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China Pharma and Biotech

China Next Winners: More than AIDD - drug development in the AI age



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This report is part of a series on China Next Winners in which we identify the next generation of healthcare AI drug discovery winners in China.

AI is moving beyond a niche tool toward a more mainstream part of China's biopharma industry. From 2023 to 3Q26, AIDD companies have more than **quadrupled pipeline counts from 47 to 219 assets**, while AI-related licensing deal value has grown to account for ~25% of China-origin licensing activity. Yet the evidence so far suggests AI's contribution remains in accelerating discovery rather than improving clinical success. The industry's focus is shifting from generating more molecules to generating better biological insight. Investors should ask where sustainable advantages will emerge as AI evolves from molecule design toward translational biology and clinical prediction.

Biggest limitation of AIDD today: ligand discovery is not the same as drug discovery. While **foundation models and generative design** have accelerated hit ID, the largest source of value in pharmaceutical R&D comes from increasing development success rates rather than reducing early discovery timelines. **We find little evidence today that AIDD programs consistently outperform traditional pharma in Phase I or Phase II advancement rates,** although the data remain immature. More fundamentally, models optimized to identify high-affinity binders (ligands) may still fail as drugs when confronted with **issues of "developability"**: solubility, pharmacokinetics, toxicity, manufacturability, etc. As highlighted in recent academic work, **the industry's bottleneck is increasingly shifting from algorithms to data: predictive biological data, translational relevance, and clinical feedback.** This explains the growing importance of **wet-lab validation and integration of preclinical and clinical datasets.** The next generation of AI platforms is therefore likely to be built not only on larger models, but also on richer biological and human datasets.

In this context, we think winners in the AI era will extend beyond pure-play AIDD companies. We identify **three winner archetypes:** (1) **frontier AI companies** that develop leading foundation models and generative design platforms; (2) **scaled service and data providers**, including CROs and CDMOs, that own proprietary biological datasets, high-throughput experimentation capabilities, and manufacturing infrastructure; and (3) **integrated biopharma companies** that combine AI with end-to-end discovery, development, and commercialization. AI is unlikely to be a winner-takes-all market dominated by model developers. Instead, value will increasingly accrue to horizontal integrators that own modality-specific data and capacities, and vertical integrators that own clinical and commercial programs. For investors, we focus on tangible indicators such as **pipeline progression, licensing validation, R&D productivity, data ownership, and execution** along the value chain. In our coverage space, **Wuxi Apptec** among CDMOs and **Innovent, Hengrui, and Hansoh** among biopharma names are examples that are favorably positioned to win in the AI era.

See the Disclosure Appendix of this report for required disclosures, analyst certifications and other important information. Alternatively, visit our Global Research Disclosure Website.

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BERNSTEIN TICKER TABLE

Ticker	Rating	Cur	28 Sep 2026 Closing Price	Price Target	TTM Rel. Perf.	Cur	Reported EPS 2025A	Reported EPS 2026E	Reported EPS 2027E	Reported P/E (x) 2025A	Reported P/E (x) 2026E	Reported P/E (x) 2027E
9926.HK (Akeso)	M	HKD	92.00	130.00	(57.7)%	CNY	(0.52)	0.70	1.78	60.1%	68.5%	64.4%
002821.CH (Asymchem)	O	CNY	180.53	198.00	40.5%	CNY	3.16	4.04	6.07	57.1	44.7	29.8
6821.HK (Asymchem)	O	HKD	156.70	157.00	41.8%	CNY	3.16	4.04	6.07	42.4	33.2	22.1
ONC (BeOne)	O	USD	360.85	412.00	(6.6)%	USD	2.63	5.65	8.93	137.2	63.8	40.4
1093.HK (CSPC)	M	HKD	9.39	10.70	(23.8)%	HKD	0.34	0.75	0.62	23.6	10.8	13.0
3692.HK (Hansoh)	O	HKD	33.40	44.00	(31.2)%	CNY	0.93	0.97	0.88	30.7	29.5	32.5
1801.HK (Innovent)	O	HKD	96.15	128.00	(24.0)%	HKD	0.48	1.25	1.97	198.3	76.7	48.9
600276.CH (Hengrui)	O	CNY	44.47	65.00	(63.6)%	CNY	1.18	1.42	1.78	37.7	31.4	24.9
6990.HK (Kelun-Biotech)	O	HKD	455.20	526.00	(33.4)%	CNY	(1.66)	(2.75)	0.85	38.2	38.8	23.8
1177.HK (Sino BioPh)	M	HKD	5.50	6.20	(57.9)%	CNY	0.13	0.27	0.22	36.1	17.2	21.7
603259.CH (WuXi AppTec)	O	CNY	161.80	205.00	30.1%	CNY	6.72	7.88	9.57	24.1	20.5	16.9
2359.HK (WuXi AppTec)	O	HKD	206.00	247.00	64.4%	CNY	6.72	7.88	9.57	26.2	22.4	18.4
2269.HK (WuXi Biologics)	M	HKD	53.40	42.00	9.7%	CNY	1.22	1.54	1.85	43.8	34.7	28.8
9688.HK (Zai Lab)	M	HKD	19.92	15.00	(45.2)%	USD	(0.16)	(0.15)	(0.09)	0.7	0.6	0.5
ASIAX			1,978.05									
SPX			7,743.41									

O - Outperform, M - Market-Perform, U - Underperform, NR - Not Rated, CS - Coverage Suspended

9926.HK valuation is Gross Profit CAGR; 6990.HK, 9688.HK valuation is EV/Sales (x);

Source: Bloomberg, Bernstein estimates and analysis.

INVESTMENT IMPLICATIONS

We rate Asymchem, BeOne, Hansoh, Innovent, Hengrui, Kelun-Biotech, WuXi AppTec Outperform, and Akeso, CSPC, SBP, WuXi Biologics, Zai Lab Market-Perform.

DETAILS

AIDD: WHERE WE ARE IN 2026

AI'S IMPACT SO FAR: PRODUCTIVITY BOOST AND VALUE CREATION

AI has boosted productivity and created incremental value in the biopharma industry, but so far the investment case is more advanced in early discovery and dealmaking than in clinical validation (Exhibit 1). Faster development, expanding pipelines and rising licensing value are making the opportunity more tangible. For investors, the key question is how effectively companies can convert these efficiencies into differentiated drugs and sustainable earnings.

The clearest benefit is getting drug candidates into the clinic faster. Reported timelines from hit identification to first-in-human studies are c.22m for AIDD (AI drug discovery) companies, vs. 59m for large-pharma benchmarks. This creates scope to advance more programs within a given period, though faster discovery does not establish higher clinical success rate. Clinical execution gains remain marginal, at 5-15%, while potential savings in manufacturing conversion costs and corporate SG&A extend the earnings opportunity to established pharma.

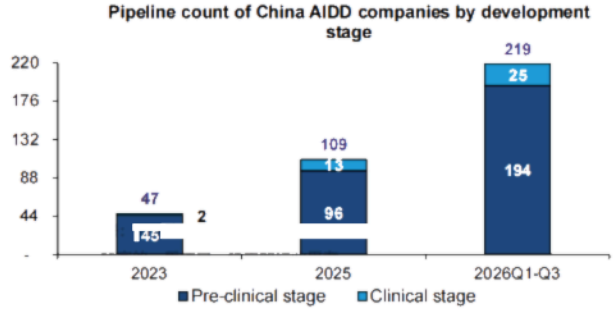
AIDD pipeline and deals are both expanding. China AIDD companies' preclinical candidate programs increased from 45 in 2023 to 194 in 2026YTD, while clinical programs rose from 2 to 25 — rapid growth, albeit still a small share of China's broader pipeline (Exhibit 2-Exhibit 4). Across the wider licensing market, Chinese-origin AI-related deal value reached c.$33 Bn, lifting its share of total deal value to 25% from 3% in 2023. Partners are committing capital early, creating monetization opportunities before clinical proof, but leaving much of the headline deal value dependent on future delivery.

EXHIBIT 1: **The impact of AI on China's biopharma industry - progress so far**



Note: 1. As reported by pharma/biotech companies, not AIDD pureplay companies (most of which have limited or no clinical trials and commericial operations)
Source: McKinsey "AI drug discovery: Focusing on what matters most", company disclosures, Pharmcube, Bernstein analysis and estimates

EXHIBIT 2: **Active pipelines at China AIDD companies increased from 47 to 219 assets between 2023 and 2026 Q1-Q3, led by preclinical expansion and supported by growing clinical-stage progression**



Note: Data cut off date: Sep 24th, 2026
Source: Pharmcube, Bernstein analysis

EXHIBIT 3: **China AIDD: broad pipelines remain concentrated in pre-clinical development, with very few advancing into Ph3**

Company name	Funding status	Clinical stage drug count - Ph1&2	Clinical stage drug count - Ph3	Preclinical / IND stage drug count	Total pipeline count	Clinical stage pipeline %
Insilico Medicine	Listed (2025), $4.7 Bn	11	1	59	71	17%
XtalPi	Listed (2024), $4.8 Bn	4	0	35	39	10%
MindRank AI	Series B (2026)	0	1	19	20	5%
neoX Biotech	Series A+ (2021)	0	0	19	19	0%
METiS Pharma	Listed (2026), $2.5 Bn	3	0	14	17	18%
Nutshell Therapeutics	Series C1 (2026)	1	0	15	16	6%
Earendil Lab (subsidiary of Helixon)	HK IPO filed (2026)	0	0	12	12	0%
IIPharma	Pre-series A (2021)	0	0	9	9	0%
StoneWise	Series B+ (2021)	1	0	4	5	20%
BioMap	HK IPO filed (2026)	0	0	5	5	0%
Xbiome	Series B++ (2021)	3	0	1	4	75%
Galixir	Series B (2021)	0	0	2	2	0%

Note: Pipeline count includes only active pipeline assets (demonstrated meaningful progress within the last three years) and covers only internally developed assets, excluding in-licensed programs; Data cut off date: Sep 24th, 2026
Source: Company disclosures, Pharmcube, Bloomberg, Bernstein analysis

EXHIBIT 4: **Global AIDD: clinical pipelines are more established, but late-stage assets remain concentrated among a few leaders**

