliveries (2025-30E CAGR of 163%) and corresponding harmonic reducer demand (2025-30E CAGR of 178%) also reinforce this structural multiplier effect.

Figure 27: Humanoids' contribution to harmonic reducer volume growth in China

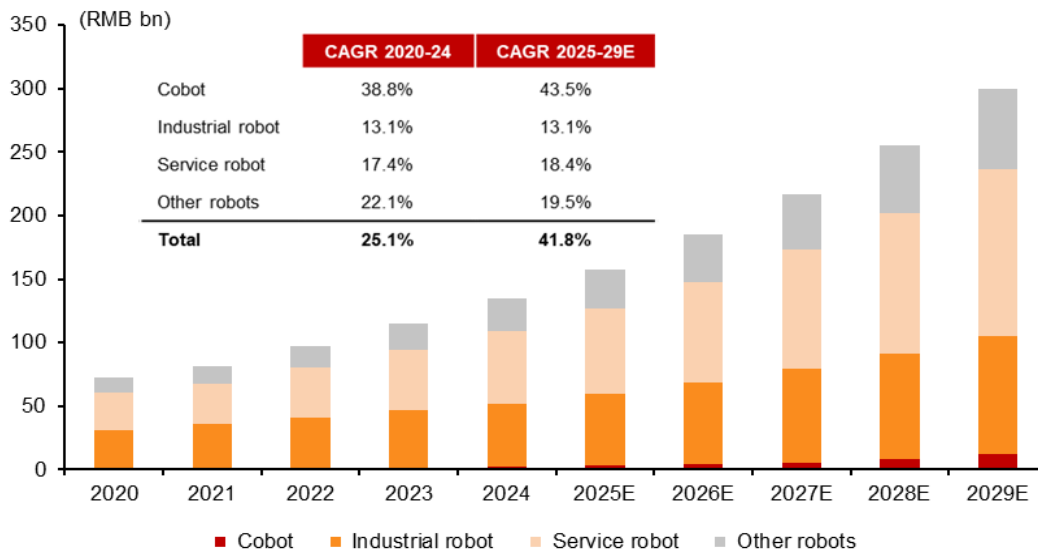


Source: CIC, CMBIGM

Cobot penetration to fuel solid harmonic reducer demand in industrial robotics

Increased component intensity per robot is also evident in the industrial segment, driven by the rise of cobots, which requires a higher configuration of harmonic reducers than traditional models. Such trend could also fuel harmonic reducers' demand, although not as significant as humanoid robots.

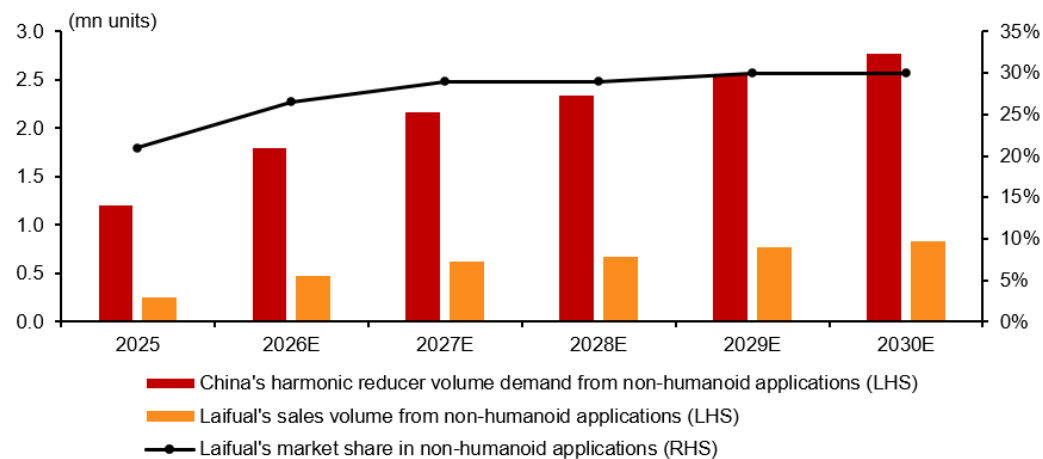
According to Frost & Sullivan data cited in Huayan Robotics' (1021 HK, NR) IPO prospectus, China's cobot market is projected to surge at a 2025-29E dollar-term CAGR of 43.5%, much higher than traditional industrial robotics (13.1%) and service robotics (18.4%). CIC also projects China's harmonic reducer sales volume in the industrial and other robotics segments to rise at a 2025-30E CAGR of 25.3%, assuming a stable unit density per robot.

Figure 28: China's non-humanoid robotics market size forecast

Source: Huayan Robotics' IPO prospectus, Frost & Sullivan, CMBIGM

We take an even more conservative stance, projecting China's harmonic reducer demand for the non-humanoid applications (mainly industrial and other robots, as well as CNC machine tools) to expand from 1.2mn units in 2025 to 2.8mn units in 2030E (a 5-year CAGR of 18.2%), reflecting the relative maturity of these end-markets. For Laifual, we estimate its non-humanoid domestic market share at about 21% in FY25, widening to 26.5% in FY26E and steadily approaching 30% by FY30E. This implies Laifual's non-humanoid sales volume will reach 0.83mn units in FY30E (a 5-year CAGR of 27.0%).

While we believe offshore manufacturing base could eventually unlock overseas non-humanoid market share for Laifual, we conservatively exclude overseas penetration from our FY26-30E base case forecast, as it may take a long time to switch suppliers given the entrenched stickiness in the international industrial segments.

Figure 29: Our forecast for China's harmonic reducer demand for non-humanoid applications and Laifual's corresponding market share

Source: CMBIGM estimates

Financial Analysis

We project a revenue CAGR of 62.3% in FY25-28E

Laifual's revenue primarily consists of harmonic reducers, joint modules, robotic arms and automated workstations. Harmonic reducers accounted for about 64% of Laifual's total revenue in FY25.

