研究报告 Research Report

20 Aug 2022

华恒生物 Anhui Huaheng Biological Engineering (688639 CH)

2022H1 扣非后净利润 1.21 亿元，同比增长 116.17%，产品产能持续扩充

A 116% Surge in 1H22 Bottom Line to Rmb121mn with Further Expansion in Production Capacity

观点聚焦 Investment Focus

维持优于大市 Maintain OUTPERFORM

评级	优于大市 OUTPERFORM
现价	Rmb148.10
目标价	Rmb178.78
市值	Rmb16.05bn / US$2.37bn
日交易额 (3 个月均值)	US$14.65mn
发行股票数目	108.40mn
自由流通股 (%)	83%
1 年股价最高最低值	Rmb148.10-Rmb53.71

注：现价 Rmb148.10 为 2022 年 8 月 18 日收盘价

资料来源： Factset

	1mth	3mth	12mth
绝对值	17.3%	52.8%	170.5%
绝对值（美元）	17.2%	52.1%	158.7%
相对 MSCI China	23.8%	54.8%	199.1%

(Rmb mn)	Dec-21A	Dec-22E	Dec-23E	Dec-24E
营业收入	954	1,262	1,515	1,798
(+/-)	96%	32%	20%	19%
净利润	168	248	325	427
(+/-)	39%	48%	31%	31%
全面摊薄 EPS (Rmb)	1.55	2.29	3.00	3.94
毛利率	32.3%	35.4%	36.7%	37.9%
净资产收益率	14.2%	17.4%	18.5%	19.5%
市盈率	95	65	49	38

资料来源：公司信息, HTI

(Please see APPENDIX 1 for English summary)

- **2022H1 扣非后净利润 1.21 亿元，同比增长 116.17%。**公司发布 2022H1 业绩报告，报告期内实现营收 6.29 亿元，同比增长 65.66%；归属于上市公司股东的净利润 1.29 亿元，同比增长 107.6%；扣非后净利润 1.21 亿元，同比增长 116.17%；基本每股收益 1.19 元。业绩提升主要得益于：公司缬氨酸及丙氨酸产品产销量增加。

- **重点项目建设陆续落地，产品产能持续扩充。**报告期内，公司募投项目巴彦淖尔交替生产丙氨酸、缬氨酸项目和秦皇岛发酵法丙氨酸技改扩产项目，按计划部分投产，产能利用率有序释放提升。此外，公司在巴彦淖尔基地三支链氨基酸及其衍生物项目和长丰基地 beta 丙氨酸衍生物项目持续稳步推进，目前均已取得环评批复。我们认为，未来随着公司重点项目建设陆续落地，公司产品种类将进一步丰富，产品产能持续扩充，综合竞争力有望进一步增强。

- **持续加强研发投入，拓展研发平台，加速技术创新。**公司坚持和发展已有的产学研相结合的技术合作创新模式，与中科院天工所、中科院微生物研究所等高校科研机构建立长期的合作关系，与中国工程院郑裕国院士合作共建华恒绿色生物制造院士工作站。同时，公司成立了华恒合成生物技术研究院，引进海外高端人才，搭建系统与合成生物中心，不断完善从菌种构建技术研发-小试中试放大-工厂大规模生产相结合的全产业链技术产业化路径。报告期内公司新增发明专利 8 项，新增实用新型专利 11 项。

- **盈利预测与投资评级。**受益于募投项目持续放量，公司业绩超预期，我们上调对公司的盈利预测。我们预计公司 2022-2024 年公司净利润分别为 2.48（+16%）、3.25（+22%）和 4.27（新引入）亿元，EPS 分别为 2.29、3.00 和 3.94 元/股。参考可比公司估值，考虑到公司产品产能持续扩充，业绩处于快速提升期，给予公司 2022 年 78 倍 PE，对应目标价 178.78 元，（上期目标价为 82.50 元，基于 2021 年 55 倍 PE，+117%），维持“优于大市”评级。

- **风险提示。**在建项目进度不及预期，下游需求不及预期，市场竞争加剧。

梁爽 Helen Liang

helen.s.liang@htisec.com

表1 可比上市公司估值比较

股票代码	公司名称	股价（元）	EPS（元/股）			PE（倍）			PB（倍）	ROE
			2021	2022E	2023E	2021	2022E	2023E	2022E	2022E
688065.SH	凯赛生物	80.08	1.50	1.29	1.62	53.27	62.29	49.37	3.51	6.59%
300829.SZ	金丹科技	31.39	0.71	0.98	1.41	44.45	31.92	22.28	4.89	11.00%
688089.SH	嘉必优	45.18	1.01	1.16	1.65	44.65	39.11	27.34	5.45	12.20%
平均						47.46	44.44	32.99	4.62	9.93%
688639.SH	华恒生物	148.1	1.55	2.29	3.00	95.43	64.61	49.41	11.17	17.36%

注：股价为2022年8月18日收盘价，每股收益均为WIND一致预期，华恒生物为海通预测值
资料来源：WIND，海通国际

财务报表分析和预测

主要财务指标	2021	2022E	2023E	2024E
每股指标（元）				
每股收益	1.55	2.29	3.00	3.94
每股净资产	10.95	13.26	16.26	20.21
每股经营现金流	0.89	2.67	3.07	4.35
每股股利	0.00	0.00	0.00	0.00
价值评估（倍）				
P/E	95.43	64.61	49.41	37.62
P/B	13.52	11.17	9.11	7.33
P/S	16.83	12.72	10.60	8.93
EV/EBITDA	68.88	47.02	37.25	28.72
股息率%	**0.0%**	**0.0%**	**0.0%**	**0.0%**
盈利能力指标（%）				
毛利率	32.3%	35.4%	36.7%	37.9%
净利润率	17.6%	19.7%	21.4%	23.7%
净资产收益率	14.2%	17.4%	18.5%	19.5%
资产回报率	11.4%	13.7%	15.1%	16.1%
投资回报率	13.6%	16.1%	16.8%	17.6%
盈利增长（%）				
营业收入增长率	95.8%	32.3%	20.0%	18.7%
EBIT 增长率	32.7%	44.9%	26.8%	30.2%
净利润增长率	38.9%	47.7%	30.8%	31.3%
偿债能力指标				
资产负债率	19.7%	21.1%	18.6%	17.4%
流动比率	4.66	4.04	4.69	5.08
速动比率	3.90	3.43	4.00	4.42
现金比率	0.67	0.95	1.49	2.13
经营效率指标				
应收账款周转天数	67.25	66.77	67.01	66.89
存货周转天数	60.04	60.02	60.03	60.03
总资产周转率	0.65	0.70	0.70	0.68
固定资产周转率	2.06	2.40	2.63	2.91

