

# SenseTime (20 HK)

## Unveiled large model SenseNova with live demo

SenseTime hosted a Tech Day event on 10 Apr unveiling self-developed large model set SenseNova. SenseNova consists of NLP, content generation, automated data annotation and custom model training capabilities. In the event, SenseTime showed live demo of ChatGPT-like chatbot SenseChat that can write invitation, tell story, comprehend legal documents and Midjourney-like text-to-image generator. SenseNova API interfaces and services will be provided to enterprise customers. We continue to like SenseTime for its leading position in large AI model.

- **Unveiled foundation model set – SenseNova.** SenseTime hosted a Tech Day event unveiling “SenseNova” with live demo on 10 Apr. SenseNova is a foundation model set with variety of capabilities in NLP (natural language processing), content generation, automated data annotation and custom model training. SenseNova offers API interfaces and services targeting enterprise customers. SenseTime’s current AI infrastructure supports up to 20 large models with over 100-billions parameters to train simultaneously.
- **SenseChat: Chatbot developed based on LLM model with 180bn parameters.** SenseTime introduced ChatGPT-like chatbot SenseChat (商量), a self-developed large-scale language model (LLM) with 180bn parameters. CEO of SenseTime Mr. Xu Li showed live demonstrations of SenseChat writing invitation, comprehending legal documents, telling story, coding, and providing medical consultation. SenseChat has the capabilities in multi-turn dialogues and comprehending complex and long documents.
- **Generative AI models: Text to image and digital human.** Besides LLM, SenseTime also showcased various generative AI models and applications that support 1) text-to-image creation (SenseMirage 秒画), 2) 2D/3D digital human (SenseAvatar 如影) and 3) 3D scenario/ object generation (SenseSpace 琼宇 and SenseThings 格物). SenseTime demonstrated application scenarios in education, advertising and short video creation.
- **Other AI-as-a-services (AlaaS): CV inference & annotation.** SenseTime also provides CV model inference and automated data annotation services. SenseTime’s Chief Scientist Prof. Wang Xiaogang demonstrated the SenseAnnotation 明眸 (mingmou.sensetime.com) that provides annotation services based on image classification and detection models.
- **Leading in large AI model race.** We think SenseTime is in a leading position in terms of large AI model capabilities and that AlaaS could provide recurring revenue in the long term. SenseTime has over 27,000 GPUs that can support up to 20 large models with over 100-bn parameters to train simultaneously. Maintain BUY.

### Earnings Summary

| (YE 31 Dec)                  | FY21A      | FY22A     | FY23E     | FY24E     | FY25E     |
|------------------------------|------------|-----------|-----------|-----------|-----------|
| Revenue (RMB mn)             | 4,700      | 3,809     | 4,980     | 6,355     | 8,267     |
| YoY growth (%)               | 36.4       | (19.0)    | 30.8      | 27.6      | 30.1      |
| Operating profit (RMB mn)    | (3,316)    | (3,941)   | (4,298)   | (3,776)   | (3,003)   |
| Net profit (RMB mn)          | (17,140.1) | (6,044.8) | (4,295.8) | (3,824.3) | (3,101.5) |
| Adjusted net profit (RMB mn) | (1,381.4)  | (4,688.0) | (3,795.9) | (3,314.5) | (2,570.3) |
| EPS (Reported) (RMB cents)   | (173.64)   | (18.93)   | (12.84)   | (11.43)   | (9.27)    |
| Consensus EPS (RMB cents)    | (173.64)   | (18.93)   | (9.10)    | (6.80)    | na        |
| EV/Sales (x)                 | 11.3       | 16.4      | 13.2      | 10.6      | 8.3       |
| ROE (%)                      | (316.7)    | (19.9)    | (15.6)    | (15.8)    | (15.0)    |
| Net gearing (%)              | (46.2)     | (10.5)    | (5.4)     | 2.3       | 9.9       |

Source: Company data, Bloomberg, CMBIGM estimates

### BUY (Maintain)

|                      |                 |
|----------------------|-----------------|
| <b>Target Price</b>  | <b>HK\$3.45</b> |
| (Previous TP)        | HK\$3.45)       |
| <b>Up/Downside</b>   | <b>3.7%</b>     |
| <b>Current Price</b> | <b>HK\$3.33</b> |

### China Software & IT Services

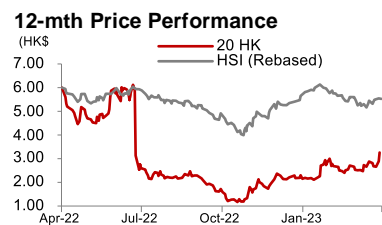
**Marley NGAN**  
 (852) 3916 3719  
 marleyngan@cmbi.com.hk

**Bowen LI**  
 (852) 3761 8957  
 libowen@cmbi.com.hk

|                          |           |
|--------------------------|-----------|
| <b>Stock Data</b>        |           |
| Mkt Cap (HK\$ mn)        | 111451.5  |
| Avg 3 mths t/o (HK\$ mn) | 996.1     |
| 52w High/Low (HK\$)      | 6.30/1.11 |
| Total Issued Shares (mn) | 25948.8   |
| Source: FactSet          |           |

|                               |       |
|-------------------------------|-------|
| <b>Shareholding Structure</b> |       |
| ESOP                          | 14.9% |
| Softbank                      | 14.8% |
| Source: HKEx                  |       |

|                          |          |          |
|--------------------------|----------|----------|
| <b>Share Performance</b> |          |          |
|                          | Absolute | Relative |
| 1-mth                    | 32.7%    | 30.0%    |
| 3-mth                    | 52.1%    | 60.0%    |
| 6-mth                    | 109.4%   | 82.7%    |
| Source: FactSet          |          |          |