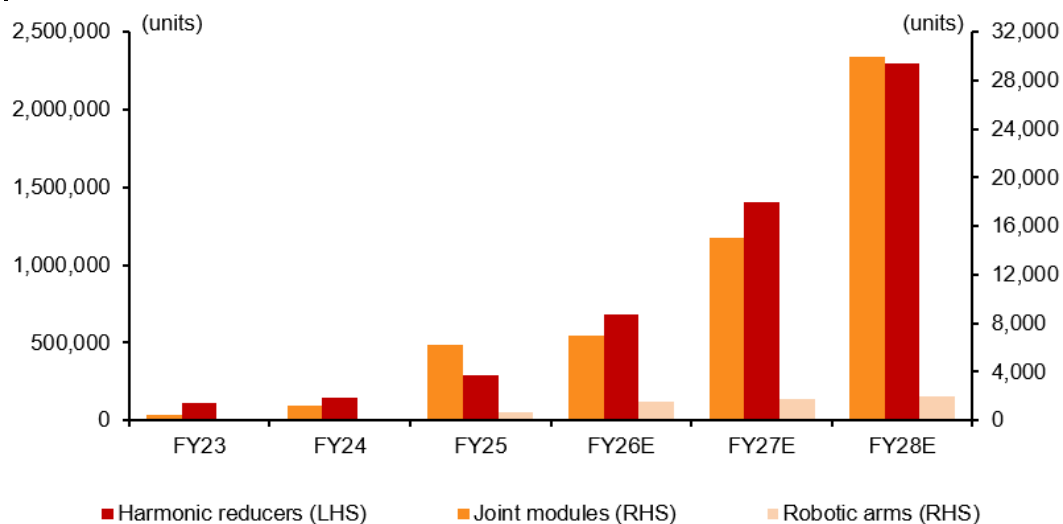
■ We expect a sales-volume CAGR of 101.6% for harmonic reducers in FY25-28E

We project Laifual's sales volume for harmonic reducers to rise from 0.29mn units in FY25 to 0.68mn/1.40mn/2.30mn units in FY26-28E, respectively. Our forecasts, divided into two segments: demand from global humanoid robotics and China's non-humanoid applications, explicitly factor in the evolving industry landscape, as illustrated in the preceding section. We also take Laifual's capacity expansion pace into consideration, especially for FY26E and FY27E.

Sales volume for joint modules—which integrate Laifual's proprietary harmonic reducers with motors and encoders—surged from 451 units in FY23, to 1,181 units in FY24 and 6,246 units in FY25. We project Laifual's sales volume for joint modules to rise to 7,000/15,000/30,000 units during FY26-28E, respectively. While Laifual's expansion into joint modules and robotic arms was partially driven by customer demand, we expect the growth trajectory for these businesses to moderate relative to its core harmonic reducer business. We expect leading humanoid robotic OEMs to assemble joint modules by themselves before the industry becomes mature, in a bid to accelerate iteration, which could be similar to the NEV market that we witnessed over 2015-22.

We project Laifual's robotic arm sales volume to rise from 639 units in FY24 to 1,400/1,800/2,100 units in FY26-28E. We do not regard automated workstation as Laifual's core business and expect limited revenue contribution during FY26-28E.

Figure 30: Our sales volume forecast for Laifual's harmonic reducers, joint modules and robotic arms



Source: Company data, CMBIGM estimates

■ We project ASP to moderate gradually

Laifual's ASP for harmonic reducers fell from RMB802 in FY23 to RMB573 in FY25. We expect this downward trajectory to persist, with ASP contracting 8-16% YoY to RMB480/440/390 during FY26-28E, driven by two key catalysts:

1) Product mix shift towards humanoid applications

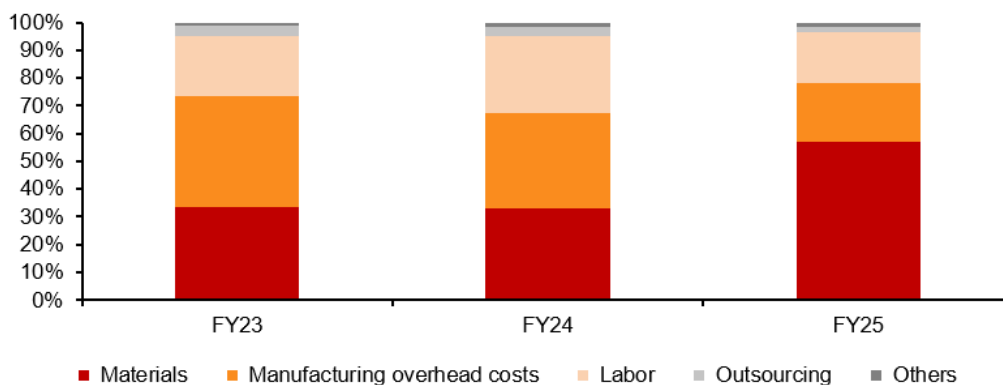
Harmonic reducers for humanoid robots are generally smaller and thus carry lower unit prices than those designed for industrial robots. We expect humanoid applications to account for 32%/55%/71% of Laifual's total harmonic reducer sales volume in FY26-28E, vs. 16% in FY25. Such mix shift could drag down Laifual's ASP over FY26-28E, which serves as the primary driver behind our projected 16% YoY ASP decline in FY26E.

2) Substantial room for price reduction given the current cost structure

Raw materials accounted for 57.1% of Laifual's total COGS in FY25, up from 33.1% in FY24. This increase was primarily driven by higher revenue contribution from joint modules and robotic arms that rely more heavily on outsourced components. Stripping out integrated modules, we estimate raw materials represent approximately 35-40% of Laifual's standalone harmonic reducer COGS. By comparison, raw materials accounted for 41.8% of COGS for LeaderDrive's harmonic reducer segment in FY25.

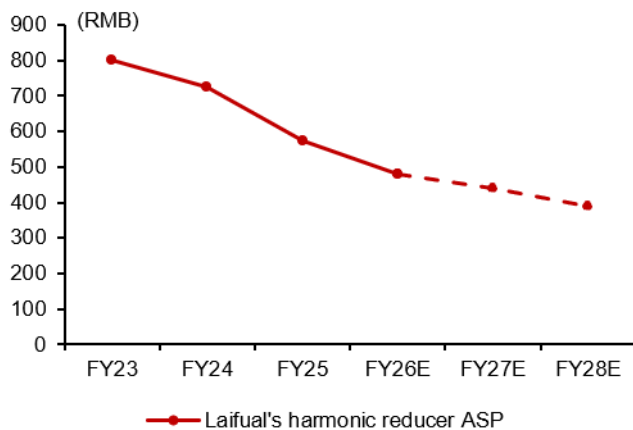
In our view, an industrial component with raw materials comprising less than half of COGS signals substantial headroom for further cost optimization, especially with greater economies of scale, domestic equipment alternatives and more standardized product designs in humanoid applications. This is the primary reason behind our accelerated price reduction in FY28E for Laifual.