现金流量表（百万元）	2021	2022E	2023E	2024E
净利润	168	248	325	427
少数股东损益	0	0	0	0
非现金支出	53	69	82	92
非经营收益	3	-2	-5	-4
营运资金变动	-128	-28	-71	-44
经营活动现金流	**96**	**289**	**331**	**470**
资产	-179	-153	-162	-157
投资	-345	0	0	0
其他	12	3	6	5
投资活动现金流	**-512**	**-151**	**-156**	**-152**
债权募资	-36	2	0	0
股权募资	596	0	0	0
其他	-83	-1	-1	-1
融资活动现金流	**477**	**1**	**-1**	**-1**
现金净流量	**60**	**139**	**174**	**316**

利润表（百万元）	2021	2022E	2023E	2024E
营业总收入	**954**	**1262**	**1515**	**1798**
营业成本	646	816	959	1116
毛利率%	32.3%	35.4%	36.7%	37.9%
营业税金及附加	7	6	9	10
营业税金率%	0.7%	0.5%	0.6%	0.5%
营业费用	15	16	21	22
营业费用率%	1.6%	1.3%	1.4%	1.2%
管理费用	65	82	98	108
管理费用率%	6.8%	6.5%	6.5%	6.0%
EBIT	185	268	341	443
财务费用	0	-5	-9	-17
财务费用率%	0.0%	-0.4%	-0.6%	-0.9%
资产减值损失	-6	-3	-4	-4
投资收益	5	3	6	5
营业利润	**186**	**286**	**371**	**489**
营业外收支	4	0	0	0
利润总额	**191**	**286**	**371**	**489**
EBITDA	233	335	418	531
所得税	23	37	46	62
有效所得税率%	11.8%	13.0%	12.4%	12.7%
少数股东损益	0	0	0	0
归属母公司所有者净利润	**168**	**248**	**325**	**427**

资产负债表（百万元）	2021	2022E	2023E	2024E
货币资金	122	260	434	751
应收账款及应收票据	211	292	343	411
存货	106	134	158	184
其它流动资产	413	423	437	448
流动资产合计	853	1109	1372	1794
长期股权投资	0	0	0	0
固定资产	463	526	575	617
在建工程	65	86	115	138
无形资产	44	44	46	46
非流动资产合计	622	705	785	851
资产总计	**1474**	**1814**	**2157**	**2645**
短期借款	18	20	20	20
应付票据及应付账款	100	187	184	235
预收账款	0	0	0	0
其它流动负债	65	68	88	99
流动负债合计	183	274	292	353
长期借款	0	0	0	0
其它长期负债	108	108	108	108
非流动负债合计	108	108	108	108
负债总计	**291**	**382**	**400**	**461**
实收资本	108	108	108	108
归属于母公司所有者权益	1183	1432	1756	2183
少数股东权益	0	0	0	0
负债和所有者权益合计	**1474**	**1814**	**2157**	**2645**

备注：（1）表中计算估值指标的收盘价日期为 2022 年 8 月 18 日；（2）以上各表均为简表

资料来源：公司年报（2021），海通国际

APPENDIX 1

Summary

- **The company achieved a recurring net profit of Rmb121mn in 2022H1, a year-on-year increase of 116.17%.** The company released the 2022H1 performance report. During the reporting period, the revenue was Rmb629mn, a year-on-year increase of 65.66%; the net profit attributable to shareholders of the listed company was Rmb129mn, a year-on-year increase of 107.6%; the recurring net profit was Rmb121mn, a year-on-year increase of 116.17 %; basic earnings per share was Rmb1.19. The improvement in performance was mainly due to the increase in the production and sales of the company's valine and alanine products.

- **The construction of key projects has been implemented, and product production capacity has continued to expand.** During the reporting period, the company's raised investment project Bayannaoer alternately produces alanine and valine, and Qinhuangdao fermentation alanine technical transformation and expansion project was partially put into production as planned, and the production capacity utilization rate was released in an orderly manner. In addition, the company's three branched-chain amino acid and its derivative projects in Bayannaoer Base and the beta alanine derivative project in Changfeng Base have continued to steadily advance, and have obtained EIA approvals so far. We believe that with the successive implementation of the company's key projects in the future, the company's product categories will be further enriched, product production capacity will continue to expand, and comprehensive competitiveness is expected to be further enhanced.

- **Continue to increase investment in research and development, expand research and development platforms, and accelerate technological innovation.** The company adheres to and develops the existing technical cooperation innovation model combining production, education and research, establishes long-term cooperative relations with university scientific research institutions such as Tiangong Institute of Chinese Academy of Sciences and Institute of Microbiology of Chinese Academy of Sciences, and cooperates with academician Zheng Yuguo of Chinese Academy of Engineering to build Huaheng green bio-manufacturing Academician workstation. At the same time, the company established the Huaheng Synthetic Biotechnology Research Institute, introduced overseas high-end talents, built a system and synthetic biology center, and continuously improved the entire industrial chain from the combination of bacterial strain construction technology research and development, small-scale pilot scale-up, and factory large-scale production. technology industrialization path. During the reporting period, the company obtained 8 invention patents and 11 new utility model patents.