Company	Funding status	Clinical stage drug count - Ph1&2	Clinical stage drug count - Ph3	Preclinical / IND stage drug count	Total pipeline count	Clinical stage pipeline %
Schrodinger	Listed (2020), $2.3 Bn	8	1	23	32	28%
Generate Biomedicines	Listed (2026), $2.2 Bn	4	1	12	17	29%
AbCellera	Listed (2020) $4.1 Bn	2	0	15	17	12%
Recursion	Listed (2021), $2.2 Bn	7	0	8	15	47%
Accutar Biotech	Series B (2021)	2	0	11	13	15%
Insitro	Series C (2021)	0	0	14	14	0%
Relay Therapeutics	Listed (2020) , $4.2 Bn	2	2	4	8	50%
Atomwise	Series D (2026)	0	0	3	3	0%
Lambic Therapeutics	IPO filed	1	0	8	9	11%
Isomorphic	Series B (2026)	0	0	2	2	0%
Tahoe	Series A (2025)	0	0	1	1	0%
Chai	Series C (2026)	0	0	1	1	0%

Note: Pipeline count includes only active pipeline assets (demonstrated meaningful progress within the last three years) and covers only internally developed assets, excluding in-licensed programs; Data cut off date: Sep 24th, 2026
Source: Company disclosures, Pharmcube, Bloomberg, Bernstein analysis

A DETAILED LOOK AT AI-RELATED LICENSE DEALS

AI-related deals rising to 25% of all drug licensing. Global AI-related licensing deal value reached $54 Bn in 1Q-3Q26, exceeding the $31 Bn recorded in FY'25, while deal count rose to 27 from 21 among transaction worth at least $100 Mn. This growth lifted AI' share of global licensing value to 25%, up from merely 3% back to 2020, reflecting pharma's increasing willingness to commit capital to AI-related drug discovery and technologies (Exhibit 5-Exhibit 6).

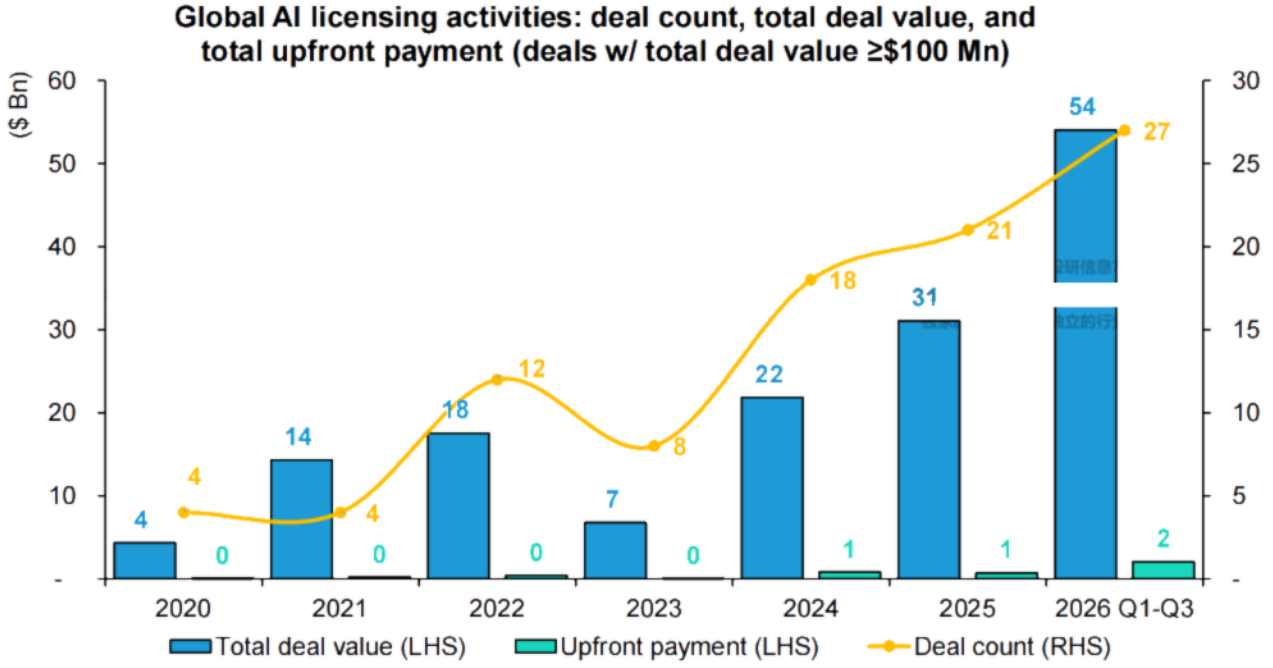
Partnering remains centered on drug assets, though most deals target molecules yet to be developed. Across the 98 transactions until 3Q26, asset-only deals account for 74% of deal count and 68% of total deal value. However, licensing of defined, existing assets represents only 13% of transactions and 10% of value; collaborations to develop new assets contribute 61% and 58%, respectively. Much of the capital committed therefore reflects expectations for future pipeline delivery, with clinical and commercial validation still to follow (Exhibit 8-Exhibit 9).

China is emerging as a significant source of AI-related licensing opportunities. While the U.S. leads with 56% of cumulative deal count and 49% of total deal value, China-origin deals account for 23% and 32% respectively, indicating above-average deal size. AI is also gaining importance within China's broader licensing market, contributing 25% of China-origin deal value in 1Q-3Q26, up from single-digit shares in 2022-2025 (Exhibit 7, Exhibit 10-Exhibit 11).

MNC demand provides further support, but AI has yet to command a consistent upfront premium. AI-related transactions reached 30% of MNC in-licensing value in 1Q-3Q26, up from 4% in 2020. Among the 5 largest MNC buyers, Novartis committed the most by cumulative AI-related deal value, at $17 Bn over 2020-3Q26, while Sanofi allocated the highest share of its in-licensing value to AI at 31%. Yet upfront payments per asset have not consistently exceeded those for non-AI deals. The distinction matters: rising headline deal value demonstrated strategic interest, but milestone-dependent commitments provide less evidence of realized value than upfront payment (Exhibit 12-Exhibit 14).

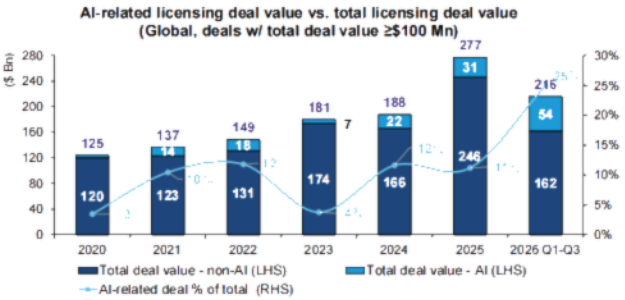
(Note: Novartis and Sanofi are covered by Justin Smith, Eli Lilly, BMS, and pfizer are covered by Breen Courtney)

EXHIBIT 5: **Global AI licensing deal value has increased more than tenfold since 2020, driven by larger and more frequent transactions**



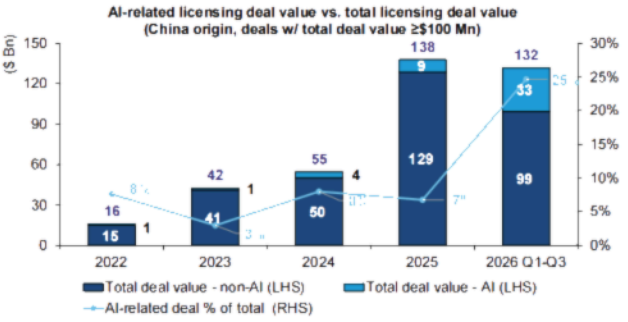
Note: Data cut off date: Sep. 24th, 2026
Source: Pharmcube, Bernstein analysis

EXHIBIT 6: **AI-related licensing has become an increasingly important driver of partnering value creation, with AI deal value rising from just 3% of total licensing value in 2020 to a record 25% in 2026 YTD**



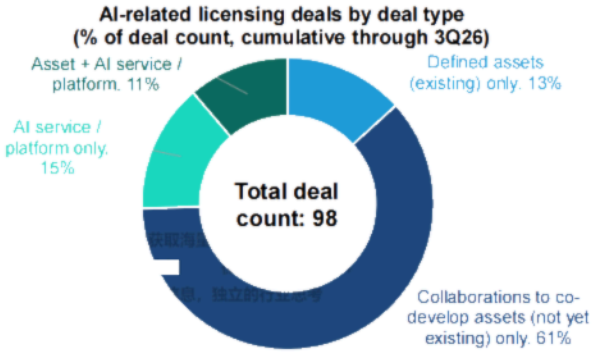
Note: Data cut off date: Sep. 24th, 2026
Source: Pharmcube, Bernstein analysis

EXHIBIT 7: **Narrowing down to China AI-related licensing deals, AI dealmaking accelerated sharply in 2026 Q1-Q3, contributing 25% of total licensing deal value compared with single digit over 2023-2025**



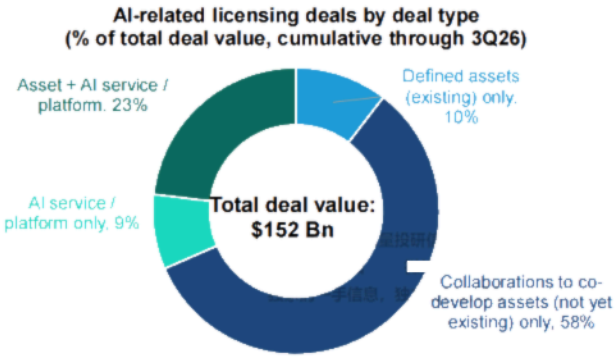
Note: Data cut off date: Sep. 24th, 2026
Source: Pharmcube, Bernstein analysis

EXHIBIT 8: **Asset-only deals account for 74% of AI-related licensing transactions, but only 13% involve defined assets (existing) only**



Note: Data cut off date: Sep. 24th, 2026
Source: Pharmcube, Bernstein analysis

EXHIBIT 9: **Defined assets (existing) only deals account for an even smaller share of AI-related licensing value, at 10%**