Figure 31: Laifual's COGS breakdown

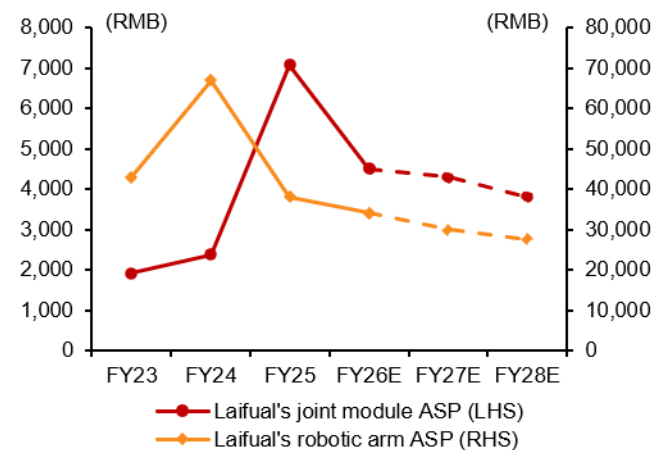


Source: Company data, CMBIGM

Laifual's joint module ASP experienced a sharp increase, rising from RMB2,432 in FY24 to RMB7,074 in FY25. The spike was largely driven by product mix change, as customers required additional components, such as housings and water-resistant cables, for specific module orders. We project Laifual's joint module ASP to decline to RMB4,500/4,300/3,800 in FY26-28E, respectively, for two reasons: 1) price declines across core joint module components; 2) a possible increased volume mix of low-voltage joint modules, which are widely adopted in humanoids and generally cheaper than high-voltage equivalents. Similarly, we forecast Laifual's robotic arm ASP to decline from RMB38,035 in FY25 to RMB34,000/30,000/27,500 in FY26-28E, respectively.

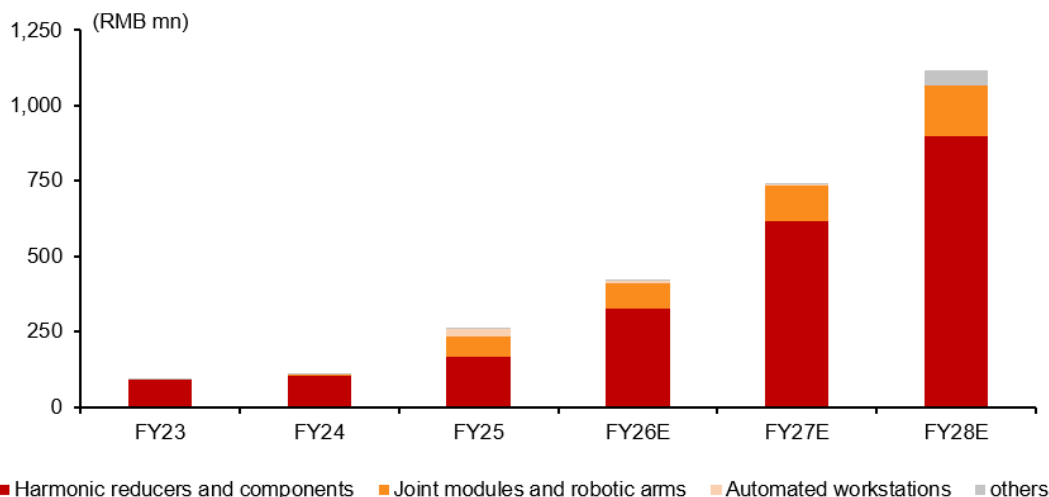
Figure 32: Our ASP forecast for Laifual's harmonic reducers

Source: Company data, CMBIGM estimates

Figure 33: Our ASP forecasts for Laifual's joint modules and robotic arms

Source: Company data, CMBIGM estimates

Accordingly, we project Laifual's total revenue to surge 60.7%/76.8%/50.5% YoY to RMB419mn/741mn/1,116mn in FY26-28E, respectively, by aggregating its different businesses. Note that we assume a revenue of RMB8mn/4mn/0 from automated workstations in FY26-28E.

Figure 34: Our forecast for Laifual's revenue by segment

Source: Company data, CMBIGM estimates

Adjusted net breakeven in FY26E; 12% NPM by FY28E on economies of scale and favorable mix

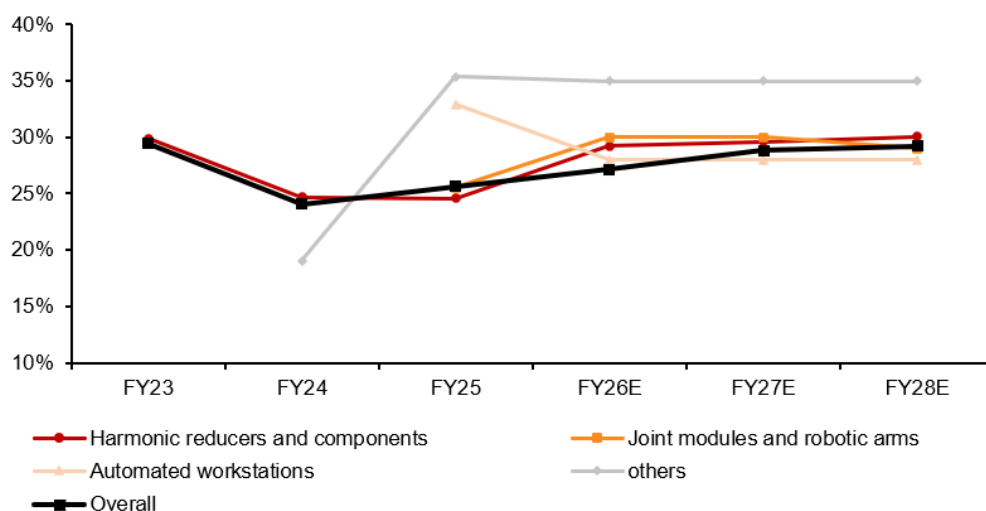
■ Gross margin to widen amid greater economies of scale, mix shift, lower equipment costs

While harmonic reducers for humanoid applications carry lower ASP than their industrial counterparts, they generally yield higher gross margin. That, along with greater economies of scale and domestic production equipment replacement, should drive gross margin expansion for Laifual in FY26-28E, despite our declining ASP trajectory.

