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Beisen Holding Limited

# Strengths underpin HCM SaaS leadership; Initiate at OW

We see a significant HCM SaaS market opportunity in China, and we like Beisen's leading position. Its integrated product portfolio and PaaS capability differentiate it from competitors. We believe its focus on mid-to-large enterprises and a pure subscription model will bear fruit in the long run.



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# Multiple strengths underpin HCM SaaS leadership; Initiate at OW

**Big TAM provides room for strong and durable growth.** China's cloud human capital management (HCM) market is set to grow from Rmb5.5bn in 2021 to Rmb30.4bn in 2027, according to CIC. This is primarily driven by the secular trends of increasing labor costs, enterprises' rising investment in human capital, digital transformation penetration improvement, as well as the cloud migration in China. This is also the fastest-growing submarket within enterprise resource planning (ERP). As a well-recognized leader in this market, Beisen appears positioned to benefit from these dynamics; we forecast a 25% revenue CAGR, FY23-FY26, and we note Beisen is a pure SaaS player without legacy on-premise software deployment.

## STOCK RATING

Overweight

## INDUSTRY VIEW

In-Line

## PRICE TARGET

HK\$14.00

## Four pillars undergird Beisen's growth: product, mid-large customers, PaaS, and capital.

Beisen transformed to an integrated HCM player from an assessment/recruitment module vendor via the launch of its core HR product, which covers the lifecycle of employment and is now enjoying the benefits of data integration and cross-selling. Faced with the systematic high churn of SMB in China, Beisen chooses to instead focus on mid-to-large enterprises. Beisen is also a pioneer SaaS player, building a uniform PaaS platform, enhancing internal efficiency, and addressing the dilemma of serving big customers while avoiding deep customization.

In addition, Beisen's rich cash position helped it navigate 2022's downcycle and paves the way for further development.

**Competition and macro factors present potential downside risk:** Beisen is competing against integrated ERP players, some customers' in-house HR/IT capabilities, and HCM startups. We expect declining threats from startups, but note the integrated ERP players and Feishu are upbeat on their own HCM potential. In addition, we believe enterprise HCM spending is relatively less resilient when faced with macroeconomic headwinds.

**We initiate coverage with an Overweight rating and a price target of HK\$14.** Beisen is currently trading at 4.8x NTM EV/sales, similar to US peer Workday's and China peer Kingdee's range of 5-6x. We think Beisen's faster-than-peer revenue growth is underappreciated.

## Beisen Holding Limited (9669.HK, 9669 HK)

Greater China IT Services and Software| China

Stock Rating	Overweight
Industry View	In-Line
Price target	HK\$14.00
Up/downside to price target (%)	48
Shr price, close (May 12, 2023)	HK\$9.48
52-Week Range	HK\$29.80-9.38
Sh out, dil, curr (mn)	21
Mkt cap, curr (mn)	Rmb180
EV, curr (mn)	Rmb(32)
Avg daily trading value (mn)	HK\$10

Fiscal Year Ending	12/22	12/23e	12/24e	12/25e
ModelWare EPS (Rmb)	(7.59)	(13.92)	(0.31)	(0.11)
Revenue, net (Rmb mn)	680	750	944	1,177
EBITDA (Rmb mn)	(237)	(230)	(190)	(231)
ModelWare net inc (Rmb mn)	(164)	(298)	(222)	(82)
P/E	NM	NM	NM	NM
P/BV	-	NM	5.9	6.4
RNOA (%)	7.0	5.6	4.9	(41.7)
ROE (%)	NM	NM	NM	(8.0)
EV/EBITDA	NM	NM	NM	NM
Div yld (%)	-	0.0	0.0	0.0
FCF yld ratio (%)**	-	(37.0)	1.1	4.3
Leverage (EOP) (%)	NM	NM	(25.1)	(44.4)

Unless otherwise noted, all metrics are based on Morgan Stanley ModelWare framework

\*\* = Based on consensus methodology  
e = Morgan Stanley Research estimates

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# Financial Summary

## Exhibit 1: Financial summary

### INCOME STATEMENT

Years Ending March 31 Rmb mn	2022	2023E	2024E	2025E
HCM Solutions	463	529	676	859
Professional Services	216	220	268	318
<b>Total consolidated revenue</b>	<b>680</b>	<b>750</b>	<b>944</b>	<b>1,177</b>
Cost of revenue	279	330	401	477
<b>Gross profit</b>	<b>401</b>	<b>419</b>	<b>543</b>	<b>700</b>
S&M	331	390	434	541
G&A	207	139	146	171
R&D	258	289	335	418
<b>Total operating expenses</b>	<b>796</b>	<b>817</b>	<b>916</b>	<b>1,130</b>
Adjusted EBITDA	(202)	(221)	(140)	4
EBITDA	(309)	(261)	(222)	(264)
<b>Operating profit</b>	<b>(361)</b>	<b>(371)</b>	<b>(339)</b>	<b>(388)</b>
Profit before tax	(1,922)	(358)	(304)	(350)
Net profit	(1,909)	(358)	(304)	(350)
<b>Adjusted net profit (Non-IFRS)</b>	<b>(164)</b>	<b>(298)</b>	<b>(222)</b>	<b>(82)</b>

### BALANCE SHEET

Years Ending March 31 Rmb mn	2022	2023E	2024E	2025E
Cash	289	128	333	494
Accounts receivable	22	25	32	41
Prepayment and other receivable	25	29	36	42
Contract asset	3	3	4	5
Contract acquisition costs	22	25	32	41
Financial asset	1,298	1,298	1,298	1,298
<b>Current Assets</b>	<b>1,849</b>	<b>1,699</b>	<b>1,925</b>	<b>2,112</b>
PP&E	35	54	69	84
Intangible asset	0	0	0	0
Contract acquisition costs	19	19	19	19
Other asset	14	14	14	14
<b>Non-current asset</b>	<b>186</b>	<b>207</b>	<b>224</b>	<b>241</b>
<b>Total assets</b>	<b>2,035</b>	<b>1,906</b>	<b>2,149</b>	<b>2,353</b>
S/T borrowings	-	-	-	-
Account payables	5	6	7	8
Contract liabilities	398	571	765	988
Lease liabilities	37	37	37	37
Other ST liabilities	202	216	248	302
<b>Total current liabilities</b>	<b>642</b>	<b>830</b>	<b>1,057</b>	<b>1,336</b>
LT debt/convertible	-	-	-	-
Contract liabilities	22	24	30	36
<b>Total non-current liabilities</b>	<b>6,673</b>	<b>6,675</b>	<b>69</b>	<b>76</b>
<b>Total shareholders' equity</b>	<b>(5,280)</b>	<b>(5,598)</b>	<b>1,023</b>	<b>941</b>
<b>Total liabilities and equity</b>	<b>2,035</b>	<b>1,906</b>	<b>2,149</b>	<b>2,353</b>

### CASH FLOW STATEMENT

Years Ending March 31 Rmb mn	2022	2023E	2024E	2025E
(Loss)/profit before income tax	(1,922)	(358)	(304)	(350)
Depreciation and amortization	51	110	117	124
Other non-cash adjustments	1,562	-	-	-
Share-based payment expenses	107	40	82	268
Net change in working capital	46	178	211	260
<b>Operating cash flow</b>	<b>(156)</b>	<b>(29)</b>	<b>106</b>	<b>303</b>
Capex	(42)	(37)	(38)	(44)
Net change in investment	(1,138)	-	-	-
Other investing cash flow	(92)	-	-	-
<b>Investing cash flow</b>	<b>(1,273)</b>	<b>(37)</b>	<b>(38)</b>	<b>(44)</b>
<b>Financing cash flow</b>	<b>1,515</b>	<b>(94)</b>	<b>136</b>	<b>(98)</b>
Other adjustments	(12)	-	-	-
<b>Net change in cash</b>	<b>74</b>	<b>(161)</b>	<b>205</b>	<b>161</b>
Beginning cash balance	215	289	128	333
Ending cash balance	289	128	333	494

### KPI & FINANCIAL RATIOS

Years Ending March 31 Rmb mn	2022	2023E	2024E	2025E
<b>Company Blended</b>				
Blended gross margin	58.9%	55.9%	57.5%	59.5%
HCM Solutions (iTalentX)	76.6%	75.0%	75.3%	76.3%
Professional Services	21.0%	10.1%	12.6%	14.0%
Operating margin	-53.0%	-49.5%	-35.9%	-32.9%
Net margin	-280.9%	-47.7%	-32.2%	-29.7%
Adjusted net margin (Non-IFRS)	-24.1%	-39.7%	-23.6%	-6.9%
FCF margin	-33.2%	-21.4%	-2.9%	13.7%
<b>Growth % YoY</b>				
HCM Solutions (iTalentX)	32.8%	14.2%	27.8%	27.1%
Professional Services	4.3%	2.0%	21.5%	18.7%
Total revenue	22.2%	10.3%	25.9%	24.7%
Adjusted EBITDA	83.9%	9.2%	-36.8%	-103.2%
Operating profit	95.8%	3.0%	-8.8%	14.4%
Adjusted net profit	34.9%	82.2%	-25.4%	-63.3%
<b>KPI</b>				
# of paying end group customers	4,780	5,230	5,970	6,704
Churn rate	27%	26%	24%	23%
ARPU (Rmb '000)	97	101	113	128
NRR	117%	112%	115%	114%
Subscription revenue %	68%	71%	72%	73%
ARR	582	670	856	1,088
ARR per customer (Rmb '000)	122	128	143	162
Contract liability (current + non current)	421	596	795	1,025
Total bookings	888	1,021	1,266	1,557

Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

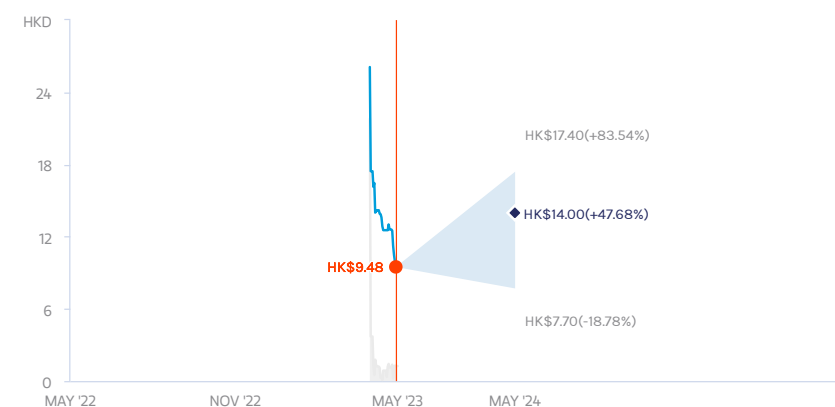
## Risk Reward – Beisen Holding Limited (9669.HK)

Multiple strengths underpin HCM SaaS leadership

### PRICE TARGET HK\$14.00

Base case, 10-year discounted cash flow model. We favor DCF because we believe it best reflects the company's long-term growth potential. We assume a 3% terminal growth rate. We use a 13.8% WACC (14.8% cost of equity, 5% risk-free rate, 1.5 beta; 6% cost of debt, 10:90 debt-to-equity weighting).

### RISK REWARD CHART



Key: — Historical Stock Performance ● Current Stock Price ◆ Price Target

Source: Refinitiv, Morgan Stanley Research

### OVERWEIGHT THESIS

- Beisen could be a share gainer in the fast-growing market for HCM software in China with its integrated cloud solutions. We also see a deep moat to becoming an integrated player.
- Beisen is well recognized among mid-to-large enterprises, bringing good long-term unit economics.
- We like its high recurring/subscription revenue percentage compared with Chinese software peers.

#### Risk Reward Themes

Market Share: *Positive*  
 Secular Growth: *Negative*

View descriptions of Risk Rewards Themes [here](#)

BULL CASE	HK\$17.40	BASE CASE	HK\$14.00	BEAR CASE	HK\$7.70
<b>9x 2024E EV/S</b>		<b>7x 2024E EV/S</b>		<b>3x 2024E EV/S</b>	
ARR growth: 15.2%, 40%, and 37% for 2023, 2024 and 2025		ARR growth: 15.2%, 27.8%, and 27.1% for 2023, 2024 and 2025		ARR growth: 15.2%, 20%, and 18% for 2023, 2024 and 2025	
HCM Solution GPM: 75.0%, 77.3%, and 78.3% for 2023, 2024 and 2025		HCM Solution GPM: 75.0%, 75.3%, and 76.3% for 2023, 2024 and 2025		HCM Solution GPM: 75.0%, 73%, and 73% for 2023, 2024 and 2025	
S&M as % of revenue: 52%, 44.0%, and 44.0% for 2023, 2024 and 2025		S&M as % of revenue: 52%, 46.0%, and 46.0% for 2023, 2024 and 2025		S&M as % of revenue: 52%, 48.0%, and 48.0% for 2023, 2024 and 2025	

## Risk Reward – Beisen Holding Limited (9669.HK)

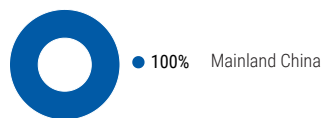
### KEY EARNINGS INPUTS

Drivers	2022	2023e	2024e	2025e
HCM Solutions revenue growth (%)	32.8	14.2	27.8	27.1
Professional Services growth (%)	4.3	2.0	21.5	18.6
Sales and marketing expenses as % of revenue (%)	48.7	52.0	46.0	46.0

### INVESTMENT DRIVERS

- Cloud revenue growth
- ARR growth
- Gross margin
- Total R&D and S&M expenditure growth

### GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate  
View explanation of regional hierarchies [here](#)

### RISKS TO PT/RATING

#### RISKS TO UPSIDE

- Faster HCM revenue growth
- Faster-than-expected revenue growth from mid-large enterprises
- Better opex control

#### RISKS TO DOWNSIDE

- Further slowdown in China's macroeconomic growth
- Execution risk in entering large enterprises
- Intensified domestic competition and share loss
- Slower profitability turnaround

### MS ESTIMATES VS. CONSENSUS

FY 2023e

**Sales / Revenue (Rmb, mn)** ◆ 750  
Note: There are not sufficient brokers supplying consensus data for this metric

**EBIT (Rmb, mn)** ◆ (340)  
Note: There are not sufficient brokers supplying consensus data for this metric

**EPS (Rmb)** ◆ (13.92)  
Note: There are not sufficient brokers supplying consensus data for this metric

◆ Mean ◆ Morgan Stanley Estimates

Source: Refinitiv, Morgan Stanley Research

# Executive Summary

Beisen is China's largest human capital management (HCM) software-as-a-service vendor by subscription revenue, with an integrated solution, "iTalentX" (that includes recruitment, assessment, core HR, succession, performance, and e-learning), covering mid-large enterprises. In 1H23, ended September 2022, Beisen had Rmb619mn annualized recurring revenue (ARR) and Rmb351mn revenue (+12% YoY), with 4,960 enterprise customers.

We see multiple tailwinds supporting fast secular growth in HCM SaaS, including Chinese enterprises' increased focus on human capital investment, accelerated digital transformation, and cloud migration. In our view, the strategy of having a cloud-native technology and a subscription model, offering an integrated solution, focusing on mid-to-large customers, and early investing in PaaS, all place Beisen well in the China market to replicate the success of Workday, the US HCM SaaS leader.

## Investment positives:

- We see a big and fast-growing addressable market for HCM software in China, and Beisen has built a solid leading position among the next-generation products. According to consulting firm CIC, cloud-based HCM solutions in China will be a Rmb30bn market in 2027, representing a 33% CAGR from 2021. Beisen is a clear leader in this market, with 12% sales share in 2021.
- Beisen has an integrated solution covering the whole employee lifecycle, addressing customer demands better than competitors that offer partial solutions, in our view. Its integrated approach facilitates the integration of data, use cases, and a smooth user experience. We also see a deep moat to becoming an integrated player. Such a strategy offers the vendor clear opportunities to cross-sell, up-sell, and reduce customer churn.
- Beisen strategically focuses on mid-to-large enterprises, a group of high-quality customers. We believe its customer profile offers good long-term unit economics. Being able to serve vertical leaders and 70% of Fortune 500 companies in China affirms the utility of its approach.

- Its strong PaaS capability differentiates Beisen from its peers and protects its scalability. It helps Beisen add value by enabling customization at a lower marginal cost.
- Beisen is strictly adhering to public cloud deployment and a subscription-based model. It has 72% subscription revenue in FY1H23, among the highest such level in the Chinese software group. This leads to more recurring and predictable revenue.

## Investment concerns

- Beisen has to pass up some market opportunities to stick to its model. We think big SOEs and hyperscale customers are not addressable for Beisen because such entities do not accept public cloud deployment and often require deep customized solutions.
- There is competition from three groups of peers: global/domestic ERP leaders, HCM software startups, and big customers' in-house operations. ERP leaders have big user bases to cross-sell and tend to be better positioned in terms of Chinese software localization initiatives. Startups are catching up in terms of product after fundraising. Competition for talent is intensifying.
- We see macroeconomic risks given the macro correlation with enterprise spending. HCM solutions spending is focused on internal management and efficiency gains, and it is less crucial than spending on production systems or other mission-critical IT areas.
- Beisen will remain FCF negative until FY25 and loss-making in FY23-25, based on our estimates.

## Initiate coverage with an Overweight rating and price target of HK\$14.

We derive our price target through a DCF methodology, corresponding to FY24 EV/sales of 7.0x. Beisen is trading at 4.8x FY24 EV/S, in line with US peer Workday and China peer Kingdee (5-6x NTM EV/sales), but we see valuation upside given Beisen's higher revenue growth potential.



# Investment Positives

## Big and fast-growing addressable market; leading position in the next-generation product

Beisen's total addressable market (TAM) in China cloud-based HCM solutions reached sales of Rmb5.5bn in 2021. CIC forecasts that this will grow 6x in six years, reaching Rmb30.4bn by 2027, with a 2021-27 CAGR of 33%, accelerating from the 2017-21 CAGR of 28%.

The growing underlying HCM market, rising digitalization penetration, and share gains from cloud solutions, all contribute to the fast growth.

**Rising labor costs and a changing labor market in China prompt more HCM investment.** With China's declining demographic dividend, the country's working-age population has been on a slightly declining trend since 2016, which is highly likely to continue, in our view, driven by slowing birth rates and an aging population. Meanwhile, urban average salaries in China have kept rising at >6.0% in 2011-2021, and +4.9% in 2022, according to the National Bureau of Statistics (NBS). In addition to salaries, other labor-related costs, including recruitment, assessment, training, managing and retention, are all on a fast-increasing trend. The fast-increasing labor costs require better management of human capital, for enterprises to improve efficiency.

We also note several changes in labor markets creating new opportunities for HCM, including the emerging temporary/flexible format of employment, and the entry of Generation Z into the labor market.

**Chinese enterprises are attaching higher importance to HCM.** More and more Chinese companies are adopting the modern enterprise management mindset, viewing staff as a core asset rather than a cost item. As with other asset types, investing in human capital can bear fruit, enhancing productivity and company value. Companies are proactively investing in human capital to be competitive in terms of innovation, technology, and organizational capabilities, among other metrics.

CIC forecasts the Chinese HCM market (including HR outsourcing) to grow at a 16.2% CAGR in 2021-27, reaching Rmb1,626bn in 2027, compared with Rmb661bn in 2021. The CAGR is slightly higher than the 15.2% in 2017-21.

**Deepening digital transformation in China.** Chinese companies are accelerating the digital transformation, especially after the wake-up call from the Covid-19 pandemic. We note that the Chinese government is also supportive of the digital transformation and has released several policies on this front, covering SOEs and SMBs. We observe that software and IT service market growth has been >2x that of GDP growth in China in the past five years. Compared with traditional HCM services requiring off-line manual work (by either HR staff or third-party outsourced service providers), HCM software can improve efficiency and save costs in those relatively standardized processes.

Compared with 9.9% digitalization penetration in the US HCM market, the current 2.9% penetration in China suggests significant room for improvement. CIC forecasts that penetration will increase to 3.6% in 2027.