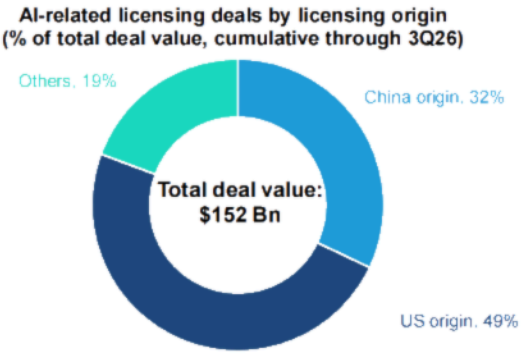
Note: Data cut off date: Sep. 24th, 2026
Source: Pharmcube, Bernstein analysis

EXHIBIT 10: **China-origin companies account for 23% of AI-related licensing deal volume, trailing the US in transaction activity……**



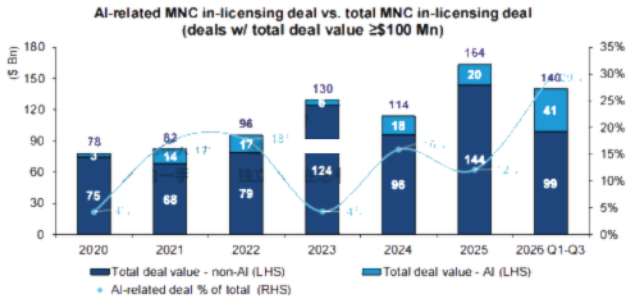
Note: Data cut off date: Sep. 24th, 2026
Source: Pharmcube, Bernstein analysis

EXHIBIT 11: **……while China's share rises materially on a value basis, suggesting Chinese-origin assets are punching above their weight in attracting licensing capital.**



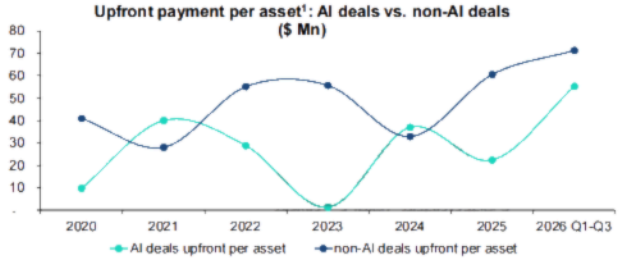
Note: Data cut off date: Sep. 24th, 2026
Source: Pharmcube, Bernstein analysis

EXHIBIT 12: **AI-related assets are capturing a growing share of MNC in-licensing activity, reaching 30% of total deal value in 2026 Q1-Q3, up from just 4% in 2020**



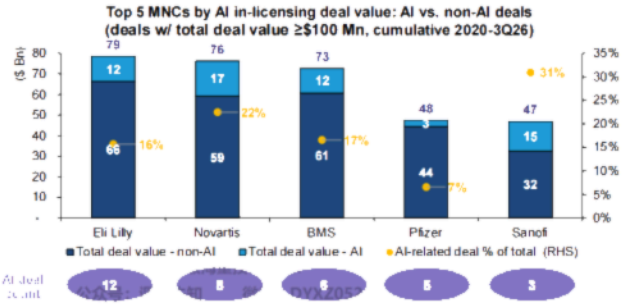
Note: Data cut off date: Sep. 24th, 2026
Source: Pharmcube, Bernstein analysis

EXHIBIT 13: **AI deals did not seem to generate more value compared to non-AI deals**



Note: 1. Assets are calculated based on Pharmcube defined pipelines and technology / platforms; Data cut off date: Sep. 24th, 2026
Source: Pharmcube, Bernstein analysis

EXHIBIT 14: **Novartis and Sanofi show the highest AI exposure with regard to in-licensing deals value**



Note: Data cut off date: Sep. 24th, 2026
Source: Pharmcube, Bernstein analysis

FRONTIER AI MODELS, LIMITATIONS & PAIN POINTS

FRONTIER MODELS

From structure prediction to de novo design

A useful way to think about AI's evolution in protein engineering is that the industry has moved from **"seeing" proteins to "designing" proteins**. Structure-prediction models such as AlphaFold start with an amino acid sequence and predict its three-dimensional structure. By contrast, **de novo design** models work in reverse, generating entirely new protein sequences and structures from a desired biological function or target. As shown in Exhibit 15, the workflow typically involves defining a target objective, generating protein sequences, validating structures computationally, and confirming activity through wet-lab testing.

The transition from prediction to generation has unfolded in stages. AlphaFold 2 and 3 expanded protein structure prediction to increasingly complex biological systems, while Baker Lab's RFdiffusion demonstrated that diffusion models could create entirely new protein backbones. Building on these advances, companies such as Isomorphic Labs (AlphaProteo, IsoDDE), Chai Discovery, and Boltz have extended their platforms into de novo design, while Latent Labs was founded specifically around generative engineering.

Importantly, de novo design does not replace prediction models, but builds on them. Every generated protein still requires assessment of folding stability, target engagement, and overall molecular behavior before experimental validation. As shown in Exhibit 16, leading companies are increasingly combining prediction and generation within a single platform. The industry's is evolving from understanding biology to simulating and engineering biology.

EXHIBIT 15: **Explanation of De Novo protein generation: From objective to backbone to sequence, the opposite of a structure prediction model**



Source: Cell

EXHIBIT 16: **AI4S model development: from prediction models to De Novo design**

	Prediction Models From known sequence to predicted 3D structure	**De Novo Design Models** Specify target/function then form new sequence
Isomorphic Labs & Google deepmind	AlphaFold 1/2/3	AlphaProteo; IsoDDE
Chai	Chai-1	Chai-2, 3
Boltz	Boltz-1, 2	BoltzGen, BoltzMol-1 / Prot-1
Baker Lab	RoseTTAFold	RFdiffusion
Latent Lab	-	Latent-X , X2
Anew Labs (China)	Protenix	AnewOmni & AnewDesign; AnewDDE
Insilico (China)	InClinico, etc. (clinical trial outcome prediction)	Chemistry42, Generative Biologics, etc.
Earendil Labs		HeliXon

Source: Company disclosure, Bernstein analysis

Refined modality specialization

AIDD companies can broadly be divided into two camps: AI-first companies and **biology-first companies**. AI-first players are typically founded by researchers coming from leading AI organizations or are closely connected to frontier AI model developers. Examples include Isomorphic Labs, Chai Discovery, Latent Labs, as well as emerging entrants linked to Anthropic and OpenAI. In China, Anew Labs and BioMap exhibit a similar profile, with founding teams and technical roots tracing back to AI ecosystems such as ByteDance and Baidu. Biology-centric companies use AI primarily as an engine to accelerate therapeutic development rather than as the end product itself. Companies such as Recursion globally, and Insilico Medicine, Earendil Labs, and increasingly METiS TechBio in China, spend relatively less time publicly discussing model iterations and benchmark performance. Instead, their messaging is more focused on pipeline progression. This distinction is reflected in their maturity profiles: firms such as Recursion, Insilico, Earendil, XtalPi, and METiS already have clinical-stage assets or extensive preclinical pipelines, whereas many AI-first companies remain focused on demonstrating the capabilities of their models through collaborations.

A further point of differentiation is **modality focus**, as most AIDD companies appear to be developing expertise in specific therapeutic categories rather than pursuing all modalities simultaneously. Among ex-China players, Isomorphic Labs has demonstrated the strongest capabilities in small-molecule discovery, while Chai Discovery has concentrated on large-molecule therapeutics. Latent Labs has carved out a niche in cyclic peptides. In China, Anew Labs' disclosed pipeline is weighted toward oral small molecules, whereas Earendil Labs is entirely focused on biologics, including mAbs/BsAb/TsAbs, and ADCs. Insilico Medicine has built most of its pipeline around small molecules, despite maintaining broader AI capabilities. By contrast, XtalPi has one of the most diversified modality portfolios in the sector, spanning small molecules, BsAb/TsAb programs, T-cell engagers (TCEs), peptides, oligonucleotides, and CAR-T therapies. METiS TechBio has differentiated itself through AI-enabled delivery and formulation technologies, while simultaneously advancing a growing portfolio of small- and large-molecule programs.

Note: Baidu, Insilico, METiS TechBio, XtalPi, Isomorphic Labs, Chai Discovery, Latent Labs, Anthropic, OpenAI, Anew Labs, BioMap, Recursion are either private or not covered

EXHIBIT 17: **Ex-China AIDD companies: New players (Isomorphic Labs, Chai Discovery, etc.) have an edge in their AI models and are less focused on self-developed assets. Each has their own modality advantage**

Ex-China	Major modality	Main models	Selected founder background	Fastest asset	Funnel stage	De Novo capability
Isomorphic Labs & Google Deepmind	**Small molecule & Full ecosystem:** Small molecule, protein, nucleic acids, etc.	In / Before 2024: AlphaFold 1/2/3 (Prediction) 2024-09: AlphaProteo (De Novo generation) 2026-02: IsoDDE (De Novo generation)	**Sir Demis Hassabis:** 2024 Nobel Prize in Chemistry; Co-founder and CEO of Google DeepMind and Isomorphic Labs	Two small molecule preclinical assets co-developed with Novartis and Lilly	Pre-clinical	✓
Chai Discovery	**Large molecules / Biologics:** Antibody, Minibinder, etc.	2024-09: Chai-1 (multi-modal structure prediction) 2025-06: Chai-2 (De Novo Antibody Design) 2026-06: Chai-3 (De Novo Antibody Design)	**Co-founder & CEO Joshua Meier:** former OpenAI, Meta's FAIR Lab researcher (Meta's ESM model)	A preclinical antibody candidate co-developed with BMS	Pre-clinical	✓
Latent Lab	**Cyclic peptides** (macrocycles), mini-binders, antibodies (VHH, scFV), etc.	2025-07: Latent-X (macrocyclic peptide, protein mini-binders) 2025-12: Latent-X2 (antibody VHH. scFv) 2026-03: Latent-Y (AI agent that uses X2; autonomous workflow)	**Founder & CEO Simon Kohl:** participated in development of AlphaFold 2. former scientist at Google Deepmind	No self-developed pipellines	Not available	✓
Boltz	**Small molecule, VHH, mini-binder**, etc.	2024-11: Boltz-1 (structure prediction) 2025-06: Boltz-2 (improved prediction) 2025-10: BoltzGen (De novo) 2026-06: BoltzMol-1 / BoltzProt-1	**From MIT Jameel Clinic** and backed by Recursion	Hit discovery on Werner helicase	Hit discovery	✓
Anthropic	Unknown	2026-06: Claude Science, AI platform	**From Anthropic**	Begins developing its own drugs: but main focus still preclinical and R&D infra	Unknown	✓
OpenAI	Unknown	2026-04: GPT-Rosalind	**From OpenAI**	Unknown	Unknown	**Unknown**
Baker Lab / IPD	**Protein**, DNA, small molecules, etc.	2021-07 RoseTTAFold (prediction) ... 2023-present Rfdiffusion (De Novo)	**From University of Washington**	Unknown	Unknown	✓
Recursion	**Small molecule**, etc.	RxRx (including Boltz models)	**CEO & President:** Najat Khan, PhD, previously head of strategy at J&J	REC-4881 (Ph1/2, MEK1/2, familial adenomatous polyposis)	Clinical	✓
Schrodinger	**Small molecule**, etc.	De Novo Design Workflow. Ligand designer. LiveDesign, etc.	**President & CEO:** Ramy Farid, PhD, began careeer as assistant prof in chemistry	SGR-1505 (MALT1 inhibitor, non-Hodgkin's B cell lymphoma)	Clinical	✓

