XtalPi
晶泰科技

# 晶泰控股 2228.HK

## 2024年投资者演示材料

## Cautionary Note

This presentation may contain forward-looking statements relating to the forecasts, targets, outlook, estimates of financial performance, opportunities, challenges, business developments, business plans and growth strategies of XtalPi Holdings Limited (the “Company” or “XtalPi” ) and its group companies. These forward-looking statements are based on information currently available to XtalPi and are stated here on the basis of the outlook at the time that this presentation was produced. The Company undertakes no obligation to publicly update any forward-looking statement, whether written or oral, that may be made from time to time, whether as a result of new information, future developments or otherwise. The forward-looking statements are based on certain expectations, assumptions and premises, some of which are subjective or beyond our control. The forward-looking statements may prove to be incorrect and may not be realised in the future. Underlying the forward-looking statements are a large number of risks and uncertainties. Therefore you should not rely on any of these forward-looking statements. Please see our various other public disclosure documents for a detailed discussion of those risks and uncertainties.

This presentation also contains some unaudited non-IFRS financial measures which should be considered in addition to, but not as a substitute for, measures of the Company's financial performance prepared in accordance with IFRS. In addition, these non-IFRS financial measures may be defined differently from similar terms used by other companies. The Company's management believes that the non-IFRS financial measures provide investors with useful supplementary information to assess the performance of the Company's core operations by eliminating the potential impact of certain items. For further explanation of our non-IFRS measures and reconciliations between our IFRS and non-IFRS results, please refer to our results announcement.

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XtalPi

Stock Code: 2228.HK

# 生命科学与未来材料的垂类超级人工智能

量子物理

人工智能

机器人

垂直算力

**中国 深圳**

国际生物医药产业园

**中国 上海**

上海张江集创园

**中国 北京**

北京中关村

**美国 波士顿**

100 Chestnut

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**800+** 人员规模

**500+** 研发人员

**200+** 算法模型

**160+** 行业专利

**超万平米** 机器人实验室

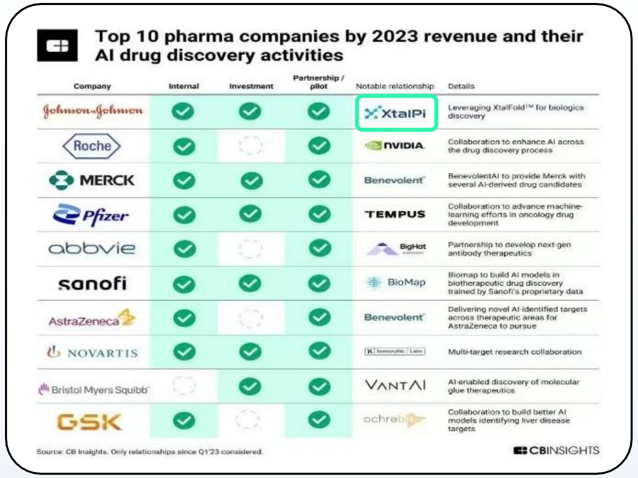
**超百万核** 全球算力

# 成功上市，港股18C规则第一股（晶泰控股 2228.HK）

2024年6月

Congratulations!
HKEX
香港交易所
XtalPi
晶泰科技
2228
5.42
HKD-(-%)
BID 5.40 | ASK 5.42
Hang Seng Index
18,096.80
▲158.96
(▲0.89%)
Tencent 腾讯
PICC
中金资本 CICC CAPITAL
Google
中信 CITIC
HONGSHAN 红杉中国
招银国际
MIRAE ASSET
中国人寿 CHINA LIFE
SoftBank
5Y CAPITAL 五源资本
OrbiMed

# 晶泰的全球影响力和稀缺性



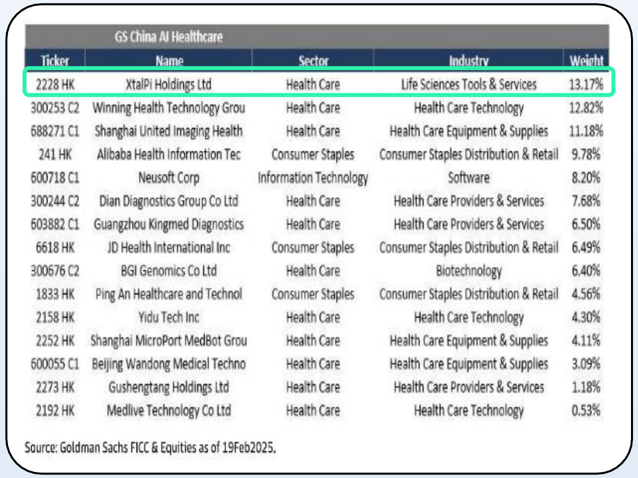
**Top 10 pharma companies by 2023 revenue and their AI drug discovery activities**

| Company | Internal | Investment | Partnership / pilot | Notable relationship | Details |
|---|---|---|---|---|---|
| Johnson & Johnson | ✓ | ✓ | ✓ | XtalPi | Leveraging XtalFold™ for biologics discovery |
| Roche | ✓ | ○ | ✓ | NVIDIA | Collaboration to enhance AI across the drug discovery process |
| MERCK | ✓ | ✓ | ✓ | Benevolent | BenevolentAI to provide Merck with several AI-derived drug candidates |
| Pfizer | ✓ | ✓ | ✓ | TEMPUS | Collaboration to advance machine-learning efforts in oncology drug development |
| abbvie | ✓ | ○ | ✓ | BigHat | Partnership to develop next-gen antibody therapeutics |
| sanofi | ✓ | ✓ | ✓ | BioMap | Biomap to build AI models in biotherapeutic drug discovery trained by Sanofi's proprietary data |
| AstraZeneca | ✓ | ○ | ✓ | Benevolent | Delivering novel AI-identified targets across therapeutic areas for AstraZeneca to pursue |
| NOVARTIS | ✓ | ✓ | ✓ | Isomorphic Labs | Multi-target research collaboration |
| Bristol Myers Squibb | ○ | ✓ | ✓ | VANTAI | AI-enabled discovery of molecular glue therapeutics |
| GSK | ✓ | ○ | ✓ | ochre bio | Collaboration to build better AI models identifying liver disease targets |

Source: CB Insights. Only relationships since Q1'23 considered.

CBINSIGHTS

2023年营收排名的十大制药及其人工智能药物研发公司

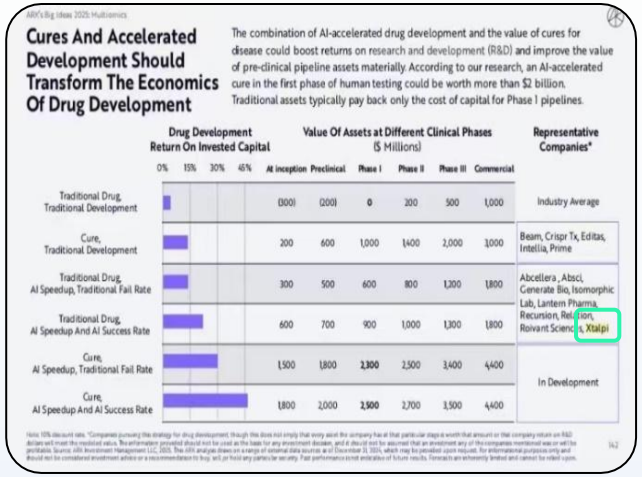


GS China AI Healthcare

| Ticker | Name | Sector | Industry | Weight |
|---|---|---|---|---|
| 2228 HK | XtalPi Holdings Ltd | Health Care | Life Sciences Tools & Services | 13.17% |
| 300253 C2 | Winning Health Technology Grou | Health Care | Health Care Technology | 12.82% |
| 688271 C1 | Shanghai United Imaging Health | Health Care | Health Care Equipment & Supplies | 11.18% |
| 241 HK | Alibaba Health Information Tec | Consumer Staples | Consumer Staples Distribution & Retail | 9.78% |
| 600718 C1 | Neusoft Corp | Information Technology | Software | 8.20% |
| 300244 C2 | Dian Diagnostics Group Co Ltd | Health Care | Health Care Providers & Services | 7.68% |
| 603882 C1 | Guangzhou Kingmed Diagnostics | Health Care | Health Care Providers & Services | 6.50% |
| 6618 HK | JD Health International Inc | Consumer Staples | Consumer Staples Distribution & Retail | 6.49% |
| 300676 C2 | BGI Genomics Co Ltd | Health Care | Biotechnology | 6.40% |
| 1833 HK | Ping An Healthcare and Technol | Consumer Staples | Consumer Staples Distribution & Retail | 4.56% |
| 2158 HK | Yidu Tech Inc | Health Care | Health Care Technology | 4.30% |
| 2252 HK | Shanghai MicroPort MedBot Grou | Health Care | Health Care Equipment & Supplies | 4.11% |
| 600055 C1 | Beijing Wandong Medical Techno | Health Care | Health Care Equipment & Supplies | 3.09% |
| 2273 HK | Gushengtang Holdings Ltd | Health Care | Health Care Providers & Services | 1.18% |
| 2192 HK | Medlive Technology Co Ltd | Health Care | Health Care Technology | 0.53% |

Source: Goldman Sachs FICC & Equities as of 19Feb2025.