**Cloud solutions can better meet customer demand and gain market share.** Cloud-native solutions have several advantages, such as high accessibility, adaptability, flexibility and scalability, compared with traditional on-premise software. Lower upfront investment in implementation, and integration with other ecosystems (such as hiring websites and outsourcing social insurance services), are also key reasons for enterprises to upgrade to cloud HCM solutions over time.

The cloud structure makes it much easier to adopt new technology, such as big data analytics or artificial intelligence, to the HCM use cases, based on its good data integration capability. It also enables employees' self-service, providing a better user experience than traditional solutions.

Frequent iteration capability makes the system perform much better against the backdrop of fast-changing income tax/social insurance policies in China. Also, the fast-growing economy in China requires good scalability in HCM systems to meet enterprises' expansion and restructuring demand. With the additional help from PaaS, applications can be customized at a lower cost but faster speed for cloud-based solutions. [Exhibit 4](#) summarizes the advantages of cloud HCM solutions.

Putting all these points together, we think cloud-based HCM solutions can meet customer demand better than on-premise product. We believe it is an irreversible trend that cloud-based HCM will gain market share from on-premise HCM software. CIC forecasts that

cloud-based HCM solutions will account for 52% of the digitalized HCM market by 2027, almost double its 31% share in 2022. The expected share gain speed of 4-5ppt per year is faster than the 2ppt in 2016-20 as a result of much more mature technology and better customer acceptance after the initial proof-of-concept stage.

**Beisen is a clear leader in the cloud-based HCM market.** Based on CIC’s data, Beisen had 12% share in China’s cloud-based HCM solution market in 2021, ranking No.1 – and more than the combined share of the No.2 (6%) and No.3 (5%) players. We believe Beisen is very well positioned to capture future upside in this market.

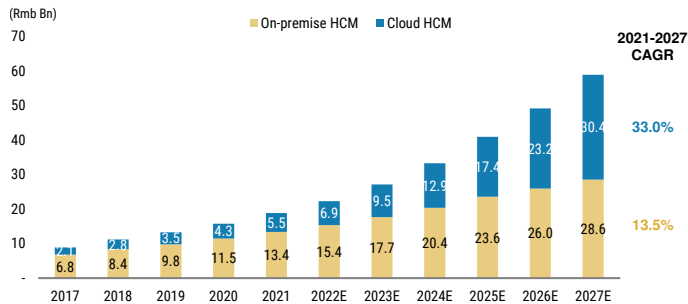
**Our thoughts on the market size:**

Based on our estimates ( Exhibit 5 ), the market size of China HCM for mid-large enterprises will be between Rmb22.5bn and Rmb29bn in 2026.

Primarily, we gauge the TAM by multiplying: 1) the number of targeted customers, i.e., around 300K enterprises with over 300 employees in China (company estimates) by 2) ARPU per enterprise customer, which is around Rmb200K (including services);

among the enterprises, the current penetration rate of cloud solutions is 12-13%, per Beisen’s estimates. The TAM is estimated to be Rmb7.2bn currently. We estimate that if cloud solutions penetrate 50% of the mid-to-large enterprises in 2026, the TAM would be Rmb29bn.

**Exhibit 2:** China Cloud HCM market size, in terms of revenue (Rmb billions)

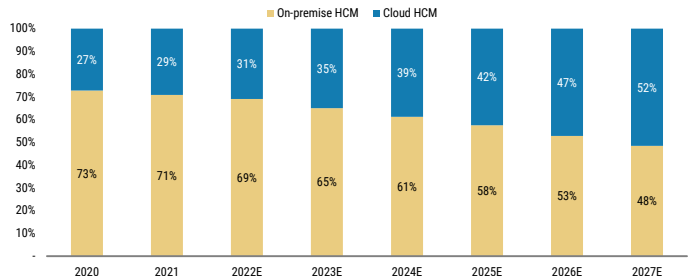


Source: Company data, CIC; E = CIC estimates

Additionally, we can cross-check by multiplying: 1) the average HCM software spending broken down to each employee, by 2) the number of employees within mid- to large-sized enterprises. Beisen indicates average spending per employee is currently around a Rmb200 subscription fee per year with the adoption of all of its mainstream modules. We estimate that among the 750mn-strong work force in China (per National Bureau of Statistics data), 20% are employed by mid- to large-sized enterprises (150 million), which yields a Rmb30bn market size for subscription. Adding the service part (50% of subscriptions) and a 50% cloud penetration assumption, the market size is Rmb22.5bn. This methodology is relatively conservative, as it assumes a zero price increase over time.

**From a pure software perspective, we also see a positive conclusion from IDC:** Beisen is the market share leader and a winner in the fast-growing China HCM software market, according to IDC, a market intelligence provider. IDC excludes the service part in its calculation of HCM software market size. We combine IDC’s HCM and Payroll software forecasts to make its forecast comparable to our estimates. As estimated by IDC, China’s HCM software market had a size of Rmb6.1bn in 2022 and is expected to grow at a 22% CAGR, 2022-26, to Rmb13.4bn. This 22% CAGR is higher than CIC’s 2021-27 forecast of 21% for the digital HCM market CAGR, and we think it is reasonable to expect software to outgrow other IT services. We note HCM is the fastest-growing part of China’s ERP software market, based on IDC’s forecast. Beisen has the biggest market share in China’s HCM software market, at 8.3% in 2022, compared with 6.0% in 2018.

**Exhibit 3:** Share of the China HCM market, by delivery model, in terms of revenue



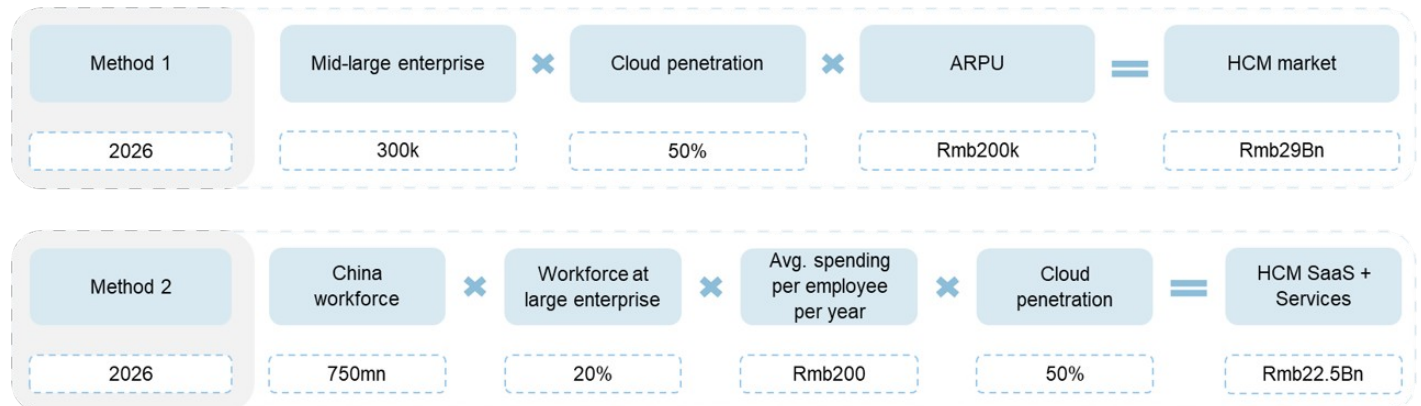
Source: Company data, CIC; E = CIC estimates

**Exhibit 4:** Comparison of on-premise solutions versus cloud-based solutions

	On-premise	Cloud-based
Scalability	<b>Low</b> <i>Constrained by client's own resources</i>	<b>High</b> <i>Easily add more modules; pay-per-use</i>
Adaptability	<b>Low</b> <i>Complex and constrained by client system requirements</i>	<b>High</b> <i>More frequent upgrades and easy installation across all clients</i>
Analytical capabilities	<b>Lower</b> <i>Data integration enables cross-module analytics, but limited to client tools and data</i>	<b>High</b> <i>High data integration enables cross-module analytics</i>
Accessibility	<b>Low</b> <i>Limited to authorized work devices</i>	<b>High</b> <i>Accessible through any devices with unified user experience</i>
Cost	<b>High</b> <i>Slow and costly initial deployment</i> <i>Ongoing maintenance and system upgrades</i>	<b>Low</b> <i>Simple initial deployment; vendor responsible for maintenance and upgrades</i>

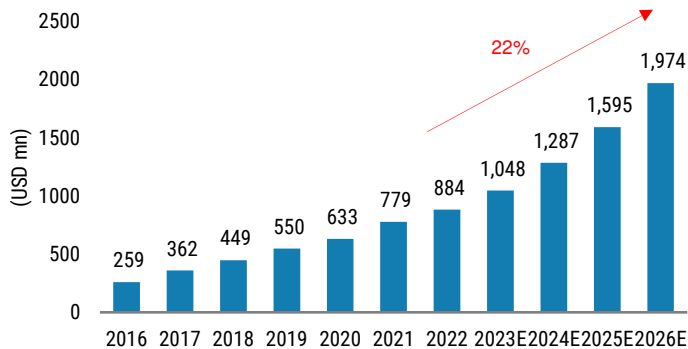
Source: Company data, Morgan Stanley Research

**Exhibit 5:** We estimate a China cloud HCM SaaS TAM of Rmb22.5-29.0bn



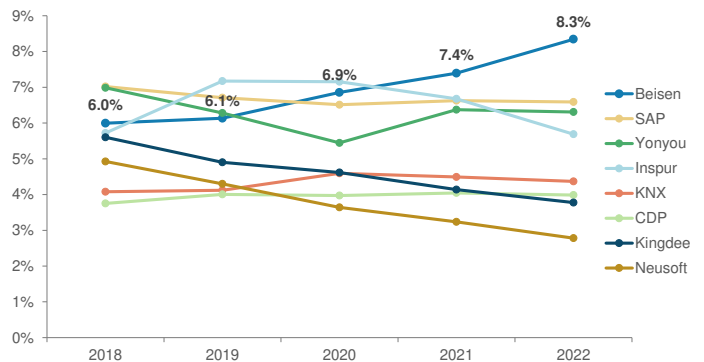
Source: : Morgan Stanley Research

**Exhibit 6:** HCM (HCM + Payroll by IDC's definition) is expected to grow at a 22% CAGR, 2022-26



Source: IDC; E = IDC estimates.

**Exhibit 7:** HCM (HCM + Payroll by IDC's definition) vendor market share trends



Source: IDC; IDC excludes the service part of the market and purely considers the HCM software part, so the market share data differ from CIC's figures.

## Product: Integrated solution covering the whole employee lifecycle

### Integrated solution is a big advantage

The HCM market covers a broad spectrum of products and services to address the enterprises' needs for recruitment, assessment, core HCM, performance, succession and training. Each subsegment is very specialized and requires significant expertise. This creates room for single-module HCM players. We believe integrated HCM players are much better positioned, for the following reasons:

- **Demand:** The key advantage of integrated HCM software is the ability to fully collect, integrate and utilize data across different modules for a more comprehensive view of HR management. Other strengths include a better user/employee experience with a uniform interface, as well as easing system integration challenges when adding new features/modules.
- **Supply:** Integration creates more opportunities for vendors to cross-sell different modules that can be seamlessly deployed on the same cloud platform, thereby increasing customer ARPU with minimal incremental sales & marketing expenses. Offering integrated products also helps to improve client retention rates by raising their switching costs. For example, Beisen's core HR+ (i.e., core HR and other modules purchased together) can help improve customer retention rates, as it is integrated with a client's daily operations, which was not the case when clients only purchased standalone recruitment or assessment products. Beisen has achieved increasing subscription revenue retention rates, from 105% in FY20 to 113% in FY21, 117% in FY22 and 113% in FY1H23.

**Global HCM market shows cloud/integrated vendors have won market share.** Integrated HCM SaaS players, such as Workday, continually gained share (from 7.4% in 2016 to 12.7% in 2021) at the expense of ERP incumbents, such as SAP and Oracle, as well as traditional HR service providers, such as ADP. Smaller players with less than 10% share ("others") also lost share, were acquired, or exited the business. We attribute this to the superior offerings of Workday, with high integration within one cloud platform, real-time data analytics, flexibility and a better user experience. We believe the Chinese

market will follow the same trend, favoring vendors that offer integrated and cloud-native products. For customers, they enjoy the benefits of lower friction when adding new modules to cover more needs, while vendors can improve client APPU and retention.

**Beisen's iTalentX encompasses the integration of data, user experience and use cases.** Based on our research, Beisen is currently the only Chinese HCM solution provider covering all six modules together with a unified and open underlying PaaS. Integration is also the core growth strategy of Beisen. For example, Beisen can onboard new customers from the Recruitment or Assessment cloud (where customers can make decisions relatively fast, and Beisen has a very strong market position), and gradually expand to Core HR (where the market size is bigger and customer relations are stickier) and other modules.

- **Integration of data.** Beisen builds its products on a unified cloud platform with inherent data integration across modules, which is the foundation for further data analytics and data-empowered decision-making.
- **Integration of user experience.** Customers can access all features via an integrated portal, providing a consistent user experience platform-wide. This helps to lower learning time and friction with new modules, and improve the user experience.
- **Integration of use cases.** Beisen's solutions are able to cover the entire employee lifecycle, from recruiting, staffing management, and on-the-job training to resignation, as well as covering different work scenarios catering to the needs of employees, recruiters and managers.

**We believe being able to offer an integrated solution provides a deep moat.** It requires expertise in nearly all the HR business processes, in different verticals, different sizes of business and even different HCM styles. HCM is much less standard than other parts of ERP, such as accounting, so the vendors need to offer a broad range of feature configurations. In addition, vendors need to be competitive in all the modules as customers have low tolerance for any performance lag when selecting among integrated solutions. After 20 years' development of HCM software in China, very few players are recognized as integrated vendors.

**Exhibit 8:** Comparison of offerings across players in China's HCM market

	Beisen Beisen北森	KNX knx   肯耐珂萨®	CDP CDP	Kingdee Kingdee	Yonyou 用友 yonyou	Inspur inspur	SAP SAP	GaiaWorks 盖雅工场	Xinrenxinshi 薪人薪事
Recruitment	✓	✓	✓	✓	✓	✓	✓		✓
Assessment	✓	✓		✓	✓				
Employee profile & staffing	✓	✓	✓	✓	✓	✓		✓	✓
CoreHR Attendance	✓	✓	✓	✓	✓	✓	✓	✓	✓
Payroll	✓	✓	✓	✓	✓	✓	✓	✓	✓
Performance	✓	✓	✓	✓	✓	✓		✓	✓
Succession	✓						✓		
E-learning	✓	✓		✓	✓	✓	✓		✓
Unified PaaS	✓								

Source: Company websites, Morgan Stanley Research.

**Exhibit 9:** Beisen's iTalentX – Enabled by 4 building blocks



Source: Company data, Morgan Stanley Research.

## Customers: High-quality customer base

### Mid-to-large enterprises

Beisen strategically focuses on serving mid-to-large customers. Starting from 2020, it has required its sales force to target only enterprises with over 500 employees (and it prohibits signing a contract with a <300 employee enterprise). Beisen can on-board a customer with 300-500 staff if Beisen expects the customer will have >500 staff in the future. Large enterprises are more focused on an organization’s longer-term developments and cooperation between different business units. SMBs, on the other hand, are more concerned about the survival of the business and thus are more inclined to purchase standalone products to meet a specific need.

This strategy brings higher ARPU, lower churn rates, and good marketing expense efficiency (in terms of lifetime value over customer acquisition cost, or LTV/CAC). These metrics have all been on an improving trend since Beisen strategically shifted its focus to mid-to-large customers in 2020.

- **ARPU:** HCM software solutions are usually priced based on the number of seats/accounts, so relatively big enterprises have a higher ARPU by nature. Relatively big customers have the scale to extract efficiency gains via digitalization investment, and they have higher purchasing power. The measure

of dividing total bookings by the number of paying customers showed an increasing trend of approximately Rmb131K, 147K, 170K and 186K for FY19, 2020, 2021 and 2022.

- **Churn rate.** Customers going out of business is the most frequent reason for the churn in SaaS companies in China, so focusing on mid-to-large customers can effectively reduce the risk.
- **LTV/CAC.** Focusing on mid-to-large customers and a customer-centric sales organization helps to improve Beisen’s selling and marketing efficiency, laying a good foundation of operating leverage for the future.

Beisen currently covers 70% of Fortune 500 companies in China, and most of the top ten players in technology, real estate, and financial services, among other segments, are all Beisen’s customers. Being able to cover vertical champions provides evidence of Beisen’s product capability, further affirming its qualities.

**Workday’s experience showcased the advantages of high-quality large clients:** In the global HCM market, Workday’s experience and strategic focus on large customers are demonstrated in its industry-leading LTV and LTV/CAC. We believe this is attributable to its high upsell/cross-sell capabilities and low retention rates for large enterprise clients, despite higher CAC. We have more details in the [Case study: Workday’s Success](#) .

Exhibit 10: Beisen’s key customer profiles: trusted by industry leaders



Source: Company data

Exhibit 11: Comparison of customer acquisition efficiency across players, as of 2022

(US thousands)	ARPU	GPM	Revenue retention	LTV	CAC	LTV/CAC
WDAY	1,243.6	77.4%	97.0%	32,070.2	2,394.4	13.4
Paycom	37.0	84.5%	93.0%	446.5	129.0	3.5
Paylocity	25.5	66.3%	92.0%	211.1	47.1	4.5

Source: Company data, company quarterly and annual reports. ARPU is calculated as ARR/number of customers; WDAY’s ARR is based in Morgan Stanley Research estimates for FY23, ending January 2023. CAC is calculated as sales expenses/new customers in the latest fiscal year. LTV is calculated as ARPU\*gross margin\*revenue churn rate. Paylocity data is as of end of FY22, ending June 2022.

## Modern Infrastructure: PaaS differentiates Beisen from other HCM SaaS

### No PaaS, no SaaS

Beisen’s PaaS platform is, in our view, one of the key differentiators among the HCM software vendors, as it helps Beisen add value by enabling customization at a lower marginal cost. A pure standardized SaaS model fails to address the different HCM needs of enterprises, as each company has distinct performance evaluation systems, attendance policies, remuneration structures, and so on. Therefore, some level of customization is required for the vast majority of enterprises.

Beisen started to invest in PaaS, with around 300 developers as early as 2014, when it started to revamp its offerings and develop the Core HR solution. Beisen later rebuilt its SaaS applications, e.g., Recruitment and Assessment modules, among others, on the unified and cloud-native PaaS platform.

The PaaS infrastructure was initially built for internal use between 2014 and 2018, and it was offered to customers and external developers from 2018, and it has accumulated 100+ customers and 300+ applications to date. We believe the PaaS platform will become one of the core growth strategies for Beisen as it continues to expand ecosystem partners, including independent software vendors (ISVs), recruiting websites, online travel agents, employee insurance service providers, and other such partners.

### Benefits of PaaS

We believe the PaaS infrastructure has three main advantages:

- It increases Beisen’s application development efficiency, driving faster time-to-market for new modules and product upgrades. For example, Beisen has some new modules that

start generating revenue within one year of development, versus an industry norm of three years.

- It supports customers’ rapid HCM application expansion.
- It fulfills customers’ specific needs by allowing consultants to deliver by configuration (no-code) or customers’ in-house IT specialists to develop tailor-made applications (low-code) on top of Beisen’s platform, which solves the dilemma of serving large enterprises and catering to their customization demand. This could help to optimize Beisen’s R&D costs and reduce implementation challenges.