- **Investment advice:** Given the capacity enhancement and better than expected earnings results, we raise our 2022-24 net earnings forecasts by 16% and 22% to Rmb248mn and Rmb325mn, and newly introduced the 2024 estimate of Rmb427mn with corresponding EPS of Rmb2.29, RMb3.00 and Rmb3.94 respectively. Considering the fast capacity expansion and potential fast earning growth, we assigned 78x 2022 PER to the company and raise our target price by 117% to Rmb178.78 from the previous of Rmb82.5 on 55x PER of 2021. We re-iterate the OUTPERFORM rating.

- **Risk:** The progress of projects under construction is lower than expected, downstream demand is lower than expected, and market competition intensifies

附录 APPENDIX

重要信息披露

本研究报告由海通国际分销，海通国际是由海通国际研究有限公司(HTIRL)，Haitong Securities India Private Limited (HSIPL)，Haitong International Japan K.K. (HTIJKK)和海通国际证券有限公司(HTISCL)的证券研究团队所组成的全球品牌，海通国际证券集团(HTISG)各成员分别在其许可的司法管辖区内从事证券活动。

IMPORTANT DISCLOSURES

This research report is distributed by Haitong International, a global brand name for the equity research teams of Haitong International Research Limited (“HTIRL”), Haitong Securities India Private Limited (“HSIPL”), Haitong International Japan K.K. (“HTIJKK”), Haitong International Securities Company Limited (“HTISCL”), and any other members within the Haitong International Securities Group of Companies (“HTISG”), each authorized to engage in securities activities in its respective jurisdiction.

HTIRL 分析师认证 Analyst Certification:

我，梁爽，在此保证（i）本研究报告中的意见准确反映了我们对本研究中提及的任何或所有目标公司或上市公司的个人观点，并且（ii）我的报酬中没有任何部分与本研究报告中表达的具体建议或观点直接或间接相关；及就此报告中所讨论目标公司的证券，我们（包括我们的家属）在其中均不持有任何财务利益。I, Helen Liang, certify that (i) the views expressed in this research report accurately reflect my personal views about any or all of the subject companies or issuers referred to in this research and (ii) no part of my compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this research report; and that I (including members of my household) have no financial interest in the security or securities of the subject companies discussed.

利益冲突披露 Conflict of Interest Disclosures

海通国际及其某些关联公司可从事投资银行业务和/或对本研究中的特定股票或公司进行做市或持有自营头寸。就本研究报告而言，以下是有关该等关系的披露事项（以下披露不能保证及时无遗漏，如需了解及时全面信息，请发邮件至 ERD-Disclosure@htisec.com）

HTI and some of its affiliates may engage in investment banking and / or serve as a market maker or hold proprietary trading positions of certain stocks or companies in this research report. As far as this research report is concerned, the following are the disclosure matters related to such relationship (As the following disclosure does not ensure timeliness and completeness, please send an email to ERD-Disclosure@htisec.com if timely and comprehensive information is needed).

评级定义（从 2020 年 7 月 1 日开始执行）：

海通国际（以下简称“HTI”）采用相对评级系统来为投资者推荐我们覆盖的公司：优于大市、中性或弱于大市。投资者应仔细阅读 HTI 的评级定义。并且 HTI 发布分析师观点的完整信息，投资者应仔细阅读全文而非仅看评级。在任何情况下，分析师的评级和研究都不能作为投资建议。投资者的买卖股票的决策应基于各自情况（比如投资者的现有持仓）以及其他因素。

分析师股票评级

优于大市，未来 12-18 个月内预期相对基准指数涨幅在 10%以上，基准定义如下

中性，未来 12-18 个月内预期相对基准指数变化不大，基准定义如下。根据 FINRA/NYSE 的评级分布规则，我们会将中性评级划入持有这一类别。

弱于大市，未来 12-18 个月内预期相对基准指数跌幅在 10%以上，基准定义如下

各地股票基准指数：日本 – TOPIX, 韩国 – KOSPI, 台湾 – TAIEX, 印度 – Nifty100, 美国 – SP500; 其他所有中国概念股 – MSCI China.

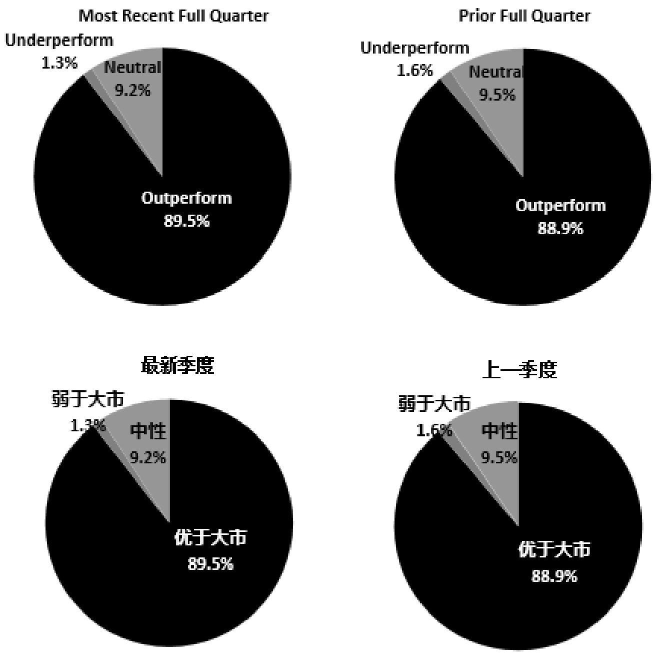
Ratings Definitions (from 1 Jul 2020):

Haitong International uses a relative rating system using Outperform, Neutral, or Underperform for recommending the stocks we cover to investors. Investors should carefully read the definitions of all ratings used in Haitong International Research. In addition, since Haitong International Research contains more complete information concerning the analyst's views, investors should carefully read Haitong International Research, in its entirety, and not infer the contents from the rating alone. In any case, ratings (or research) should not be used or relied upon as investment advice. An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations.