高盛AI Healthcare Index 第一权重股



ARK's Big Ideas 2025: Multiomics

**Cures And Accelerated Development Should Transform The Economics Of Drug Development**

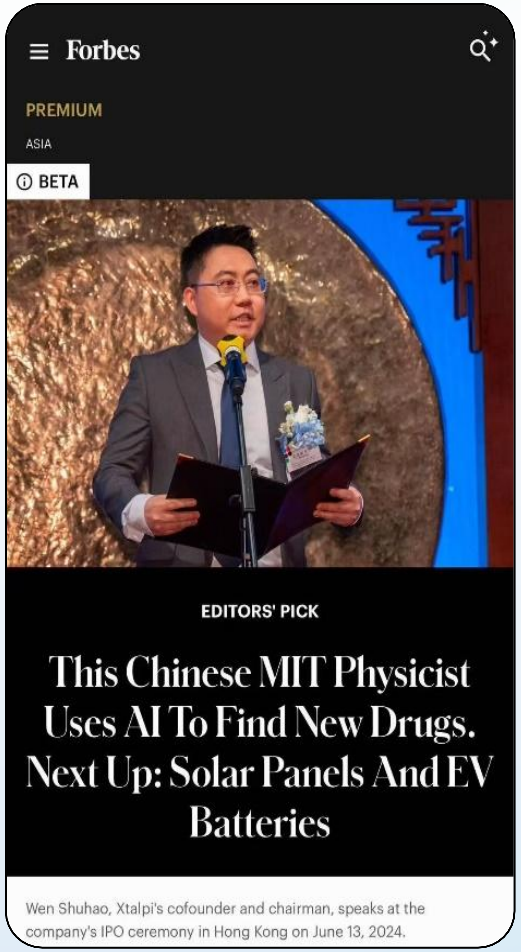
The combination of AI-accelerated drug development and the value of cures for disease could boost returns on research and development (R&D) and improve the value of pre-clinical pipeline assets materially. According to our research, an AI-accelerated cure in the first phase of human testing could be worth more than $2 billion. Traditional assets typically pay back only the cost of capital for Phase 1 pipelines.

| | Drug Development Return On Invested Capital (0% 15% 30% 45%) | Value Of Assets at Different Clinical Phases ($ Millions) At inception | Preclinical | Phase I | Phase II | Phase III | Commercial | Representative Companies* |
|---|---|---|---|---|---|---|---|---|
| Traditional Drug, Traditional Development | | (300) | (200) | 0 | 200 | 500 | 1,000 | Industry Average |
| Cure, Traditional Development | | 200 | 600 | 1,000 | 1,400 | 2,000 | 3,000 | Beam, Crispr Tx, Editas, Intellia, Prime |
| Traditional Drug, AI Speedup, Traditional Fail Rate | | 300 | 500 | 600 | 800 | 1,200 | 1,800 | Abcellera, Absci, Generate Bio, Isomorphic Lab, Lantern Pharma, Recursion, Relation, Roivant Sciences, Xtalpi |
| Traditional Drug, AI Speedup And AI Success Rate | | 600 | 700 | 900 | 1,000 | 1,300 | 1,800 | |
| Cure, AI Speedup, Traditional Fail Rate | | 1,500 | 1,800 | 2,300 | 2,500 | 3,400 | 4,400 | In Development |
| Cure, AI Speedup And AI Success Rate | | 1,800 | 2,000 | 2,500 | 2,700 | 3,500 | 4,400 | |

方舟投资 ——《2025年重大创想》

卓越人工智能引领者奖
SAIL AWARD
中国商飞 COMAC
HUAWEI
QUALCOMM
XtalPi 晶泰科技
UNIVERSITY OF CAMBRIDGE

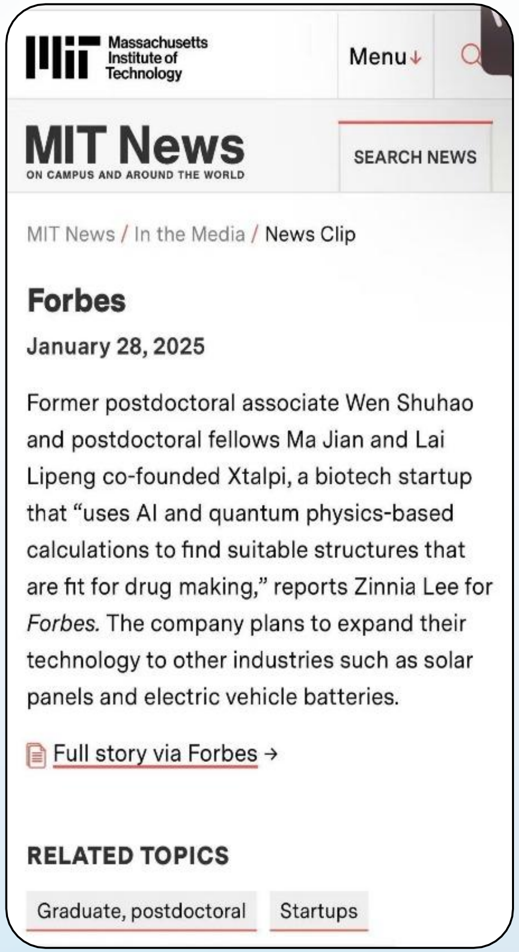
世界人工智能大会 —— 卓越人工智能引领者奖



EDITORS' PICK

**This Chinese MIT Physicist Uses AI To Find New Drugs. Next Up: Solar Panels And EV Batteries**

Wen Shuhao, Xtalpi's cofounder and chairman, speaks at the company's IPO ceremony in Hong Kong on June 13, 2024.



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**Forbes**

January 28, 2025

Former postdoctoral associate Wen Shuhao and postdoctoral fellows Ma Jian and Lai Lipeng co-founded Xtalpi, a biotech startup that "uses AI and quantum physics-based calculations to find suitable structures that are fit for drug making," reports Zinnia Lee for *Forbes*. The company plans to expand their technology to other industries such as solar panels and electric vehicle batteries.

Full story via Forbes →

RELATED TOPICS

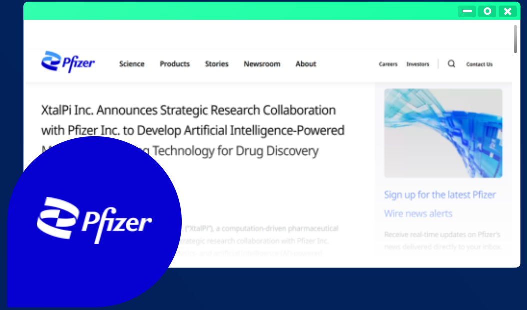
Graduate, postdoctoral

Startups

《福布斯》新闻报道

# 与全球顶尖医药、材料、科技公司和科研及政府机构广泛合作

与**辉瑞**延续 AI 药物研发深度合作，共同发表 XFF 力场模型



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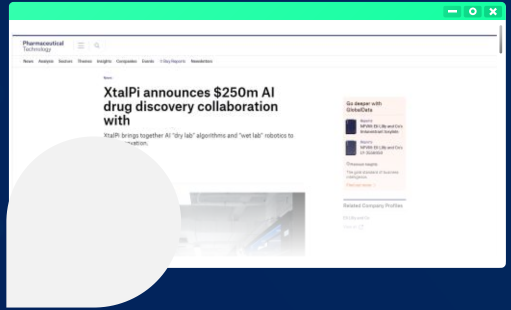

Pharmaceutical Technology

XtalPi announces $250m AI drug discovery collaboration with

XtalPi brings together AI "dry lab" algorithms and "wet lab" robotics to …vation.

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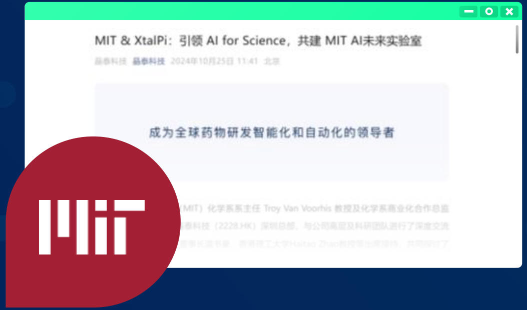
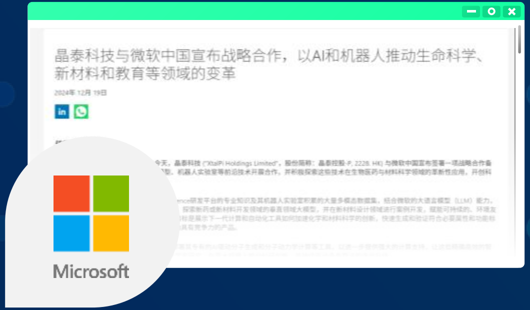


MIT & XtalPi：引领 AI for Science，共建 MIT AI未来实验室

晶泰科技 2024年10月25日 11:41 北京

成为全球药物研发智能化和自动化的领导者

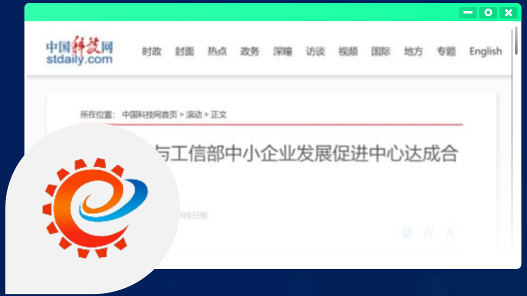
与**微软中国**战略合作，以AI + 机器人推动产业科研与教育变革



晶泰科技与微软中国宣布战略合作，以AI和机器人推动生命科学、新材料和教育等领域的变革

2024年 12月 19日

与**中国工信部**共建中小企业发展赋能平台，聚焦美妆、医药、新材料



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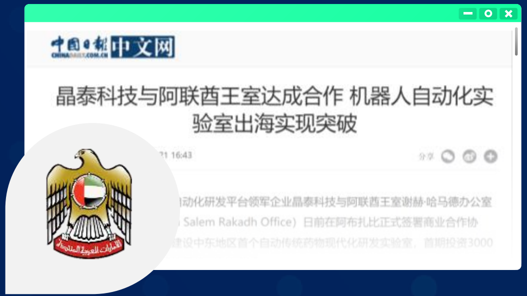
…与工信部中小企业发展促进中心达成合…