Source: FactSet

### Related Reports:

- SenseTime (20 HK) “Leading in the China large AI model race” – 29 Mar 2023 ([link](#))
- 商汤科技 (20 HK) “投资者交流日记纪要 - 持续发展人工智能即服务模式” - 5 Dec 2022 ([link](#))

## SenseTime Tech Day

**Figure 1: SenseNova is a foundation model set with variety of capabilities in NLP (natural language processing), content generation, automated data annotation and custom model training.**



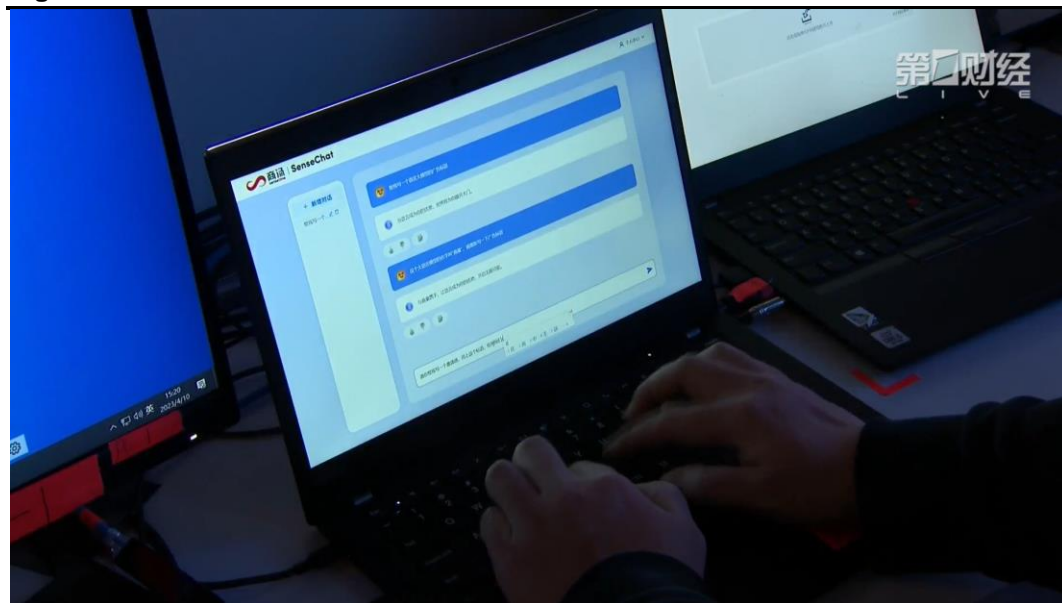
Source: SenseTime, CMBIGM

**Figure 2: SenseTime has developed large-scale language model (LLM) with 180bn parameters.**



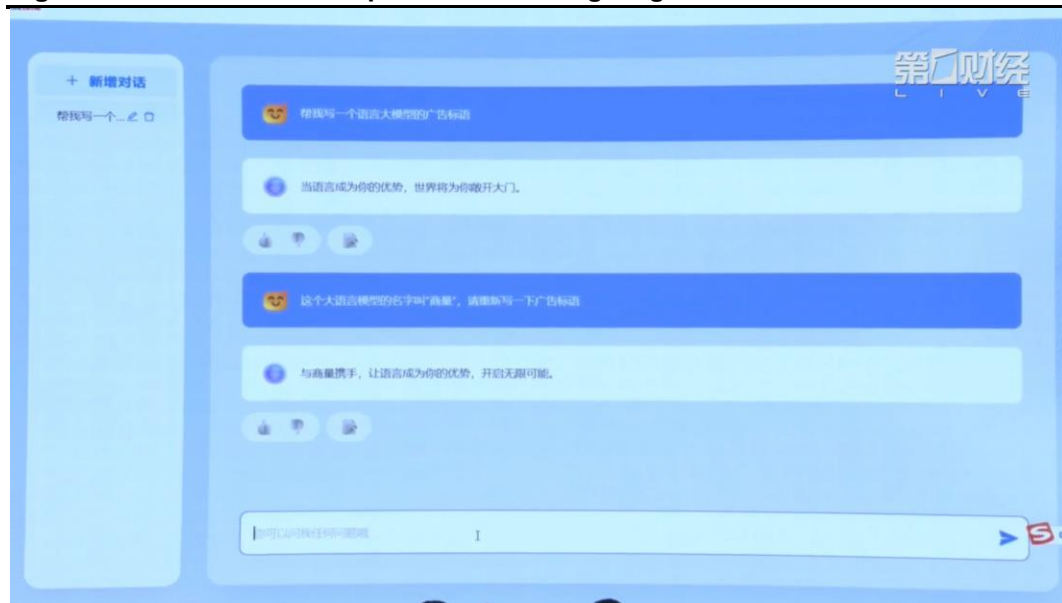