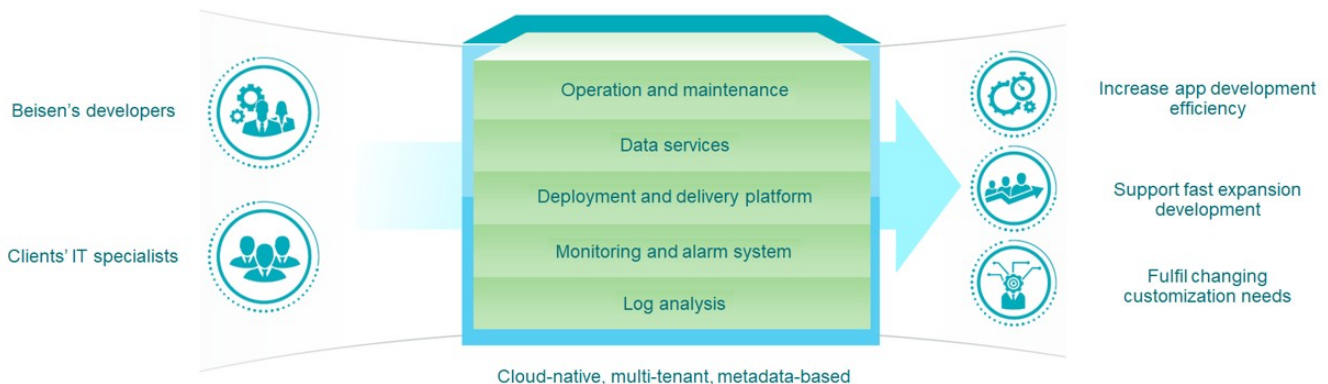
### Differentiation versus peers

Beisen’s competitors are also working on PaaS, but we see clear differentiation for Beisen.

Compared with ERP incumbents, Beisen’s PaaS is unified and HCM-focused. Due to legacy issues, ERP incumbents are all running multiple versions of HCM products on and off their PaaS. Beisen is the only vendor that has built the entire HCM solution based on one unified PaaS, which is the most modern structure, in our view. This will help streamline internal development on product upgrades, and help facilitate a unified customer experience. Also, Beisen’s PaaS is focused on HCM-related demand, while ERP incumbents’ PaaS have to support many more applications, such as accounting, supply chain management, and manufacturing. Beisen’s PaaS also has a longer track record than Kingdee’s and Yonyou’s platforms.

Compared with offerings of other smaller HCM SaaS vendors, Beisen’s PaaS capability yields a major advantage, in our view. We believe that it would take peers multiple years, employing hundreds of software developers, and investing hundreds of millions of RMB to catch up.

Exhibit 12: Beisen’s PaaS ecosystem



Source: Company data, Morgan Stanley Research.

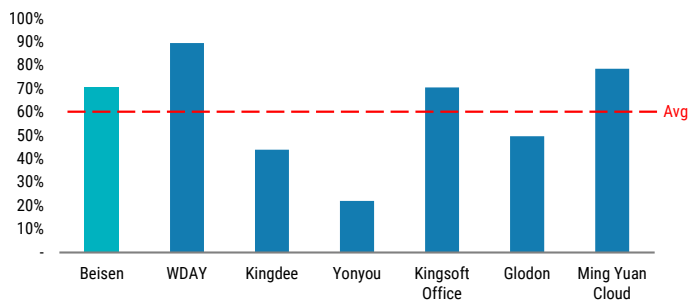
## Business model: Subscription-based model offers good visibility

Beisen is strictly adhering to public cloud deployment and a subscription-based model for all of its customers.

Public cloud deployment lowers the cost of ongoing maintenance and upgrades, as clients are kept on the same version, and new versions are pushed to all clients simultaneously. Beisen has also built its own data center infrastructure, aided by some third-party infrastructure-as-a-service (IaaS) capacity as well.

We also observed healthy cloud migration intentions for HR software, based on our latest AlphaWise China CIO Survey of 166 business executives conducted in March 2023 via an online survey, with close to 40% of CIOs indicating that they have adopted cloud HR or intend to migrate in the next two years. This only trails CRM, collaboration software, office software and SCM (supply chain management).

**Exhibit 13:** Comparison of subscription revenue as a percentage of total revenue across vendors



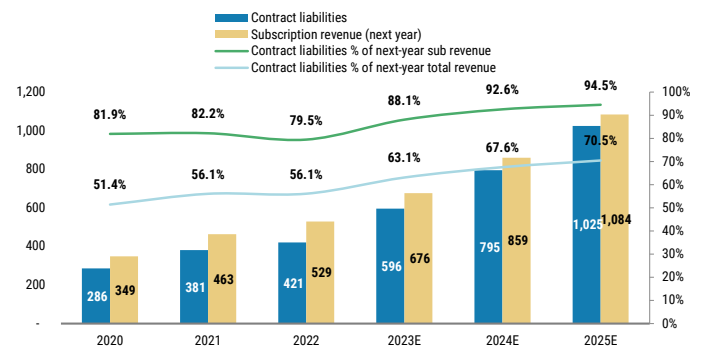
Source: Company data, Morgan Stanley Research. Beisen is as of September 2022; WDAY as of January 2023; Kingdee, Yonyou are calculated using 2022 ARR/revenue; Glodon calculated using 2022 Construction SaaS revenue/total revenue; Kingsoft Office as of 2022; MYC is calculated using 2022 SaaS products rev/total revenue.

## Greater China IT Services and Software: China 1H23 CIO Survey: Regaining Confidence (25 Apr 2023)

The subscription model leads to more recurring and predictable revenue. This is particularly important amid the volatility of the macro-economy. In addition, the subscription model lowers initial investment hurdles or trial error for customers (i.e., if the customer dislikes the product, the amount of money invested is relatively small).

Subscriptions accounted for 71% of Beisen’s revenue in fiscal year 2023, based on our estimates (the rest is mainly implementation service, without customization) – below global HCM SaaS leader Workday’s current 89%+, but above the average of Chinese SaaS peers (Exhibit 13). Beisen’s current subscription revenue is largely in line with the level for Workday back in 2013-14. We expect the share of subscription revenues will continue to increase along with the growing existing customer base, similar to the trend WDAY has demonstrated over the past 10 years. This mix change should also gradually drive up the gross margin.

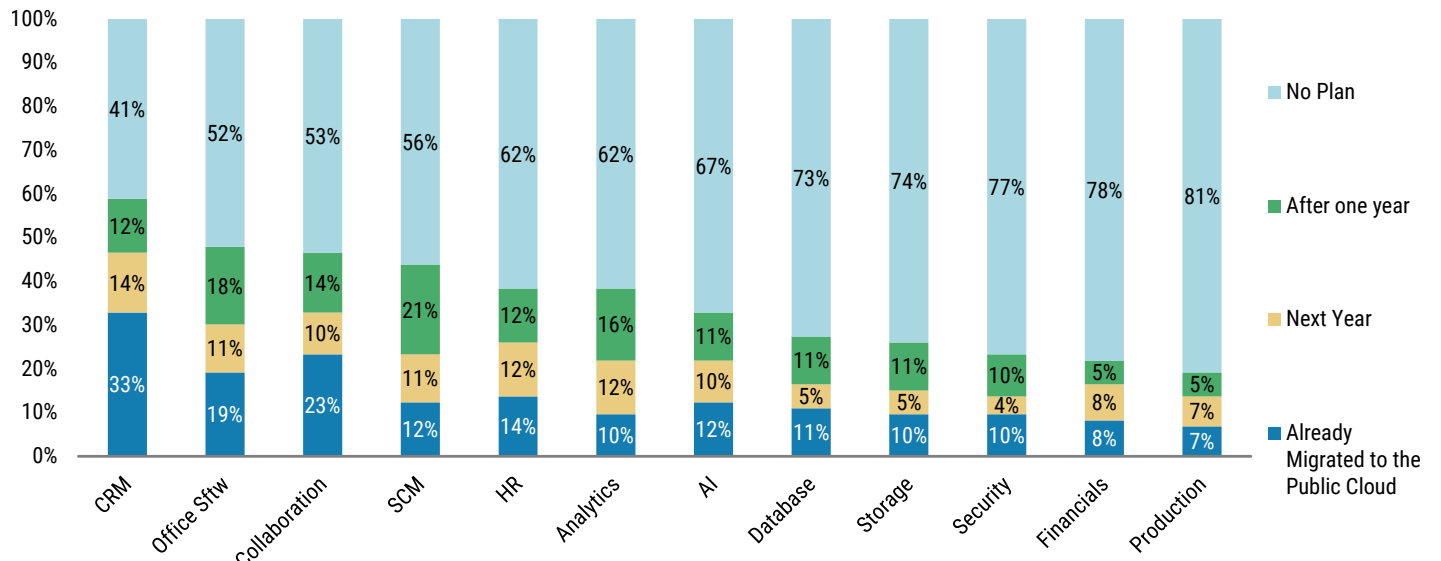
**Exhibit 14:** Subscription revenue is protected by high contract liabilities



Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.



**Exhibit 15:** HR has relative high cloud migration intentions (1H23)



Source: AlphaWise, Morgan Stanley Research.

## Case study: Workday's Success

Workday ("WDAY") is a global leader in enterprise SaaS. It began with integrated HCM solutions and later expanded into financial management solutions. Workday's fiscal year ends January 31.

Workday maintained a high double-digit top-line between 2010 and 2015, which fell to 30-50% from 2016 to 2020 as Workday continued to add more products to expand its TAM, deepen its technological lead, and engage in strategic M&A. Put another way, Workday grew revenue by 23x in the past 10 years, from US\$273mn in FY13 to US\$6,216mn in FY23. According to IDC, Workday expanded its global HCM market share from 7.7% in 2017 to 12.8% in 2022, at the expense of traditional on-premise solutions and single module players.

With a growing customer base, Workday increased its subscription revenue percentage from 70% in FY13 to 90% in FY23, lifting blended gross margin from 58% to 77% and operating margin from -33% in FY13 to +20% in FY23.

We provide an analysis of Workday's key success factors, which we believe are the result of good strategic planning and execution.

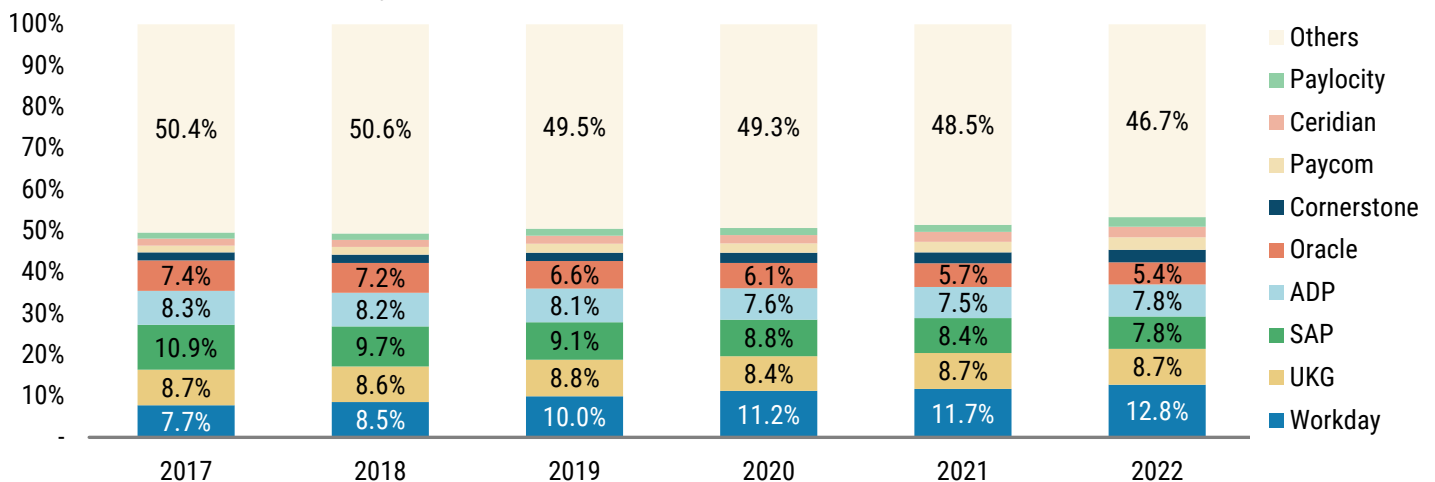
**Mid- to large-size enterprises.** Workday has been heavily focused on large enterprises right from the start, and it counts over 50% of Global Fortune 500 enterprises as customers. The focus on large

enterprises results in high gross revenue retention rates (average 98% over 20 quarters ending July 2021), high efficiency of marketing expenses, and strong profitability.

**Cloud-native technology.** Without legacy on-premise products, Workday delivers its suite of solutions on a unified cloud platform from the bottom up, including developing a proprietary database and programming environment, giving it an edge as other players took time to transform to the cloud model. Workday maintains its technological lead through R&D and acquisitions, enhancing capabilities in real-time data analytics, cloud computing, micro services, distributed storage, etc. The modularization and unified platform approach allow Workday to speed up module upgrades without rebuilding the underlying architecture. While this approach requires higher upfront investment, it helps Workday create barriers to entry, increase client loyalty and expand its TAM with better cross-selling opportunities.

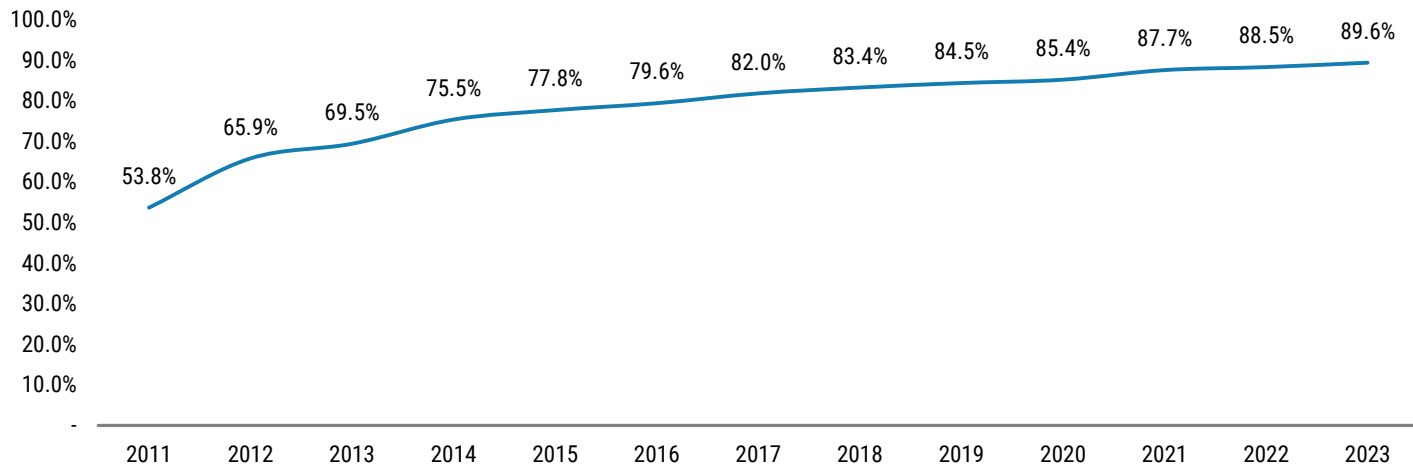
**PaaS platform to cater to customization needs.** In order to improve the customization beyond its standardized SaaS products, Workday started to build its PaaS platform, Workday Cloud Platform, in 2017, with general rollout in 2020. The PaaS platform is open to customers for application configuration and industry-specific customization, as well as to third-party developers and system integration partners to build applications directly on Workday and integrate with other systems to consolidate data and automate workflows.

**Exhibit 16:** Worldwide HCM and payroll application market share, 2017-2022



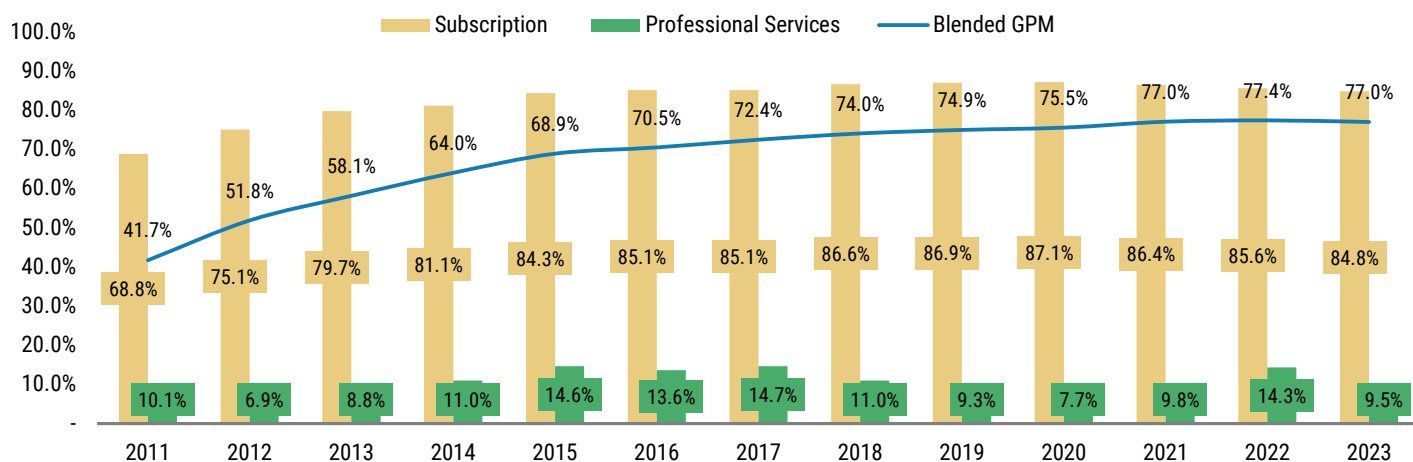
Source: IDC; Ultimate Kronos Group ("UKG") is the new company after the merger of Kronos Incorporated and Ultimate Software in 2020, and thus the market shares of UKG in 2016-2019 are estimated by summing up the respective companies' market shares.

**Exhibit 17:** WDAY subscription revenue as % of total revenue, FY2011-2023



Source: Company data, Morgan Stanley Research; Financial years ending January.

**Exhibit 18:** WDAY GPM trends, FY11-2023



Source: Company data, Morgan Stanley Research; Financial years ending January.

# Investment Concerns

## Market: Beisen has to sacrifice some market opportunities to stick to its strategy

We like Beisen's focus on mid-to-large customers and its standard product and public cloud deployment, but we acknowledge that Beisen has to pass up some market opportunities. We think enterprises with 500-10000 people are the current real TAM for Beisen's core HCM solution, excluding some SOEs.

- Some SOEs do not accept public cloud deployment due to concerns over data security, or the subscription model due to inertia in procurement processes. Beisen's cloud security certificates, neutral position and self-built infrastructure provide limited help in changing these customers' preferences for private cloud and full asset ownership. This applies to Beisen's core HR product (almost 60% of HCM software market size). We still see very good acceptance of cloud-based assessment or recruitment software among this group of customers.
- Large enterprises with tens of thousands of employees tend to build in-house solutions or do deep customization of existing products. This also mainly applies to the core HR market. Such enterprises have the scale, IT capability and HCM know-how to build core HR systems using an in-house team of 50-100, and some outsourced labor at the same time.
- SMB demand is strategically given up by Beisen. This is not that significant, in our view, given the low ARPU and high churn rate. Most Chinese SMBs with <300 employees choose to do HCM manually.

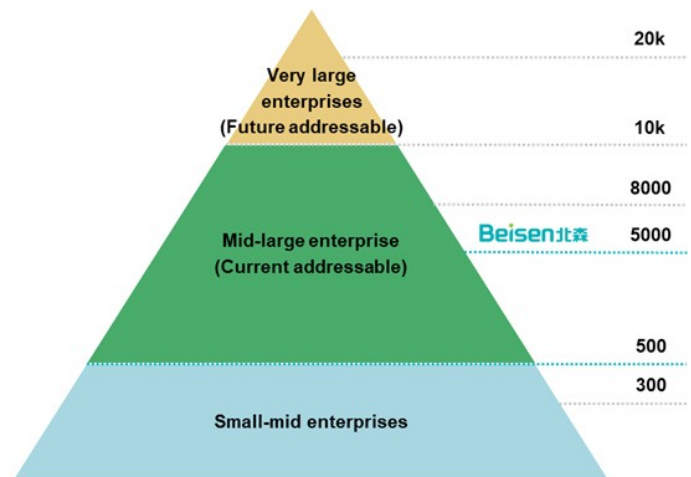
We believe the underlying reasons rendering these three types of customer unaddressable are highly likely to sustain. Based on CIC's forecast, the traditional on-premise HCM software market is

expected to grow at a 19% CAGR, 2021-2027, and the market size will remain bigger than that of cloud-based HCM until 2027. Against any potential for a weak macro backdrop, not serving very big SOEs could become a relatively significant issue, as SOEs tend to have more resilient budgets.