与**阿联酋王室**达成3000万美元合作 AI + 机器人赋能中东传统药物研发



中国日报中文网

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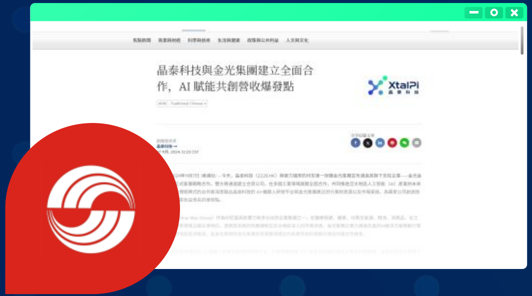
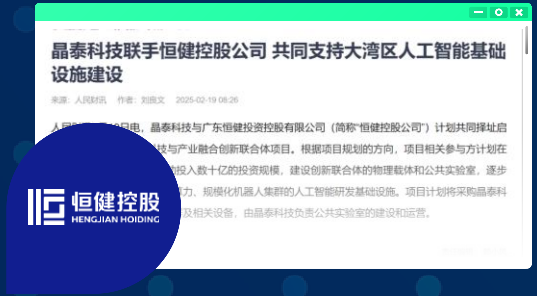
与印尼头部财团**金光集团**达成合作共同推进亚太地区AI产业发展



晶泰科技與金光集團建立全面合作，AI 賦能共創營收爆發點

联手**恒健控股**，共建大湾区“人工智能+”科技与产业融合创新联合体



晶泰科技联手恒健控股公司 共同支持大湾区人工智能基础设施建设

来源：人民财讯 作者：刘宸文 2025-02-19 08:26

人民…19日电，晶泰科技与广东恒健投资控股有限公司（简称“恒健控股公司”）计划共同择址启…技与产业融合创新联合体项目。根据项目规划的方向，项目相关参与方计划在…的投入数十亿的投资规模，建设创新联合体的物理载体和公共实验室，逐步…算力、规模化机器人集群的人工智能研发基础设施。项目计划将采购晶泰科…及相关设备，由晶泰科技负责公共实验室的建设和运营。

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# 高柔性高精度科学家机器人种类

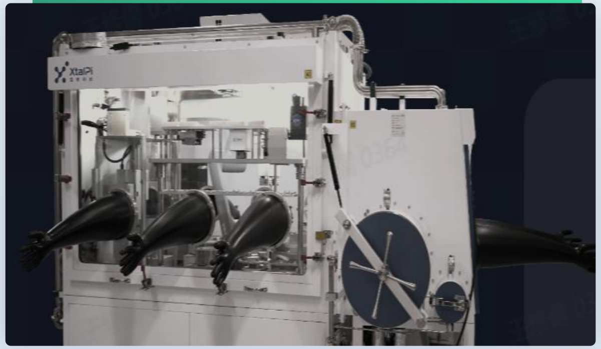
**中医药行业：广东省横琴实验室**
中药萃取分离机器人集群

新闻联播
XINWEN LIANBO

**制药行业：美国安进制药**
化合物自动化建库机器人

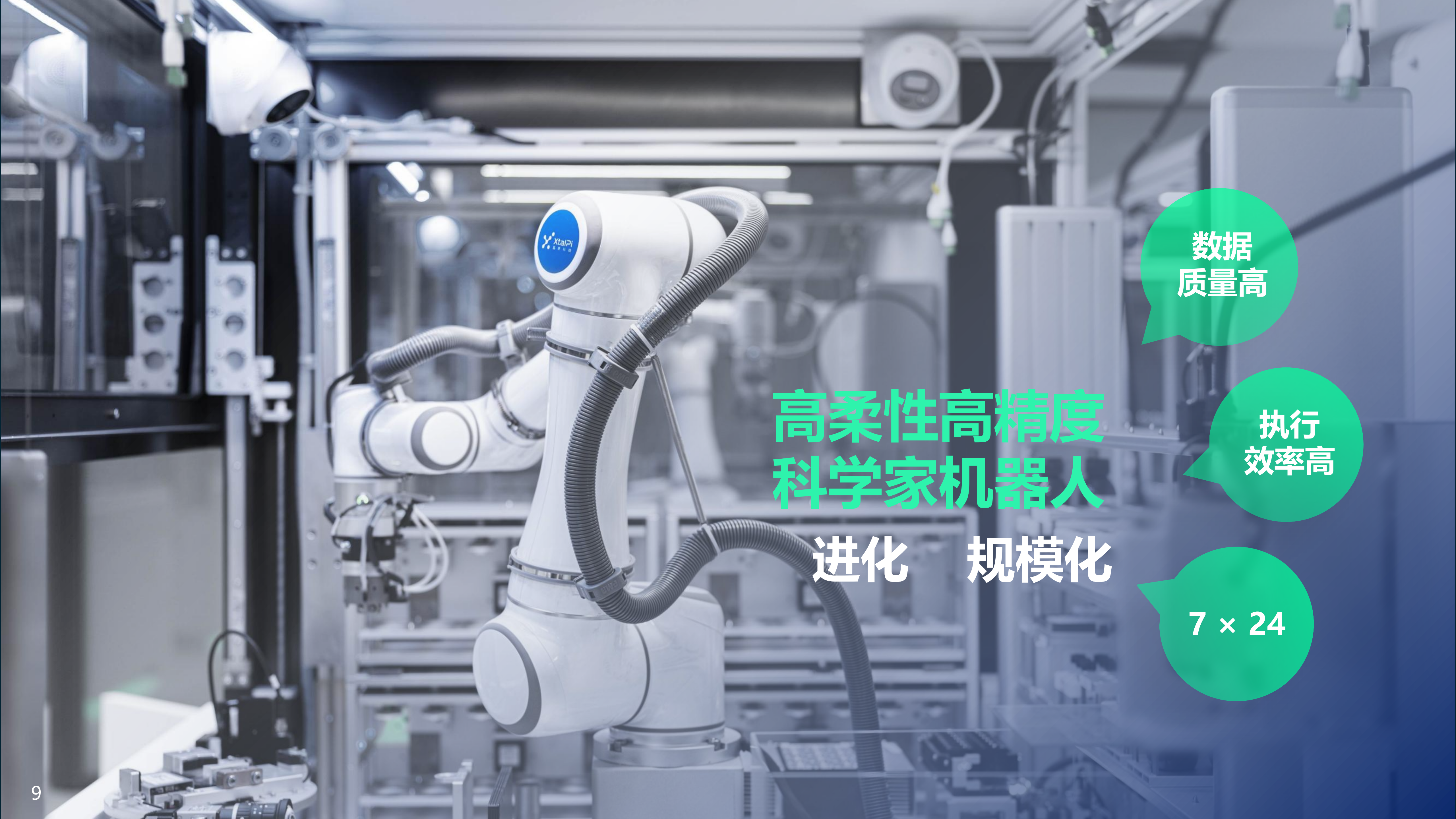
**石化行业：中石化上海研究院**
催化剂筛选机器人

**新能源行业：北京大学国家重点实验室**
电解质研发机器人



**科研机构：复旦大学化学院**
化学反应过程研究机器人

……



# 高柔性高精度科学家机器人

进化　规模化

数据质量高

执行效率高

7 × 24

XtalPi

# 2024
# 业务进展

# AI + 机器人重塑研发范式，开启药物及材料研发智能时代

## “AI+机器人”重塑研发范式，开启分子研发智能时代

**传统研发范式**

- 由人设计分子
- 由人设计实验
- 由人执行实验

**AI + 机器人**

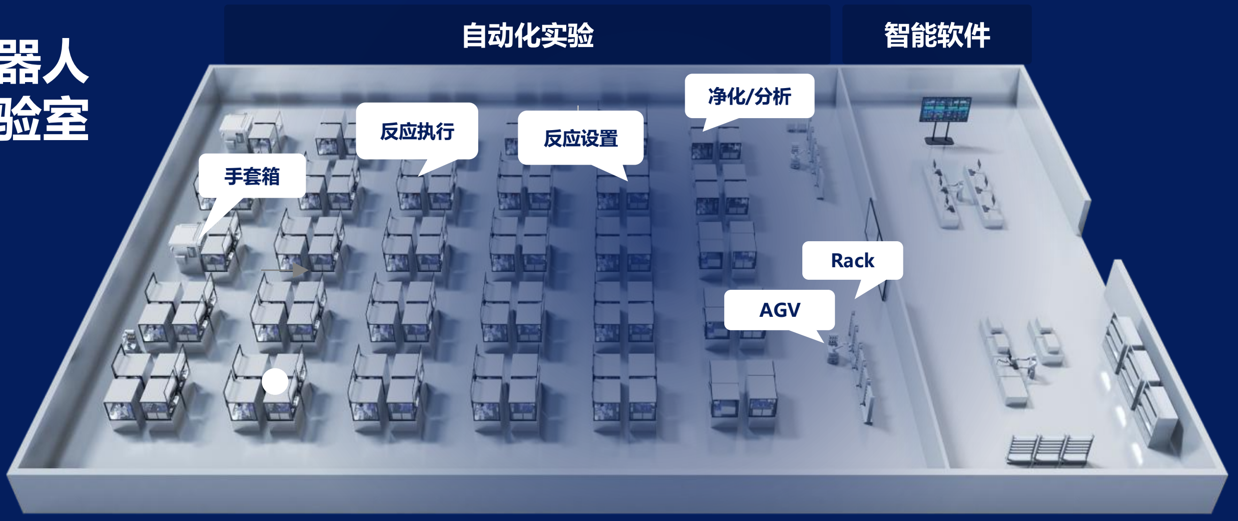
- AI 设计分子
- AI 完成实验设计
- 机器人负责执行

- 数据壁垒构建：覆盖了80%以上的常见药化反应类型，每月可以积累20+万条反应过程数据
- 突破人类效能：我们自建了20+种AI反应性/实验条件预测模型，这些模型的准确率均超过80%，对失败反应的识别率超过了合成人员。