Analyst Stock Ratings

Outperform: The stock’s total return over the next 12-18 months is expected to exceed the return of its relevant broad market benchmark, as indicated below.

评级分布 Rating Distribution



Neutral: The stock's total return over the next 12-18 months is expected to be in line with the return of its relevant broad market benchmark, as indicated below. For purposes only of FINRA/NYSE ratings distribution rules, our Neutral rating falls into a hold rating category.

Underperform: The stock's total return over the next 12-18 months is expected to be below the return of its relevant broad market benchmark, as indicated below.

Benchmarks for each stock's listed region are as follows: Japan – TOPIX, Korea – KOSPI, Taiwan – TAIEX, India – Nifty100, US – SP500; for all other China-concept stocks – MSCI China.

截至 2022 年 6 月 30 日海通国际股票研究评级分布

	优于大市	中性 (持有)	弱于大市
海通国际股票研究覆盖率	89.5%	9.2%	1.3%
投资银行客户*	5.9%	5.6%	5.0%

*在每个评级类别里投资银行客户所占的百分比。

上述分布中的买入，中性和卖出分别对应我们当前优于大市，中性和落后大市评级。

只有根据 FINRA/NYSE 的评级分布规则，我们才将中性评级划入持有这一类别。请注意在上表中不包含非评级的股票。

此前的评级系统定义（直至 2020 年 6 月 30 日）：

买入，未来 12-18 个月内预期相对基准指数涨幅在 10%以上，基准定义如下

中性，未来 12-18 个月内预期相对基准指数变化不大，基准定义如下。根据 FINRA/NYSE 的评级分布规则，我们会将中性评级划入持有这一类别。

卖出，未来 12-18 个月内预期相对基准指数跌幅在 10%以上，基准定义如下

各地股票基准指数：日本 – TOPIX, 韩国 – KOSPI, 台湾 – TAIEX, 印度 – Nifty100; 其他所有中国概念股 – MSCI China.

Haitong International Equity Research Ratings Distribution, as of Jun 30, 2022

	Outperform	Neutral (hold)	Underperform
HTI Equity Research Coverage	89.5%	9.2%	1.3%
IB clients*	5.9%	5.6%	5.0%

*Percentage of investment banking clients in each rating category.

BUY, Neutral, and SELL in the above distribution correspond to our current ratings of Outperform, Neutral, and Underperform.

For purposes only of FINRA/NYSE ratings distribution rules, our Neutral rating falls into a hold rating category. Please note that stocks with an NR designation are not included in the table above.

Previous rating system definitions (until 30 Jun 2020):

BUY: The stock's total return over the next 12-18 months is expected to exceed the return of its relevant broad market benchmark, as indicated below.

NEUTRAL: The stock's total return over the next 12-18 months is expected to be in line with the return of its relevant broad market benchmark, as indicated below. For purposes only of FINRA/NYSE ratings distribution rules, our Neutral rating falls into a hold rating category.

SELL: The stock's total return over the next 12-18 months is expected to be below the return of its relevant broad market benchmark, as indicated below.

Benchmarks for each stock's listed region are as follows: Japan – TOPIX, Korea – KOSPI, Taiwan – TAIEX, India – Nifty100; for all other China-concept stocks – MSCI China.

海通国际非评级研究：海通国际发布计量、筛选或短篇报告，并在报告中根据估值和其他指标对股票进行排名，或者基于可能的估值倍数提出建议价格。这种排名或建议价格并非为了进行股票评级、提出目标价格或进行基本面估值，而仅供参考使用。

Haitong International Non-Rated Research: Haitong International publishes quantitative, screening or short reports which may rank stocks according to valuation and other metrics or may suggest prices based on possible valuation multiples. Such rankings or suggested prices do not purport to be stock ratings or target prices or fundamental values and are for information only.

海通国际 A 股覆盖：海通国际可能会就沪港通及深港通的中国 A 股进行覆盖及评级。海通证券（600837.CH），海通国际于上海的母公司，也会于中国发布中国 A 股的研究报告。但是，海通国际使用与海通证券不同的评级系统，所以海通国际与海通证券的中国 A 股评级可能有所不同。

Haitong International Coverage of A-Shares: Haitong International may cover and rate A-Shares that are subject to the Hong Kong Stock Connect scheme with Shanghai and Shenzhen. Haitong Securities (HS; 600837 CH), the ultimate parent company of HTISG based in Shanghai, covers and publishes research on these same A-Shares for distribution in mainland China. However, the rating system employed by HS differs from that used by HTI and as a result there may be a difference in the HTI and HS ratings for the same A-share stocks.

海通国际优质 100 A 股（Q100）指数：海通国际 Q100 指数是一个包括 100 支由海通证券覆盖的优质中国 A 股的计量产品。这些股票是通过基于质量的筛选过程，并结合对海通证券 A 股团队自下而上的研究。海通国际每季对 Q100 指数成分作出复审。

Haitong International Quality 100 A-share (Q100) Index: HTI's Q100 Index is a quant product that consists of 100 of the highest-quality A-shares under coverage at HS in Shanghai. These stocks are carefully selected through a quality-based screening process in combination with a review of the HS A-share team's bottom-up research. The Q100 constituent companies are reviewed quarterly.