Source: Company disclosure, Bernstein analysis

EXHIBIT 18: **China AIDD companies: More focused on developing new assets compared to global AIDD players. Some also have specialized focus on modality**

China	Major modality	Main models	Selected founder background	Fastest asset	Funnel stage	De Novo capability
Anew Labs (China)	**Small molecule** (e.g., autoimmune), antibody, etc.	In / Before 2025: Protenix / Seedfold (prediction) 2026-04: Protenix-v2 (prediction & design) 2026-09: AnewDDE (De Novo generation, similar to IsoDDE)	**From ByteDance**	AN5162 (Lead optimization, psoriasis)	Pre-clinical	✓
Earendil Labs (China)	**Large molecule (mAb, BsAb, TsAb, ADC)**	HeliXon (De novo)	**Founder & CEO Jian Peng:** Ex-professor at UIUC; experience in AI, ML, biology	HXN-1001 (Ph1, TL1A mAb)	Clinical	✓
BioMap (China)	Protein, antibody, etc.	BioMap OS backed up by xTrimo	**From Baidu**	10+ Preclinical programs	Pre-clinical*	✓
XtalPi (China)	**Small molecule** (e.g. molecular glue), **large molecule** (e.g. Bs/TsAb, TCE), **peptides** (e.g. cyclic peptide), **oligonucleotides** (e.g., siRNA), **CAR-T**	XGlue (small molecule), Ailux (large molecule), PepiX (peptides), Kodexia (Oligo)	**Co-founders:** Shuhao Wen, PhD; Jian Ma, PhD; Lipeng Lai, PhD	SIGX1094 (Ph1, diffuse gastric cancer)	Clinical	✓
Insilico (China)	**Small molecule**, biologics, etc.	Pharma.AI Classic, PSI Frontier, Longevity AI	**CEOs:** Alex Zhavoronkov, PhD; Feng Ren, PhD	ISM001-055 (Ph3 initiated, IPF)	Clinical	✓
METiS TechBio (China)	Small molecule, large molecule (mRNA, mRNA vaccine, Bs/Ts TCEs, etc.)	NanoForge (First AI driven Nano-delivery platform). Based on this, company has developed AiLNP, AiRNA, AiProtein, and AiTEM	**Co-founder & CEO Dr. Caida Lai:** founded AquaFresco & worked at McKinsey & Company	MTS-004 (Pre-NDA, pseudobulbar affect)	Clinical	✓

* BioMap proceeded BP-102 to phase 2 in 2020, current trial status unknown. Other pipelines are preclinical programs, so put funnel stage of BioMap as pre-clinical

Source: Company disclosure, Bernstein analysis

Model monetization

The monetization models of AIDD companies are still evolving, but several common approaches have emerged (Exhibit 19). The first is **software licensing and model deployment**, where AI platforms are offered directly to researchers and drug developers. Commercial structures range from traditional subscription-based software to usage-based pricing tied to computational consumption. For example, **Insilico Medicine** offers its PandaOmics target discovery platform through a subscription model, while its Chemistry42 generative chemistry platform uses a token- and usage-based model, charging customers based on computational workloads and experiment runs. Similarly, **Boltz** has adopted a model resembling frontier AI infrastructure providers, offering open-source access to core models while monetizing through inference and enterprise deployment, with pricing linked to molecular complexity and computational resources consumed. This software-oriented approach is particularly common among AI-first companies, where the model itself is considered the primary product and source of competitive advantage (Exhibit 20-Exhibit 23).

Beyond software commercialization, many AIDD companies generate value through **pharma collaborations**, **internal pipeline development**, and **out-licensing transactions**. Pharma partnerships typically involve co-developing new assets using the AIDD company's proprietary models, with economics including upfront payments, milestones, and downstream royalties. At the same time, a growing number of companies are pursuing self-developed pipelines to capture greater long-term value from successful drug candidates. This strategy is particularly prevalent among Chinese players such as Insilico, Earendil Labs, BioMap, XtalPi, and METiS TechBio, many of which have built sizable portfolios of internally originated assets. A further monetization pathway is **out-licensing**, where AIDD-generated candidates are licensed to global biopharma companies for further development and commercialization. Chinese companies have become increasingly active in this area, with examples including Insilico Medicine and several other emerging players seeking to monetize asset value through international licensing transactions. While these four categories represent the most visible business models today, they should not be viewed as exhaustive.

Note: Baidu, Insilico, METiS TechBio, XtalPi, Boltz, BioMap, Earendil Labs are either private or not covered

EXHIBIT 19: **Business monetization models of major AIDD companies in China and ex-China (emerging ex-China AI4S companies are more focused on model deployment while Chinese counterparts lean towards assets)**

● Existing model ◌ Possible field

Company	Business models			
	Software / Model licensing & deployment	Pharma deal collaboration	Self-developed pipeline	Out-licensing track record
Ex-China				
Isomorphic Labs & Google Deepmind	●	●	●	
Chai Discovery	●	●	●	
Latent Lab	●			
Boltz	●	●		
Anthropic	●	●	◌	
OpenAI	●	●		
Recursion		●	●	
Schrodinger	●	●	●	
China				
Anew Labs (China)	◌	◌	●	
Earendil Labs (China)		●	●	●
BioMap (China)	◌	●	●	
XtalPi (China)	●	●	●	
Insilico (China)	●	●	●	●
METiS TechBio (China)	●	●	●	●

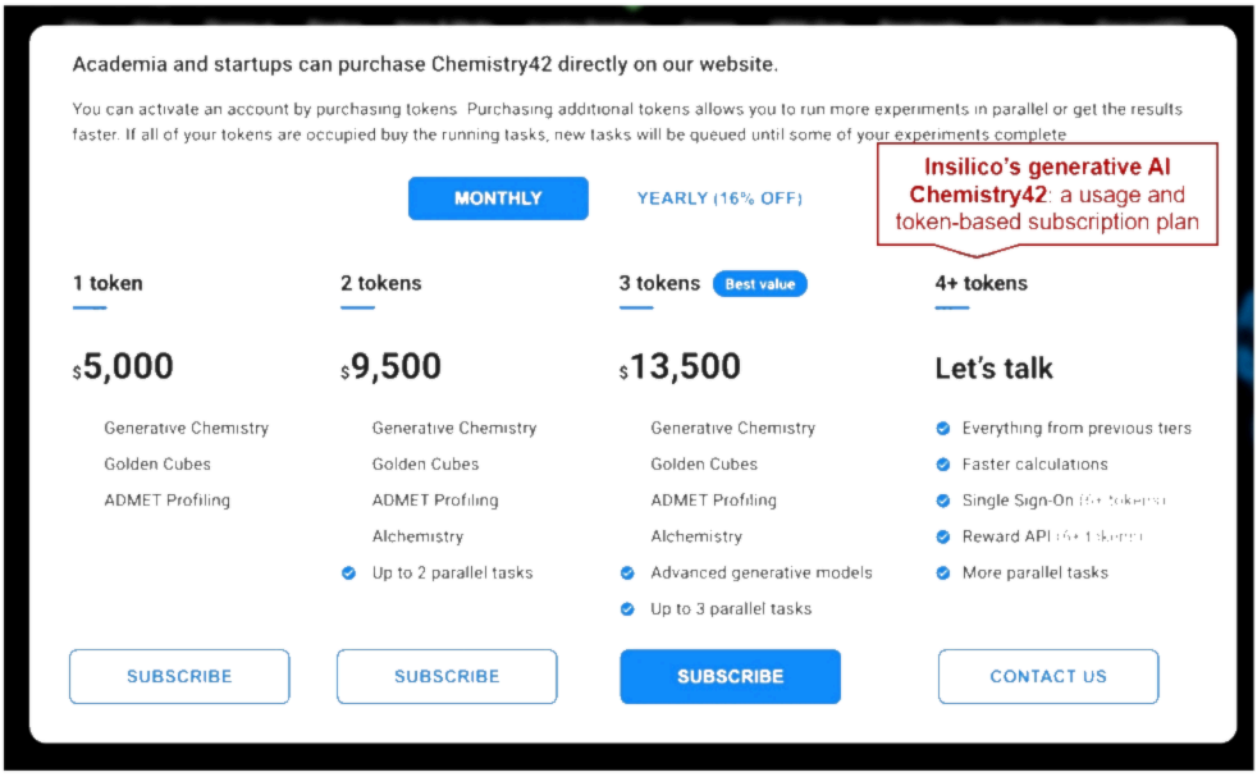
Table based on available information, may not be exhaustive
Source: Company disclosure, Bernstein analysis and estimates

EXHIBIT 20: **Example 1: Insilico's PandaOmics platform is subscription-based for academia**