**领域 AI 模型**

- 结构预测模型
- 分子生成+筛选模型
- 活性预测模型
- 管线应用模型
- 成药性+理化性质模型
- 固研模型
- 抗体模型
- 自动化模型
- •••

**机器人实验室**


自动化实验
智能软件
手套箱
反应执行
反应设置
净化/分析
Rack
AGV

# AI 反应预测能力：AI 模型优于专家，开启范式变革

## AI 预测模型

AI Suzuki Prediction Model
AI SNAr Prediction Model

## 第一组人类化学家

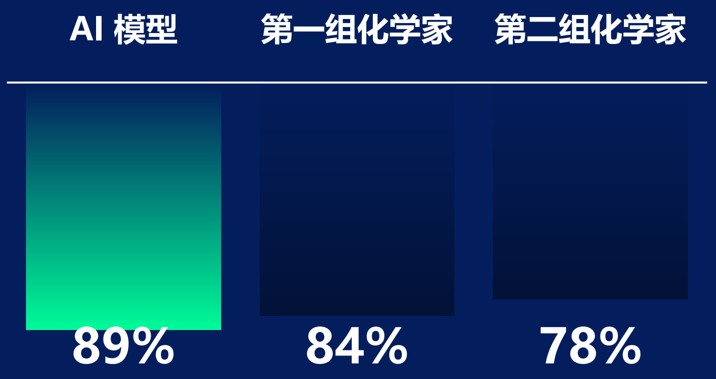
- 具有博士学位的化学家
- 拥有硕士学位与五年以上经验的化学家

## 第二组人类化学家

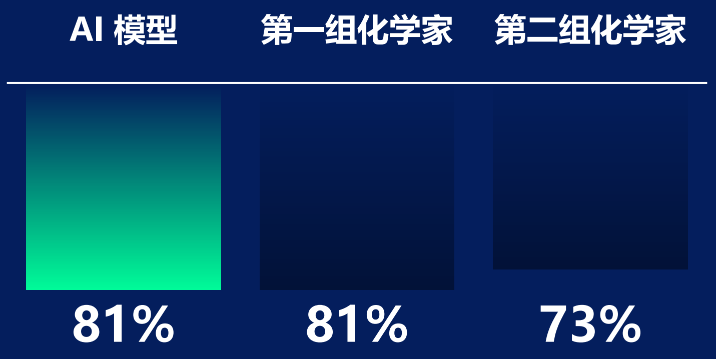
- 拥有硕士学位与五年以下经验的化学家

## 成功反应预测
## AI 模型能力优于第二组化学家

Suzuki Coupling (131 位化学家)

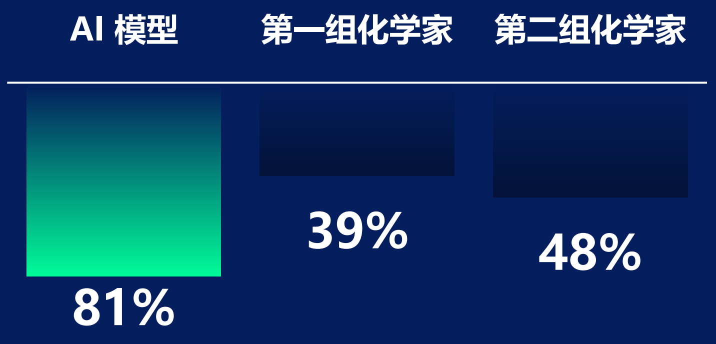


SNAr Reactions (137 位化学家)

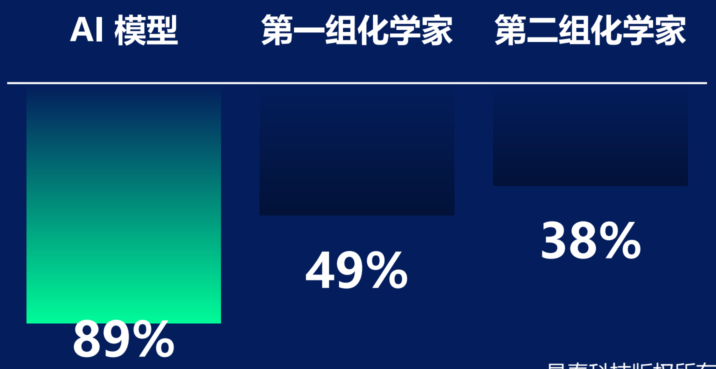


## 失败反应预测
## AI 模型能力显著优于所有化学家

Suzuki Coupling (131 位化学家)



SNAr Reactions (137 位化学家)



# AI Agent提高研发效率

**研发设计智能体**

**实验分析智能体**

**巡检与智能控制智能体**

基座语言大模型

药物设计
AI 模型

化学可合成预测
AI 模型及专家系统

数据仓库和
数据管理工具集

谱图分析
AI 模型

机器人工控
工具集合

端到端数字化系统

自动化实验室和科学家机器人

分子设计

砌块采购

反应设计

反应开设

纯化

化合物管理

质量控制

# 药物研发最新进展

## 超300家全球合作伙伴
## 赢得头部药企认可

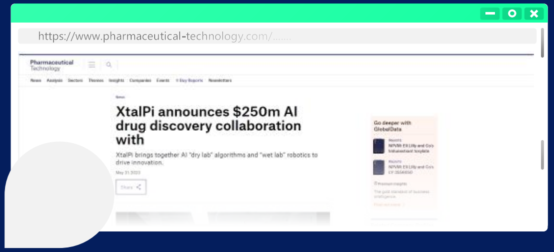
**× 东亚多个Biotech龙头企业**

晶泰与东亚多个biotech龙头企业成功合作，高效地设计和发现了针对多个高难度靶点的先导化合物

**× 某领先Biopharma**

继此前与某领先biopharma成功推进一项创新药研发项目后，双方在今年又达成两项新的AI驱动新药研发项目合作

**继晶泰与总部位于印第安纳波利斯的药企签署 2.5 亿美元药物发现合作订单，2024年双方将合作进一步扩展到固态研究领域**


https://www.pharmaceutical-technology.com/……

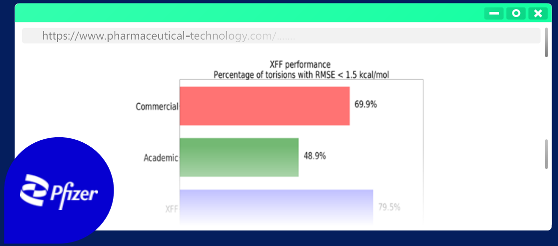
Pharmaceutical Technology

XtalPi announces $250m AI drug discovery collaboration with

XtalPi brings together AI "dry lab" algorithms and "wet lab" robotics to drive innovation.

Go deeper with GlobalData

**辉瑞合作的XFF力场模型在学术期刊上发表，2025年将与辉瑞合作继续迭代新一代力场模型**

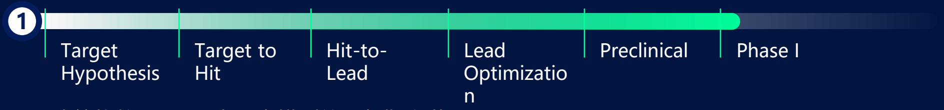

https://www.pharmaceutical-technology.com/……

## AI for Science平台赋能 Biotech
## 管线进入临床阶段

**希格生科**

**管线阶段**
IND

**适应症**
弥漫性胃癌

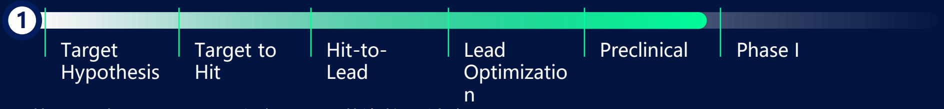

1
Target Hypothesis
Target to Hit
Hit-to-Lead
Lead Optimization
Preclinical
Phase I

- 全球首款整合 AI + 类器官模型的创新靶向药
- 先后获得了美国 FDA 和中国 NMPA 的 IND 批件，并获得美国 FDA 孤儿药资格认定及快速通道认定

**默达生物**

**管线阶段**
IND-ENABLING

**适应症**
原发性高草酸尿症 PH


1
Target Hypothesis
Target to Hit
Hit-to-Lead
Lead Optimization
Preclinical
Phase I

- 获 FDA 授予儿科罕见疾病、孤儿药资格双认定（RPDD、ODD）
- 该管线由晶泰 AI + 机器人赋能发现

**溪砾科技**

继续推进已确立的亨廷顿舞蹈症（HD）药物管线的临床前和临床阶段开发工作，以及与多种神经系统疾病相关的药物管线，包括进行性神经性腓骨肌萎缩症（CMT）、肌萎缩性脊髓侧索硬化症及其他疾病。