MSCI ESG 评级免责声明条款：尽管海通国际的信息供货商（包括但不限于 MSCI ESG Research LLC 及其联属公司（「ESG 方」）从其认为可靠的来源获取信息（「信息」）, ESG 方均不担保或保证此处任何数据的原创性，准确性和/或完整性，并明确表示不作出任何明示或默示的担保，包括可商售性和针对特定目的的适用性。该信息只能供阁下内部使用，不得以任何形式复制或重新传播，并不得用作任何金融工具、产品或指数的基础或组成部分。此外，信息本质上不能用于判断购买或出售何种证券, 或何时购买或出售该证券。即使已被告知可能造成的损害, ESG 方均不承担与此处任何资料有关的任何错误或遗漏所引起的任何责任，也不对任何直接、间接、特殊、惩罚性、附带性或任何其他损害赔偿（包括利润损失）承担任何责任。

MSCI ESG Disclaimer: Although Haitong International's information providers, including without limitation, MSCI ESG Research LLC and its affiliates (the "ESG Parties"), obtain information (the "Information") from sources they consider reliable, none of the ESG Parties warrants or guarantees the originality, accuracy and/or completeness, of any data herein and expressly disclaim all express or implied warranties, including those of merchantability and fitness for a particular purpose. The Information may only be used for your internal use, may not be reproduced or redisseminated in any form and may not be used as a basis for, or a component of, any financial instruments or products or indices. Further, none of the Information can in and of itself be used to determine which securities to buy or sell or when to buy or sell them. None of the ESG Parties shall have any liability for any errors or omissions in connection with any data herein, or any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

盟浪义利（FIN-ESG）数据通免责声明条款：在使用盟浪义利（FIN-ESG）数据之前，请务必仔细阅读本条款并同意本声明：

第一条 义利（FIN-ESG）数据系由盟浪可持续数字科技有限责任公司（以下简称"本公司"）基于合法取得的公开信息评估而成，本公司对信息的准确性及完整性不作任何保证。对公司的评估结果仅供参考，并不构成对任何个人或机构投资建议，也不能作为任何个人或机构购买、出售或持有相关金融产品的依据。本公司不对任何个人或机构投资者因使用本数据表述的评估结果造成的任何直接或间接损失负责。

第二条 盟浪并不因收到此评估数据而将收件人视为客户，收件人使用此数据时应根据自身实际情况作出自我独立判断。本数据所载内容反映的是盟浪在最初发布本数据日期当日的判断，盟浪有权在不发出通知的情况下更新、修订与发出其他与本数据所载内容不一致或有不同结论的数据。除非另行说明，本数据（如财务业绩数据等）仅代表过往表现，过往的业绩表现不作为日后回报的预测。

第三条 本数据版权归本公司所有，本公司依法保留各项权利。未经本公司事先书面许可授权，任何个人或机构不得将本数据中的评估结果用于任何营利性目的，不得对本数据进行修改、复制、编译、汇编、再次编辑、改编、删减、缩写、节选、发行、出租、展览、表演、放映、广播、信息网络传播、摄制、增加图标及说明等，否则因此给盟浪或其他第三方造成损失的，由用户承担相应的赔偿责任，盟浪不承担责任。

第四条 如本免责声明未约定，而盟浪网站平台载明的其他协议内容（如《盟浪网站用户注册协议》《盟浪网用户服务（含认证）协议》《盟浪网隐私政策》等）有约定的，则按其他协议的约定执行；若本免责声明与其他协议约定存在冲突或不一致的，则以本免责声明约定为准。

SusallWave FIN-ESG Data Service Disclaimer: Please read these terms and conditions below carefully and confirm your agreement and acceptance with these terms before using SusallWave FIN-ESG Data Service.

1. FIN-ESG Data is produced by SusallWave Digital Technology Co., Ltd. (In short, SusallWave)'s assessment based on legal publicly accessible information. SusallWave shall not be responsible for any accuracy and completeness of the information. The assessment result is for reference only. It is not for any investment advice for any individual or institution and not for basis of purchasing, selling or holding any relative financial products. We will not be liable for any direct or indirect loss of any individual or institution as a result of using SusallWave FIN-ESG Data.

2. SusallWave do not consider recipients as customers for receiving these data. When using the data, recipients shall make your own independent judgment according to your practical individual status. The contents of the data reflect the judgment of us only on the release day. We have right to update and amend the data and release other data that contains inconsistent contents or different conclusions without notification. Unless expressly stated, the data (e.g., financial performance data) represents past performance only and the past performance cannot be viewed as the prediction of future return.

3. The copyright of this data belongs to SusallWave, and we reserve all rights in accordance with the law. Without the prior written permission of our company, none of individual or institution can use these data for any profitable purpose. Besides, none of individual or institution can take actions such as amendment, replication, translation, compilation, re-editing, adaption, deletion, abbreviation, excerpts, issuance, rent, exhibition, performance, projection, broadcast, information network transmission, shooting, adding icons and instructions. If any loss of SusallWave or any third-party is caused by those actions, users shall bear the corresponding compensation liability. SusallWave shall not be responsible for any loss.

4. If any term is not contained in this disclaimer but written in other agreements on our website (e.g. *User Registration Protocol of SusallWave Website, User Service (including authentication) Agreement of SusallWave Website, Privacy Policy of Susallwave Website*), it should be executed according to other agreements. If there is any difference between this disclaim and other agreements, this disclaimer shall be applied.

重要免责声明：

非印度证券的研究报告：本报告由海通国际证券集团有限公司（"HTISGL"）的全资附属公司海通国际研究有限公司（"HTIRL"）发行，该公司是根据香港证券及期货条例（第 571 章）持有第 4 类受规管活动（就证券提供意见）的持牌法团。该研究报告在 HTISGL 的全资附属公司 Haitong International (Japan) K.K.（"HTIJKK"）的协助下发行，HTIJKK 是由日本关东财务局监管为投资顾问。

印度证券的研究报告：本报告由从事证券交易、投资银行及证券分析及受 Securities and Exchange Board of India（"SEBI"）监管的 Haitong Securities India Private Limited（"HTSIPL"）所发行，包括制作及发布涵盖 BSE Limited（"BSE"）和 National Stock Exchange of India Limited（"NSE"）上市公司（统称为「印度交易所」）的研究报告。HTSIPL 于 2016 年 12 月 22 日被收购并成为海通国际证券集团有限公司（"HTISG"）的一部分。