These unaddressable market opportunities are the reasons for Beisen's current revenue scale of Rmb680mn in FY22. Combining the on-premise and cloud-based digital HCM markets, Yonyou and Inspur International are both slightly bigger than Beisen, and Kingdee is not far behind.

**Beisen has a track record of moving up.** Historically, Beisen has been consistently improving its Core HR product capability to meet major customers' demands and address more opportunities with standard products. It has grown from 2K to 5K and then to 10K employee enterprises in the past several years. It has a plan to move up to the 20K market within three years, which of course is subject to execution.

**Exhibit 19:** China cloud HCM SaaS market segmentation: Beisen is moving up the pyramid



Source: Company data, Morgan Stanley Research

## Competition: Beisen is faced with three groups of peers

There are three types of competitor in the market:

**ERP incumbents:** HCM accounts for 30% of the overall ERP market in China, and integrated ERP vendors view HCM as the second-most important module in their offering, after accounting. Yonyou, Kingdee, Inspur, SAP (SuccessFactor) and Oracle (PeopleSoft) all have big existing ERP customer bases in China to cross-sell their HCM solutions. Using the same vendor for HCM and other ERP modules can reduce challenges of system integration and help facilitate better data-sharing. Also, Yonyou, Inspur and Kingdee are better positioned than Beisen in ERP software localization initiatives among big SOEs. They have a chance to gain know-how from big enterprises, improve products, and finally win greater market share among major customers. We note Kingdee launched a new generation of HCM SaaS solutions in 2022 after its customization project for Huawei. Yonyou acquired Dayee, a leading cloud-based recruitment solution provider, in 2021.

**HCM SaaS startups:** The HCM market remains fragmented. We have seen many private HCM SaaS companies raise capital in the past 2-3 years ([Exhibit 27](#)), and they may use this capital to invest in R&D to narrow the product gap with Beisen. The downcycle in 2022 has cooled the fundraising activity and aggressive expansion of private players, but they remain in the market. Therefore, there is risk that

competition will intensify again as business activity improves in the future.

**In-house solution turning to exporting:** ByteDance and Ping An are two special competitors of Beisen, wishing to export their in-house HCM solutions via Feishu and HR-X, respectively. Though there is a large gap between in-house solutions and a product serving third parties, their parentcos' support and branding is worth monitoring. Beisen's different modules may be faced with different forms of competition. For assessment and recruitment, Beisen has a strong market position, but the standard product and short implementation cycle make the churn rate relatively high. Core HR has a low churn rate, but competition for new customers could lead to a price war. We note Feishu's core HR currently focuses more on the SMB market, and HR-X turned much less vocal in the market after a high profile 2020, likely due to parentco's strategy change.

Based on current competitive dynamics, we believe Beisen has about a two-year early-mover advantage. If it fails to quickly grow its customer base in this favorable period, its long-term market share may be in question.

**We also see a risk of intensified competition for employees,** in both R&D and sales, with the potential loss of key talent and/or higher personnel costs, if the economic condition heats up again or as internet companies emerge out of previous waves of regulatory reset.

**Exhibit 20:** Private HCM SaaS players financing summary

Company	Issue Date	Proceeds Amount (USD mn)	Major investor(s)	Rounds
<b>KNX</b>	Mar-20		Greenwoods Investment, Zhongnan Capital	D1
	Jan-18	24	Legend Capital, Oriental Fortune Capital	B+
<b>CDP</b>	Nov-19	80	51job	E
<b>Gaia</b>	Dec-20	79	GGV, EDBI, Tencent, Matrix Partners, Index Capital	D1
	Jan-19	48	Tiger Global, Matrix Partners, Warburg Pincus	C
<b>Xinrenxinshi</b>	Nov-18	29	Kingdee	C
	Mar-18	14	Alpha Startups, Sequoia China	B
<b>eRoad</b>	Dec-21	159		D
	Jul-20		Huaxing	C3
	Jan-20	95	Eastern Bell, Hillhouse, SIG, Ivy Capital,	C2
	Jul-19		SIG, Hillhouse	C1
	Oct-18		Hillhouse	B
<b>Moka</b>	Nov-21	100	Tiger Global, Blue Lake, Hillhouse, GoldenSand, GGV	C
	Dec-20		Hillhouse, GGV, GoldenSand, Xiang He Capital, Blue	B/B+
	Mar-19	~50	Lake	
	Mar-18		GGV, FreesFund, GoldenSand	A/A+

Source: Company data, Morgan Stanley Research

**Exhibit 21:** Assessment of overall capabilities across HCM players from our channel checks

	Beisen北森	SAP	ORACLE	Kingdee	用友 yonyou
Easy to use	█	█	█	█	█
Integrated, full coverage of features	█	█	█	█	█
Capability to support mid-sized enterprises (500-10K)	█	█	█	█	█
Capability to support large enterprises (>10K employees)	█	█	█	█	█
Private cloud/on-premise deployment	█	█	█	█	█
Price competitiveness	█	█	█	█	█
Overseas version (for multinational enterprises)	█	█	█	█	█
Take care of implementation	█	█	█	█	█
Customer service	█	█	█	█	█
ERP solutions	█	█	█	█	█
Domestic technology	█	█	█	█	█
PaaS capability	█	█	█	█	█

Source: Morgan Stanley Research

## Macro: Correlation with enterprise spending

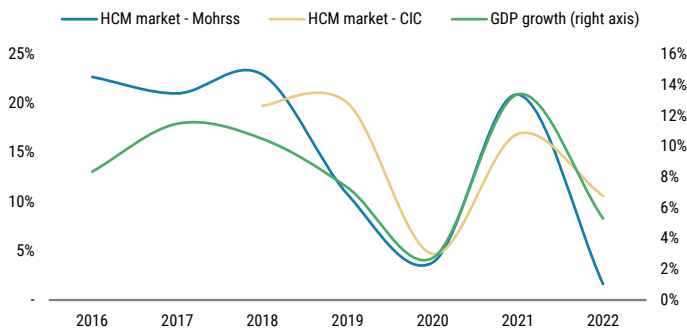
Enterprise spending is not immune to macro slowdowns, though the subscription model can help mitigate volatility in smaller economic cycles to some extent. Traditionally, HCM solutions are used for internal efficiency improvement, which is less urgent than production system or other mission-critical IT areas in the eyes of enterprise customers. When downside risk emerges, enterprises tend to cut the internal efficiency-related spending first, to save cost.

From our latest CIO survey, we see a healthy rebound in overall ERP spending growth for 2023, rising back to 10.1%, compared to 6.2% in

2022. However, HR software spending seems less resilient, and more likely to get cut, in the face of macro downturns; this is consistent with our view.

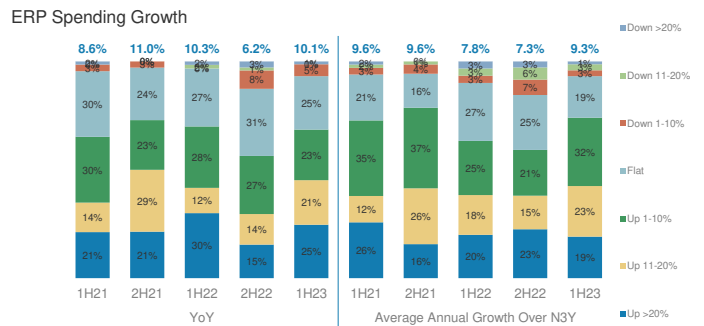
In addition to the macro headwinds in 2022 stemming from Covid-19 disruption, Beisen also has some revenue exposure to industries heavily affected by unfavorable regulations since 2020-2021, including internet (one of the top contributors), real estate, and education in China, despite Beisen's HCM being widely adopted across various industries.

**Exhibit 22:** HCM market shows a correlation with China's nominal GDP growth



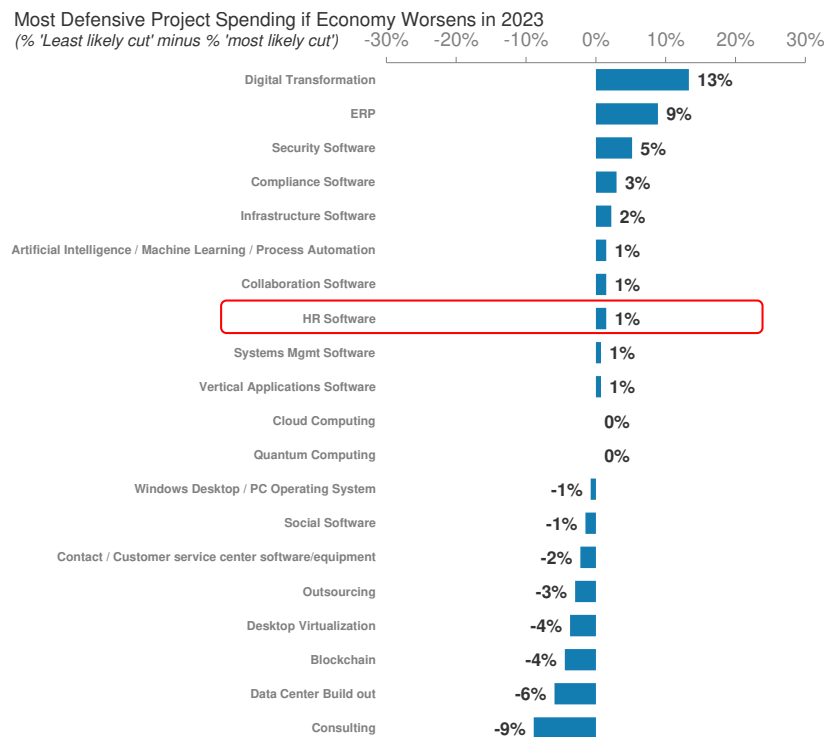
Source: Ministry of Human Resources and Social Security (MOHRSS), CIC, Morgan Stanley Research.

**Exhibit 23:** ERP spending growth expectations



Source: AlphaWise, Morgan Stanley Research.

**Exhibit 24:** Most defensive project spending if economy worsens in 2023



Source: AlphaWise, Morgan Stanley Research.

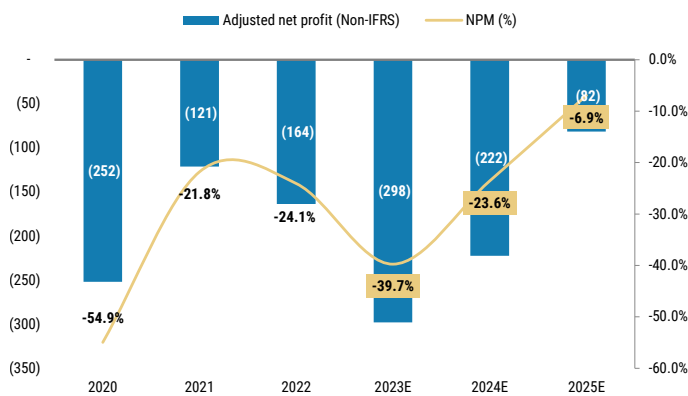
## Financials: It takes time to turn cash flow positive / profitable

Under the subscription model, revenue can only be recognized based on time lapse, but selling and marketing expenses are one-off, leading to a major mismatch between revenue and expenses. It is common to see a fast-growing SaaS company reporting a net loss, and Beisen is also in this stage now.

The faster it expands, the bigger the short-term net loss it will book. FCF will be better than net income, helped by customer prepayment. In a rising interest rate environment, the market may care about profitability more than in previous cycles.

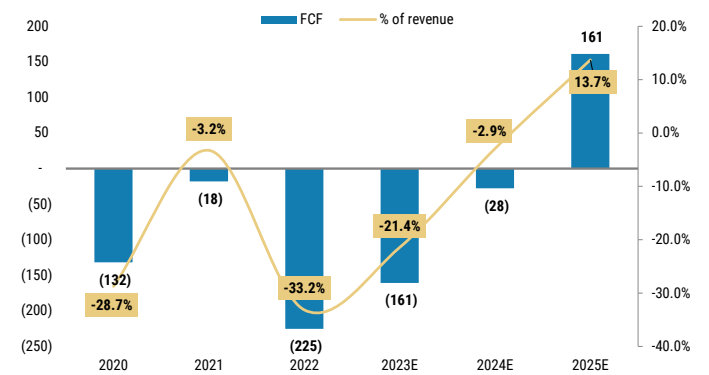
We forecast Beisen will remain FCF negative until FY25 and loss-making in FY24-25. Based on our calculations, Beisen has enough cash on hand to sustain the business until the anticipated FCF turnaround.

**Exhibit 25:** Net profit and net margin



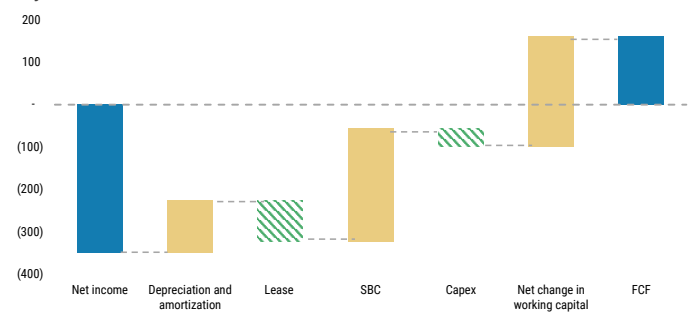
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 26:** Free cash flow



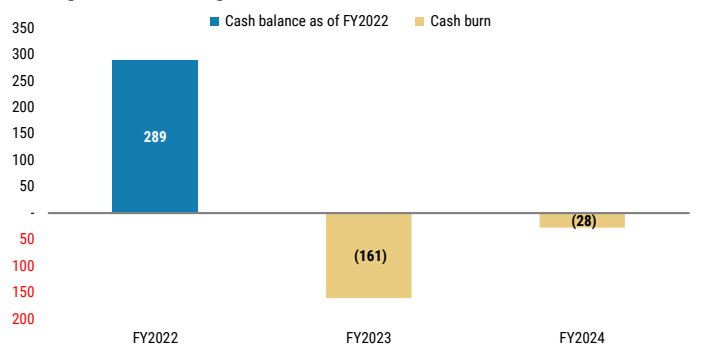
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 27:** Free cash flow breakdown, 2025e: Working capital is key



Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 28:** Beisen's existing cash positions FY22 are almost enough to cover negative FCF until FY25



Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates. Cash and cash equivalents include cash, restricted cash and current financial assets.



**Exhibit 29:** Mismatch of revenue and high upfront customer acquisition costs lead to negative short-term profits (assuming unchanged ARR)

<i>(Rmb '000)</i>	Year 1	Year 2	Year 3	Year 4	Year 5
ARR per customer	122	122	122	122	122
Professional Services per new customer	91				
Cost of revenue					
	HCM Solutions	(28)	(28)	(28)	(28)
	Professional Services	(72)			
Customer acquisition cost	(202)				
Contract renewal cost		(4)	(4)	(4)	(4)
Marginal contribution to profit	<b>(90)</b>	<b>90</b>	<b>90</b>	<b>90</b>	<b>90</b>

Source: Morgan Stanley Research. Assume 20% logo churn rate, i.e., customers are retained for 5 years. Customer acquisition costs are calculated as S&M expenses divided by gross adds of customers. Contract renewal costs are set at 3% of ARR, as sales compensation.

**Exhibit 30:** Mismatch of revenue and high upfront customer acquisition costs lead to negative short-term profits (assuming expanding ARR)

<i>(Rmb '000)</i>	Year 1	Year 2	Year 3	Year 4	Year 5
ARR per customer	122	136	157	179	203
Subscription revenue retention rate	117%	112%	115%	114%	114%
Professional Services per new customer	91				
Cost of revenue					
	HCM Solutions	(28)	(34)	(39)	(46)
	Professional Services	(72)			
Customer acquisition cost	(202)				
Contract renewal cost	-	(4)	(5)	(5)	(6)
Marginal contribution to profit	<b>(90)</b>	<b>98</b>	<b>113</b>	<b>131</b>	<b>151</b>

Source: Morgan Stanley Research. Assume 20% logo churn rate, i.e., customers are retained for 5 years. Customer acquisition costs are calculated as S&M expenses divided by gross adds of customers. Contract renewal costs are set at 3% of ARR, as sales compensation.

# Valuation and Comparables

## DCF Valuation

**Base case, 10-year discounted cash flow model.** We favor DCF because we believe it best reflects the company's long-term growth potential. We assume a 3% terminal growth rate. We use a 13.8% WACC (14.8% cost of equity, 5% risk-free rate, 1.5 beta; 6% cost of debt, 10:90 debt-to-equity weighting).

Our WACC assumption is slightly higher than peer Kingdee, at 13.2%, on our higher beta assumption.

Our price target of HK\$14 implies a 7.0x FY24 EV/sales multiple.

### Our bull case value is HK\$17.4 based on these assumptions:

- ARR growth: 15.2%, 40%, and 37% for 2023, 2024 and 2025
- HCM Solution GPM: 75.0%, 77.3%, and 78.3% for 2023, 2024 and 2025
- S&M as % of revenue: 52%, 44.0%, and 44.0% for 2023, 2024 and 2025

### Our bear case value is HK\$7.7 based on these assumptions:

- ARR growth: 15.2%, 20%, and 18% for 2023, 2024 and 2025
- HCM Solution GPM: 75.0%, 73%, and 73% for 2023, 2024 and 2025
- S&M as % of revenue: 52%, 48.0%, and 48.0% for 2023, 2024 and 2025

#### RISKS TO UPSIDE

- Faster HCM revenue growth to drive accelerated topline growth if macro and customers see faster recovery (e.g. increasing business and hiring activity)
- Faster-than-expected revenue growth from mid-large enterprises, if Beisen successfully pulls off its strategy to target high-end enterprise markets
- Better opex controls such as headcount controls, leading to positive operating leverage

#### RISKS TO DOWNSIDE

- Further slowdown in China's macroeconomic growth, leading

Exhibit 31: Beisen - DCF valuation

Years Ending March 31	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E
Rmb m			Scenario	0											
<b>DCF</b>															
<b>Unlevered FCF</b>	(132)	(18)	(225)	(161)	(28)	161	242	286	433	585	730	874	1,006	1,171	1,362
% change	5.6%	-86.3%	1146.5%	-28.6%	-82.8%	-683.9%	50.1%	18.0%	51.6%	35.1%	24.9%	19.6%	15.2%	16.4%	16.3%
% 3-yr CAGR	6.9%	15.2%	-189.5%	-214.6%	-317.8%	39.0%	34.2%	36.8%	26.4%	19.8%	17.0%	16.0%			
% of revenue	-28.7%	-3.2%	-33.2%	-21.4%	-2.9%	13.7%	16.6%	16.3%	20.9%	23.9%	25.7%	26.5%	26.5%	27.1%	28.1%
<b>Year</b>						0.75	1.75	2.75	3.75	4.75	5.75	6.75	7.75	8.75	9.75
			14.8%			145	190	195	258	303	330	344	345	350	354
			13.8%			146	193	200	267	316	347	365	369	377	386
			12.8%			147	196	205	275	330	365	387	395	408	420
Cost of debt			6.0%	WACC		14.8%		13.8%		12.8%					
Tax rate			10.0%	Terminal growth		2.0%	3.0%	4.0%		2.0%	3.0%	4.0%			
After-tax cost of debt			5.4%	Year 1-10 CF		2,815	2,815	2,815	2,966	2,966	2,966	3,129	3,129	3,129	3,129
Debt weighting			10.0%	Terminal value		2,820	3,088	3,407	3,331	3,674	4,088	3,965	4,412	4,961	4,961
				Enterprise value		5,634	5,903	6,221	6,297	6,641	7,054	7,095	7,542	8,090	8,090
Risk-free rate			5.0%	Net cash/(debt)		487	487	487	487	487	487	487	487	487	487
Equity risk premium			6.5%	Investment		1,335	1,335	1,335	1,335	1,335	1,335	1,335	1,335	1,335	1,335
Beta			1.50	Minority interests		-	-	-	-	-	-	-	-	-	-
Cost of equity			14.8%	Equity value		7,457	7,725	8,044	8,119	8,463	8,877	8,917	9,364	9,912	9,912
Equity weighting			90.0%	No. of shares (mn)		715	715	715	715	715	715	715	715	715	715
				DCF value (Rmb/share)		10.42	10.80	11.25	11.35	11.83	12.41	12.47	13.09	13.86	13.86
WACC			13.8%	FX HKD/CNY		1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
				Price target (HKD/share)		12.3	12.8	13.3	13.4	14.0	14.7	14.7	15.5	16.4	16.4
				EV/Sales (FY 2024E)		6.0	6.3	6.6	6.7	7.0	7.5	7.5	8.0	8.6	8.6
				EV/Sales (FY 2025E)		4.8	5.0	5.3	5.3	5.6	6.0	6.0	6.4	6.9	6.9

Source: Company data, Morgan Stanley Research estimates.

to subdued hiring activity and IT spending growth

- Execution risk in entering large enterprises
- Intensified domestic competition and share loss to other ERP players or start-up HRM companies
- Slower profitability turnaround if failing to achieve opex controls and operating leverage improvement

## Valuation Comps

**We think Kingdee serves as a good comparable for Beisen.** Kingdee is Chinese domestic ERP software and cloud service leader in the stage of cloud transition, which means a smaller percentage of recurring subscription revenue. It is a direct competitor of Beisen's HCM solution in the China market. Kingdee is listed on the HKEX and is still in a loss-making stage. It is trading at 2023e EV/sales of 5.7x, based Morgan Stanley Research estimates.