Source: SenseTime, CMBIGM

**Figure 3: SenseTime showed live demo on its Chatbot SenseChat**



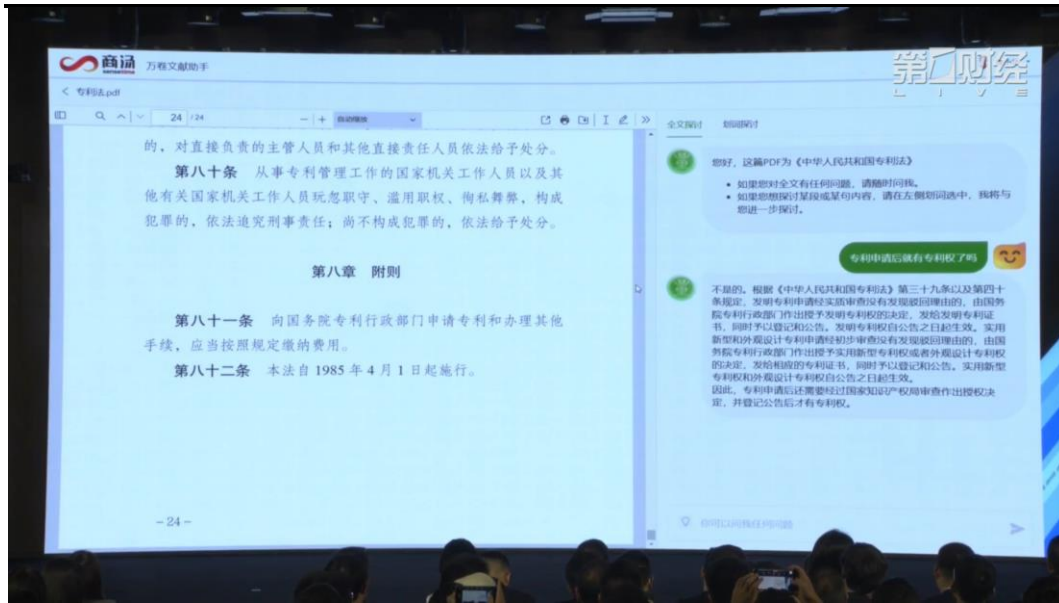
Source: SenseTime, CMBIGM

**Figure 4: SenseChat can help write advertising slogan...**



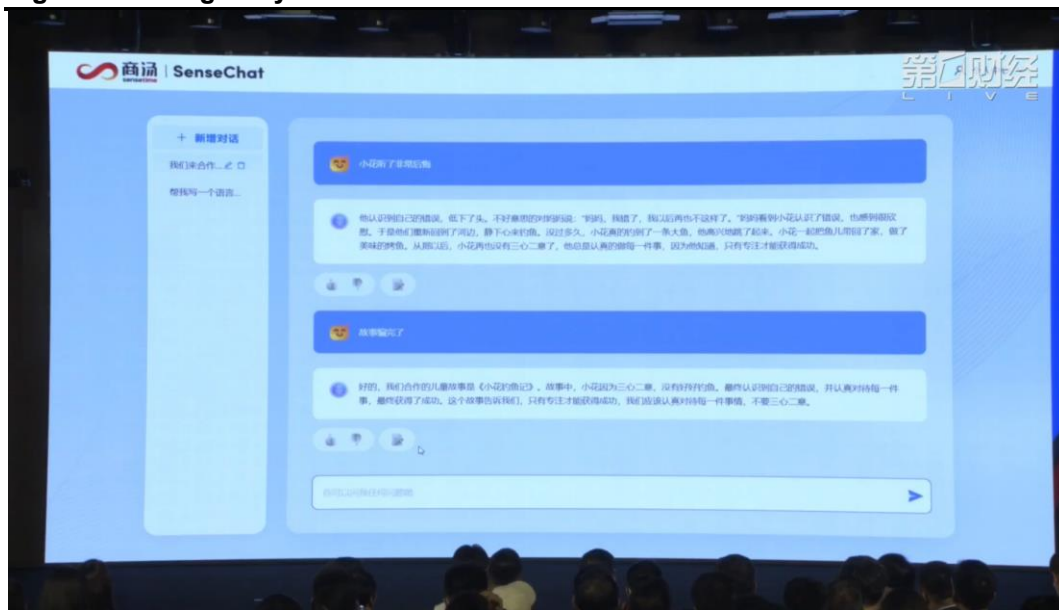
Source: SenseTime, CMBIGM

Figure 5: comprehending legal documents...



Source: SenseTime, CMBIGM

Figure 6: writing story...



Source: SenseTime, CMBIGM

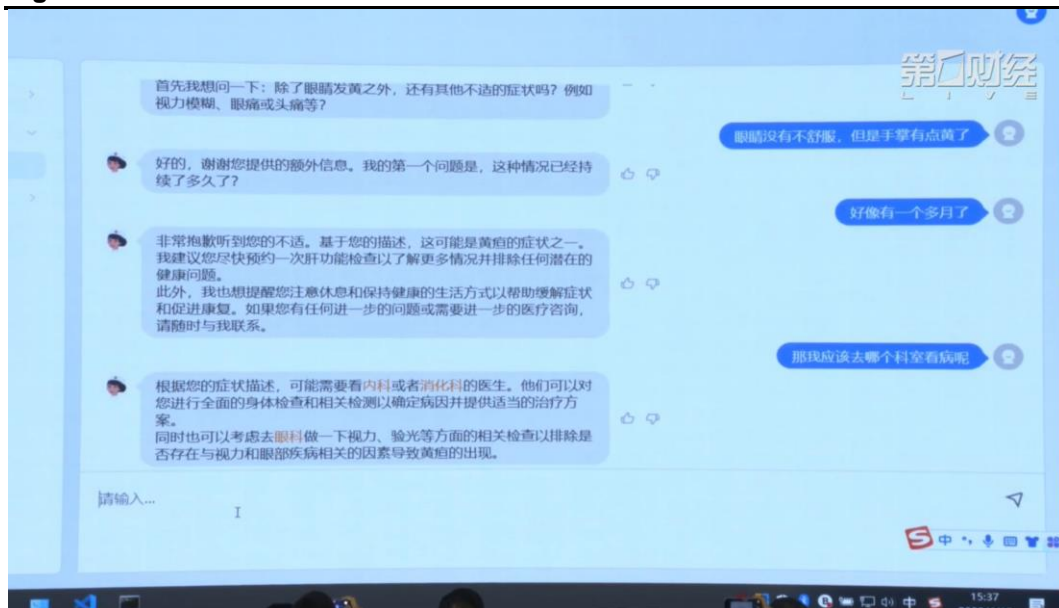


Figure 7: coding...



Source: SenseTime, CMBIGM

Figure 8: even medical consultation...