Across business segments, we project gross margin for harmonic reducers and other precision components to expand from 24.6% in FY25 to 29.0%/29.5%/30.0% during FY26-28E, respectively (for context, LeaderDrive posted a 36.8% gross margin in its harmonic reducer segment in FY25). Concurrently, we expect gross margin for Laifual's joint modules and robotic arms to expand modestly, bolstered by the in-house integration of its higher-

margin proprietary reducers. Accordingly, we forecast Laifual's overall gross margin to widen from 25.6% in FY25 to 29.2%/29.6%/30.1% over FY26-28E.

Figure 35: Our forecast for Laifual's gross margin



Source: Company data, CMBIGM estimates

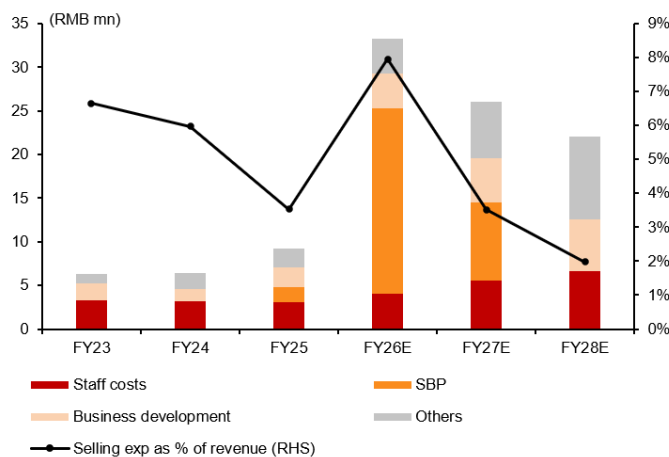
■ SG&A ratio to decline as revenue surges

Laifual's SG&A expense ratio (as % of revenue) declined from 25.9% in FY23 to 20.9% in FY24 and 15.0% in FY25 as revenue surged. We expect such trend to continue throughout our forecast period, factoring in both share-based payment (SBP) and non-recurring listing fees.

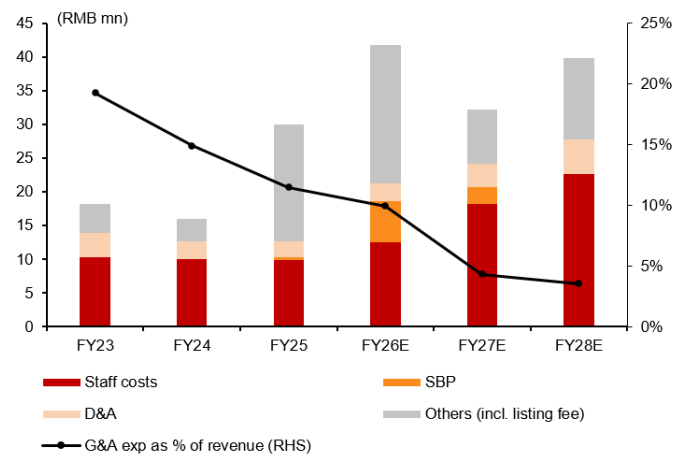
Staff costs (excluding SBP) were the largest contributor in the SG&A expenses in FY23-25, making up 55.7%/58.7%/33.1%, respectively. We assume the number of employees to rise from 574 at the end of FY25 to 711/1,059/1,395 at the end of FY26-28E, respectively, balancing rapid revenue growth with operational efficiency improvement. Accordingly, we project Laifual's total staff costs (excluding SBP) to rise from RMB70mn in FY25 to RMB91mn/140mn/188mn in FY26-28E, respectively. We anticipate that a higher proportion of personnel costs will shift into COGS as manufacturing scales, while sales personnel's wage should be highly correlated with revenue growth.

In Dec 2025, the company adopted a share incentive plan, granting a total of 1.315mn shares to eligible employees and executive directors. These shares shall be vested upon the first anniversary of the IPO completion at a subscription price of RMB8.60 per share. We calculate the total costs of this SBP at approximately RMB61mn, with RMB41mn and RMB17mn being booked in FY26E and FY27E, respectively. Consequently, SG&A will likely experience a sharp, SBP-driven spike in FY26E.

Listing fees also weighed on FY25 administrative overhead and would occur in FY26E as well. Accordingly, we project Laifual's headline SG&A ratio to be 17.9%/7.9%/5.5% in FY26-28E, respectively. Such ratios excluding SBP and listing fees would sit at a much leaner 8.1%/6.3%/5.5%, respectively, based on our estimates, reflecting the company's improving operational efficiency.