# 持续在前沿疗法中投入

与莱芒合作取得突破性进展，代谢增强型CD19 CAR-T完成首例系统性红斑狼疮受试者给药，AI算法赋能实体瘤靶点

leman **莱芒生物**

与某生命科技合作肿瘤疫苗项目在美国癌症研究协会会议（AACR）上进行了海报展示

**某生命科技企业**

与新加坡知名科研机构建立AI多肽研发平台合作，针对肾透明细胞癌发现并设计临床候选药物

National Cancer Centre Singapore SingHealth **NCCS**

与 N1 Life 携手共同创建用于核酸和大分子药物的非侵入式眼科药物递送平台

N1 Life **N1 Life**

与灵犀云合作，探索构建基于细胞平台和数字大脑模型的神经性药物筛选平台

**灵犀云**

独立开发了mRNA序列预训练模型与mRNA性质预测模型，相关论文已被2025AAAI人工智能大会接收

Association for the Advancement of Artificial Intelligence **AAAI**

# XtalFold™：领先蛋白质结构预测算法，授权全球顶级药企

**XtalFold™**
**大分子药物发现平台**

**授权多家顶尖药企使用** J&J ucb • • •

Input

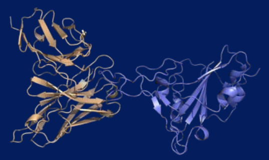
M G N S C Y
抗原序列

E V Q L L E
抗体序列

XtalFold™

AI

Output



抗原抗体复合物
结构预测

下游应用

- 表位识别
- 先导优化
- 功能阐释
- 双特异性设计

药物与生物材料的无限可能

- 传染病药物
(eg. COVID-19)
- 癌症药物
- 蛋白质药物
- 多种特效药物
- CAR-T 药物
- 生物传感器
- 生物材料

**- 1 step**

越过分离的抗原/抗体建模+对接，减少一步

**= 1 day**

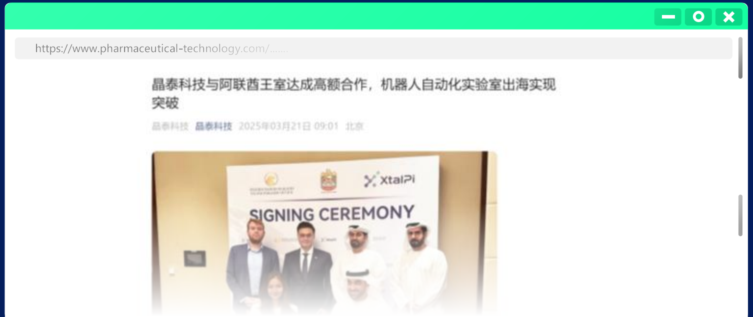
只需一天从序列推进到抗原抗体复合物

# 机器人智能解决方案走向国际市场

**广中医横琴实验室**
**无人值守天然产物库平台**

XtalPi
Stock Code:2228.HK
中药新药创制“四化平台”
"I-D-E-A Platform" for New TCM Drug Development

**UAE**
**中东地区首个自动传统药物现代化研发实验室**

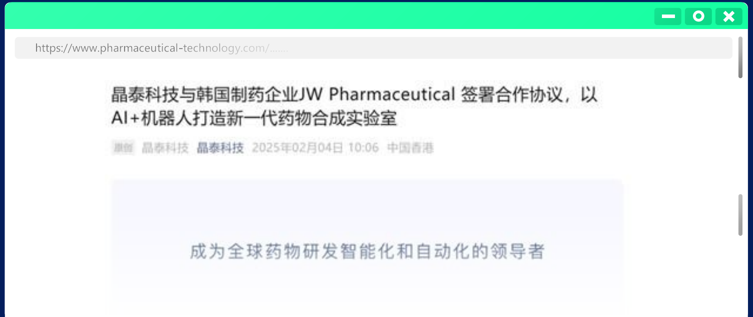

https://www.pharmaceutical-technology.com/.......

晶泰科技与阿联酋王室达成高额合作，机器人自动化实验室出海实现突破

晶泰科技 晶泰科技 2025年03月21日 09:01 北京

XtalPi
SIGNING CEREMONY

**JW Pharma**
**药物合成全流程自动化场景**


https://www.pharmaceutical-technology.com/.......

晶泰科技与韩国制药企业JW Pharmaceutical 签署合作协议，以AI+机器人打造新一代药物合成实验室

原创 晶泰科技 晶泰科技 2025年02月04日 10:06 中国香港

成为全球药物研发智能化和自动化的领导者

# 加冕全球物质结构预测大赛，拓展材料领域应用探索

**全年服务**

**85 个客户**

与全球领先的数十家跨国大药企持续合作。

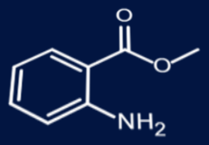
拓展固态研究方向的技术能力在材料领域的应用探索，包括：电化学材料、高分子聚合物材料、陶瓷氧化物材料

## 晶泰加冕第七届 CCDC CSP 晶体结构预测盲测比赛

- 28个国际参赛团队接受7个复杂体系的挑战，需通过第一性原理计算方法预测实验多晶型及其相对稳定性
- 我们实现了对全部7个目标体系实验晶型的盲测预测
- 极少数能准确预测不同体系间相对稳定性的顶尖团队.

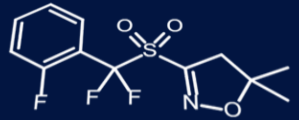
**Target XXIX**

PXRD analysis
based Z′ =3
study



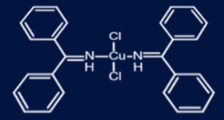
**Target XXXI**

Drug like molecule
Static disorder



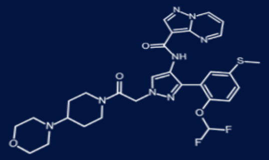
**Target XXVIII**

Inorganic
element



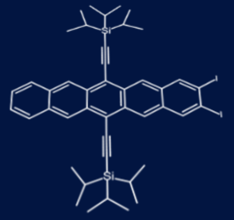
**Target XXXII**

Drug like molecule
Flexible API



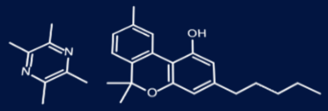
**Target XXVII**

Optoelectronic
Material



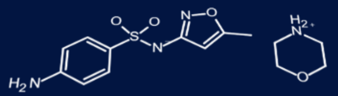
**Target XXX**

Predict the likelihood
stoichiometry (1:1, 2:1 or 1:2)