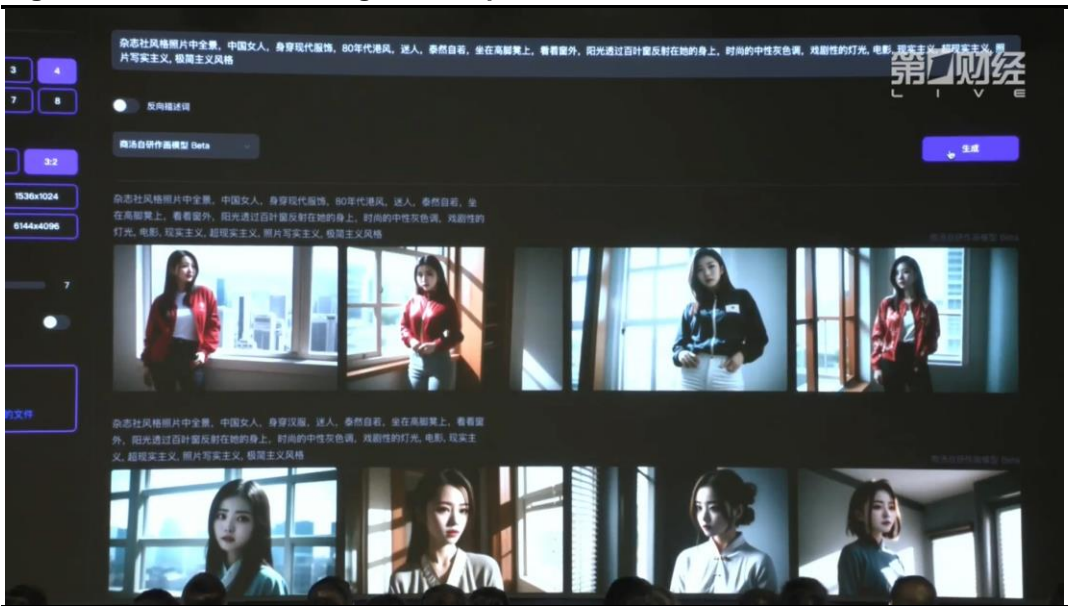
Source: SenseTime, CMBIGM

**Figure 9: SenseTime also unveiled generative AI models with image-to-text, digital human capabilities**



Source: SenseTime, CMBIGM

**Figure 10: SenseTime's image-to-text platform**



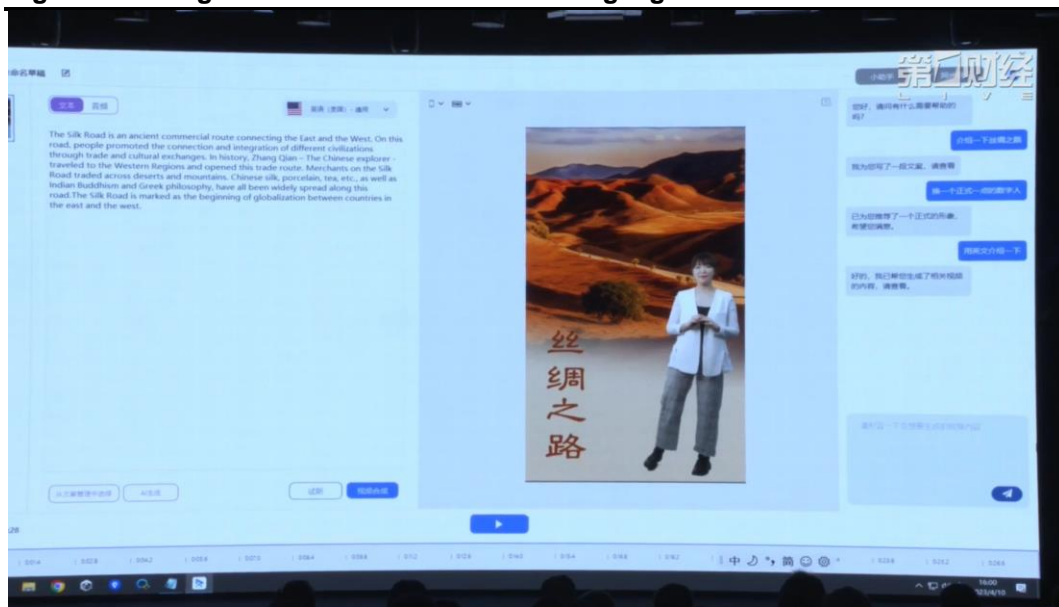
Source: SenseTime, CMBIGM

**Figure 11: SenseTime's digital human generation...**



Source: SenseTime, CMBIGM

**Figure 12: can generate content in different languages.**



Source: SenseTime, CMBIGM

Figure 13: 3D scenarios and object generation



Source: SenseTime, CMBIGM

Figure 14: SenseTime's provides large model training and inference services



Source: SenseTime, CMBIGM



## Valuation

### Maintain BUY with target price of HK\$3.45

Maintain BUY with unchanged target price of HK\$3.45. Our target price is based on 18x FY23E EV/Sales, in-line with China AI peers. We believe the breakthrough in AI large models and supportive policies will continue to drive sector re-rating. We observed that China AI market-cap weighted EV/sales has re-rated from 4.4x to 12.1x YTD.