**We believe Workday (WDAY.O, covered by Keith Weiss) is also a good comparable for Beisen** because both are respective market leaders in Cloud HCM solutions in the US and China, and both have a cloud-native technology, subscription-based model and a strategy of focusing on relatively large enterprises. Workday is much bigger than Beisen, has a longer track record and higher gross margins, and has already passed the breakeven point, while Beisen has a faster revenue growth outlook. Workday is currently trading at NTM EV/sales multiple of 6.0x (FY2024E), below its historical average of 9-10x

since its IPO in October 2012.

**We mainly compare EV/sales multiples** because Beisen and some peers are in a fast-growing/cloud-transition stage, there is a major mismatch between revenue (recognized with a lag) and costs (one-off), and near-term reported profits cannot reflect real long-term profitability. EV/sales is also a widely adopted metric for SaaS companies with high recurring revenue.

**Beisen's high revenue growth potential and higher recurring revenue percentage is underappreciated.** Beisen is currently trading at 4.8x FY24 EV/sales, compared with Kingdee's 5.7x. We think Beisen's higher revenue growth (25% next-three-year CAGR vs. 21% for Kingdee) is underappreciated by the market. At the same time, we see a higher recurring subscription revenue percentage for Beisen (72% in FY24) compared with (40-45% for Kingdee). So Beisen's higher visibility of future revenue streams is not reflected in the current share price, in our view.

**Exhibit 32:** Valuation comparison

Ticker	Name	Rating	CURR	PX	Market cap (LC mn)	EV (LC mn)	EV/S			Rev CAGR (22-25)
							2023E	2024E	2025E	
0268.HK	Kingdee	O	HKD	11.64	40,480	33,854	5.7	4.7	3.9	21%
600588.SS	Yonyou	E	CNY	20.63	70,988	69,654	6.1	5.0	4.0	23%
9669.HK	Beisen	O	HKD	9.93	7,107	4,743	5.0	4.0	3.3	25%
PAYC.K	Paycom	*	USD	265.31	15,354	14,878	8.7	7.2	6.0	22%
PCTY.O	Paylocity	*	USD	165.20	9,221	8,987	7.0	5.9	5.1	21%
WDAY.O	Workday	O	USD	178.32	46,185	43,039	6.0	5.1	4.4	17%
SAPG.DE	SAP	O	EUR	122.30	151,153	156,030	5.1	4.7	4.3	5%
ORCL.N	Oracle	E	USD	97.44	263,069	346,620	6.5	6.0	NA	NA
<b>Median</b>							<b>6.0</b>	<b>5.0</b>	<b>4.3</b>	<b>21%</b>
<b>Average</b>							<b>6.3</b>	<b>5.3</b>	<b>4.4</b>	<b>19%</b>

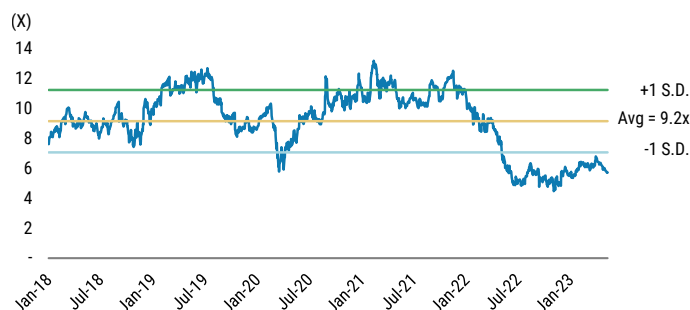
Source: Refinitiv Eikon, Morgan Stanley Research; EV/S are calendarized. \*Consensus estimates used for PAYC and PCTY, which are not covered by MS. Note: WDAY is based on Morgan Stanley Research estimates, with FY year ending in January, financial years were adjusted to calendar years (e.g., FY22 is counted as CY21). ORCL's financial year end in May, financial years were adjusted to calendar years (e.g., FY22 is counted as CY21). Kingdee and Yonyou are based on MSe. Paylocity's financial year ends in June, sales were adjusted to calendar years by adding up quarterly sales. Data as of 11 May 2023.

Exhibit 33: Summary of peers' operating metrics (Rmb mn)

	Beisen	Workday	SAP	Paycom	Paylocity	Kingdee	Yonyou
ARR (Rmb mn)	670	43337				2140	2040
Revenue (Rmb mn)							
2022	750	42889	234618	9489	6908	4866	9262
2025	1455	67943	273590	17078	12037	8715	17415
3-year CAGR	25%	17%	5%	22%	20%	21%	23%
Subscription, % revenue	71%	90%	41%			76%	22%
Dollar retention rate	112%	97%					
ARPU (Rmb '000)	128	8581		255	176		
Gross margin	56%	77%	73%	85%	71%	62%	56%
Expenses, % of revenue							
R&D	39%	26%	18%	11%	14%	27%	19%
S&M	52%	25%	25%	24%	23%	42%	24%
G&A	19%	6%	4%	13%	12%	10%	12%
OP margin (reported)	-50%	19%	15%	28%	24%	-17%	0%
Net margin (normalized)	-40%	15%	15%	20%	23%	-8%	2%
Net margin (reported)	-48%	-6%	7%	20%	9%	-8%	2%

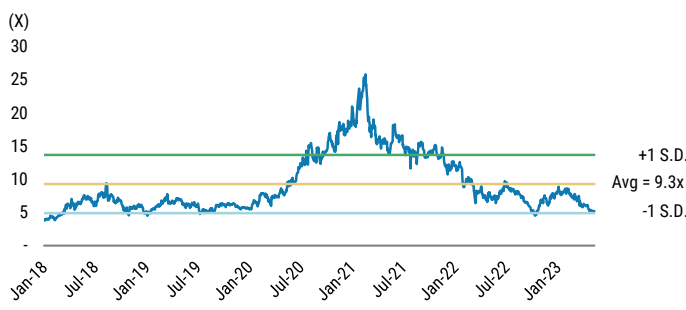
Source: Refinitiv Eikon, Morgan Stanley Research. Data as of CY2022. WDAY is based on Morgan Stanley Research estimates, with FY year ending in January; financial years were adjusted to calendar years (e.g., FY23 is counted as CY2022). SAP, Kingdee, and Yonyou are based on MSE and financial years end in December. Paylocity financial years end in June, and the annual figures are calculated using quarterly figures, except for ARPU which was as of June 2021. Expenses are as reported, without adjusting for share-based compensation (SBC); adjusted net margin is adjusted for non-recurring items and SBC. Workday, Paycom and Paylocity operating metrics are converted into Rmb using USD/RMB exchange rate of 6.9; SAP operating metrics are converted into RMB using an EUR/RMB exchange rate of 7.6.

Exhibit 34: 5Y historical EV/Sales – Workday



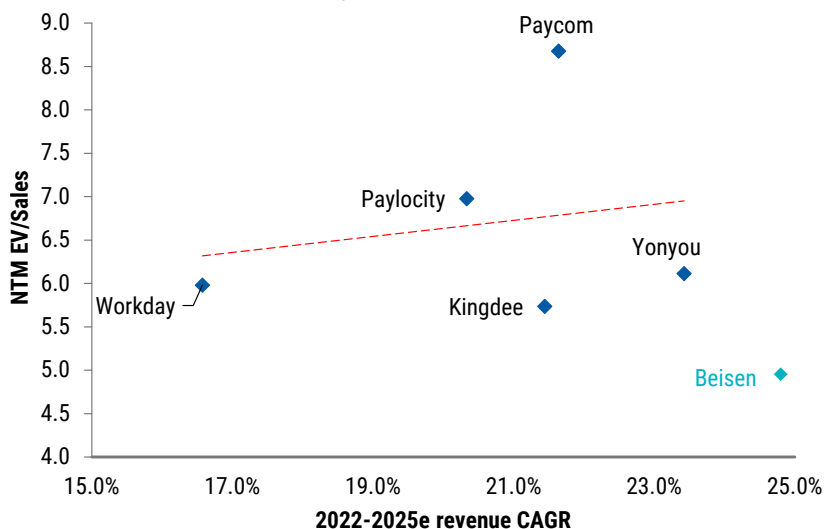
Source: Refinitiv Eikon; Morgan Stanley Research. Data as of 11 May 2023.

Exhibit 35: 5Y historical EV/Sales – Kingdee



Source: Refinitiv Eikon; Morgan Stanley Research. Data as of 11 May 2023.

Exhibit 36: NTM EV/Sales vs 3-year revenue CAGR



Source: Refinitiv Eikon, Morgan Stanley Research. WDAY is based on Morgan Stanley Research estimates, with FY year ending in January; Beisen is based on Morgan Stanley Research estimates, with FY year ending in March; financial years were adjusted to calendar years for Beisen and WDAY (e.g., FY2023 is treated as CY2022). Kingdee and Yonyou are based on MSE. Other estimates are Refinitiv consensus. Paylocity financial years end in June; the sales were adjusted to calendar years by adding up quarterly sales. Data as of 11 May 2023.

# Financial Forecasts and Earnings Outlook

## Revenue and drivers

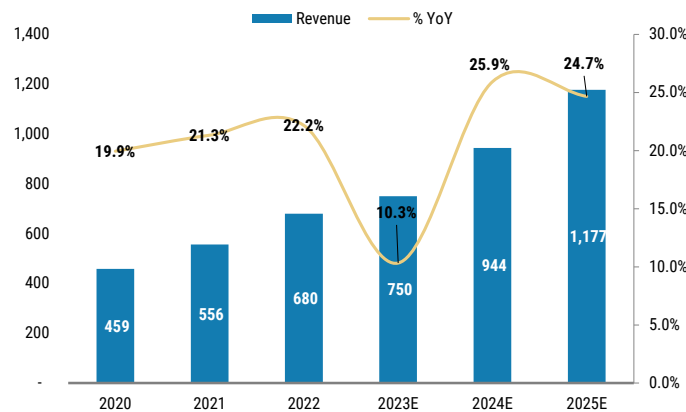
We expect Beisen’s revenue to rise 10% in FY23, to Rmb750mn. The FY23 slowdown stems from Covid disruptions and a higher base in FY22 due a subsidiary (Beisen Shengya, with revenue of ~Rmb20mn in FY22) that was disposed of in FY22. We expect Beisen to return to a high-growth trajectory after reopening, with 26% growth in FY24 and 25% in FY25, mainly driven by existing customers with a high net expansion rate of 115%/114%, as well as new customer additions. We expect HCM Solutions revenue to outgrow professional services and contribute to 73% of total revenue by FY25 (up from 68% in FY22).

Beisen’s land-and-expand strategy and SaaS model help to deliver improving logo retention and increasing ARPU. We forecast its ARR to surpass Rmb1,088mn in FY25, almost doubling from Rmb582mn in FY22.

As the company continues to execute on its strategic focus on mid-large enterprises and offer integrated solutions, we believe the logo churn rate has room to further decline, especially for those purchasing CoreHR and multiple modules. Therefore, we project that the subscription revenue contribution from existing customers each year will remain at 90+%, with net expansion rates of 112%/115%/114% in FY23/FY24/FY25; we project that ARR from each existing customer will increase from Rmb136k to Rmb170k, FY22-25.

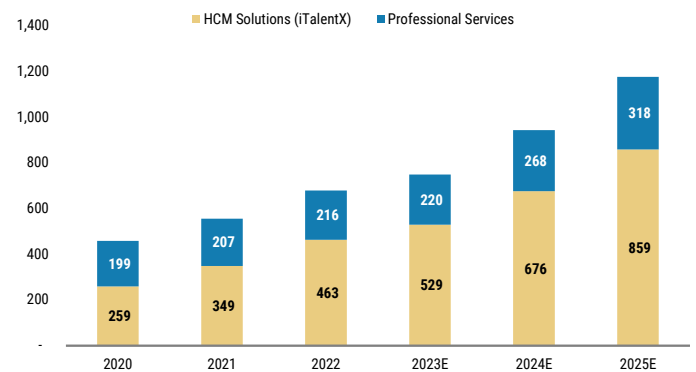
In addition, new customer ARPU (ARR from each existing customer) is on an increasing trend as Beisen focuses sales efforts on Core HR+ and bundled sales. We expect new customer ARPU to increase 15%/18%/15% in FY23/24/25.

**Exhibit 37:** Revenue and YoY growth (%)



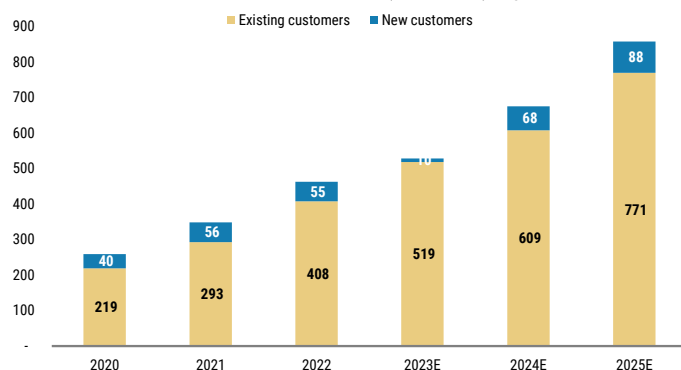
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 38:** Revenue breakdown, by segment (Rmb mn)



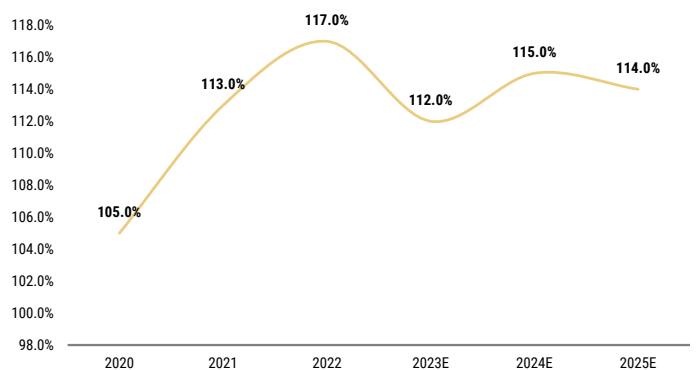
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 39:** HCM Solutions revenue (Rmb mn), by customer



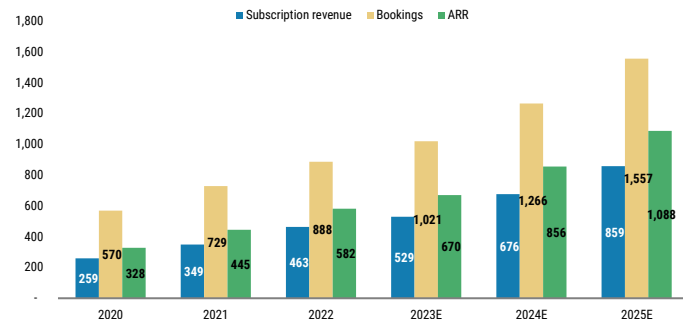
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 40:** Net dollar expansion rate



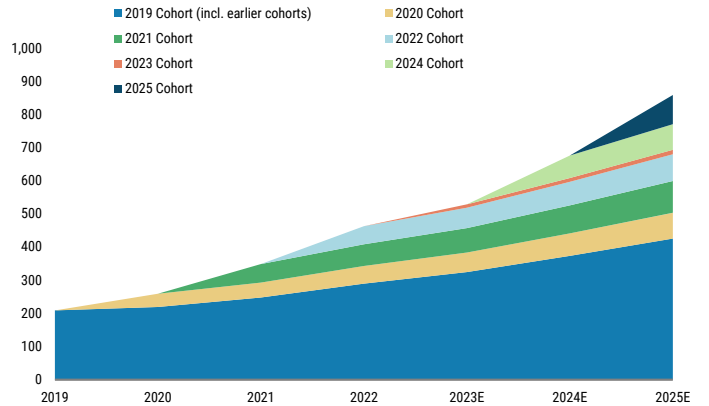
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 41:** Comparison of subscription revenue, total bookings and ARR (Rmb mn)



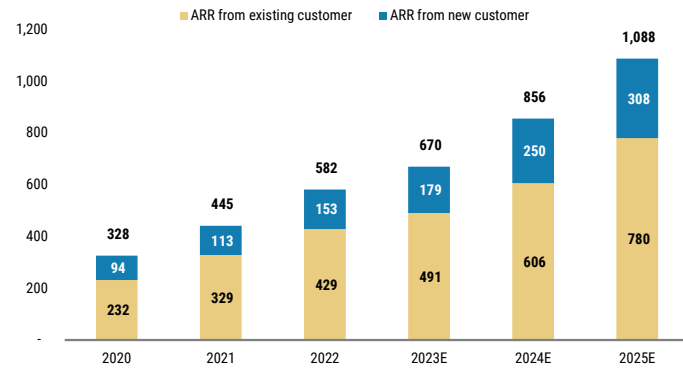
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 42:** Revenue, by customer cohort (Rmb mn)



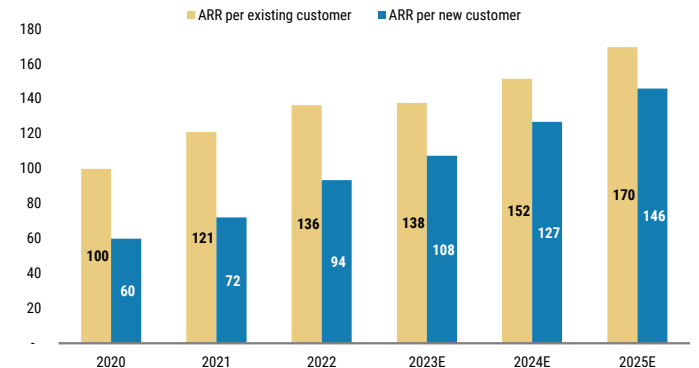
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 43:** Total ARR breakdown, by customer (Rmb mn)



Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 44:** ARR per customer growth, by customer (Rmb '000)



Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

## Cost and profitability

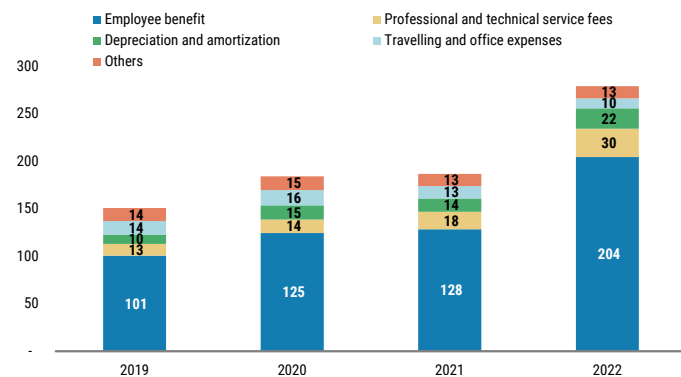
Cost of revenue mainly comprises employee benefits, professional and technical service fees, depreciation and amortization, and travel and office expenses. Employment benefits are the single largest component, accounting for 30% of total revenue in FY22, while other costs each account for about 2-5%. We expect the cost of revenue as a percentage of revenue to gradually decline over our forecast period, and the gross margin to reach 60% by FY25, up from 59% in FY22.