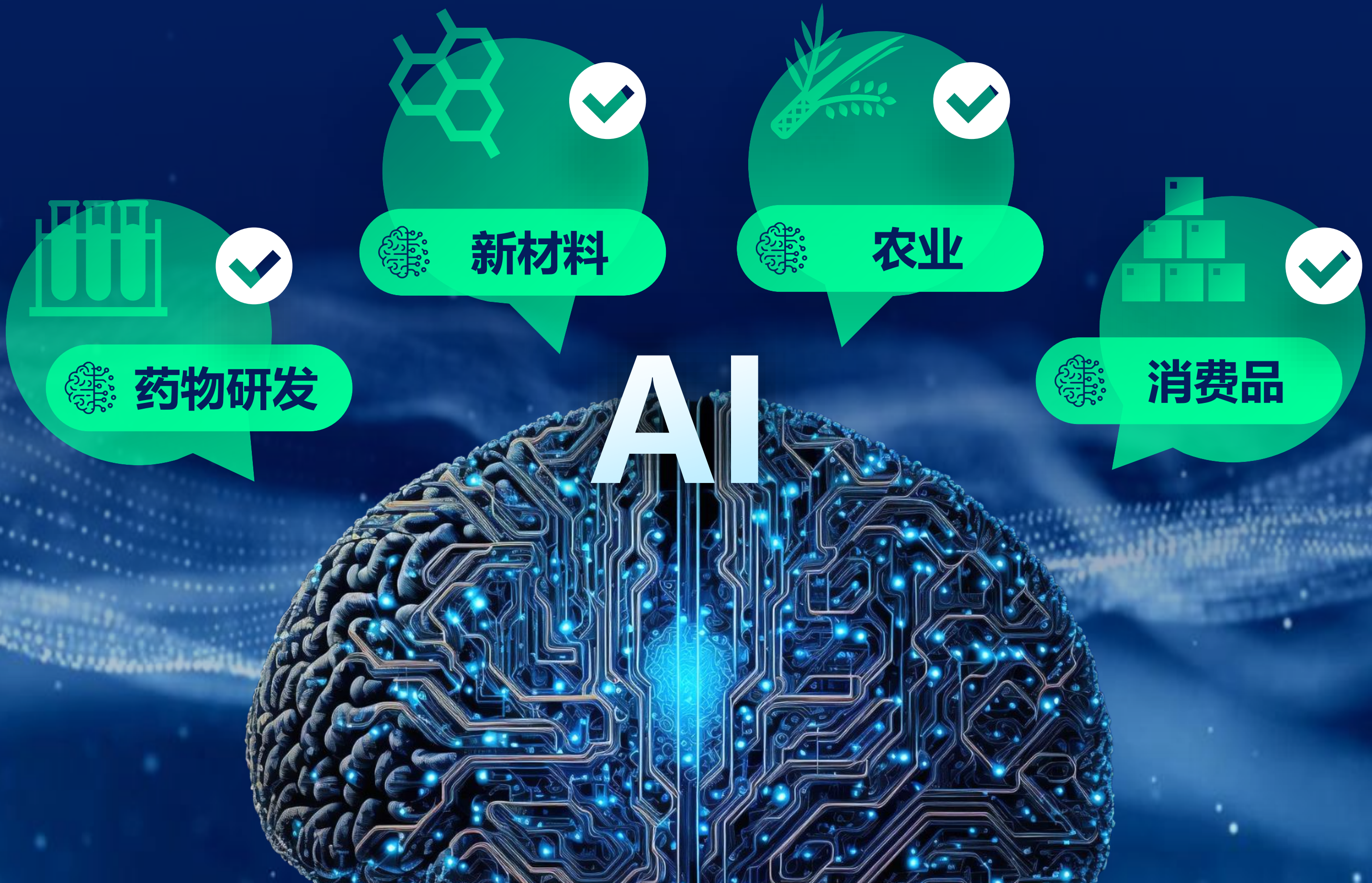
**Target XXXII**

Drug like molecule
Salt



# 人工智能赋能千行百业

# 成为新一代行业科研新基建



新材料

农业

药物研发

消费品

AI

XtalPi
晶泰科技

# 为 AI for Science 量身打造 高柔性高精度的 机器人科学家集群

## 以垂类模型和专有数据打造 行业超级人工智能

# 产业布局初现

## 未来材料

产业界

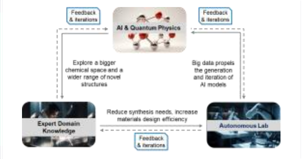
**中石化**
化工催化剂材料

**协鑫集团**
新能源材料

**方大炭素**
碳基材料

晶泰科技 & 方大炭素
2025.3

**研一新材料**
未来电池材料


AI & Quantum Physics
Feedback & iterations
Feedback & iterations
Explore a bigger chemical space and a wider range of novel structures
Big data propels the generation and iteration of AI models
Expert Domain Knowledge
Reduce synthesis needs, increase materials design efficiency
Autonomous Lab
Feedback & iterations

…

学术界

**北京大学**
未来电池电解液配方

**MIT**
材料科学

**新加坡国立大学**
材料科学

…

孵化生态

**深度原理-MIT团队**
材料微观机理

**赋澈生物-UCB团队**
超级塑料

…

## 未来农业

**寿光蔬菜**
AI种业

**绿技行**
特种沙漠材料

**Kula Bio**
超级化肥

**柒彩之心**
超级作物

AI赋能农业研发，晶泰科技与柒彩之心打造超级作物"智能进化引擎"

## 未来消费品

**工信部**
未来消费品

工业和信息化部
中小企业发展促进中心
晶泰科技
战略合作签约仪式
XtalPi

与工信部将合作共建中小企业创新发展赋能平台，聚焦细分行业如美妆消费品、生物医药、前沿新材料、农业科技等

# 2024
# 财务表现

# 2024年 财务亮点

**2024 年，公司收入同比增长约53%，经调整后的净亏损同比缩窄约13%，月均现金消耗同比缩窄约23%**

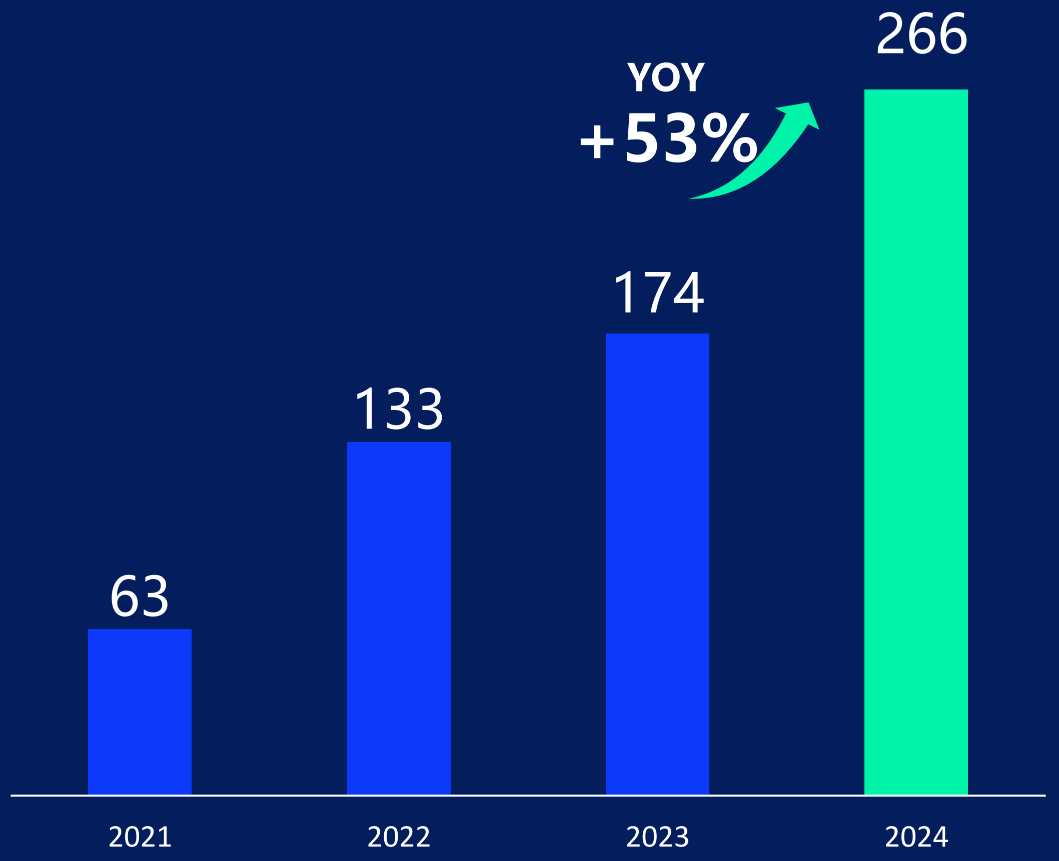
单位：人民币百万元

| | 2024 | YOY | 2023 |
|---|---|---|---|
| 收入 | 266 | 53% ↑ | 174 |
| 研发开支 | 418 | -13% ↓ | 481 |
| 调整后亏损净额 | -457 | -13% ↓ | -522 |
| 月均现金消耗 | 48 | -23% ↓ | 62 |