所有研究报告均以海通国际为名作为全球品牌，经许可由海通国际证券股份有限公司及/或海通国际证券集团的其他成员在其司法管辖区发布。

本文件所载信息和观点已被编译或源自可靠来源，但 HTIRL、HTISCL 或任何其他属于海通国际证券集团有限公司（"HTISG"）的成员对其准确性、完整性和正确性不做任何明示或暗示的声明或保证。本文件中所有观点均截至本报告日期，如有更改，恕不另行通知。本文件仅供参考使用。文件中提及的任何公司或其股票的说明并非意图展示完整的内容，本文件并非/不应被解释为对证券买卖的明示或暗示地出价或征价。在某些司法管辖区，本文件中提及的证券可能无法进行买卖。如果投资产品以投资者本国货币以外的币种进行计价，则汇率变化

可能会对投资产生不利影响。过去的表现并不一定代表将来的结果。某些特定交易，包括设计金融衍生工具的，有产生重大风险的可能性，因此并不适合所有的投资者。您还应认识到本文件中的建议并非为您量身定制。分析师并未考虑到您自身的财务情况，如您的财务状况和风险偏好。因此您必须自行分析并在适用的情况下咨询自己的法律、税收、会计、金融和其他方面的专业顾问，以期在投资之前评估该项建议是否适合于您。若由于使用本文件所载的材料而产生任何直接或间接的损失，HTISG 及其董事、雇员或代理人对此均不承担任何责任。

除对本文内容承担责任的分析师除外，HTISG 及我们的关联公司、高级管理人员、董事和雇员，均可不时作为主事人就本文件所述的任何证券或衍生品持有长仓或短仓以及进行买卖。HTISG 的销售员、交易员和其他专业人士均可向 HTISG 的相关客户和公司提供与本文件所述意见相反的口头或书面市场评论意见或交易策略。HTISG 可做出与本文件所述建议或意见不一致的投资决策。但 HTIRL 没有义务来确保本文件的收件人了解到该等交易决定、思路或建议。

请访问海通国际网站 www.equities.htisec.com，查阅更多有关海通国际为预防和避免利益冲突设立的组织和行政安排的内容信息。

非美国分析师披露信息： 本项研究首页上列明的海通国际分析师并未在 FINRA 进行注册或者取得相应的资格，并且不受美国 FINRA 有关与本项研究目标公司进行沟通、公开露面和自营证券交易的第 2241 条规则之限制。

IMPORTANT DISCLAIMER

For research reports on non-Indian securities: The research report is issued by Haitong International Research Limited ("HTIRL"), a wholly owned subsidiary of Haitong International Securities Group Limited ("HTISGL") and a licensed corporation to carry on Type 4 regulated activity (advising on securities) for the purpose of the Securities and Futures Ordinance (Cap. 571) of Hong Kong, with the assistance of Haitong International (Japan) K.K. ("HTIJKK"), a wholly owned subsidiary of HTISGL and which is regulated as an Investment Adviser by the Kanto Finance Bureau of Japan.

For research reports on Indian securities: The research report is issued by Haitong Securities India Private Limited ("HSIPL"), an Indian company and a Securities and Exchange Board of India ("SEBI") registered Stock Broker, Merchant Banker and Research Analyst that, inter alia, produces and distributes research reports covering listed entities on the BSE Limited ("BSE") and the National Stock Exchange of India Limited ("NSE") (collectively referred to as "Indian Exchanges"). HSIPL was acquired and became part of the Haitong International Securities Group of Companies ("HTISG") on 22 December 2016.

All the research reports are globally branded under the name Haitong International and approved for distribution by Haitong International Securities Company Limited ("HTISCL") and/or any other members within HTISG in their respective jurisdictions.

The information and opinions contained in this research report have been compiled or arrived at from sources believed to be reliable and in good faith but no representation or warranty, express or implied, is made by HTIRL, HTISCL, HSIPL, HTIJKK or any other members within HTISG from which this research report may be received, as to their accuracy, completeness or correctness. All opinions expressed herein are as of the date of this research report and are subject to change without notice. This research report is for information purpose only. Descriptions of any companies or their securities mentioned herein are not intended to be complete and this research report is not, and should not be construed expressly or impliedly as, an offer to buy or sell securities. The securities referred to in this research report may not be eligible for purchase or sale in some jurisdictions. If an investment product is denominated in a currency other than an investor's home currency, a change in exchange rates may adversely affect the investment. Past performance is not necessarily indicative of future results. Certain transactions, including those involving derivatives, give rise to substantial risk and are not suitable for all investors. You should also bear in mind that recommendations in this research report are not tailor-made for you. The analyst has not taken into account your unique financial circumstances, such as your financial situation and risk appetite. You must, therefore, analyze and should, where applicable, consult your own legal, tax, accounting, financial and other professional advisers to evaluate whether the recommendations suits you before investment. Neither HTISG nor any of its directors, employees or agents accepts any liability whatsoever for any direct or consequential loss arising from any use of the materials contained in this research report.

HTISG and our affiliates, officers, directors, and employees, excluding the analysts responsible for the content of this document, will from time to time have long or short positions in, act as principal in, and buy or sell, the securities or derivatives, if any, referred to in this research report. Sales, traders, and other professionals of HTISG may provide oral or written market commentary or trading strategies to the relevant clients and the companies within HTISG that reflect opinions that are contrary to the opinions expressed in this research report. HTISG may make investment decisions that are inconsistent with the recommendations or views expressed in this research report. HTI is under no obligation to ensure that such other trading decisions, ideas or recommendations are brought to the attention of any recipient of this research report.

Please refer to HTI's website www.equities.htisec.com for further information on HTI's organizational and administrative arrangements set up for the prevention and avoidance of conflicts of interest with respect to Research.

Non U.S. Analyst Disclosure: The HTI analyst(s) listed on the cover of this Research is (are) not registered or qualified as a research analyst with FINRA and are not subject to U.S. FINRA Rule 2241 restrictions on communications with companies that are the subject of the Research; public appearances; and trading securities by a research analyst.