Figure 36: Our forecast for selling expenses

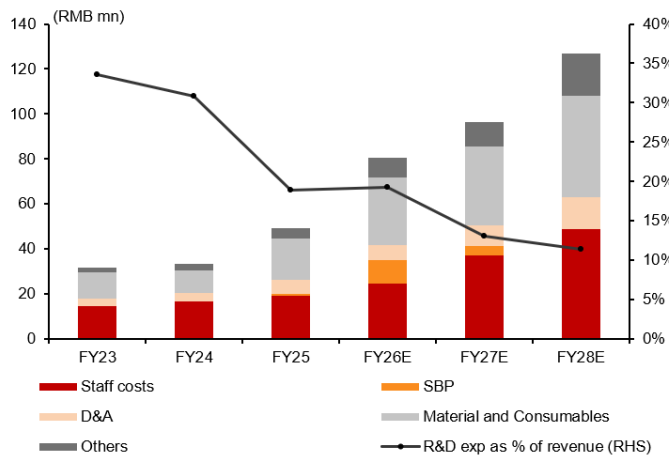
Source: Company data, CMBIGM estimates

Figure 37: Our forecast for G&A expenses

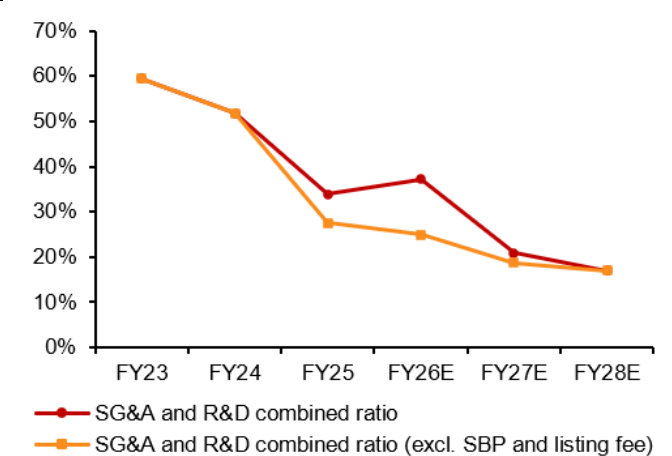
Source: Company data, CMBIGM estimates

■ Robust R&D investments to support business expansion

Laifual has historically fully expensed its R&D investments, and we expect management to maintain this conservative accounting treatment throughout our forecast period. R&D expense ratio (as % of revenue) contracted from 33.5% in FY23 to 30.9% in FY24 and 18.9% in FY25, with staff costs and materials/consumables being the primary cost components. We project Laifual's R&D expenses to rise by 64.0%/19.7%/31.5% YoY to RMB81mn/97mn/127mn in FY26-28E, respectively. The corresponding R&D ratio would be 19.3%/13.0%/11.4% in FY26-28E, respectively, based on our estimates, driven by rapid top-line expansion.

Figure 38: Our forecast for R&D expenses

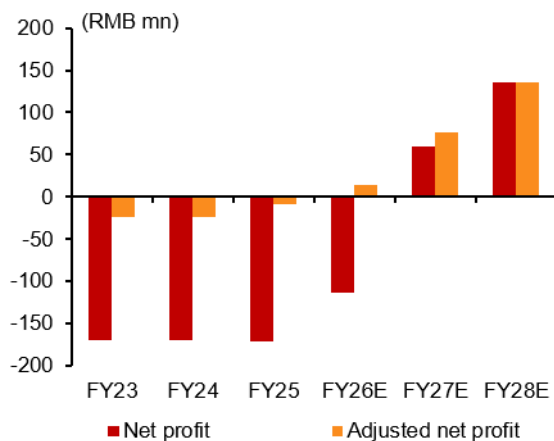
Source: Company data, CMBIGM estimates

Figure 39: Our forecast for SG&A and R&D ratio

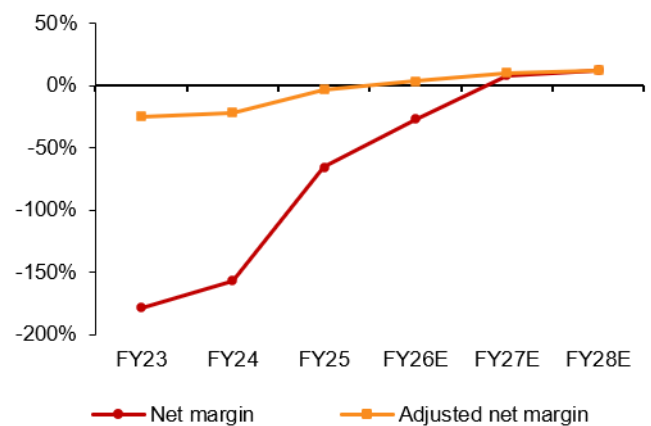
Source: Company data, CMBIGM estimates

■ We expect FY26E breakeven in adjusted net level and 12.7% net margin in FY28E

Laifual's non-operating items are relatively straightforward and immaterial, except for the carrying amount changes of redemption liabilities, which should be fully extinguished post-IPO. Therefore, we project a net loss of RMB113mn in FY26E, pivoting to a net profit of RMB59mn in FY27E and RMB135mn in FY28E. We forecast non-IFRS net profit-adjusted for SBP, listing fees and redemption liability adjustments—to be RMB15mn/77mn/135mn in FY26-28E, respectively. We are of the view that a net margin projection of 12.1% in FY28E is reasonable given a revenue of RMB1.1bn and a gross margin trajectory of 30.1%.

Figure 40: Our net profit forecast for Laifual

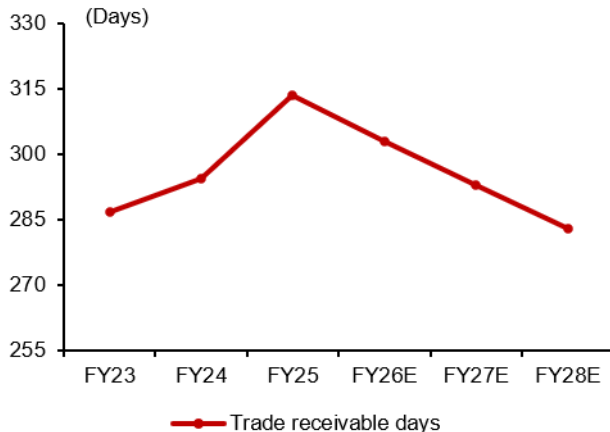
Source: Company data, CMBIGM estimates

Figure 41: Our net margin forecast for Laifual

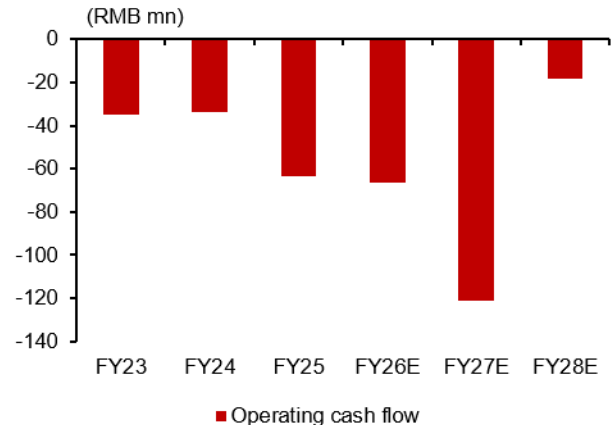
Source: Company data, CMBIGM estimates

■ Healthy balance sheet despite negative free cash flow

We expect Laifual's operating cash flow to remain negative in FY26-28E, despite improving profitability, primarily due to long receivable days. We project its bill and trade receivable days to be 303/293/283 during FY26-28E, respectively, vs. 314 days in FY25. We believe the probability of a significant contraction in receivable days is low, given Laifual's downstream customer dynamics. On a positive note, we expect Laifual's cash conversion cycle to improve gradually, from 385 days in FY25 to 343/323/303 days in FY26-28E, respectively, with better inventory management and greater bargaining power over suppliers, which could mitigate some pressure on working capital.