For operating expenses, R&D and S&M are the major components, making up a respective 38% and 49% of total revenue in FY22. We expect a gradual decline in the R&D ratio in the near term, to 39%/36% of total revenue in FY23/24, as the products become more mature. Sales & marketing expense was 49% of revenue in FY22, and we forecast it will increase

to 52% in FY23 as Beisen sticks to its direct sales model and expands the geographical coverage of its sales force and client success and service teams, before declining to 46% in FY24. After the more aggressive investments, we forecast R&D and S&M expenses as a percentage of revenue to level off to 36% and 46% in FY25, respectively. G&A has decreased from 41% to 30%, between FY19 and FY22, and we forecast that it will be 15-16% in FY24/25, after factoring in share-based compensation.

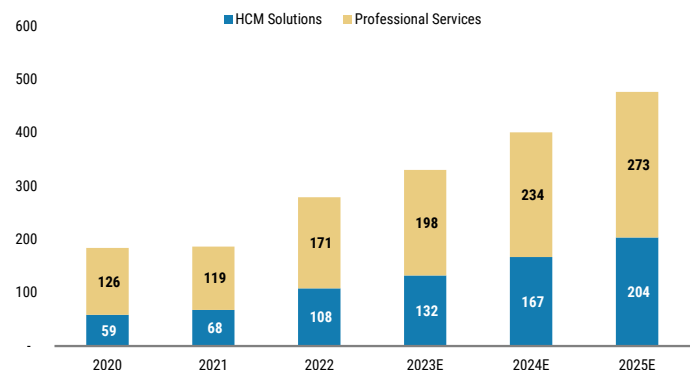
Given the continued investments in S&M and R&D, as well as implementation efficiency loss due to Covid disruptions in FY22-23, operating profit and adjusted EBITDA are expected to remain negative between FY22 and FY25, but we forecast narrowing adjusted EBITDA losses starting FY24. Net profit (non-IFRS) will show a similar pattern, with widening net loss in FY23 before narrowing in FY24 and reaching -7% net profit margin in FY25.

**Exhibit 45:** Cost of revenue breakdown



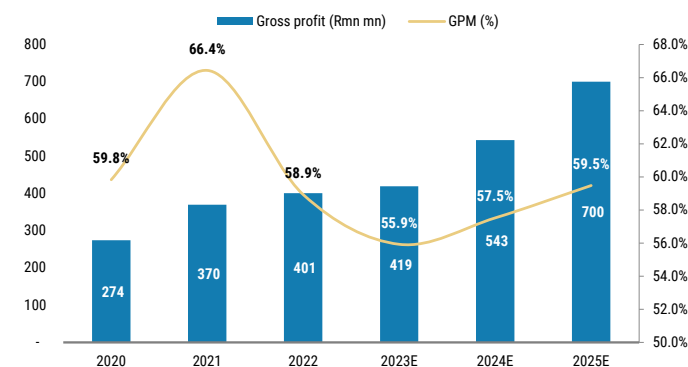
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 46:** Cost of revenue forecast



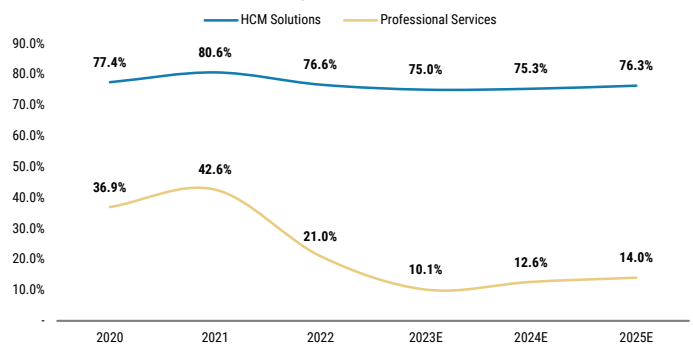
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 47:** Gross profit and margin



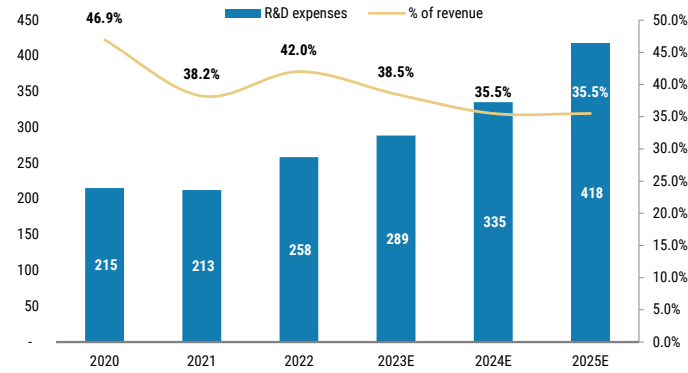
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 48:** Gross margin, by segment



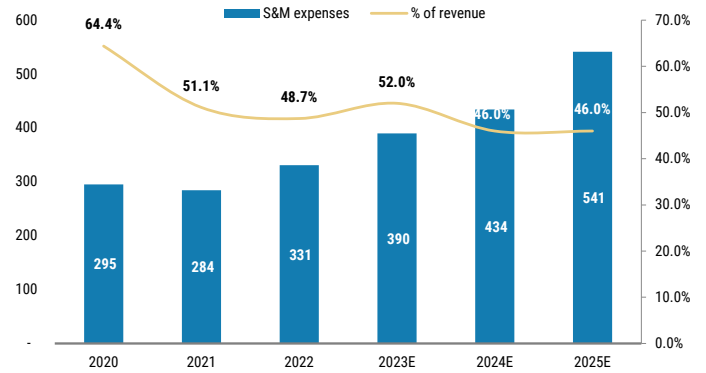
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 49: R&D expenses**



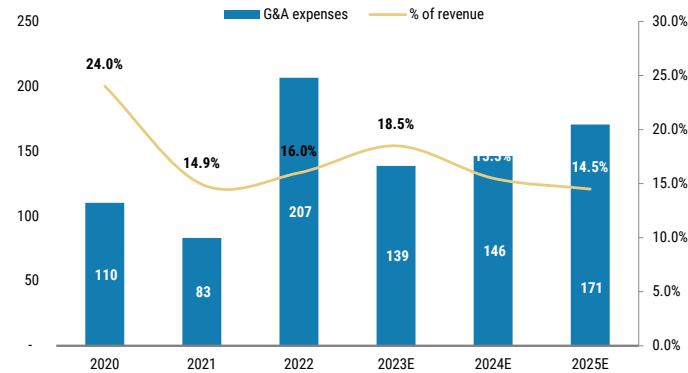
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 50: S&M expenses**



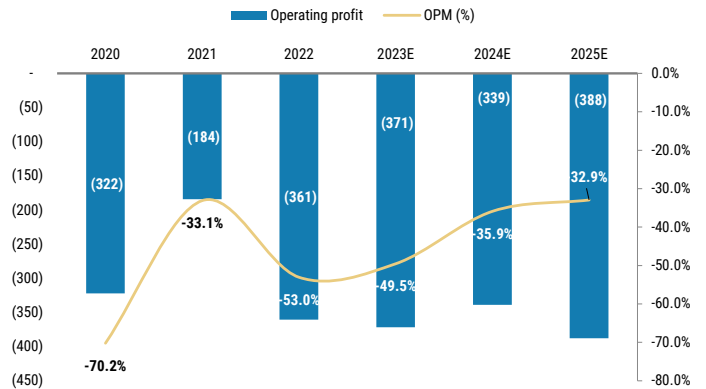
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 51: G&A expenses**



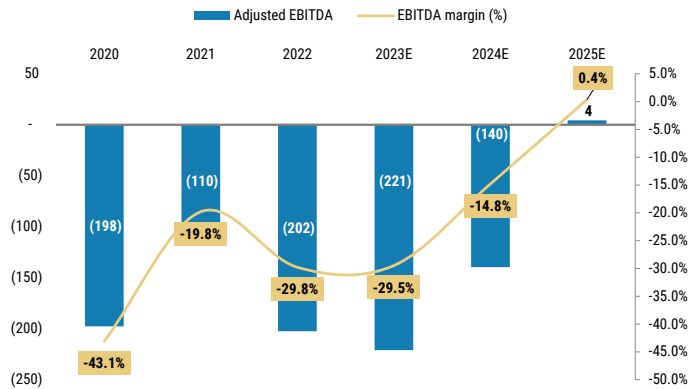
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 52: Operating profit and operating margin**



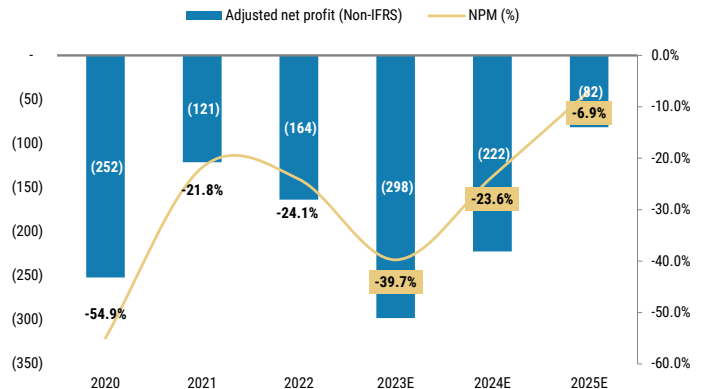
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 53: EBITDA and EBITDA margin (adjusted)**



Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 54: Net profit and net margin**



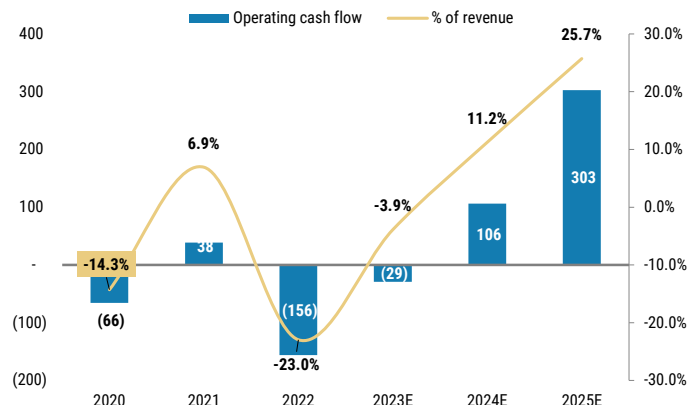
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.



## Cash flow and balance sheet

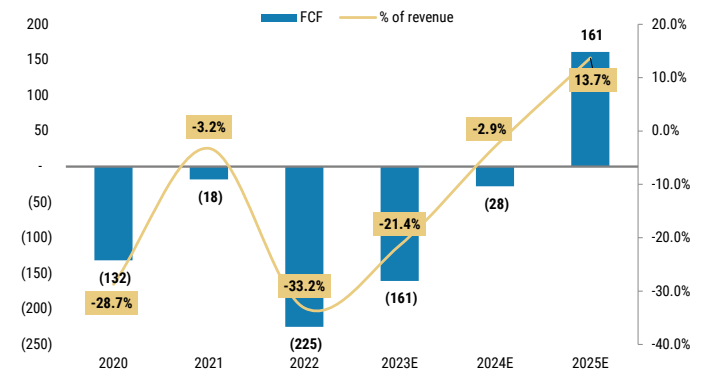
We expect operating cash flow to remain negative in FY22-23 before turning positive, to Rmb106mn in FY24 and Rmb303mn in FY25, primarily attributable to improving gross margins. We project free cash flow to turn positive in FY25 and onward, consistent with net profit margin improvements.

**Exhibit 55:** Operating cash flow



Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

**Exhibit 56:** Free cash flow



Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

# Company and Industry Background

## Company overview

Beisen was founded in 2005 and launched its first cloud-based products, including Recruitment Cloud, Succession Cloud and Performance Management Cloud in 2010. It has grown into the largest provider of cloud-based human capital management (HCM) solutions in China in terms of revenue in 2021, with solutions covering the full lifecycle of an employee. Complementary to its integrated HCM software,

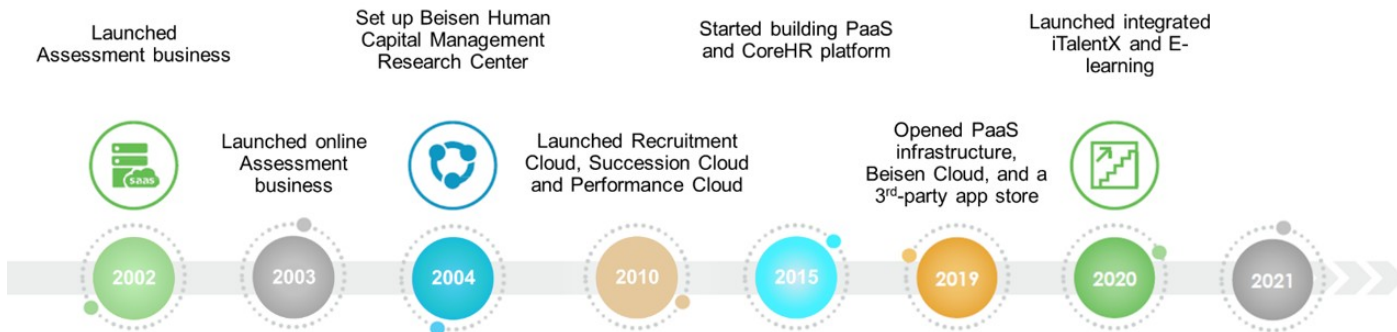
tomers and business partners to conveniently develop tailor-made functionalities for specific use cases, all through low-code, no-code or full-code development tools.

Beisen has a strategic focus on mid- to large-size clients; its customer base covers 70% of Fortune China 500 companies.

The founding team has over 20 years of experience in the HCM industry and has been working together since 2002.

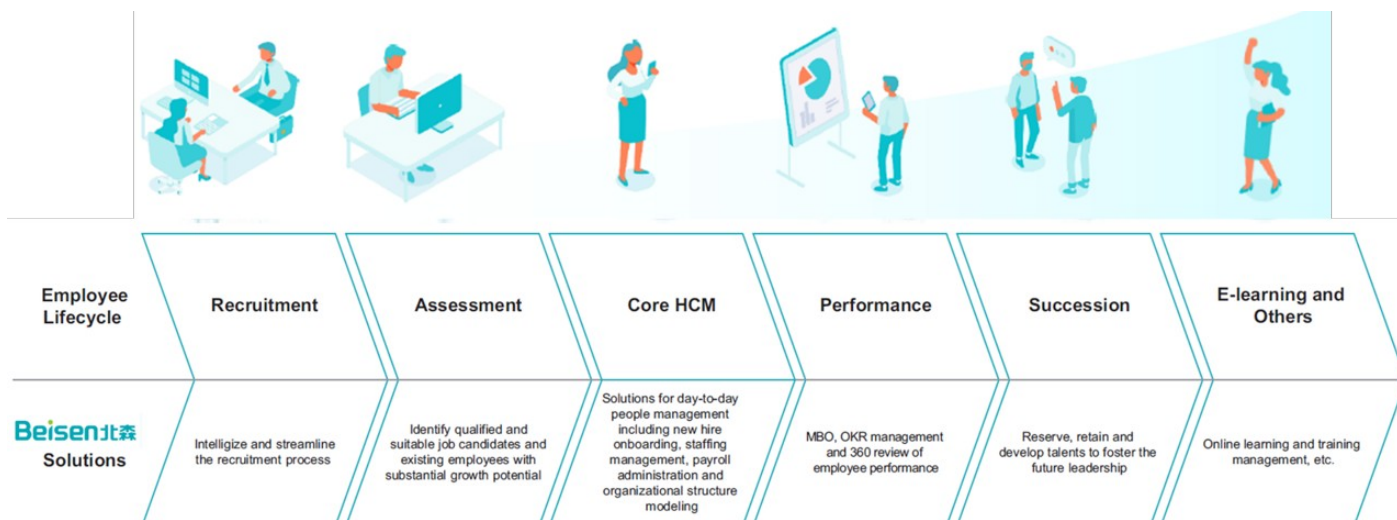
Beisen also provides PaaS infrastructure to speed up development and application expansion to enhance product adaptability for cus-

**Exhibit 57:** Corporate milestones



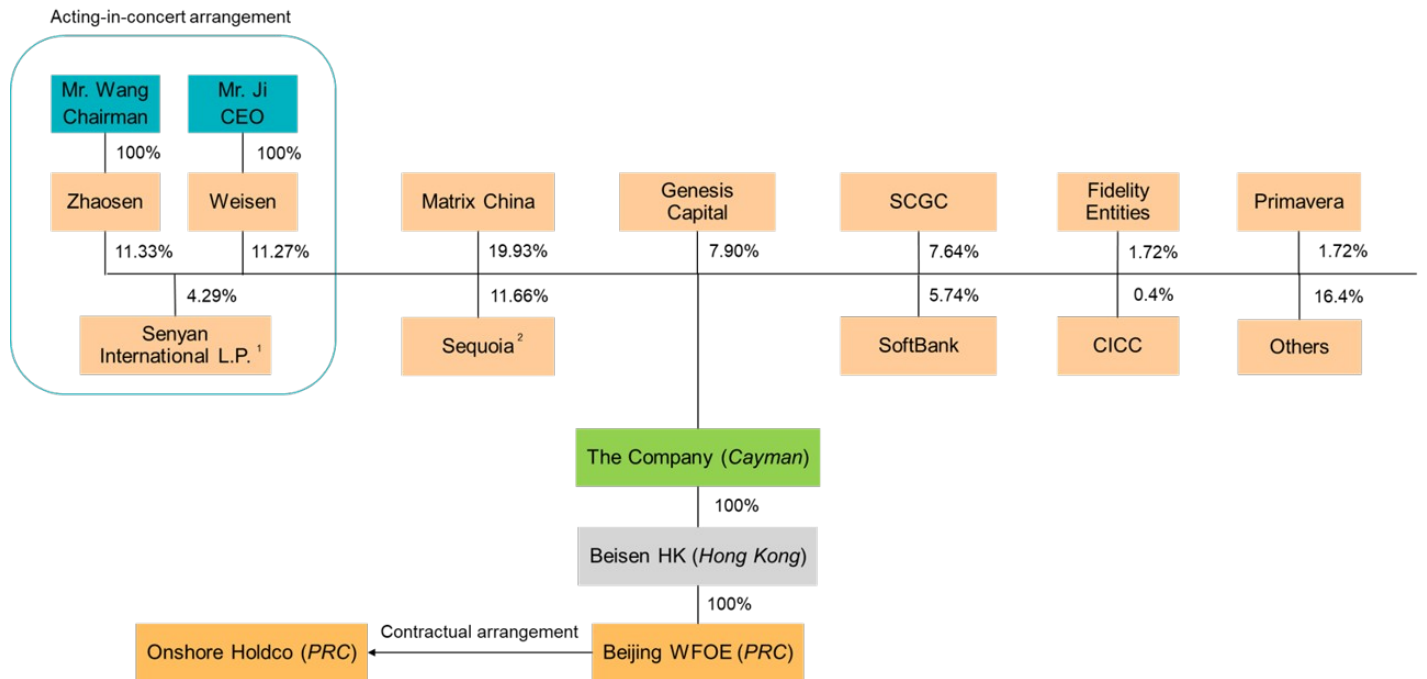
Source: Company data

**Exhibit 58:** Beisen's business and use cases



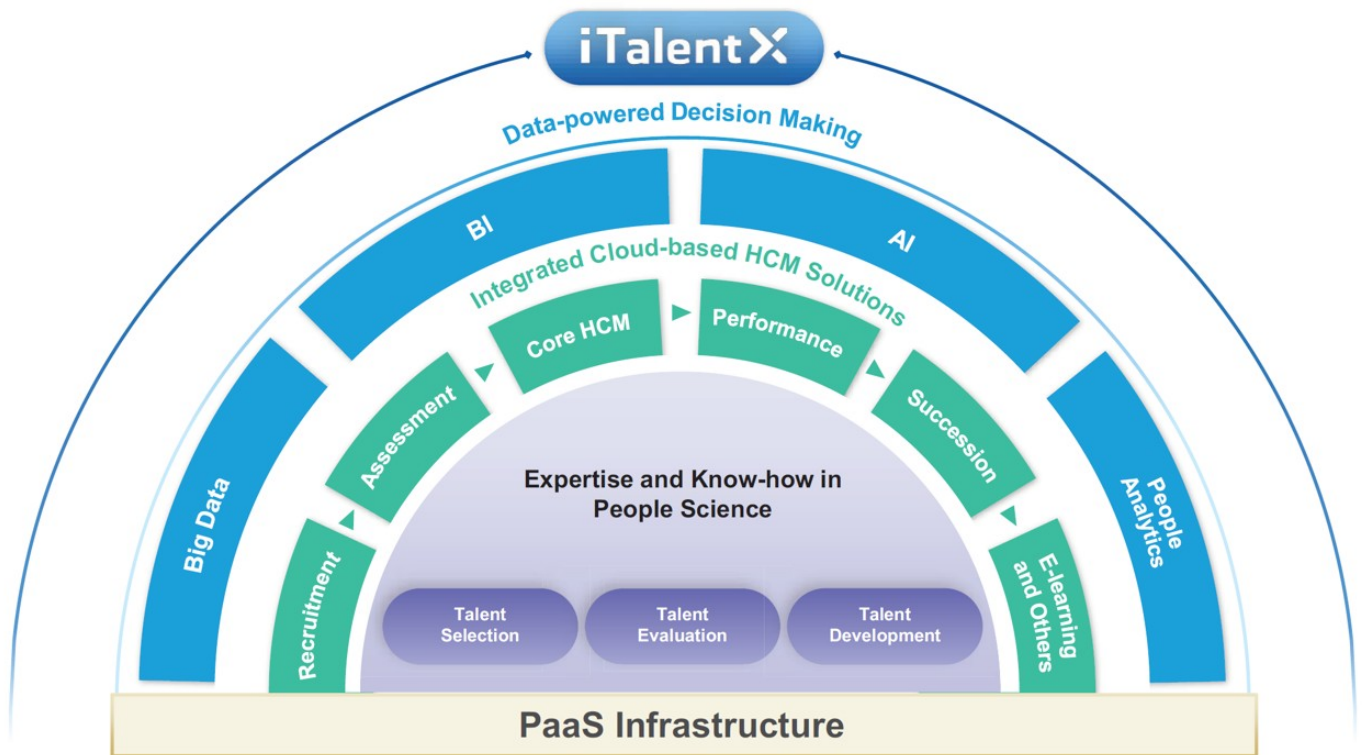
Source: Company data

**Exhibit 59:** Shareholding structure (as of 13 April 2023)



Source: Company data. 1. Senyan was established as a platform to reflect the total award shares granted to the eligible employees of our Group held by Beisen Zongheng, prior to the Reorganization. In October 2019, our Company issued and allotted 3,127,999 ordinary Shares to Senyan, where all of these eligible employees of our Onshore Holdco served as limited partners and beneficiaries of such Shares. 2. Include Max Woods, SCC VI, and SCC VII.