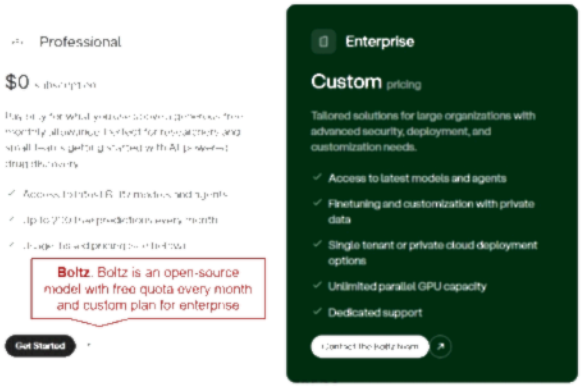
Source: Insilico, Bernstein analysis

EXHIBIT 21: **Example 2: Insilico's generative chemistry platform Chemistry42 is a usage and token-based subscription plan**



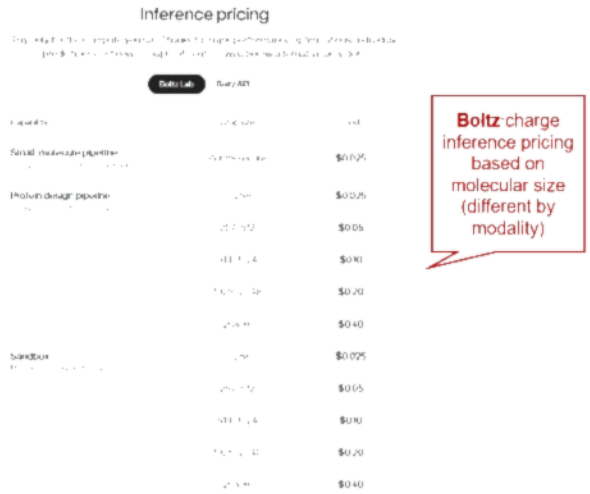
Source: Insilico

EXHIBIT 22: **Example 3: Boltz monetization: open-source model + usage-based molecular size pricing model**



Source: Boltz

EXHIBIT 23: **Example 3: Boltz monetization: open-source model + usage-based molecular size pricing model**



Source: Boltz

User demo of current AIDD models

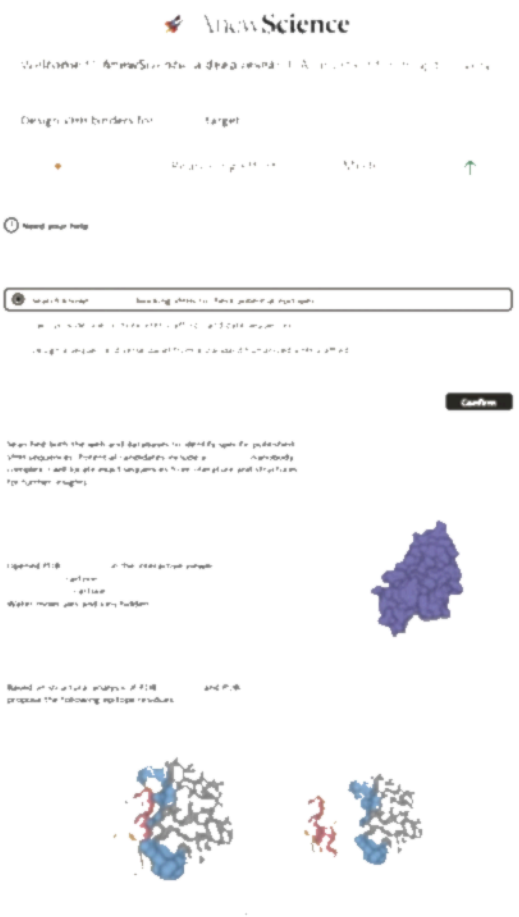
To make the capabilities of AIDD platforms more tangible, Exhibit 24 and Exhibit 25 illustrate what drug discovery increasingly looks like in the era of AI agents and generative models. Rather than relying on a large team of scientists manually evaluating thousands of possibilities, researchers can now interact with AI systems through a conversational interface and specify a biological objective. In the case of **Anew Labs' AnewDesign platform** (Exhibit 24), a scientist begins with a target protein and a desired binding objective, such as designing a nanobody against a specific epitope. The AI agent first interprets the user's request, searches structural databases, identifies potential binding regions, and launches multiple computational workers to generate thousands of candidate sequences. These candidates are then filtered through a series of structural screens, reducing a pool of more than 3,000 generated designs to approximately 50 candidates suitable for wet-lab testing. The outcome is not simply a prediction, but a ranked list of entirely novel protein sequences that can be synthesized and experimentally validated.

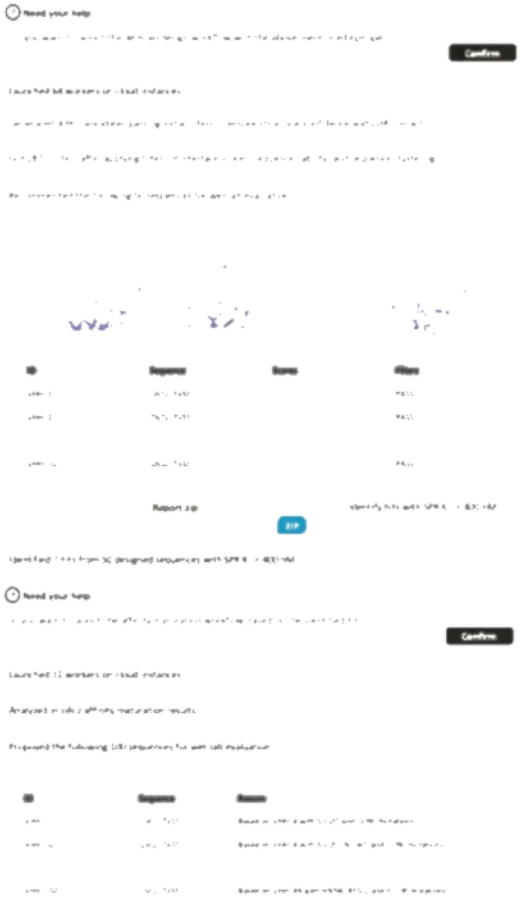
A similar workflow exists in the small-molecule world, as illustrated by **Insilico Medicine's Chemistry42 platform** (Exhibit 25). Rather than designing proteins in this case study, the user uploads a target protein structure or ligand, specifies the desired pharmacophore features and molecular properties, and defines optimization criteria such as potency, selectivity, and ADMET characteristics. The platform then generates and evaluates large numbers of novel molecular structures, visualizes their interactions with the target, tracks optimization progress, and allows researchers to iteratively refine design parameters.

EXHIBIT 24: **Nanobody design by the AnewDesign agaentic workflow through AnewScience interface**

LHS: Initial steps – AI interprets user's prompt, queries structural database to identify epitopes suitable for the goal

RHS: Initial steps – Filtered >3000 candidates down to 50 de novo sequences for wet lab evaluation

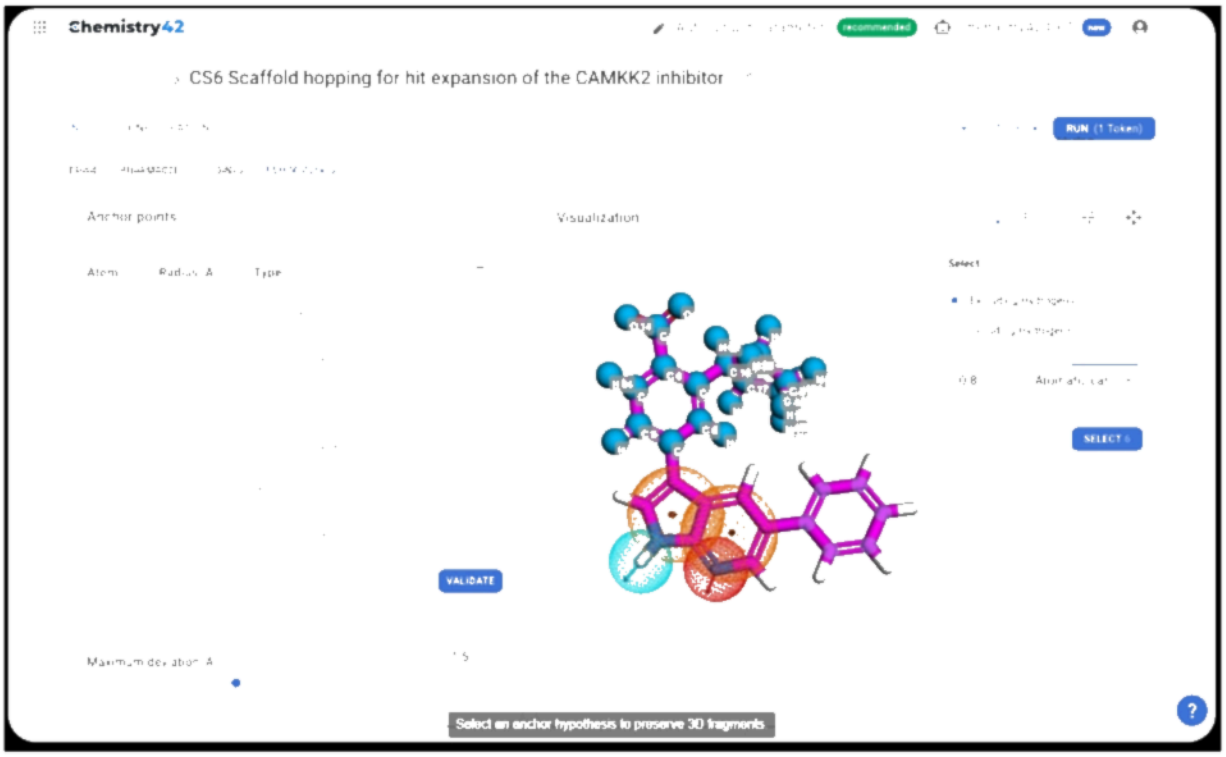




Source: Anew Labs

EXHIBIT 25: **Insilico's Chemistry42 platform case study**

Insilico's Chemistry42 case study: Upload target protein/ligand -> specify a pharmacophore hypothesis -> select anchor hypothesis for 3D fragments -> choose a target compound profile -> define desirable ADMET profile -> track experiment progress -> review/filter result -> visualization