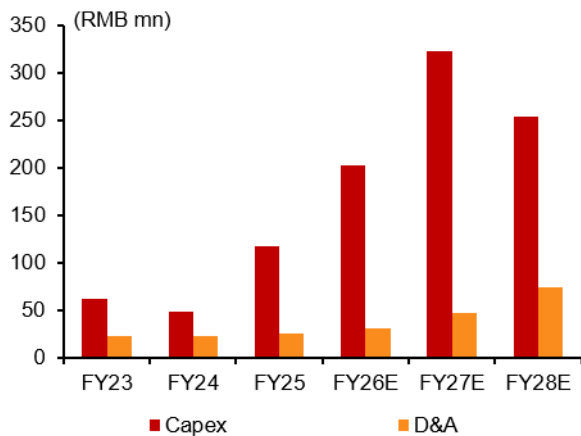
Figure 42: Our forecast for receivable days

Source: Company data, CMBIGM estimates

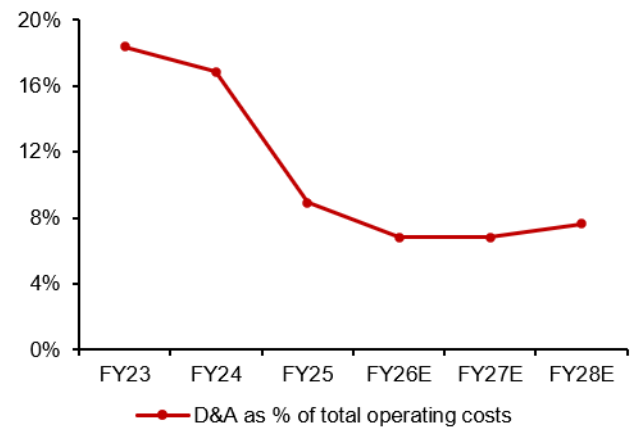
Figure 43: Our forecast for operating cash flow

Source: Company data, CMBIGM estimates

We estimate Laifual's capex to be RMB202mn/323mn/254mn in FY26-28E, respectively, in a bid to expand production capacity in both its existing factory and a new production base. That could result in a total depreciation and amortization of RMB31mn/46mn/74mn in FY26-28E, respectively, based on our estimates. Accordingly, we project Laifual's depreciation and amortization to account for 6.8%/6.8%/7.7% of its total operating costs (COGS + SG&A + R&D) in FY26-28E, respectively, vs. 8.9% in FY25.

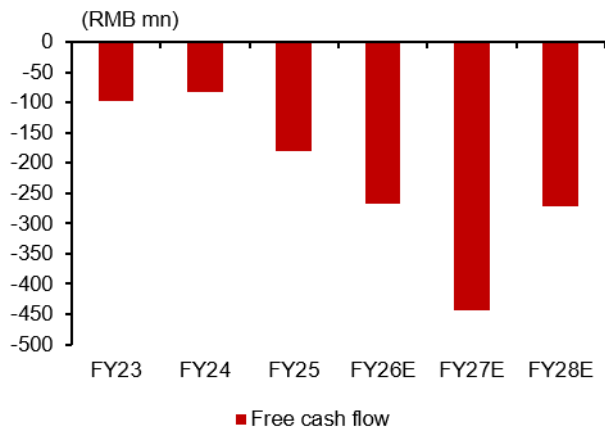
Figure 44: Our forecasts for capex and D&A

Source: Company data, CMBIGM estimates

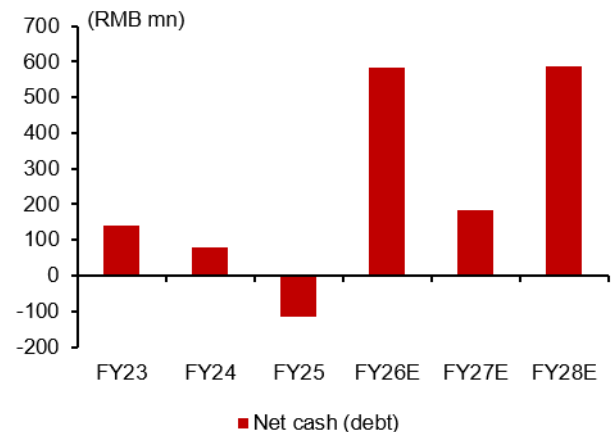
Figure 45: Our D&A as % of operating cost forecast

Source: Company data, CMBIGM estimates

We project Laifual's free cash outflow to be RMB268mn/444mn/272mn in FY26-28E, respectively, vs. RMB181mn in FY25, based on our assumptions for its profit, net working capital changes and capex, as Laifual is in a stage of rapid expansion. Nevertheless, we are of the view that Laifual's balance sheet remains healthy during our forecast period, with a net cash position of RMB584mn/182mn/587mn at the end of FY26-28E, respectively, vs. a net debt of RMB114mn at the end of FY25, as we assume equity funding from IPO in 2026 and a placement in 2028.

Figure 46: Our forecast for Laifual's free cash flow

Source: Company data, CMBIGM estimates

Figure 47: Our forecast for Laifual's net cash/debt

Source: Company data, CMBIGM estimates

1H26E preview: on track for our full-year revenue and profit forecasts

We project Laifual's standalone harmonic reducer sales volume to reach 0.24mn units in 1H26E (equivalent to 82% of its full-year FY25 volume), alongside 2,000 joint modules and 500 robotic arms. We expect harmonic reducer ASP to decline to RMB500, reflecting an increased volume contribution from lower-ASP humanoid applications. Consequently, we estimate Laifual's 1H26E revenue at RMB147mn, equivalent to 56% of its FY25 revenue.