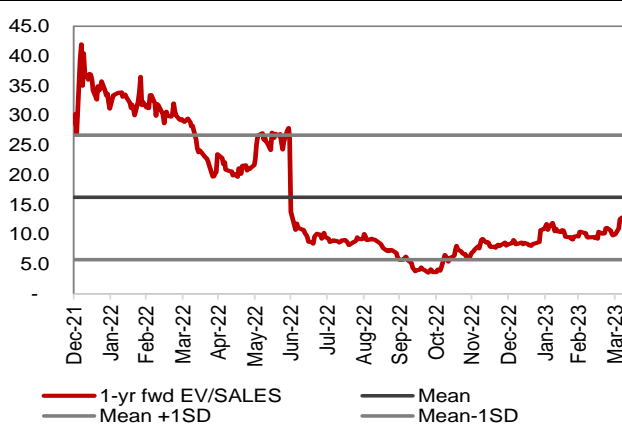
We use EV/sales as valuation methodology as AI deployment is still in an early stage that short term earnings are distorted by high R&D, marketing expense and depreciation related to heavy capex for computing infrastructure.

Figure 15: Peers comparison

|                     |           |        | Market<br>Cap | Price  | TP    | EV/sales (x) |       | P/S   |       | Sales<br>CAGR | EPS<br>CAGR  | FCF<br>margin |
|---------------------|-----------|--------|---------------|--------|-------|--------------|-------|-------|-------|---------------|--------------|---------------|
| Company             | Ticker    | Rating | (US\$ mn)     | (LC)   | (LC)  | FY23E        | FY24E | FY23E | FY24E | FY21-<br>24E  | FY21-<br>24E | FY21          |
| China AI companies  |           |        |               |        |       |              |       |       |       |               |              |               |
| SenseTime           | 20 HK     | BUY    | 14,198        | 3.33   | 3.45  | 13.2         | 10.6  | 19.3  | 15.1  | 11%           | n.a.         | -74%          |
| Ainnovation         | 2121 HK   | NR     | 1,852         | 26.00  | N/A   | 4.8          | 3.1   | 5.5   | 3.5   | 62%           | n.a.         | -33%          |
| Cambricon           | 688256 CH | NR     | 12,083        | 207.59 | N/A   | 67.5         | 48.2  | 69.2  | 49.5  | 33%           | n.a.         | -179%         |
| Arcsoft             | 688088 CH | NR     | 2,417         | 41.00  | N/A   | 20.0         | 15.4  | 22.9  | 17.6  | 18%           | 40%          | 11%           |
| Hikvision           | 002415 CH | BUY    | 61,261        | 45.05  | 37.44 | 4.2          | 3.6   | 4.3   | 3.8   | 11%           | 5%           | 11%           |
| Dahua               | 002236 CH | HOLD   | 11,620        | 26.38  | 11.07 | 2.3          | 2.0   | 2.3   | 2.0   | 7%            | 6%           | 1%            |
| Mean                |           |        |               |        |       | 18.7         | 16.4  | 20.6  | 15.2  | 24%           | 17%          | -43%          |
| Median              |           |        |               |        |       | 9.0          | 7.1   | 12.4  | 9.4   | 15%           | 6%           | -16%          |
| Global AI companies |           |        |               |        |       |              |       |       |       |               |              |               |
| Palantir            | PLTR US   | NR     | 16,856        | 8.02   | N/A   | 6.6          | 5.5   | 7.6   | 6.4   | 20%           | n.a.         | 21%           |
| UiPath              | PATH US   | NR     | 9,069         | 16.28  | N/A   | 7.2          | 5.9   | 8.8   | 7.2   | 27%           | n.a.         | 4%            |
| C3.ai               | AI US     | NR     | 2,443         | 21.76  | N/A   | 6.4          | 5.3   | 9.2   | 7.7   | 20%           | n.a.         | -21%          |
| Nvidia              | NVDA US   | NR     | 667,130       | 270.03 | N/A   | 24.7         | 22.3  | 24.8  | 22.3  | 21%           | 37%          | 28%           |
| Ambarella           | AMBA US   | NR     | 2,813         | 71.07  | N/A   | 7.8          | 9.2   | 8.3   | 9.9   | 8%            | n.a.         | 13%           |
| Mean                |           |        |               |        |       | 10.5         | 9.6   | 11.8  | 10.7  | 19%           | 37%          | 9%            |
| Median              |           |        |               |        |       | 7.2          | 5.9   | 8.8   | 7.7   | 20%           | 37%          | 13%           |

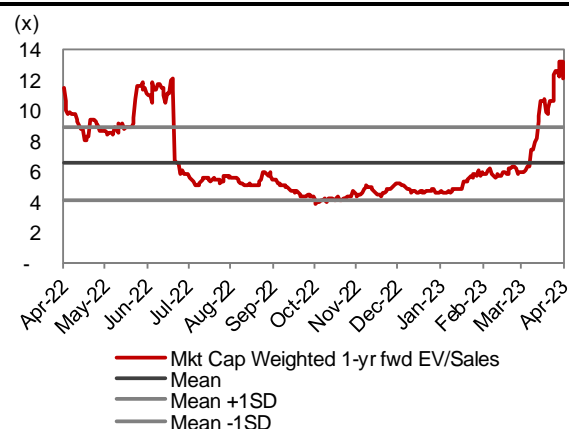
Source: Bloomberg, CMBIGM estimates

Figure 16: SenseTime forward EV/sales



Source: Bloomberg, CMBIGM

Figure 17: China AI mkt-cap weighted fwd EV/sales



Source: Bloomberg, CMBIGM \*companies include SenseTime (20 HK), Ainnovation (2121 HK), Cambricon (688256 CH), Arcsoft (688088 CH), Hikvision (002415 CH) and Dahua (002236 CH)