分发和地区通知：

除非下文另有规定，否则任何希望讨论本报告或者就本项研究中讨论的任何证券进行任何交易的收件人均应联系其所在国家或地区的海通国际销售人员。

香港投资者的通知事项： 海通国际证券股份有限公司("HTISCL")负责分发该研究报告，HTISCL 是在香港有权实施第 1 类受规管活动（从事证券交易）的持牌公司。该研究报告并不构成《证券及期货条例》（香港法例第 571 章）（以下简称"SFO"）所界定的要约邀请，证券要约或公众要约。本研究报告仅提供给 SFO 所界定的"专业投资者"。本研究报告未经过证券及期货事务监察委员会的审查。您不应仅根据本研究报告中所载的信息做出投资决定。本研究报告的收件人就研究报告中产生或与之相关的任何事宜请联系 HTISCL 销售人员。

美国投资者的通知事项： 本研究报告由 HTIRL，HSIPL 或 HTIJKK 编写。 HTIRL，HSIPL，HTIJKK 以及任何非 HTISG 美国联营公司，均未在美国注册，因此不受美国关于研究报告编制和研究分析人员独立性规定的约束。本研究报告提供给依照 1934 年"美国证券交易法"第 15a-6 条规定的豁免注册的「美国主要机构投资者」（"Major U.S. Institutional Investor"）和「机构投资者」（"U.S. Institutional Investors"）。在向美国机构投资者分发研究报告时，Haitong International Securities (USA) Inc.（"HTI USA"）将对报告的内容负责。任何收到本研究报告的美国投资者，希望根据本研究报告提供的信息进行任何证券或相关金融工具买卖的交易，只能通过 HTI USA。HTI USA 位于 340 Madison Avenue, 12th Floor, New York, NY 10173，电话（212）351-6050。 HTI USA 是在美国于 U.S. Securities and Exchange Commission（"SEC"）注册的经纪商，也是 Financial Industry Regulatory Authority, Inc.（"FINRA"）的成员。 HTIUSA 不负责编写本研究报告，也不负责其中包含的分析。在任何情况下，收到本研究报告的任何美国投资者，不得直接与分析师直接联系，也不得通过 HSIPL，HTIRL 或 HTIJKK 直接进行买卖证券或相关金融工具的交易。本研究报告中出现的 HSIPL，HTIRL 或 HTIJKK 分析师没有注册或具备 FINRA 的研究分析师资格，因此可能不受 FINRA 第 2241 条规定的与目标公司的交流，公开露面和分析师账户持有的交易证券等限制。投资本研究报告中讨论的任何非美国证券或相关金融工具（包括 ADR）可能存在一定风险。非美国发行的证券可能没有注册，或不受美国法规的约束。有关非美国证券或相关金融工具的信息可能有限制。外国公司可能不受审计和汇报的标准以及与美国境内生效相符的监管要求。本研究报告中以美元以外的其他货币计价的任何

证券或相关金融工具的投资或收益的价值受汇率波动的影响，可能对该等证券或相关金融工具的价值或收入产生正面或负面影响。美国收件人的所有问询请联系：

Haitong International Securities (USA) Inc.
340 Madison Avenue, 12th Floor
New York, NY 10173
联系人电话：(212) 351 6050

DISTRIBUTION AND REGIONAL NOTICES

Except as otherwise indicated below, any Recipient wishing to discuss this research report or effect any transaction in any security discussed in HTI's research should contact the Haitong International salesperson in their own country or region.

Notice to Hong Kong investors: The research report is distributed by Haitong International Securities Company Limited ("HTISCL"), which is a licensed corporation to carry on Type 1 regulated activity (dealing in securities) in Hong Kong. This research report does not constitute a solicitation or an offer of securities or an invitation to the public within the meaning of the SFO. This research report is only to be circulated to "Professional Investors" as defined in the SFO. This research report has not been reviewed by the Securities and Futures Commission. You should not make investment decisions solely on the basis of the information contained in this research report. Recipients of this research report are to contact HTISCL salespersons in respect of any matters arising from, or in connection with, the research report.

Notice to U.S. investors: As described above, this research report was prepared by HTIRL, HSIPL or HTIJKK. Neither HTIRL, HSIPL, HTIJKK, nor any of the non U.S. HTISG affiliates is registered in the United States and, therefore, is not subject to U.S. rules regarding the preparation of research reports and the independence of research analysts. This research report is provided for distribution to "major U.S. institutional investors" and "U.S. institutional investors" in reliance on the exemption from registration provided by Rule 15a-6 of the U.S. Securities Exchange Act of 1934, as amended. When distributing research reports to "U.S. institutional investors," HTI USA will accept the responsibilities for the content of the reports. Any U.S. recipient of this research report wishing to effect any transaction to buy or sell securities or related financial instruments based on the information provided in this research report should do so only through Haitong International Securities (USA) Inc. ("HTI USA"), located at 340 Madison Avenue, 12th Floor, New York, NY 10173, USA; telephone (212) 351 6050. HTI USA is a broker-dealer registered in the U.S. with the U.S. Securities and Exchange Commission (the "SEC") and a member of the Financial Industry Regulatory Authority, Inc. ("FINRA"). HTI USA is not responsible for the preparation of this research report nor for the analysis contained therein. Under no circumstances should any U.S. recipient of this research report contact the analyst directly or effect any transaction to buy or sell securities or related financial instruments directly through HSIPL, HTIRL or HTIJKK. The HSIPL, HTIRL or HTIJKK analyst(s) whose name appears in this research report is not registered or qualified as a research analyst with FINRA and, therefore, may not be subject to FINRA Rule 2241 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account. Investing in any non-U.S. securities or related financial instruments (including ADRs) discussed in this research report may present certain risks. The securities of non-U.S. issuers may not be registered with, or be subject to U.S. regulations. Information on such non-U.S. securities or related financial instruments may be limited. Foreign companies may not be subject to audit and reporting standards and regulatory requirements comparable to those in effect within the U.S. The value of any investment or income from any securities or related financial instruments discussed in this research report denominated in a currency other than U.S. dollars is subject to exchange rate fluctuations that may have a positive or adverse effect on the value of or income from such securities or related financial instruments. All inquiries by U.S. recipients should be directed to:

Haitong International Securities (USA) Inc.
340 Madison Avenue, 12th Floor
New York, NY 10173
Attn: Sales Desk at (212) 351 6050

中华人民共和国的通知事项：在中华人民共和国（下称"中国"，就本报告目的而言，不包括香港特别行政区、澳门特别行政区和台湾）只有根据适用的中国法律法规而收到该材料的人员方可使用该材料。并且根据相关法律法规，该材料中的信息并不构成"在中国从事生产、经营活动"。本文件在中国并不构成相关证券的公共发售或认购。无论根据法律规定或其他任何规定，在取得中国政府所有的批准或许可之前，任何法人或自然人均不得直接或间接地购买本材料中的任何证券或任何实益权益。接收本文件的人员须遵守上述限制性规定。

加拿大投资者的通知事项：在任何情况下该等材料均不得被解释为在任何加拿大的司法管辖区内出售证券的要约或认购证券的要约邀请。本材料中所述证券在加拿大的任何要约或出售行为均只能在豁免向有关加拿大证券监管机构提交招股说明书的前提下由 Haitong International Securities (USA) Inc.（"HTI USA"）予以实施，该公司是一家根据 National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations（"NI 31-103"）的规定得到「国际交易商豁免」（"International Dealer Exemption"）的交易商，位于艾伯塔省、不列颠哥伦比亚省、安大略省和魁北克省。在加拿大，该等材料在任何情况下均不得被解释为任何证券的招股说明书、发行备忘录、广告或公开发行。加拿大的任何证券委员会或类似的监管机构均未审查或以任何方式批准该等材料、其中所载的信息或所述证券的优点，任何与此相反的声明即属违法。在收到该等材料时，每个加拿大的收件人均将被视为属于 National Instrument 45-106 Prospectus Exemptions 第 1.1 节或者 Securities Act (Ontario)第 73.3(1)节所规定的「认可投资者」（"Accredited Investor"），或者在适用情况下 National Instrument 31-103 第 1.1 节所规定的「许可投资者」（"Permitted Investor"）。

新加坡投资者的通知事项：本研究报告由 Haitong International Securities (Singapore) Pte Ltd（"HTISSPL"）[公司注册编号 201311400G] 于新加坡提供。HTISSPL 是符合《财务顾问法》（第 110 章）（"FAA"）定义的豁免财务顾问，可（a）提供关于证券，集体投资计划的部分，交易所衍生品合约和场外衍生品合约的建议（b）发行或公布有关证券、交易所衍生品合约和场外衍生品合约的研究分析或研究报告。本研究报告仅提供给符合《证券及期货法》（第 289 章）第 4A 条项下规定的机构投资者。对于因本研究报告而产生的或与之相关的任何问题，本研究报告的收件人应通过以下信息与 HTISSPL 联系：

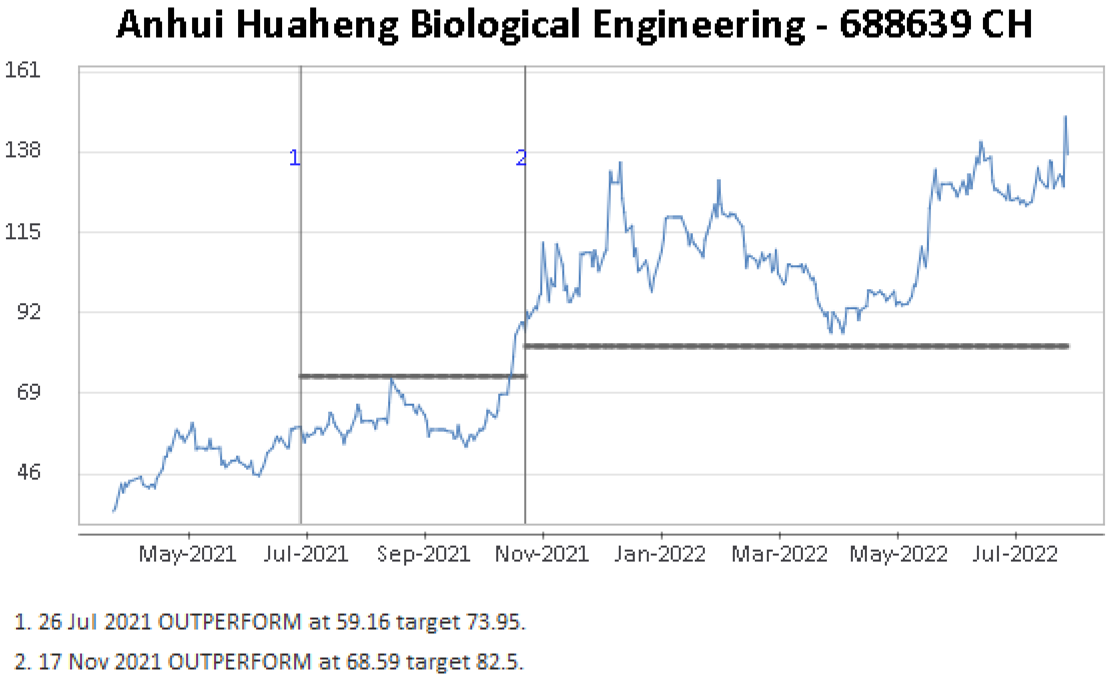
Haitong International Securities (Singapore) Pte. Ltd

50 Raffles Place, #33-03 Singapore Land Tower, Singapore 048623

电话: (65) 6536 1920

日本投资者的通知事项：本研究报告由海通国际证券有限公司所发布，旨在分发给从事投资管理的金融服务提供商或注册金融机构（根据日本金融机构和交易法（"FIEL"））第 61（1）条，第 17-11（1）条的执行及相关条款）。

Recommendation Chart



Source: Company data Bloomberg, HTI estimates