We forecast Laifual's gross margin to widen to 28.8% in 1H26E, driven by greater economies of scale and favorable product mix shifts. We estimate operating loss and net loss to be RMB34mn and RMB110mn, taking share-based payment, one-off listing fees and carrying amount changes of redemption liabilities into account. On a non-IFRS basis, we project the company to achieve operating breakeven with a negligible net loss of RMB2mn in 1H26E. That implies an adjusted net profit of RMB17mn in 2H26E, based on our estimates.

Valuation and Key Risks

Initiate with BUY rating; TP of HK\$150.00

Given Laifual's nascent net profit profile in FY27E, we utilize two valuation methods: 1) FY30E P/E multiple valuation; 2) FY27E P/S multiple.

1) FY30E P/E multiple valuation

As highlighted in our "Investment Thesis" section, we project Laifual's total harmonic reducer sales volume to reach 1.4mn/2.3mn/4.4mn/9.5mn over FY27-30E (a 2025-30E CAGR of 100%), by aggregating our forecasts across both humanoid and non-humanoid applications. We also project Laifual's blended ASP (inclusive of joint modules, robotic arms and workstations) to decline by 10-31% YoY through FY26-30E to about RMB370 by FY30E. With our assumption of a 15% net margin in FY30E (vs. 12% in FY28E), we derive a net profit of RMB526mn for Laifual in FY30E.

Given our view that long-term global humanoid robot sales volume will eventually far surpass annual automotive demand (~90mn units/year), 2030E (with our volume forecast of 2mn units globally) still represents an early-to-mid stage of hyper-growth for humanoids. We believe a 40x FY30E P/E multiple for Laifual is well justified, drawing parallels to multiples assigned to key NEV supply-chain beneficiaries during their pre-2020 acceleration phase. From a PEG perspective, this multiple is equally compelling given Laifual's projected 90% net profit CAGR over FY27-30E. Discounting back to present value using a target 40x FY30E P/E and a 12% discount rate, we derive our target price of HK\$150 for Laifual.

Figure 48: Our forecast for humanoid reducer sales volume

	FY25	FY26E	FY27E	FY28E	FY29E	FY30E	FY30E P/E assumption	40x
Sales volume (mn units)	0.3	0.7	1.4	2.3	4.4	9.5	FY30E target valuation (RMB mn)	21,027
Blended ASP (RMB)	870	601	529	478	420	370	Discount rate	12%
Revenue (RMB mn)	261	419	741	1,116	1,835	3,504	Current target valuation (RMB mn)	13,411
Net margin assumption	-65%	-27%	8%	12%	13%	15%	No. of share outstanding (mn)	104
Net profit (RMB mn)	(171)	(113)	59	135	239	526	Target price (HK\$)	150

Source: Company data, CMBIGM estimates

2) FY27E P/S multiple valuation

Our target price of HK\$150.00 values Laifual at 18x FY27E P/S. By comparison, LeaderDrive, Laifual's closest direct domestic competitor, currently trades at about 48x FY27E P/S, based on Bloomberg consensus. While A-shares typically command a valuation premium over H-shares, and LeaderDrive benefits from an incumbent market leader status, we view Laifual's current valuation discount as highly compelling, particularly as we project Laifual's sales volume to surpass LeaderDrive's starting from FY27E.

To present a more balanced and comprehensive market comparison, we have also selected a broader peer group of five companies (illustrated in the table below) across the robotics value chain listed in China, Hong Kong and Tokyo, spanning harmonic reducers, planetary reducers, as well as humanoid and industrial robot OEMs. Our target 18x FY27E P/S multiple for Laifual stands at a slight premium to the peer average of 16.9x. In our view, this premium is fully supported by Laifual's superior growth trajectory: we project a 62.3% revenue CAGR over FY26-28E for Laifual, significantly outpacing the peer average of 34.3%.

Figure 49: Peers' valuation

Company	Ticker	Mkt Cap (HK\$ mn)	P/S (x)			P/E (x)			Revenue CAGR FY26-28E
			FY26E	FY27E	FY28E	FY26E	FY27E	FY28E	
LeaderDrive	688017 CH	74,109	71.6	47.7	33.9	335.7	225.4	154.1	45.4%
Zhongda Leader	002896 CH	18,040	13.0	11.1	9.6	166.9	142.4	123.2	16.2%
HarmonicDrive	6324 JP	34,157	9.6	8.2	7.4	112.6	70.3	58.0	14.1%
Ubtech	9880 HK	45,797	11.9	7.9	5.1	N/A	13,137.4	158.9	52.6%
Dobot	2432 HK	12,476	13.8	9.8	6.8	N/A	N/A	249.5	43.0%
Average			24.0	16.9	12.5	205.1	146.0	111.7	34.3%
Median			13.0	9.8	7.4	166.9	142.4	123.2	43.0%

Source: Bloomberg, Wind, CMBIGM, Note: market data as of 7 Aug 2026

Key risks to our forecast and valuation

- 1) Slower development in China's robotics market, especially for humanoids, which leads to lower sales volume at Laifual than we expect;
- 2) More competitive industry landscape, such as more new entrants, which may lead to lower market share and margins at Laifual than we project;
- 3) Sharper price declines for harmonic reducers, which may result in lower revenue and margins at Laifual than we expect;
- 4) A major technological breakthrough that may significantly improve harmonic reducer's performance and/or lower its costs, while Laifual fails to keep up with such technological changes;
- 5) A technological breakthrough for other components, which may replace harmonic reducers to facilitate humanoids' joint movement with better performance and/or lower costs, and Laifual fails to keep up with such changes;
- 6) Slower overseas expansion than we expect, which may limit Laifual's total addressable market and gross margin;
- 7) A more severe delivery delay or price hike for production equipment, which could result in lower sales volume or margins than we expect;
- 8) Higher liquidity risk than we expect, if Laifual's profit improvement is slower or Laifual needs more working capital than we project;
- 9) A sector de-rating.