## Financial Summary

| INCOME STATEMENT     | 2020A    | 2021A    | 2022A   | 2023E   | 2024E   | 2025E   |
|----------------------|----------|----------|---------|---------|---------|---------|
| YE 31 Dec (RMB mn)   |          |          |         |         |         |         |
| Revenue              | 3,446    | 4,700    | 3,809   | 4,980   | 6,355   | 8,267   |
| Cost of goods sold   | (1,014)  | (1,423)  | (1,266) | (2,114) | (2,824) | (3,656) |
| Gross profit         | 2,432    | 3,278    | 2,542   | 2,867   | 3,531   | 4,611   |
| Operating expenses   | (4,580)  | (6,594)  | (6,483) | (7,165) | (7,307) | (7,614) |
| Selling expense      | (537)    | (682)    | (901)   | (1,022) | (1,047) | (1,088) |
| Admin expense        | (1,590)  | (2,298)  | (1,568) | (1,629) | (1,655) | (1,727) |
| R&D expense          | (2,454)  | (3,614)  | (4,014) | (4,514) | (4,606) | (4,799) |
| Operating profit     | (2,148)  | (3,316)  | (3,941) | (4,298) | (3,776) | (3,003) |
| Interest income      | 175      | 188      | 261     | 197     | 169     | 169     |
| Interest expense     | (113)    | (34)     | (55)    | (90)    | (131)   | (191)   |
| Other income/expense | (10,234) | (13,979) | (2,597) | (309)   | (268)   | (224)   |
| Pre-tax profit       | (12,319) | (17,142) | (6,333) | (4,501) | (4,006) | (3,249) |
| Income tax           | 161      | (36)     | 240     | 170     | 152     | 123     |
| After tax profit     | (12,158) | (17,177) | (6,093) | (4,330) | (3,855) | (3,126) |
| Minority interest    | (0)      | (37)     | (48)    | (34)    | (30)    | (25)    |
| Net profit           | (12,158) | (17,140) | (6,045) | (4,296) | (3,824) | (3,101) |
| Adjusted net profit  | (878)    | (1,381)  | (4,688) | (3,796) | (3,314) | (2,570) |

| BALANCE SHEET                 | 2020A    | 2021A    | 2022A    | 2023E    | 2024E    | 2025E    |
|-------------------------------|----------|----------|----------|----------|----------|----------|
| YE 31 Dec (RMB mn)            |          |          |          |          |          |          |
| Current assets                | 31,726   | 28,084   | 21,524   | 20,049   | 20,717   | 21,359   |
| Cash & equivalents            | 11,428   | 16,530   | 7,963    | 6,628    | 7,273    | 7,652    |
| Account receivables           | 4,584    | 5,776    | 6,072    | 5,622    | 5,294    | 5,132    |
| Inventories                   | 716      | 496      | 617      | 927      | 1,277    | 1,703    |
| Financial assets at FVTPL     | 0        | 273      | 632      | 632      | 632      | 632      |
| Other current assets          | 14,977   | 4,991    | 6,213    | 6,213    | 6,213    | 6,213    |
| Contract assets               | 22       | 19       | 27       | 27       | 27       | 27       |
| Non-current assets            | 6,753    | 8,860    | 15,903   | 16,012   | 15,854   | 15,612   |
| PP&E                          | 1,906    | 2,909    | 6,999    | 7,073    | 6,885    | 6,616    |
| Right-of-use assets           | 336      | 432      | 315      | 315      | 315      | 315      |
| Intangibles                   | 108      | 225      | 333      | 368      | 398      | 425      |
| Other non-current assets      | 4,402    | 5,294    | 8,256    | 8,256    | 8,256    | 8,256    |
| Total assets                  | 38,479   | 36,944   | 37,427   | 36,061   | 36,571   | 36,971   |
| Current liabilities           | 9,822    | 2,795    | 3,323    | 4,634    | 6,691    | 8,604    |
| Short-term borrowings         | 594      | 0        | 321      | 391      | 673      | 867      |
| Account payables              | 1,724    | 2,290    | 2,473    | 3,650    | 5,351    | 6,965    |
| Other current liabilities     | 7,744    | 177      | 460      | 529      | 811      | 1,006    |
| Contract liabilities          | 244      | 172      | 208      | 271      | 346      | 451      |
| Non-current liabilities       | 49,589   | 2,162    | 5,090    | 5,347    | 7,655    | 9,268    |
| Long-term borrowings          | 423      | 340      | 2,907    | 4,537    | 6,818    | 8,394    |
| Bond payables                 | 66       | 45       | 12       | 12       | 12       | 12       |
| Other non-current liabilities | 49,100   | 1,778    | 2,171    | 798      | 825      | 863      |
| Total liabilities             | 59,411   | 4,957    | 8,413    | 9,981    | 14,346   | 17,872   |
| Share capital                 | 0        | 0        | 0        | 0        | 0        | 0        |
| Retained earnings             | (21,713) | (40,149) | (46,194) | (50,490) | (54,314) | (57,416) |
| Other reserves                | 645      | 72,042   | 75,164   | 76,560   | 76,560   | 76,560   |
| Total shareholders equity     | (21,068) | 31,893   | 28,970   | 26,070   | 22,246   | 19,144   |
| Minority interest             | 136      | 95       | 44       | 9        | (21)     | (46)     |
| Total equity and liabilities  | 38,479   | 36,944   | 37,427   | 36,061   | 36,571   | 36,971   |