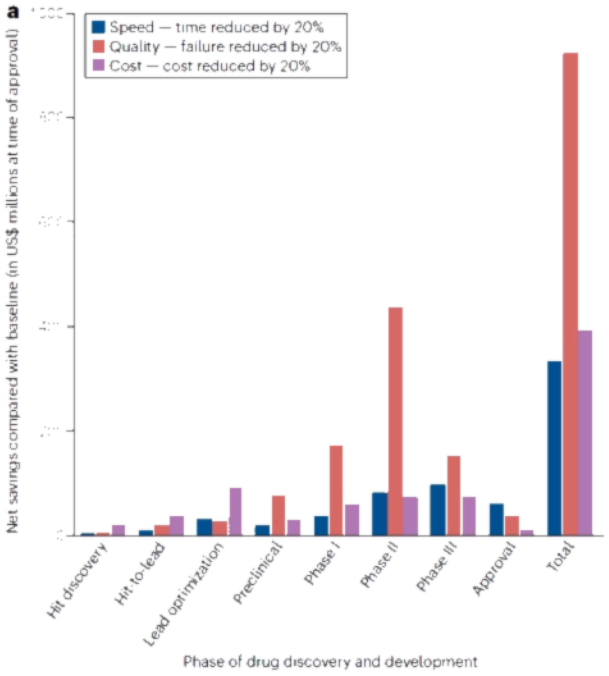
Source: Insilico

LIMITATIONS AND PAIN POINTS

Hit discovery not the value driver; success rate is

While much of today's enthusiasm around AIDD focuses on faster hit identification and molecule generation, the largest economic value in drug development comes from **improving the probability of success** rather than reducing discovery time or costs. In the August 2026 *Nature Reviews Drug Discovery* article analyzing the progress and limiations of AIDD today, there was a simulation to show that **20% reduction in failure rates creates significantly greater savings in capitalized development cost per approved drug than comparable improvements in speed or R&D expenditure.** As a result, the ultimate test for AI is not whether it can generate more candidate molecules, but whether it can improve translational and clinical decision-making. However, evidence remains limited today. As shown in Exhibit 27, AIDD companies have rapidly expanded their pipelines and accelerated progression into the clinic, **yet Ph1 and Ph2 advancement rates have not exceeded those observed among large pharmaceutical companies,** although most AIDD-derived assets remain relatively early in development and have not yet accumulated sufficient clinical history for definitive conclusions.

EXHIBIT 26: **Out of three drug development parameters - speed, quality, and cost - it is the quality improvement, i.e. higher hit rate, would lead to the greatest savings on capitalized cost per successful launch**



Source: Nature Reviews Drug Discovery "Artificial intelligence in drug discovery — what it is, where we stand and the path forward"

EXHIBIT 27: **So far we have not observed significantly higher hit rate of AIDD programs vs. traditional pharma, though most of the AIDD pipeline assets are still early in their clinical development**

Company group	First disclose (2020-2024)	Entered Phase I / above	Entered Phase II / above	CALC SUCCESS RATE Ph I	Ph II
Global Top 20 MNCs	2,924	770	422	26%	14%
Global AIDD companies	114	22	8	19%	7%
China AIDD companies	146	20	7	14%	5%
Insilico Medicine	*39*	*12*	*4*	*31%*	*10%*

Accounting for most of clinical pipeline of China companies

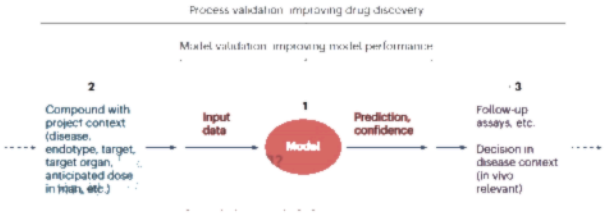
Source: Pharmcube, Bernstein analysis

Ligand discovery is not drug discovery

What limits success rates of AIDD molecules? Models that are built and iterated with oversimplified aims (such as optimizing for binding) and not incorporating other biological and human data. A ligand that binds well to a target does not necessarily become a successful drug. Model performance should be evaluated not only by computational benchmarks, but by its contribution to downstream decision-making, experimental validation, and ultimately clinically meaningful outcomes (Exhibit 28). Optimizing one stage of the workflow in isolation can be misleading: a model good at identifying high-affinity binders may still generate molecules that fail later due to toxicity, poor pharmacokinetics, manufacturability, or other developability issues (Exhibit 29).

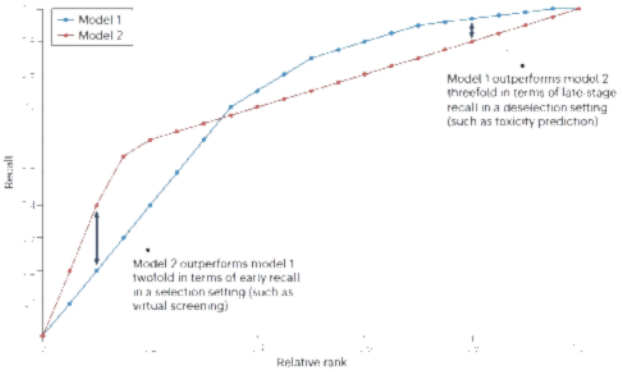
The implication is that the industry's challenge is shifting from predicting individual properties to integrating data across discovery, translational research, and clinical development. AI models trained on linked biological and clinical datasets are likely to be more valuable than those optimized solely for early-stage screening performance.

EXHIBIT 28: **Model validation by itself (1) with the aim to improve a certain model metric is not enough, as the model is used within a project context (2) and leads to follow-up experiments that are translationally relevant to clinical outcomes (3)**



Source: Nature Reviews Drug Discovery "Artificial intelligence in drug discovery — what it is, where we stand and the path forward"

EXHIBIT 29: **The importance of holistic data linkage: models that perform better in early research based on virtual screening data (i.e. finding the highest-affinity ligands that bind to the target) may underperform in later development if they fall short in toxicity predictions (ligands that are too toxic to be good drugs)**



Source: Nature Reviews Drug Discovery "Artificial intelligence in drug discovery — what it is, where we stand and the path forward"

NEXT WINNERS

WAYS FORWARD

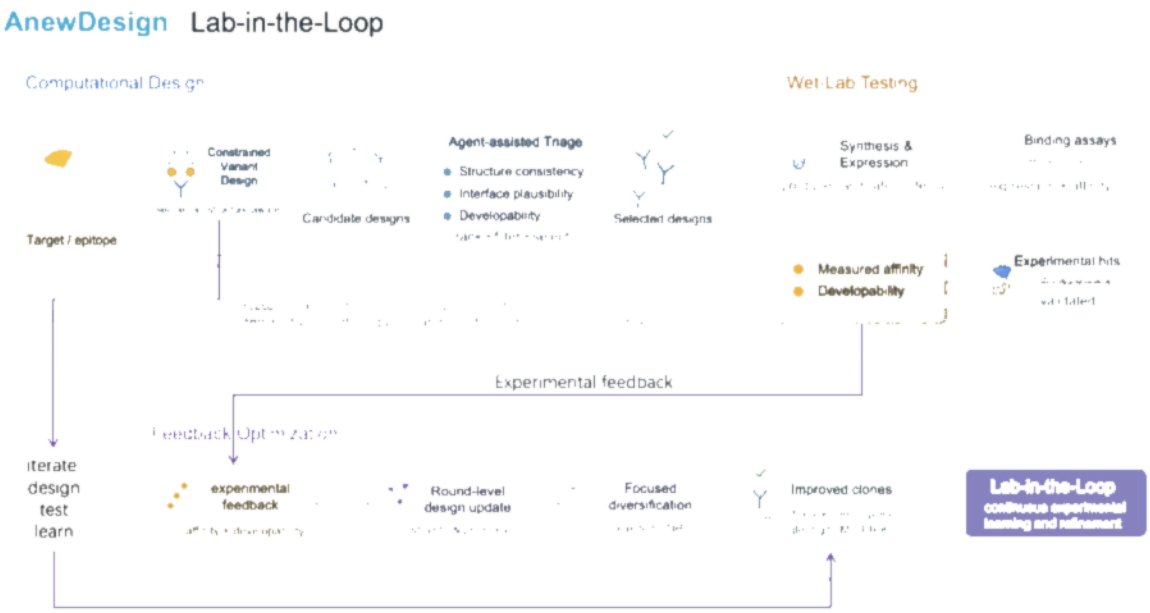
Wet lab and closed loop testing

Lab-in-the-loop workflows: Industry's competitive advantage is moving away from algorithm development alone and toward **proprietary data generation and closed-loop learning capabilities**. Public datasets such as PDB are equally accessible to all participants, while model architectures are rapidly disseminated through publications and open-source communities. The determinant of platform performance is increasingly the ability to continuously generate high-quality, standardized, and experimentally validated datasets. AnewDesign's Lab-in-the-Loop platform provides a useful illustration of how this paradigm works in practice (Exhibit 30). The process begins with computational design, where a target antigen and defined epitope set serve as inputs for deep learning models that generate a large pool of candidate nanobody sequences. These candidates are screened for the most promising molecules for experimental validation. **The selected candidates subsequently enter the wet-lab testing phase**, where they are being evaluated through binding and developability assays such as BLI, SPR, and ELISA. The experimental measurements become valuable proprietary data assets. These data points capture biological realities that are difficult to infer from public datasets or computational predictions alone.

During feedback optimization, experimental results are fed directly back into the design engine, enabling the platform to update design constraints and priorities for subsequent rounds of optimization. Validated regions of successful molecules are preserved, while selected CDRs and neighboring framework residues undergo targeted redesign through affinity maturation algorithms. This iterative "design-test-learn" cycle continuously enriches the underlying dataset while improving model performance. According to AnewDesign, multiple rounds of optimization can drive up to a 100-fold improvement in binding affinity and achieve single-digit nanomolar KD values.

The growing emphasis on wet-lab infrastructure across the AI drug discovery sector reflects an increasing recognition that AI alone is insufficient. Many companies are now building in-house automated laboratories, while others are establishing dedicated experimental partnerships or hybrid facilities to secure direct access to proprietary biological data. Firms capable of combining AI-driven design, automated experimentation, and continuous learning at scale will be best positioned to accumulate unique data assets, accelerate molecule optimization, and establish durable competitive moats. In this sense, the next chapter of AI drug discovery is likely to be shaped not by ever-larger models, but by the successful realization of fully integrated, self-improving lab-in-the-loop ecosystems.