# 收入增长强劲 客户群不断扩大

**总收入**

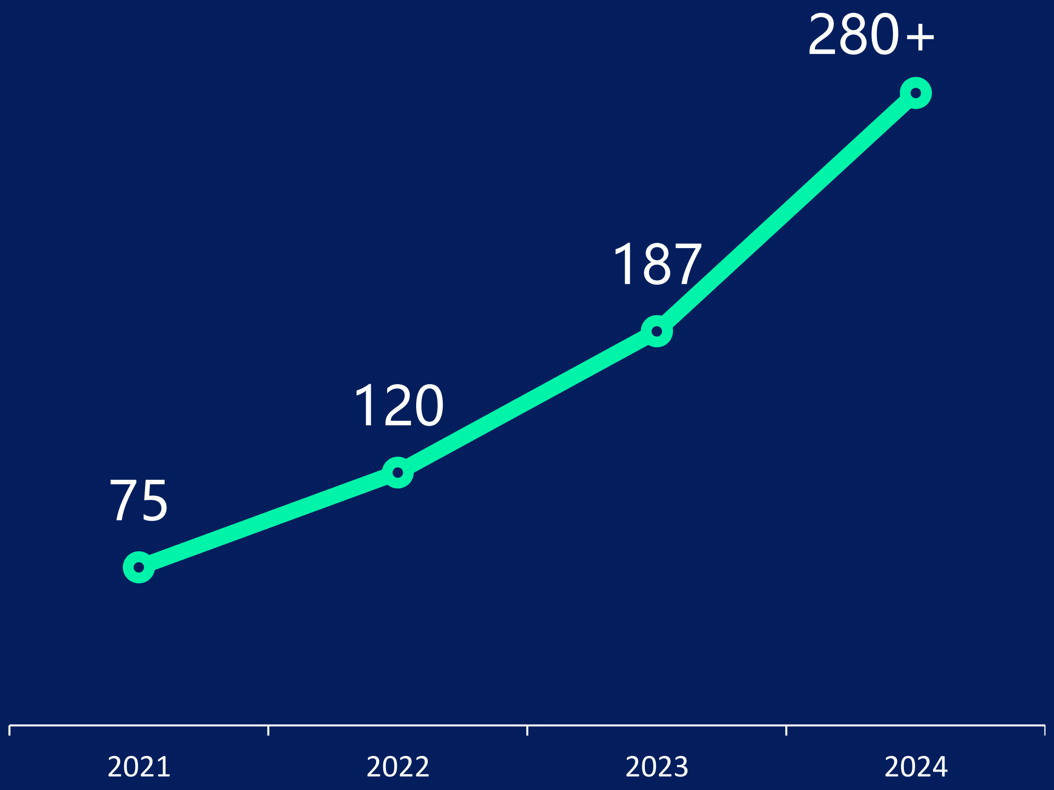
**2024年H2同比增长 +73%**



单位：人民币百万元

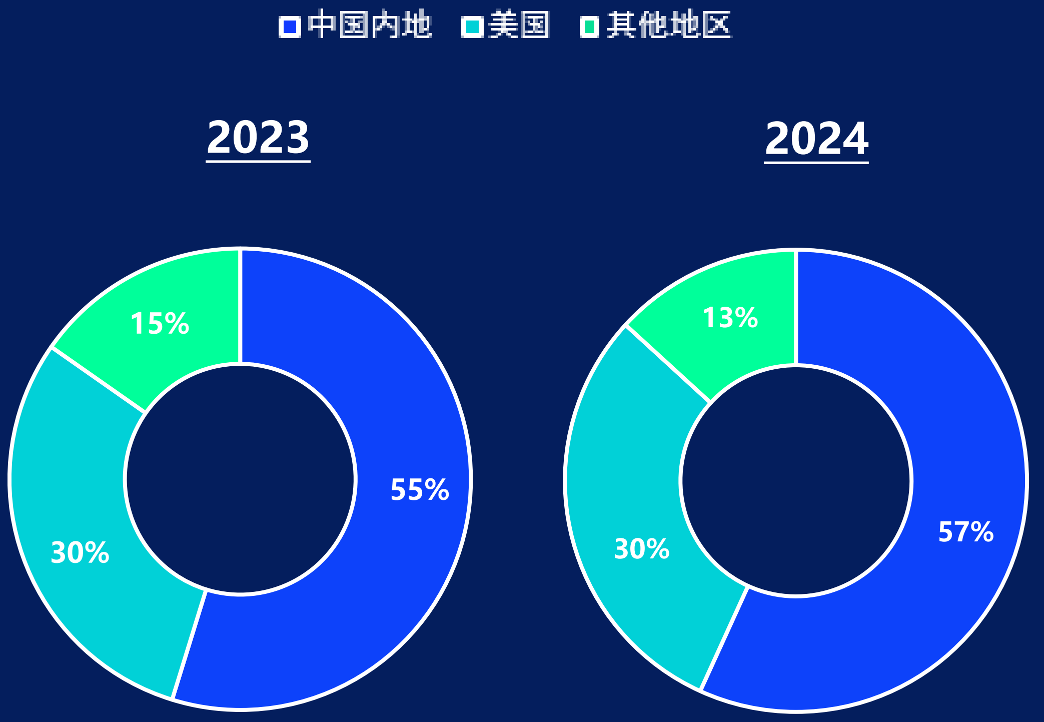
**优质客户群**

**客户数量不断增加**

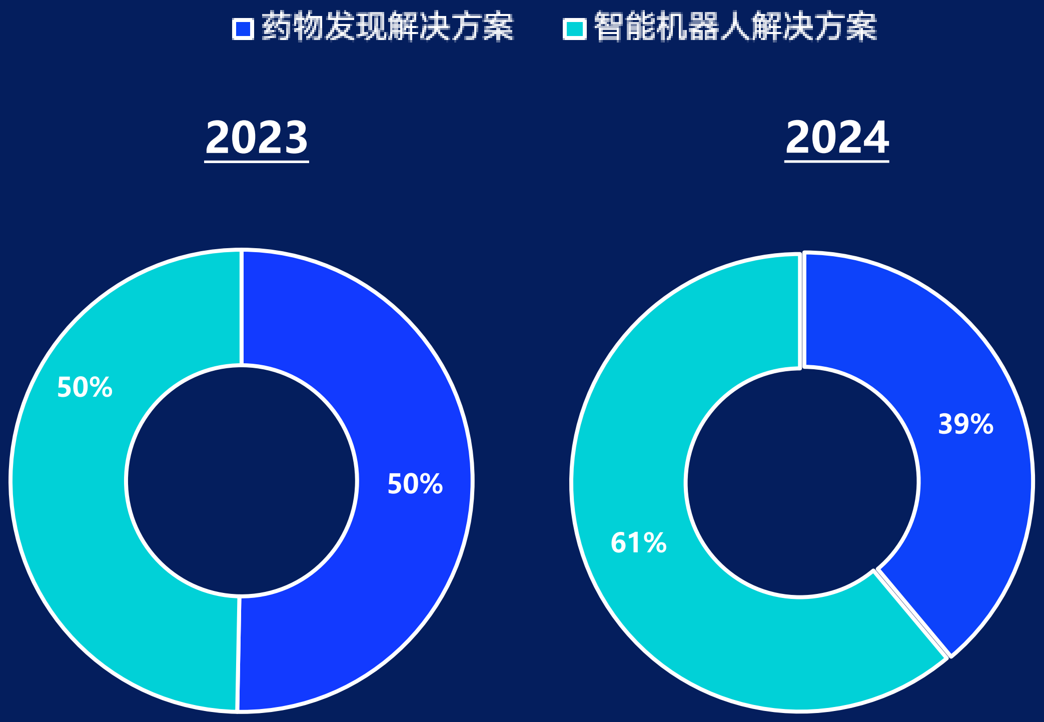


# 按地理位置及业务线的收入划分

## 按地区划分的收入(%)



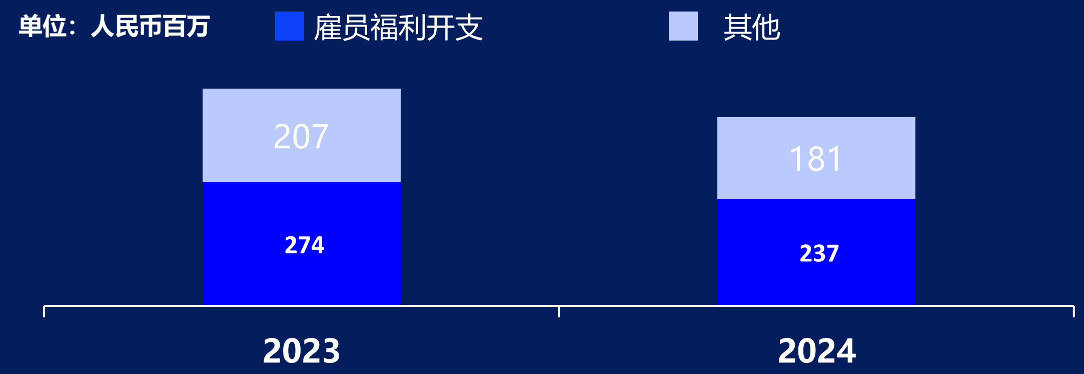
## 按业务线划分的收入(%)



- 2024年，公司AI+机器人的综合解决方案在多个材料科学领域实现商业化落地（包括中药现代化、石化学催化剂，新能源材料、农业等领域），促进智能机器人解决方案收入较同期高速增长88%。

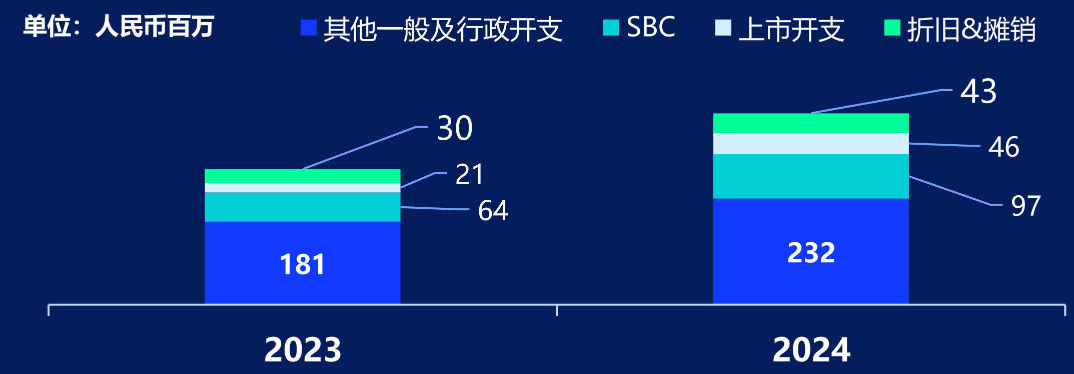
# 运营开支明细

### 研发开支



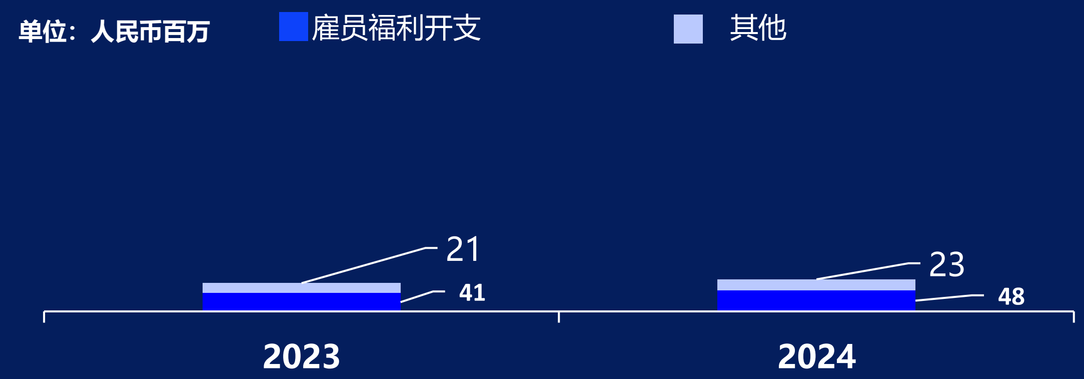
| 占收比 | 2023 | 2024 |
|---|---|---|
| 占收比 | 276% | 157% |