Financial Summary

INCOME STATEMENT	2023A	2024A	2025A	2026E	2027E	2028E
YE 31 Dec (RMB mn)						
Revenue	95	108	261	419	741	1,116
Cost of goods sold	(67)	(82)	(194)	(297)	(522)	(780)
Gross profit	28	26	67	122	219	336
Operating expenses	(51)	(49)	(90)	(157)	(153)	(193)
Selling expense	(6)	(6)	(9)	(33)	(26)	(22)
Admin expense	(18)	(16)	(30)	(42)	(32)	(40)
R&D expense	(32)	(33)	(49)	(81)	(97)	(127)
Others	5	7	(2)	(1)	2	(4)
Operating profit	(23)	(23)	(24)	(35)	66	143
Other gains/(losses)	(145)	(145)	(145)	(73)	0	0
Depreciation	15	17	19	28	42	69
Depreciation of ROU assets	6	5	4	1	2	3
Other amortisation	1	2	2	2	2	3
EBIT	(168)	(168)	(169)	(107)	66	143
Interest expense	(1)	(1)	(2)	(5)	(7)	(8)
Pre-tax profit	(169)	(169)	(171)	(113)	59	135
Income tax	0	0	0	0	0	0
After tax profit	(169)	(169)	(171)	(113)	59	135
Minority interest	0	0	0	0	0	0
Net profit	(169)	(169)	(171)	(113)	59	135
Adjusted net profit	(24)	(24)	(9)	15	77	135
BALANCE SHEET	2023A	2024A	2025A	2026E	2027E	2028E
YE 31 Dec (RMB mn)						
Current assets	317	261	425	1,307	1,367	2,118
Cash & equivalents	147	71	34	723	410	755
Restricted cash	0	8	6	10	16	24
Receivables	85	95	239	371	632	921
Inventories	74	87	112	146	250	363
Financial assets at FVTPL	0	0	35	56	37	18
Other current assets	10	0	0	0	21	36
Non-current assets	161	236	297	499	777	941
PP&E	122	162	219	386	629	802
Right-of-use assets	30	23	19	18	41	40
Intangibles	4	3	2	2	3	5
Other non-current assets	5	49	57	92	103	93
Total assets	478	497	722	1,806	2,144	3,059
Current liabilities	960	1,148	1,427	273	430	625
Short-term borrowings	18	32	105	90	100	120
Payables	22	46	111	177	319	488
Other current liabilities	917	1,062	1,207	0	0	0
Lease liabilities	1	5	1	0	2	2
Contract liabilities	1	2	3	6	10	15
Non-current liabilities	20	20	116	162	255	190
Long-term borrowings	0	7	91	131	216	146
Deferred income	13	12	24	30	35	40
Other non-current liabilities	7	1	1	1	3	3
Total liabilities	980	1,168	1,543	435	685	815
Share capital	88	88	90	104	105	110
Other reserves	(590)	(759)	(911)	1,267	1,353	2,134
Total shareholders equity	(502)	(671)	(821)	1,371	1,459	2,244
Minority interest	0	0	0	0	0	0
Total equity and liabilities	478	497	722	1,806	2,144	3,059

CASH FLOW	2023A	2024A	2025A	2026E	2027E	2028E
YE 31 Dec (RMB mn)						
Operating						
Profit before taxation	(169)	(169)	(171)	(113)	59	135
Depreciation & amortization	23	23	25	31	46	74
Change in working capital	(37)	(37)	(79)	(112)	(266)	(258)
Others	148	149	161	128	39	30
Net cash from operations	(35)	(34)	(63)	(66)	(121)	(18)
Investing						
Capital expenditure	(62)	(48)	(118)	(202)	(323)	(254)
Others	72	(30)	(34)	(45)	33	26
Net cash from investing	10	(78)	(152)	(247)	(290)	(228)
Financing						
Net borrowings	26	36	169	25	95	(50)
Proceeds from share issues	0	0	17	983	11	650
Others	(10)	(1)	(8)	(6)	(8)	(9)
Net cash from financing	15	35	179	1,003	98	591
Net change in cash						
Cash at the beginning of the year	157	147	71	34	723	410
Exchange difference	(0)	0	(0)	0	0	0
Cash at the end of the year	147	71	34	723	410	755
GROWTH	2023A	2024A	2025A	2026E	2027E	2028E
YE 31 Dec						
Revenue	na	13.9%	142.2%	60.7%	76.8%	50.5%
Gross profit	na	(6.9%)	157.9%	83.1%	79.2%	53.0%
Operating profit	na	na	na	na	na	114.9%
EBIT	na	na	na	na	na	114.9%
Net profit	na	na	na	na	na	127.4%
Adj. net profit	na	na	na	na	420.7%	76.4%
PROFITABILITY	2023A	2024A	2025A	2026E	2027E	2028E
YE 31 Dec						
Gross profit margin	29.5%	24.1%	25.6%	29.2%	29.6%	30.1%
Operating margin	(24.2%)	(21.3%)	(9.0%)	(8.3%)	9.0%	12.8%
Adj. net profit margin	(25.1%)	(22.0%)	(3.4%)	3.5%	10.3%	12.1%
Return on equity (ROE)	na	na	na	(40.9%)	4.2%	7.3%
GEARING/LIQUIDITY/ACTIVITIES	2023A	2024A	2025A	2026E	2027E	2028E
YE 31 Dec						
Net debt to equity (x)	na	na	na	0.4	0.1	0.3
Current ratio (x)	0.3	0.2	0.3	4.8	3.2	3.4
Receivable turnover days	286.6	294.5	313.4	303.0	293.0	283.0
Inventory turnover days	406.6	387.8	209.8	180.0	175.0	170.0
Payable turnover days	56.6	134.0	138.0	140.0	145.0	150.0
VALUATION	2023A	2024A	2025A	2026E	2027E	2028E
YE 31 Dec						
P/E	ns	ns	ns	ns	95.1	43.1
P/E (diluted)	ns	ns	ns	ns	95.1	43.1
P/B	ns	ns	ns	3.8	3.9	2.6
P/CFPS	ns	ns	ns	ns	ns	ns
Div yield (%)	0.0	0.0	0.0	0.0	0.0	0.0

Source: Company data, CMBIGM estimates. Note: The calculation of net cash includes financial assets.

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