| <b>CASH FLOW</b>                    | <b>2020A</b>   | <b>2021A</b>   | <b>2022A</b>   | <b>2023E</b>   | <b>2024E</b>   | <b>2025E</b> |
|-------------------------------------|----------------|----------------|----------------|----------------|----------------|--------------|
| <b>YE 31 Dec (RMB mn)</b>           |                |                |                |                |                |              |
| <b>Operating</b>                    |                |                |                |                |                |              |
| Profit before taxation              | (12,319)       | (17,142)       | (6,333)        | (4,501)        | (4,006)        | (3,249)      |
| Depreciation & amortization         | 570            | 658            | 968            | 1,010          | 1,110          | 1,200        |
| Tax paid                            | (13)           | (38)           | (11)           | 170            | 152            | 123          |
| Change in working capital           | (1,290)        | (2,026)        | (101)          | 1,405          | 1,779          | 1,492        |
| Others                              | 11,823         | 16,062         | 2,393          | (106)          | (38)           | 23           |
| <b>Net cash from operations</b>     | <b>(1,229)</b> | <b>(2,485)</b> | <b>(3,084)</b> | <b>(2,022)</b> | <b>(1,004)</b> | <b>(412)</b> |
| <b>Investing</b>                    |                |                |                |                |                |              |
| Capital expenditure                 | (1,306)        | (1,266)        | (5,167)        | (1,119)        | (952)          | (957)        |
| Others                              | (5,765)        | (283)          | (4,131)        | 197            | 169            | 169          |
| <b>Net cash from investing</b>      | <b>(7,070)</b> | <b>(1,548)</b> | <b>(9,298)</b> | <b>(922)</b>   | <b>(783)</b>   | <b>(789)</b> |
| <b>Financing</b>                    |                |                |                |                |                |              |
| Dividend paid                       | 0              | 0              | 0              | 0              | 0              | 0            |
| Net borrowings                      | 13,327         | 4,769          | 3,389          | 1,699          | 2,563          | 1,771        |
| Proceeds from share issues          | 0              | 4,643          | 0              | 0              | 0              | 0            |
| Others                              | (141)          | (34)           | (60)           | (90)           | (131)          | (191)        |
| <b>Net cash from financing</b>      | <b>13,186</b>  | <b>9,378</b>   | <b>3,329</b>   | <b>1,609</b>   | <b>2,432</b>   | <b>1,579</b> |
| <b>Net change in cash</b>           |                |                |                |                |                |              |
| Cash at the beginning of the year   | 6,673          | 11,428         | 16,530         | 7,963          | 6,628          | 7,273        |
| Exchange difference                 | (131)          | (243)          | 487            | 0              | 0              | 0            |
| <b>Cash at the end of the year</b>  | <b>11,428</b>  | <b>16,530</b>  | <b>7,963</b>   | <b>6,628</b>   | <b>7,273</b>   | <b>7,652</b> |
| <b>GROWTH</b>                       | <b>2020A</b>   | <b>2021A</b>   | <b>2022A</b>   | <b>2023E</b>   | <b>2024E</b>   | <b>2025E</b> |
| <b>YE 31 Dec</b>                    |                |                |                |                |                |              |
| Revenue                             | 13.9%          | 36.4%          | (19.0%)        | 30.8%          | 27.6%          | 30.1%        |
| Gross profit                        | 41.5%          | 34.8%          | (22.4%)        | 12.8%          | 23.2%          | 30.6%        |
| <b>PROFITABILITY</b>                | <b>2020A</b>   | <b>2021A</b>   | <b>2022A</b>   | <b>2023E</b>   | <b>2024E</b>   | <b>2025E</b> |
| <b>YE 31 Dec</b>                    |                |                |                |                |                |              |
| Gross profit margin                 | 70.6%          | 69.7%          | 66.8%          | 57.6%          | 55.6%          | 55.8%        |
| Operating margin                    | (62.3%)        | (70.6%)        | (103.5%)       | (86.3%)        | (59.4%)        | (36.3%)      |
| Adj. net profit margin              | (25.5%)        | (29.4%)        | (123.1%)       | (76.2%)        | (52.2%)        | (31.1%)      |
| Return on equity (ROE)              | na             | (316.7%)       | (19.9%)        | (15.6%)        | (15.8%)        | (15.0%)      |
| <b>GEARING/LIQUIDITY/ACTIVITIES</b> | <b>2020A</b>   | <b>2021A</b>   | <b>2022A</b>   | <b>2023E</b>   | <b>2024E</b>   | <b>2025E</b> |
| <b>YE 31 Dec</b>                    |                |                |                |                |                |              |
| Net debt to equity (x)              | na             | (0.5)          | (0.1)          | (0.1)          | 0.0            | 0.1          |
| Current ratio (x)                   | 3.2            | 10.0           | 6.5            | 4.3            | 3.1            | 2.5          |
| Receivable turnover days            | 293.5          | 319.3          | 493.6          | 345.5          | 241.9          | 169.3        |
| Inventory turnover days             | 206.2          | 155.4          | 160.5          | 160.0          | 165.0          | 170.0        |
| Payable turnover days               | 227.8          | 128.9          | 189.9          | 175.3          | 200.9          | 206.9        |
| <b>VALUATION</b>                    | <b>2020A</b>   | <b>2021A</b>   | <b>2022A</b>   | <b>2023E</b>   | <b>2024E</b>   | <b>2025E</b> |
| <b>YE 31 Dec</b>                    |                |                |                |                |                |              |
| P/B                                 | na             | 4.1            | 3.8            | 3.7            | 4.4            | 5.1          |
| EV                                  | 57,653.4       | 52,995.0       | 62,597.3       | 65,631.4       | 67,548.9       | 68,940.6     |
| EV/Sales                            | 16.7           | 11.3           | 16.4           | 13.2           | 10.6           | 8.3          |

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

# Disclosures & Disclaimers

## Analyst Certification

The research analyst who is primary responsible for the content of this research report, in whole or in part, certifies that with respect to the securities or issuer that the analyst covered in this report: (1) all of the views expressed accurately reflect his or her personal views about the subject securities or issuer; and (2) no part of his or her compensation was, is, or will be, directly or indirectly, related to the specific views expressed by that analyst in this report.

Besides, the analyst confirms that neither the analyst nor his/her associates (as defined in the code of conduct issued by The Hong Kong Securities and Futures Commission) (1) have dealt in or traded in the stock(s) covered in this research report within 30 calendar days prior to the date of issue of this report; (2) will deal in or trade in the stock(s) covered in this research report 3 business days after the date of issue of this report; (3) serve as an officer of any of the Hong Kong listed companies covered in this report; and (4) have any financial interests in the Hong Kong listed companies covered in this report.