**Exhibit 60:** Beisen’s Product: iTalentX



Source: Company data

## Product overview

iTalentX offers a comprehensive suite of full-scenario integrated HCM applications covering the entire employee lifecycle, built on PaaS infrastructure. Beisen charges subscription fees pursuant to different solutions and the size of a client's workforce; contract terms typically are one-year and three-year with renewal options, while the PaaS platform is currently not monetized. Additionally, Beisen offers a usage-based charging model where customers purchase a certain number of Sendou and redeem Sendou for related cloud-based HCM solutions upon usage.

Complementary to the HCM solutions, Beisen offers implementation services and other value-added services, such as workforce optimization advisory services and customized product development services, for a service fee.

### HCM software

Beisen offers integrated SaaS solutions that are comprised of cloud-native and standardized modules, including Recruitment, Assessment, Core HCM, Performance, Succession, E-learning and others. Beisen further builds a data-driven People Analytics engine in the application layers powered by big data, artificial intelligence ("AI") and business intelligence ("BI").

**Recruitment Cloud** is designed to streamline the recruitment process by integrating multiple recruitment channels where HR can post job openings, collect resumes and arrange interviews.

**Assessment Cloud** offers all-round tests and digital assessments on individual capabilities and requirements for a specific job position during the recruitment process or on existing workforce.

**Core HR** helps take care of the core human resources needs, including new hire onboarding, payroll administration, attendance management, and staffing.

**Performance Management Cloud** supports various performance review systems, such as management by objectives (MBO), key performance indicators (KPI), balanced scorecards (BSC), and objectives & key results (OKR).

**Succession Cloud** is integrated with other modules and provides real-time visibility into customers' talent pipeline to identify potential successors and facilitate staffing decisions.

**E-learning module** is an online learning and training management platform launched in 2020, and it supports customizable on-the-job training plans across devices.

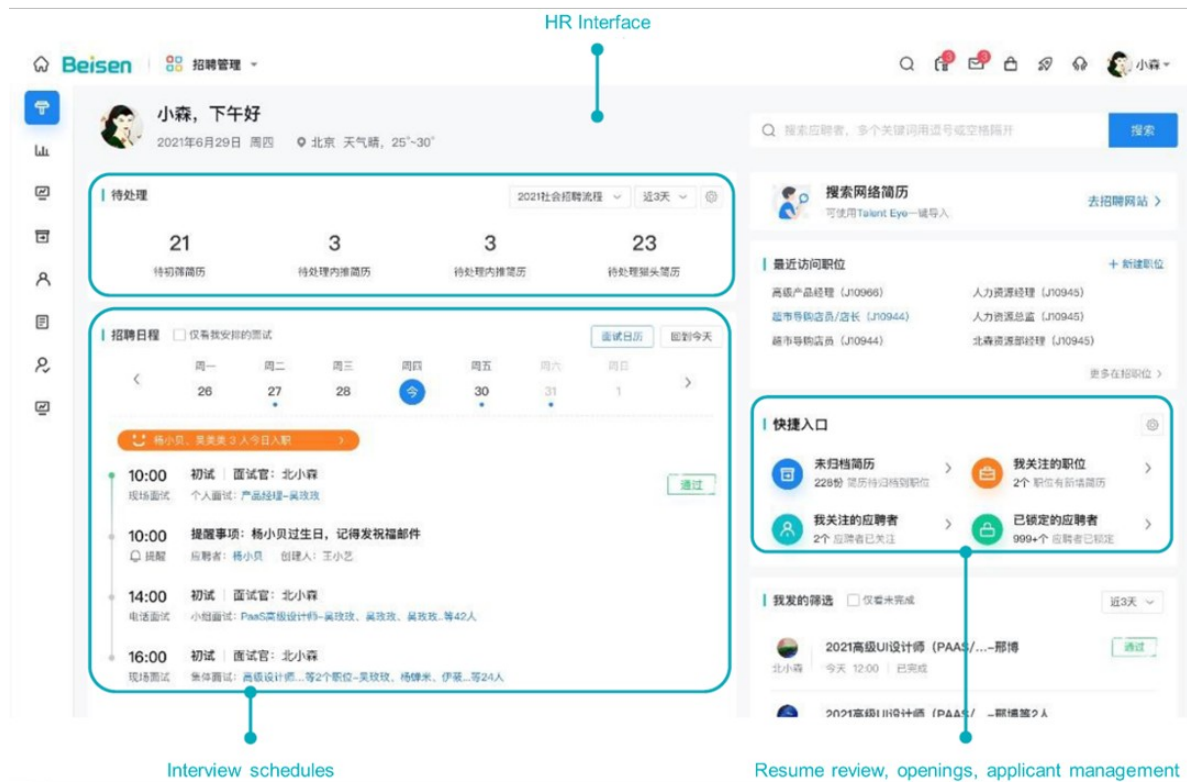
### PaaS platform

The foundation of Beisen's SaaS solutions is its cloud-native, multi-tenant PaaS infrastructure, which enables new applications to be developed efficiently and integrated with other systems.

- **Cloud-native:** The platform is built on advanced cloud computing technologies, such as micro-services, containers and service mesh.
- **Multi-tenant infrastructure** enables multiple customers to be on the same version of HCM solutions while partitioning their respective data. Because a single version is deployed, updates are delivered to all customers simultaneously, reducing Beisen's management costs.

The platform was opened to certain clients since 2019; customers can perform simple configuration on its PaaS with the full-code, low-code or no-code development tools to fit their specific needs.

Exhibit 61: Beisen Product Snapshot: Recruitment Cloud



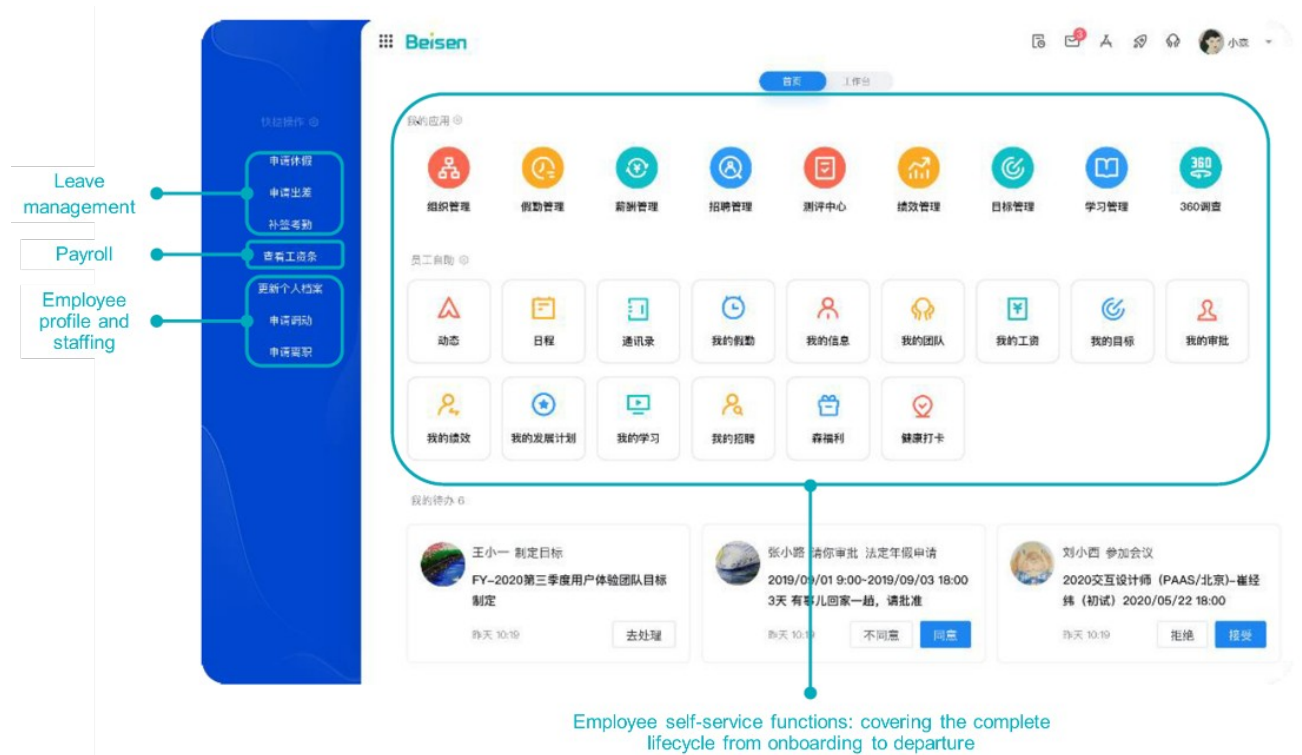
Source: Company data

Exhibit 62: Beisen Product Snapshot: Assessment Cloud



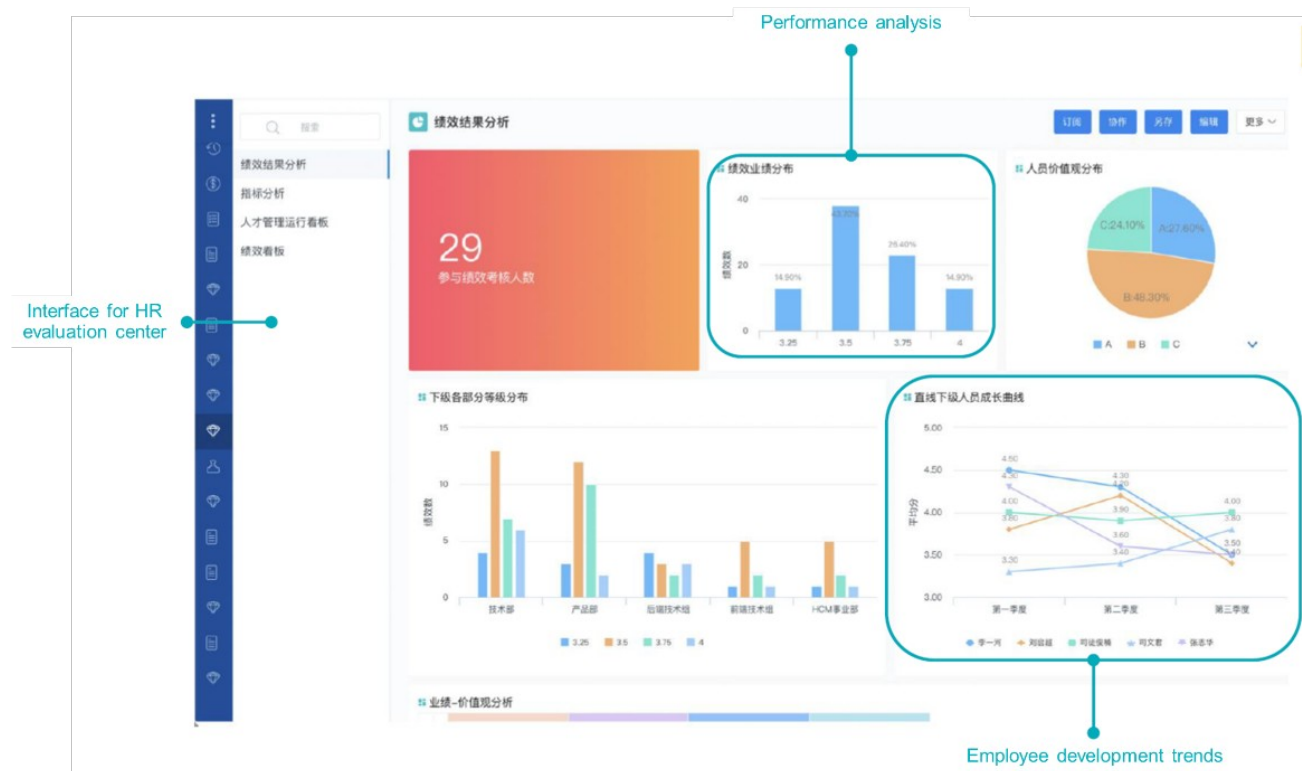
Source: Company data

Exhibit 63: Beisen Product Snapshot: Core HR



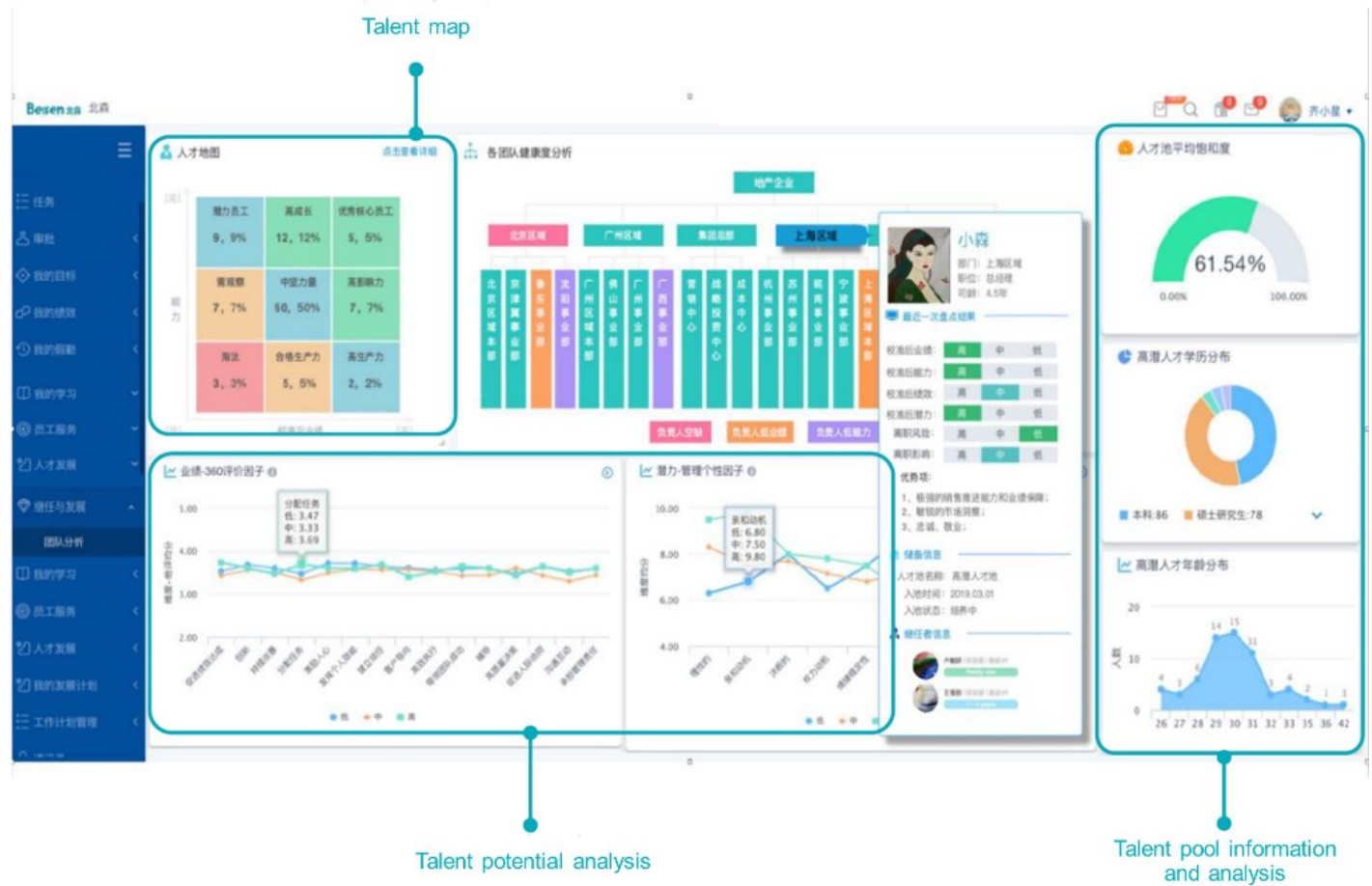
Source: Company data

Exhibit 64: Beisen Product Snapshot: Performance Management Cloud



Source: Company data

Exhibit 65: Beisen Product Snapshot: Succession Clouds



Source: Company data

### Professional services

Professional services primarily comprise paid implementation services and value-added services.

Beisen's implementation team consists of nearly 300 experienced technical specialists dedicated to providing implementation services, which can either be done on-site at customers' offices, or remotely from its service centers.

Other value-added services include workforce optimization advisory services and customized product development via its PaaS infrastructure. The R&D team prioritizes its product development efforts on common demands from customers, which can be rolled out mainly through scheduled product iterations.

## Industry Analysis

The Human Capital Management (“HCM”) market covers a broad spectrum of products and services to help address the needs of enterprises for recruitment, assessment, and core HCM such as payroll, performance, succession and e-learning. The HCM market can be further broken down to: 1) traditional HCM (labor processing of talent recruiting, managing, developing, and management consulting, etc.), and 2) digital HCM or software solutions, deployed either on-premise or in cloud.

China’s HCM market has experienced steady growth, at a 15% CAGR, 2017-21, reaching Rmb661bn, driven by a combination of macroeconomic growth, industry upgrades and increasing number of enterprises. CIC research shows that the number of enterprises grew at a 12% CAGR, to 48mn, between 2017 and 2021, and projects the number to continue to grow by about 10% annually, to 87mn by 2027.