EXHIBIT 30: **AnewDesign Lab-in-the-loop illustration**



Anew Labs
Source: Anew Labs

Partnerships that facilitate flow of data as feedback to models (CDMOs, biopharma)

CDMO partnership increases with AIDD companies (Exhibit 31). The rapid emergence of AI-driven drug discovery (AIDD) companies has significantly increased demand for wet-lab validation, as AI-generated hypotheses must ultimately be tested through experimental biology to create the closed-loop data feedback necessary for continuous model improvement. As a result, many AIDD players are either building internal laboratory capabilities or partnering with CROs/CDMOs to accelerate data generation and validation. Notably, both ex-China and China-based AIDD companies have increasingly engaged Chinese CRO/CDMO providers, highlighting China's growing role. Examples include Latent Labs, which selected GenScript as its wet-lab partner, Baker Lab/IPD sourcing synthetic gene constructs from GenScript, and Boltz leveraging WuXi AppTec's OTS compound library in support of model development.

The trend is equally evident among China-based AIDD companies, where CRO/CDMO partnerships are expanding beyond research support to encompass development and future commercialization. Earendil Labs, for example, entered a strategic collaboration with WuXi Biologics in 2026 under which WuXi provides end-to-end biologics development and manufacturing services, including cell line development, process development, formulation development, and GMP manufacturing for Earendil's AI-designed bispecific, multispecific antibody, and ADC programs (source). The collaboration explicitly aims to accelerate clinical development and enable future commercial-scale manufacturing. Similarly, Insilico Medicine has worked with WuXi AppTec, Tigermed, and JOINN across preclinical and clinical development activities, while METiS TechBio has established partnerships with both Apeloa and JOINN to support development and commercialization of its AI-enabled mRNA and therapeutic programs. Together, CROs/CDMOs are becoming increasingly embedded across the AIDD value chain, serving not only as providers of wet-lab data generation but also as strategic partners supporting process development, regulatory execution, manufacturing scale-up, and eventual commercialization.

Note: Earendil Labs, Tigermed, JOINN, METiS TechBio, Boltz, Genscript, Apeloa, Insilico are not covered.

EXHIBIT 31: **Many Chinese CDMO/CROs, including WuXi AppTec, WuXi Biologics, JOINN, Tigermed, Apeloa, and Genscript, are in collaboration with emerging AIDD companies**

Company	External Wet Lab / Research Collaboration		Self-built wet lab
Ex-China			
Isomorphic Labs & Google Deepmind	Arctoris	Use **Arctoris**'s Ulysses automation platform	Unknown
Chai Discovery	Adaptyv Bio, Sino Biological	Collab with **Adaptyv** and **Sino Biological** for lab-in-the-loop; also collaborating with **Twist**	Unknown
Latent Lab	GenScript	**GenScript** as its wet-lab partner	Has its own wet lab
Boltz	WuXi AppTec, RECURSION	Mainly dry lab: Use **WuXi AppTec**'s OTS compound library; Collab w/ **Recursion**	Likely no, mainly dry lab
Anthropic	Adaptyv Bio, TWIST	**Twist & Adaptyv** as lab service provider	Has its own wet lab
OpenAI	Unknown	Unknown	Unknown
Baker Lab / IPD	GenScript	Lab ordering synthetic genes from **GenScript**	Has its own wet lab
China			
Anew Labs (China)	Unknown	Wet lab mainly outsourced to CRO	Unknown
Earendil Labs (China)	WuXi Biologics	Cooperate with **WuXi Bio**	Unknown
BioMap (China)	Unknown	Unknown	Has own wet lab
XtalPi (China)	Unknown	Unknown	Has own wet lab
Insilico (China)	WuXi AppTec, Tigermed, JOINN	Used to collaborate with **WuXi AppTec** on lab tests; currently in collaboration with **Tigermed** and **JOINN**	Has its own wet lab
METiS TechBio (China)	APELOA, JOINN	Commercialized ability with CDMO x **Apeloa**; mRNA CDMO with **JOINN**	Has its own wet lab

1) Collaboration company list may not be exhaustive; 2) WuXi AppTec, WuXi Biologics are covered, other companies are private/uncovered
Source: Company disclosure, news, Bernstein analysis

On the monetization front, AIDD companies are partnering with pharmaceutical and biotechnology companies, although the commercial models remain highly diverse and far from standardized. Based on recent transactions, collaborations generally fall into four categories: (1) co-development of new assets leveraging an AIDD platform, where both parties jointly discover and advance novel drug candidates; (2) out-licensing of internally developed assets to pharma partners; (3) deployment of AI platforms as a service to improve a partner's R&D productivity; and (4) co-founding new entities dedicated to developing specific therapeutic pipelines. Examples span all four models, including Earendil Labs' collaborations with Sanofi and Roche to co-develop novel immunology and oncology assets, Insilico Medicine's out-licensing and co-development partnership with Eli Lilly, and METiS TechBio's licensing agreement with Boulevard Bio. There is also a more platform-centric strategy, such as METiS TechBio's deployment of its AI formulation platform with Hengrui.

Another emerging pathway is the creation of new ventures that combine the strengths of AI-native companies and traditional biopharma partners. For example, BioMap and Harbour BioMed jointly established MegaStream to develop new therapeutics, while XtalPi and Gan & Lee formed a new AI platform initiative focused on oral delivery and long-acting technologies. Unlike traditional biotech companies, which typically follow a more defined progression from discovery to clinical development and commercialization, AIDD companies are still experimenting with different ways to capture value from their technology platforms. Some are evolving into fully integrated drug developers with proprietary pipelines, while others position themselves as technology enablers, service providers, or hybrid models combining platform licensing and asset ownership.

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EXHIBIT 32: **Chinese AI companies cooperation with Pharma/Biotech: Span across co-development of new assets, outlicensing of existing assets, pure AI platform deployment and co-founding new companies**

Announced date	CN Company	Pharma / Biotech	Partnership purpose	TDV ($ Mn)	Upfront ($ Mn)	Asset involved
2026-01-05	Earendil labs	Sanofi	Co-development (assets to be devloped)	2560	160	Multiple autoimmune and inflammatory disease
2026-01-30	CSPC	AstraZeneca	Out-license & Co-development	18500	1200	SYH2082 (long-acting GLP-1/GIP); 3 preclinical assets, and multiple assets TBD
2026-03-29	Insilico	Eli Lilly	Out-license & Co-development	2750	115	A preclinical oral therapy & co-development on new drug candidates
2026-05-12	Insilico	Ribolia	Co-development (assets to be devloped)	Not disclosed	Not disclosed	Empowerment of RNA interference and oligonucleotide
2026-06-15	BioMap	Harbor Biomed	Co-found a company called MegaStream	Not applicable	Not applicable	Focus on unmet needs in CVS, kidney, oncologgy, and aging
2026-06-30	METiS	Boulevard Bio	Out-license (Existing assets)	1620	20	MTS-128 (TsAb TCE)
2026-07-02	CSPC	AstraZeneca	Co-development (assets to be devloped)	1770	30	siRNA and delivery platform; co-develop PCC assets
2026-07-02	Insilico	Takeda	Co-development (assets to be devloped)	600	60	AI drug discovery
2026-07-09	XtalPi	Gan & Lee	AI platform	Not applicable	Not applicable	Co-found an AI platform that targets at oral delivery, long-acting technologies, etc.
2026-07-12	Insilico	CMS	Co-development (assets to be devloped)	179	Not disclosed	Baed on a new MoA identified by PandaOmics
2026-08-03	METiS	Hengrui	AI platform	Not disclosed	Not disclosed	AI formulation development platform AiTEM localized deployment at Hengrui
2026-09-24	Earendil labs	Roche	Co-development (assets to be devloped)	1500	55	Multiple BsAb therapies for cancer

The list is not exhaustive
Source: Company disclosure, Pharmcube, Bernstein analysis

THE THREE ARCHETYPES OF NEXT WINNERS

The emergence of AIDD should not be viewed simply as creating a new class of AI-native biotech companies. Rather, as AI capabilities evolve **from molecule generation toward translational biology and clinical prediction** (Exhibit 33), value creation increasingly depends on the integration of models, experimental validation, biological data, and clinical execution. As a result, we see three archetypes of potential winners emerging (Exhibit 34):

- Frontier AI companies that develop leading foundation models and generative design capabilities
- Scaled service and data providers, such as CROs and CDMOs, which own modality-specific datasets, high-throughput experimental capabilities, and manufacturing infrastructure that provide the critical "lab-in-the-loop" feedback needed to improve models
- Integrated biopharma companies that control the full discovery-to-commercialization value chain, allowing them to combine AI with proprietary preclinical, clinical, and commercial datasets

In our view, AI is unlikely to be a winner-takes-all market dominated solely by model developers. Instead, the beneficiaries are likely to include both **horizontal integrators** that generate and validate biological data, and **vertical integrators** that can translate AI-generated insights into successful drugs and commercial outcomes.