## CMBIGM Ratings

|                       |   |
|-----------------------|---|
| <b>BUY</b>            | : Stock with potential return of over 15% over next 12 months                                       |
| <b>HOLD</b>           | : Stock with potential return of +15% to -10% over next 12 months                                   |
| <b>SELL</b>           | : Stock with potential loss of over 10% over next 12 months   |
| <b>NOT RATED</b>      | : Stock is not rated by CMBIGM  |
| <b>OUTPERFORM</b>     | : Industry expected to outperform the relevant broad market benchmark over next 12 months           |
| <b>MARKET-PERFORM</b> | : Industry expected to perform in-line with the relevant broad market benchmark over next 12 months |
| <b>UNDERPERFORM</b>   | : Industry expected to underperform the relevant broad market benchmark over next 12 months         |

## CMB International Global Markets Limited

Address: 45/F, Champion Tower, 3 Garden Road, Hong Kong, Tel: (852) 3900 0888 Fax: (852) 3900 0800

CMB International Global Markets Limited ("CMBIGM") is a wholly owned subsidiary of CMB International Capital Corporation Limited (a wholly owned subsidiary of China Merchants Bank)

## Important Disclosures

There are risks involved in transacting in any securities. The information contained in this report may not be suitable for the purposes of all investors. CMBIGM does not provide individually tailored investment advice. This report has been prepared without regard to the individual investment objectives, financial position or special requirements. Past performance has no indication of future performance, and actual events may differ materially from that which is contained in the report. The value of, and returns from, any investments are uncertain and are not guaranteed and may fluctuate as a result of their dependence on the performance of underlying assets or other variable market factors. CMBIGM recommends that investors should independently evaluate particular investments and strategies, and encourages investors to consult with a professional financial advisor in order to make their own investment decisions.

This report or any information contained herein, have been prepared by the CMBIGM, solely for the purpose of supplying information to the clients of CMBIGM or its affiliate(s) to whom it is distributed. This report is not and should not be construed as an offer or solicitation to buy or sell any security or any interest in securities or enter into any transaction. Neither CMBIGM nor any of its affiliates, shareholders, agents, consultants, directors, officers or employees shall be liable for any loss, damage or expense whatsoever, whether direct or consequential, incurred in relying on the information contained in this report. Anyone making use of the information contained in this report does so entirely at their own risk.

The information and contents contained in this report are based on the analyses and interpretations of information believed to be publicly available and reliable. CMBIGM has exerted every effort in its capacity to ensure, but not to guarantee, their accuracy, completeness, timeliness or correctness. CMBIGM provides the information, advices and forecasts on an "AS IS" basis. The information and contents are subject to change without notice. CMBIGM may issue other publications having information and/ or conclusions different from this report. These publications reflect different assumption, point-of-view and analytical methods when compiling. CMBIGM may make investment decisions or take proprietary positions that are inconsistent with the recommendations or views in this report.

CMBIGM may have a position, make markets or act as principal or engage in transactions in securities of companies referred to in this report for itself and/or on behalf of its clients from time to time. Investors should assume that CMBIGM does or seeks to have investment banking or other business relationships with the companies in this report. As a result, recipients should be aware that CMBIGM may have a conflict of interest that could affect the objectivity of this report and CMBIS will not assume any responsibility in respect thereof. This report is for the use of intended recipients only and this publication, may not be reproduced, reprinted, sold, redistributed or published in whole or in part for any purpose without prior written consent of CMBIGM.

Additional information on recommended securities is available upon request.

For recipients of this document in the United Kingdom

This report has been provided only to persons (I) falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended from time to time) ("The Order") or (II) are persons falling within Article 49(2) (a) to (d) ("High Net Worth Companies, Unincorporated Associations, etc.") of the Order, and may not be provided to any other person without the prior written consent of CMBIGM.

For recipients of this document in the United States

CMBIGM is not a registered broker-dealer in the United States. As a result, CMBIGM is not subject to U.S. rules regarding the preparation of research reports and the independence of research analysts. The research analyst who is primary responsible for the content of this research report is not registered or qualified as a research analyst with the Financial Industry Regulatory Authority ("FINRA"). The analyst is not subject to applicable restrictions under FINRA Rules intended to ensure that the analyst is not affected by potential conflicts of interest that could bear upon the reliability of the research report. This report is intended for distribution in the United States solely to "major US institutional investors", as defined in Rule 15a-6 under the US, Securities Exchange Act of 1934, as amended, and may not be furnished to any other person in the United States. Each major US institutional investor that receives a copy of this report by its acceptance hereof represents and agrees that it shall not distribute or provide this report to any other person. Any U.S. recipient of this report wishing to effect any transaction to buy or sell securities based on the information provided in this report should do so only through a U.S.-registered broker-dealer.

For recipients of this document in Singapore

This report is distributed in Singapore by CMBI (Singapore) Pte. Limited (CMBISG) (Company Regn. No. 201731928D), an Exempt Financial Adviser as defined in the Financial Advisers Act (Cap. 110) of Singapore and regulated by the Monetary Authority of Singapore. CMBISG may distribute reports produced by its respective foreign entities, affiliates or other foreign research houses pursuant to an arrangement under Regulation 32C of the Financial Advisers Regulations. Where the report is distributed in Singapore to a person who is not an Accredited Investor, Expert Investor or an Institutional Investor, as defined in the Securities and Futures Act (Cap. 289) of Singapore, CMBISG accepts legal responsibility for the contents of the report to such persons only to the extent required by law. Singapore recipients should contact CMBISG at +65 6350 4400 for matters arising from, or in connection with the report.