China’s HCM market growth is forecast to accelerate and expand at a CAGR of 16% between 2021 and 2027, reaching Rmb1,626bn, according to CIC. We identified two factors that contribute to the acceleration: 1) rising labor costs and difficulty in recruiting and retaining the right talent, which highlights the importance of better human resource management; and 2) evolution in enterprises’ and managers’ mindset as they gradually adopt the concept of human capital, rather than viewing employees as costs. The changes lead to higher willingness to invest in products and services to optimize the value of human resources and to reduce friction related to talent management.

### Deepening digitalization trends

Despite the rapid growth rates, China’s HCM market still lags the US market, especially in terms of the level of digitalization. HCM digitalization solutions, which modernizes HCM systems and software to reduce labor intensity and manual processing vs. traditional human

resource services, represent only 2.9% of the total China HCM market, far behind the 9.9% in the US. In terms of cloud adoption, CIC estimates that in 2021 China’s cloud HCM market reached revenues of Rmb5.5bn, vs the US market at Rmb96.7bn.

However, there are several favorable forces transforming the HCM market to a more digitalized model.

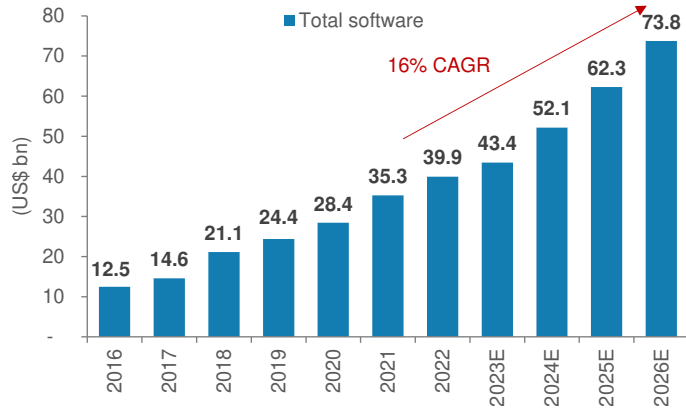
First is the underlying trend of digital transformation, in part driven by the outbreak of the Covid-19 pandemic, as organizations quickly made the shift to cloud-based IT infrastructure in response to remote working and studying; many enterprises also moved the operation processes and business activities online to maintain business continuity during lockdowns. In our view, the pandemic-induced digitalization is unlikely to be reversed, even after re-opening.

Technology advancements, such as machine learning and data analytics, can further enhance the value proposition of digitalized solutions, helping to reduce operating leverage and improve data-driven decision-making. Integrated solutions that are able to cover the entire lifecycle and all aspects of employees will be particularly competitive in deriving insights, while traditional HCM vendors with single or standalone solutions are often not able to address the diverse needs of organizations of different sizes, structures and industries.

The low penetration coupled with the superior offering of digitalized HCM software and increasing market demand paint a promising picture for digitalized solutions, with a CIC projected CAGR of 21% between 2021 and 2027, to reach Rmb59bn. Within HCM digitalization solutions, cloud HCM is expected to see faster adoption than on-premise HCM, with a 2021-27 CAGR of 33%; cloud HCM solutions are expected to grow from Rmb5.5bn to Rmb30.4bn during the same period, accounting for 52% of the total China HCM market in 2027 (up from 29% in 2021), also per CIC forecasts.

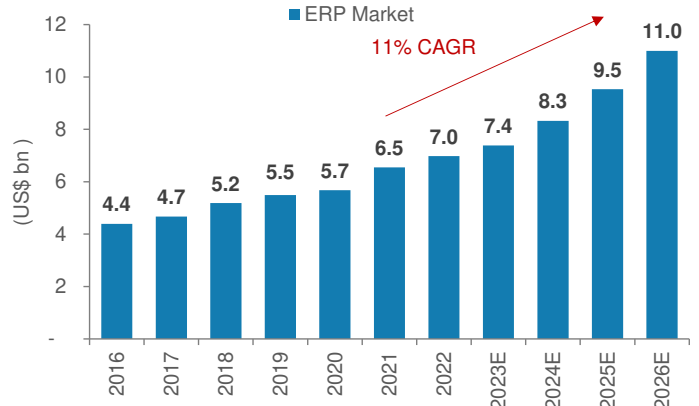


**Exhibit 66:** China software market is set to grow at a 16% CAGR, 2021-26



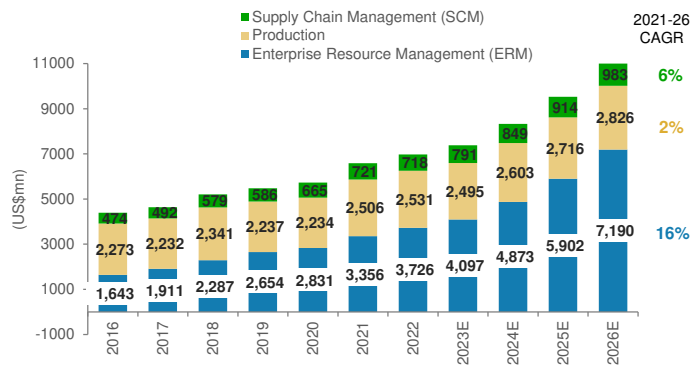
Source: IDC; E = IDC estimates.

**Exhibit 67:** ERP market is expected to reach Rmb76bn by 2026



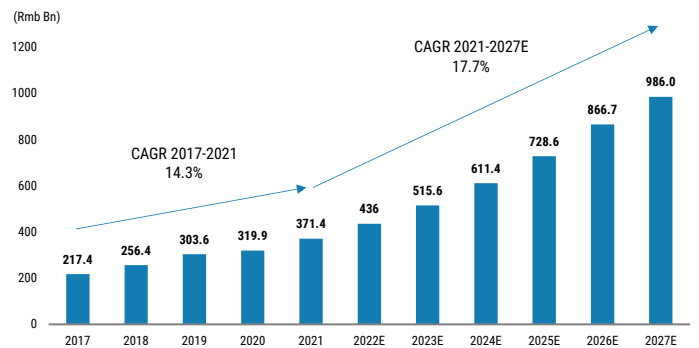
Source: IDC; ERP market includes enterprise resource management, production, and supply chain management; E = IDC estimates.

**Exhibit 68:** Enterprise Resource Management sees fastest growth within ERP



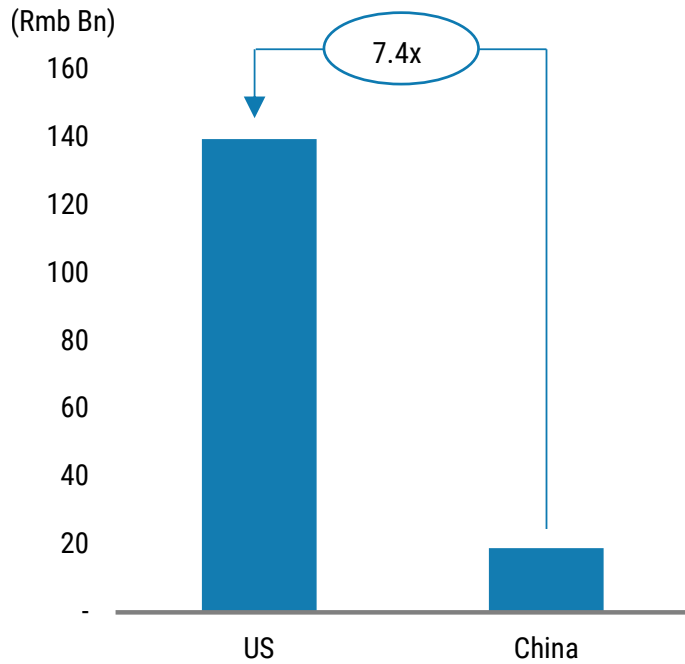
Source: IDC; E = IDC estimates.

**Exhibit 69:** China HCM market size, in terms of revenue (Rmb billions)



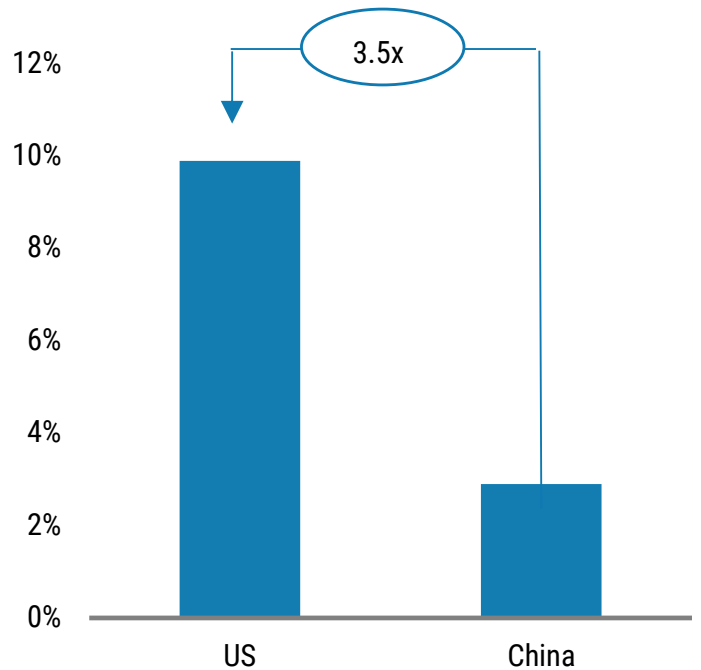
Source: Company data, CIC; HCM market includes revenues generated from human resource outsourcing services. E = CIC estimates

**Exhibit 70:** HCM digitalization solutions market size, 2021 (Rmb billions)



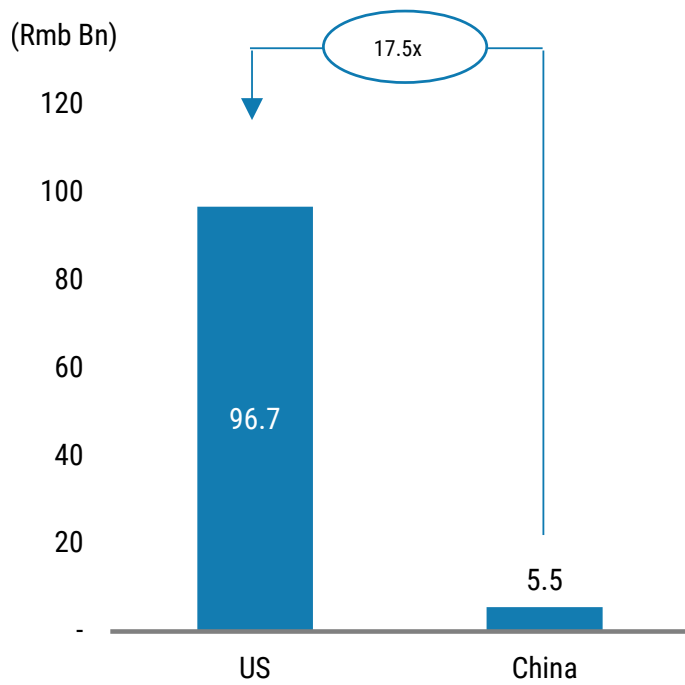
Source: Company data, CIC; E = CIC estimate

**Exhibit 71:** HCM digitalization solutions as % of total HCM market, 2021



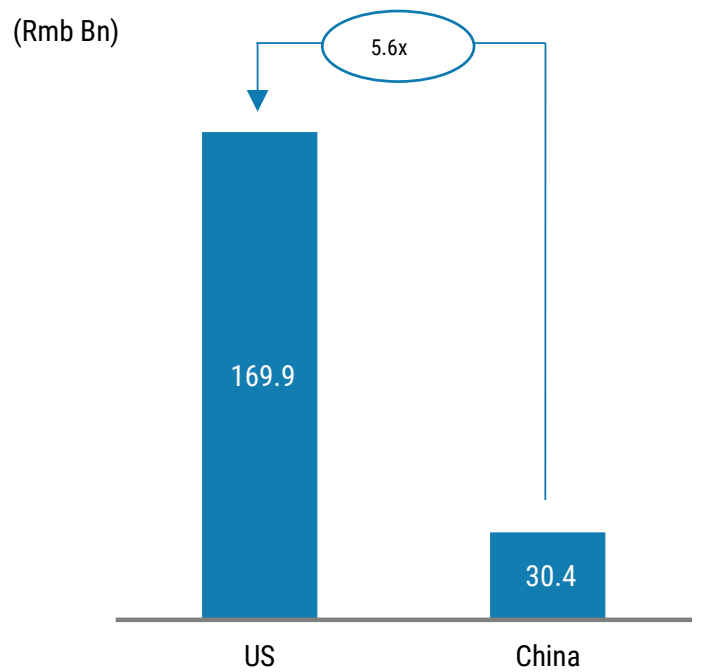
Source: Company data, CIC; E = CIC estimate

**Exhibit 72:** Cloud HCM market in US and China, 2021



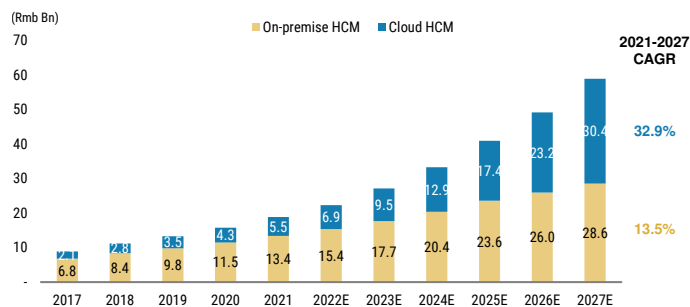
Source: Company data, CIC; E = CIC estimate

**Exhibit 73:** Cloud HCM market in US and China, 2027



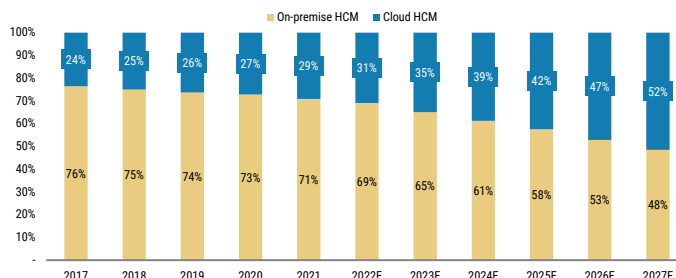
Source: Company data, CIC; E = CIC estimate

**Exhibit 74:** China Cloud HCM market size, in terms of revenue (Rmb billions)



Source: Company data, CIC; E = CIC estimate

**Exhibit 75:** Share of the China HCM market, by delivery model, in terms of revenue



Source: Company data, CIC; E = CIC estimate

**Exhibit 76:** Favorable policies supporting the development of HCM industries and digitalization

Year	Policy
Dec-14	Opinions on Accelerating the Development of the Human Resources Service Industry 《关于加快发展人力资源服务业的意见》
Jul-16	National Digitalization Development Strategy Outline 《国家信息化战略发展纲要》
Mar-17	Cloud Computing Development Three-year Action Plan (2017-2019) 《云计算发展三年行动计划 (2017-2019年)》
Sep-17	Action Plans for the Development of Human Resources Services 《人力资源服务发展行动计划》
May-18	Interim Regulation on Human Resources Market 《人力资源市场暂行条例》
Aug-18	Implementation Guideline to Prompting Enterprises to Become Cloud-Based (2018-2020) 《推动企业上云实施指南 (2018-2020年)》
Jul-20	Several Policies on Promoting the High-quality Development of the Integrated Circuit Industries and the Software Industries in the New Era 《新时期促进集成电路产业和软件产业高质量发展若干政策》
Jan-21	Opinion of Strengthening the Career Development of High-skilled Talents and Professional and Technical Talents 《人力资源社会保障部关于进一步加强高技能人才与专业技术人才职业发展贯通的实施意见》
Sep-21	The 14th Five-Year Plan for new infrastructure construction 《“十四五”新型基础设施建设规划》

Source: China government agencies, Morgan Stanley Research.

**Exhibit 77:** Evolution of on-premise solutions vs cloud-based solutions

	2000-2010	2010-2020	2020 onward
<b>Deployment model</b>	On-premise	On-premise and cloud (single module)	Cloud (integrated)
<b>Product coverage</b>	Single function	Covering several functionalities with separate modules	Full coverage of employee lifecycle
<b>Deployment time</b>	Slow	Medium	Fast
<b>Deployment cost</b>	High	Medium	Low
<b>User experience</b>		Poor	Good
<b>Customization</b>		Low	High
<b>Cross-selling opporrt</b>		Limited	High
<b>ARPU</b>		Low	High

Source: Company data, Morgan Stanley Research

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(as of April 30, 2023)

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Stock Rating Category	Coverage Universe		Investment Banking Clients (IBC)			Other Material Investment Services Clients (MISC)	
	Count	% of Total	Count	% of Total IBC	% of Rating Category	Count	% of Total Other MISC
Overweight/Buy	1357	37%	269	42%	20%	599	39%
Equal-weight/Hold	1660	45%	307	47%	18%	721	47%
Not-Rated/Hold	5	0%	1	0%	20%	1	0%
Underweight/Sell	639	17%	70	11%	11%	228	15%
Total	3,661		647			1549	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

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**INDUSTRY COVERAGE: Greater China IT Services and Software**

COMPANY (TICKER)	RATING (AS OF)	PRICE* (05/12/2023)
<b>Lydia Lin</b>		
Beijing Orient National Communication (300166.SZ)	U (12/09/2022)	Rmb11.20
Longshine Technology Group Co Ltd (300682.SZ)	O (10/14/2022)	Rmb24.95
Shiji Info Tech (002153.SZ)	U (06/28/2022)	Rmb18.84
Thunder Software Technology Co Ltd (300496.SZ)	O (10/10/2022)	Rmb89.63
<b>Sharon Shih</b>		
iFlytek Co Ltd (002230.SZ)	E (04/20/2021)	Rmb63.24
<b>Yang Liu</b>		
Agora Inc. (API.O)	O (05/03/2022)	US\$2.85
Beijing Kingsoft Office Software Inc (688111.SS)	U (10/21/2022)	Rmb415.28
Beisen Holding Limited (9669.HK)	O (05/14/2023)	HK\$9.48
DBAPPSECURITY Co. Ltd (688023.SS)	E (08/03/2021)	Rmb184.98
Glodon Co. Ltd. (002410.SZ)	O (03/10/2022)	Rmb52.44
Hundsun Technologies Inc. (600570.SS)	O (11/29/2021)	Rmb44.89
Kingdee International Software Group (0268.HK)	O (04/26/2023)	HK\$11.50
Kingsoft Corp Ltd (3888.HK)	O (01/30/2023)	HK\$31.80
Ming Yuan Cloud Group Holdings Limited (0909.HK)	E (08/23/2022)	HK\$3.88
NSFOCUS Technologies Group Co Ltd (300369.SZ)	U (10/21/2022)	Rmb11.37
OneConnect Financial Tech Co Ltd (OCFT.N)	E (08/04/2021)	US\$4.73
Qi An Xin Technology Group Inc (688561.SS)	O (01/04/2021)	Rmb55.08
Sangfor Technologies Inc (300454.SZ)	U (01/27/2022)	Rmb113.18
Shanghai Baosight Software Co Ltd (600845.SS)	U (05/11/2020)	Rmb52.00
Shenzhen Sunline Tech Co Ltd (300348.SZ)	E (07/27/2021)	Rmb10.93
Topsec Technologies Group Inc (002212.SZ)	E (06/30/2022)	Rmb10.28
Tuya Inc. (TUYA.N)	E (02/19/2022)	US\$1.80
VenusTech (002439.SZ)	O (06/19/2019)	Rmb30.28
Wangsu Science & Technology (300017.SZ)	U (03/20/2019)	Rmb7.64
Weimob Inc (2013.HK)	E (03/29/2022)	HK\$3.67
Winning Health Technology Group Co Ltd (300253.SZ)	U (06/19/2019)	Rmb11.50
Yonyou Network Technology Co Ltd (600588.SS)	E (04/25/2022)	Rmb20.19
Yusys Technologies Co Ltd (300674.SZ)	O (07/27/2021)	Rmb17.42
ZWSOFT Guangzhou Co Ltd (688083.SS)	U (11/07/2022)	Rmb193.00

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\* Historical prices are not split adjusted.



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