### 一般及行政开支



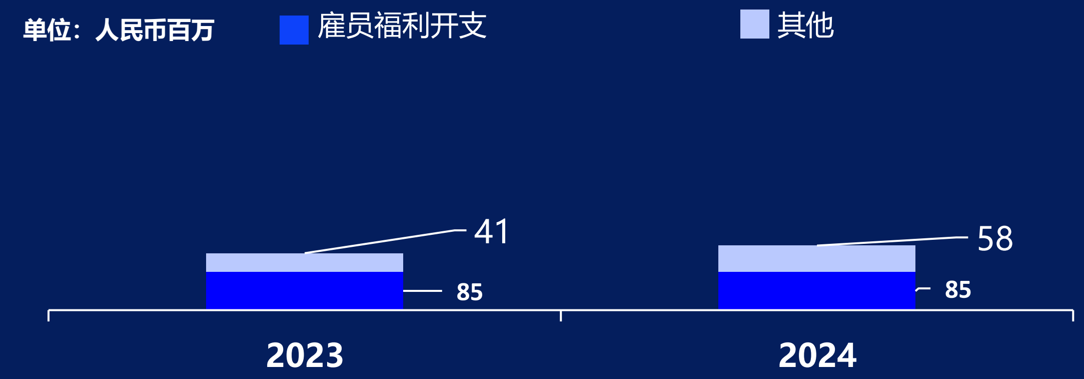
| 占收比 | 2023 | 2024 |
|---|---|---|
| 占收比 | 170% | 157% |

### 销售及营销开支



| 占收比 | 2023 | 2024 |
|---|---|---|
| 占收比 | 36% | 27% |

### 合同履行成本



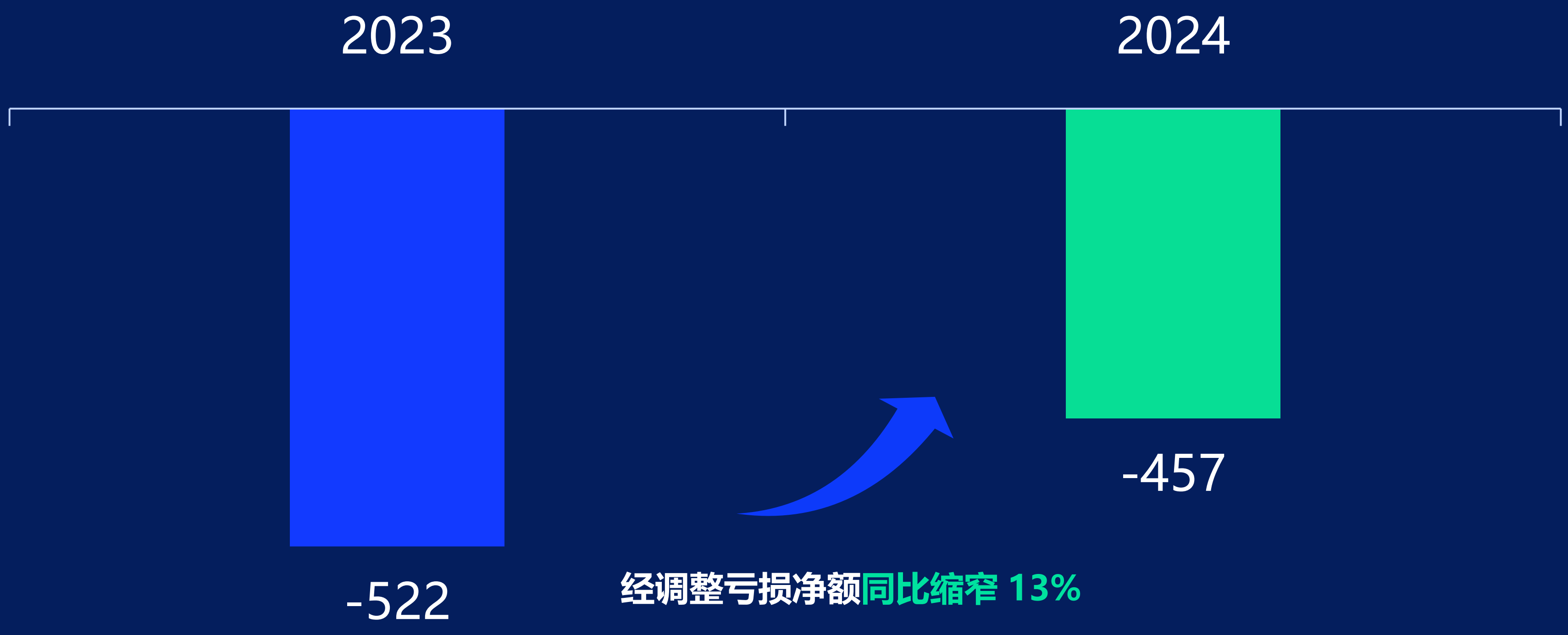
| 占收比 | 2023 | 2024 |
|---|---|---|
| 占收比 | 72% | 54% |

备注：占收比指开支/成本占收入的比例

# 经营结果改善–经调整亏损净额缩窄

## 经调整亏损净额(NON-IFRS)

单位：人民币百万元

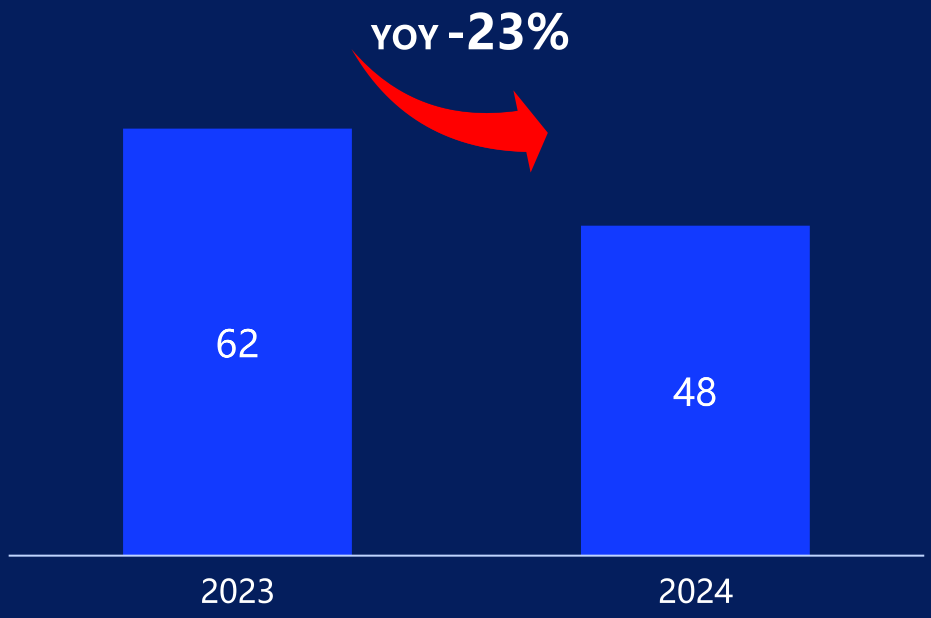


经调整亏损净额同比缩窄 13%

# 现金消耗及现金余额

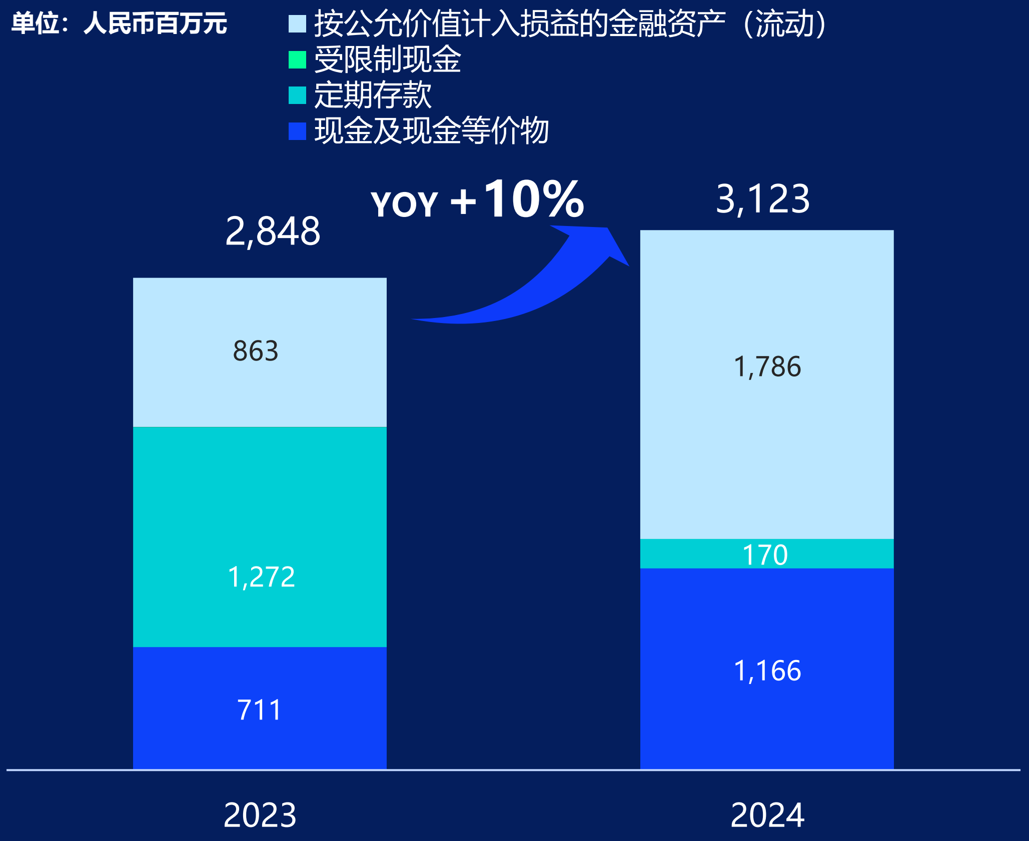
## 月均现金消耗

单位：人民币百万元



## 现金余额

单位：人民币百万元



# Q&A

## 感谢聆听