EXHIBIT 33: **AIDD 1.0 to 3.0: what the future should look like**

Disease biology Target ID	Molecule design Hit ID / optimization	Translational & preclinical research	Clinical development
AIDD 1.0: Basic AI			
• Literature mining; genomics association • Basic biomarker analytics	• Virtual screening, docking, & QSAR	• Basic ADMET, toxicity and PK models	• Trial recruitment support
AIDD 2.0: Current frontier			
• Multi-omics & pathway models • Target selection	• De novo design • multi-parameter optimization (potency, selectivity, synthetic accessibility etc.)	• Cell painting; organoids & organ-on-chips • DMTA loops & automated labs	• Patient stratification & biomarker discovery • EHR/RWE analytics
Current pain points			
• Limited understand of disease biology	• Local sampling of vast molecule space • Ligand discovery ≠ drug discovery	• Lack of linkage to human-relevant data	• Incomplete, heterogenous, and siloed clinical data • Conditional variability
AIDD 3.0: Next-level AI			
• Causal, perturbation-based models of disease biology • Target selection based on predicted human efficacy	• Closed-loop autonomous design • Selects the next experiment based on information value	• Human-relevant systems calibrated by clinical endpoints	• Virtual control arms, patient digital-twins, and outcome simulation

Models built on human-relevant data → Closed-loop lab testing → Clinical feedback → Better next discovery decision

Note: QSAR: Quantitative Structure-Activity Relationship; ADMET: Absorption, Distribution, Metabolism, Excretion, and Toxicity; DMTA: Design-Make-Test-Analyze; HER: Electronic Health Records and RWE: Real-World Evidence

Source: Nature Reviews Drug Discovery "Artificial intelligence in drug discovery — what it is, where we stand and the path forward"; McKinsey "AI drug discovery: Focusing on what matters most"; Bernstein analysis

EXHIBIT 34: **Next winners in the age of AIDD: the three archetypes**

Future winner archetypes	Who they are	Rights to win	Who are best positioned today?
Best AI models	• AI / biotech companies able to build leading models	• Best foundational models, validated and **continuously improved by integrated wet labs** • Fastest learning rate per experiment	• AI natives with both model track record and increasing focus on biology and closed-loop testing
Scaled service & data providers	• CDMOs, CROs, technology platforms **- horizontal integrators**	• **Scaled preclinical data** and manufacturing capacities • **Modality expertise** • Standardized workflows	• CDMOs combining modality expertise with high market share in capacities and data • Coverage examples: Wuxi Apptec, Wuxi Bio
End-to-end drug developers	• Pharma and biotech - **vertical integrators**	• Integration of biological and clinical data • Ownership of program and **decision/execution chain**	• Pharma & biotech with proven capabilities in AIDD platforms, end-to-end drug development, and deal-making record • Coverage examples: Innovent, Hengrui, Hansoh, etc.

Source: Bernstein analysis

EXHIBIT 35: **2023-2026YTD major AI deals: CSPC, Insilico, Xtalpi, and Earendil Labs have the most extensive deal making record among Chinese companies**

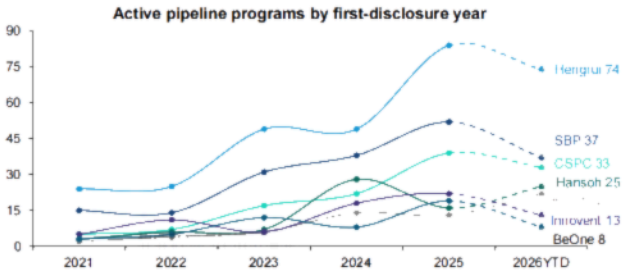
Company	Country	Sum of upfront ($ Mn)	Count of deals
CSPC	China	1,480	4
Sail Biomedicines	Ex-China	320	1
Monte Rosa Therapeutics	Ex-China	270	2
Insilico Medicines	China	207	7
MeiraGTx	Ex-China	200	1
Earendil Labs	China	180	3
Genesis Molecular AI	Ex-China	110	2
Antares Therapeutics	Ex-China	105	1
Unnatural Products	Ex-China	100	1
Isomorphic Labs	Ex-China	83	2
Vesalius Therapeutics	Ex-China	80	1
Gilgamesh Pharmaceuticals	Ex-China	65	1
Manifold Bio	Ex-China	55	1
XtalPi	China	51	3
Dyno Therapeutics	Ex-China	50	1
Triana Biomedicines	Ex-China	49	1
Orionis Biosciences	Ex-China	40	1
Inceptive	Ex-China	30	1
METiS TechBio	China	20	1
PostEra	Ex-China	12	1
Odyssey Therapeutics	Ex-China	7	1
Lynk Pharma	China	5	1
Innovo	Ex-China	5	1
Evaxion Biotech	Ex-China	3	1

Screening criteria: AI deals 2023-2026YTD, TDV >= $100 Mn, with upfront payment amount disclosed
Source: Pharmcube, Bernstein analysis and estimates

For investors, distinguishing genuine winners from "AI-washing" requires focusing on outcomes rather than technological claims alone. Among AIDD companies, the most important indicators are expanding proprietary pipelines, progression into clinical development, and external validation through licensing transactions. As shown in Exhibit 35, companies such as CSPC, Insilico, Earendil Labs, and XtalPi have emerged as leaders in dealmaking.

At the same time, pipeline scale and progression remain important indicators of execution capability. China's AI-native companies have rapidly expanded their active pipelines, while established biopharma companies such as Hengrui, CSPC, Hansoh, Innovent and BeOne continue to generate substantially larger numbers of active programs (Exhibit 36, Exhibit 37). For integrated pharma companies, we believe investors should focus less on AI publications or model announcements and more on measurable R&D productivity improvements, including pipeline refresh rates, speed from target identification to clinic, ability to terminate weak programs earlier, licensing output, and eventual clinical success. Ultimately, the strongest competitive advantage may belong not to companies with the most sophisticated models, but to those that successfully link AI capabilities with proprietary data, experimental infrastructure, and clinical execution across the drug development value chain.

EXHIBIT 36: **Active pipeline counts are expanding rapidly across selected companies under coverage, with Hengrui leading in scale**



Note: Currently active programs (PCC + clinical + approved) by first-disclosure year; figures do not represent historical year-end pipeline totals; Data cut off date: Sep 28th, 2026
Source: Pharmcube, Bernstein analysis

EXHIBIT 37: **China active clinical-stage & approved assets summary: the 7 companies under our coverage maintain a broadly stable 7-11% share across 2021 - 2026YTD**

Year of first disclosure	2021	2022	2023	2024	2025	2026 YTD
Clinical-stage assets count in China (including approved assets)	482	725	794	776	737	584
Selected companies total[1]	51	59	71	71	82	39
Selected companies share of total	11%	8%	9%	9%	11%	7%
# organizations with active assets[2]	431	533	593	542	480	324

Note: 1. Hengrui, Hansoh, BeOne, Innovent, Kelun Biotech, SBP, and CSPC; 2. Distinct organization names, including companies, universities, hospitals, and research institutes; Data cut off date: Sep 28th, 2026
Source: Pharmcube, Bernstein analysis

APPENDIX - FINANCIAL FORECASTS

HKEX HEALTHCARE IPO LIST

EXHIBIT 38: **Healthcare and biopharma HKEX IPO pipeline in 2026: publicly disclosed HKEX applicants - part 1**

Applicants' name	Company type	Therapeutic area focus	Main pipeline / assets
Zhejiang Jingxin Pharmaceutical Co., Ltd.	Pharma	CNS, cardiovascular, gastrointestinal	Small molecules (Lp(a)), Gx
Shenzhen Salubris Pharmaceuticals Co., Ltd.	Pharma	CKM (Cardiovascular-Kidney-Metabolic)	Small molecules, siRNA
ANEW Health Limited	Healthcare Services	Pain Management	Pain Management, Physical Function Enhancement Services
ProteLight Pharmaceuticals (Jiangsu) Co., Ltd. - B	Biotech	Infectious disease, metabolic	Antimicrobial peptide, Small molecules
Hangzhou Bangshun Pharmaceutical Co., Ltd. - B	Biotech	Oncology, autoimmune	Small molecules
Betta Pharmaceuticals Co., Ltd.	Pharma	Oncology	Small molecules
Exegenesis Bio Inc. - B	Biotech	Ophthalmology, rare genetic disease (Fabry)	Gene and oligonucleotide therapy
Frontera Therapeutics - B	Biotech	Ophthalmology, cardiovascular, metabolics	AAV gene therapy
Hangzhou Tangji Medical Technology Co., Ltd. - B	Medical device	Metabolic gastroenterology devices	Gastric Bypass Stent System
Nanjing Novlead Biotechnology Co., Ltd. - B	Medical device	Cardiopulmonary / respiratory	Inhaled / exhale nitric oxide therapy device
VivaVision Biotech (Zhejiang) Co., Ltd. - B	Biotech	Ophthalmology	Small molecules
Dizal Pharmaceutical Co., Ltd.	Biotech	Oncology	Small molecules
Zenshine Pharmaceuticals (Nanjing) Group Co., Ltd. - B	Pharma	Infectious disease, oncology	Small molecules
InventisBio Co., Limited - B	Biotech	Oncology, autoimmune, metabolic	Small molecules (KRAS G12C i)
Tyligand Bioscience Ltd. - B	Biotech	Oncology	Small molecules (KRAS G12C i)
PANACRO (Hangzhou) Pharmaceutical Consulting Co., Ltd.	CRO	CRO services	Clinical trial services - pre-IND, Phase I-IV conduct, NDA, post-marketing studies
SKG Health Technologies Co., Ltd.	Health Technology	smart wearable massage devices	Smart neck massagers, Massage guns
Shenzhen Immunofoco Biotechnology Co., Ltd. - B	Biotech	Oncology, autoimmune	CAR-T cell therapy
Suzhou Zelgen Biopharmaceuticals Co., Ltd.	Biotech	Oncology, autoimmune, hematology	Bi/Trispecific antibodies, Small molecules
Suzhou GenHouse Bio Co., Ltd. - B	Biotech	Oncology	Small molecules
Sichuan Biokin Pharmaceutical Co., Ltd. - B	Biotech	Oncology	ADCs, Bi/Trispecific antibodies
Harbin Yuyantang Traditional Chinese Medicine Outpatient Group Co., Ltd.	Healthcare Services	TCM outpatient services	TCM outpatient consultations, In-house TCM preparations
Guangzhou Novaken Pharm Co., Ltd. - B	Biotech	Anesthesia/sedation	Small molecules, peptides (Modified New Drug)
PrimeGenX Therapeutics Co., Ltd. - B	Biotech	Immunology/inflammation	Small molecules
Shanghai Shengsheng Pharmaceutical Cold Chain Technology Co., Ltd.	Healthcare Supply Chain Service	Pharmaceutical cold chain logistics / supply chain services	Clinical trial temperature-controlled supply chain services,commercial-stage medical product cold chain
JPJ (TCM) Limited	TCM	TCM / consumer health	Proprietary Chinese medicine manufacturer
Immvira Bioscience Inc. - B	Biotech	Oncology	Oncolytic virus, novel oncolytic immunotherapies
Ziyond Pharmaceutical Co., Ltd.	Pharma	Dermatology	Topical dermatological drugs.
Ming Yu Pharmaceutical Limited - B	Biopharma	Oncology, autoimmune	ADC, Bispecific antibodies
Jingze Biopharmaceutical (Hefei) Co., Ltd. - B	Biopharma	Assisted reproduction, ophthalmology	siRNA, mAb
Chengdu Olymvax Biopharmaceuticals Inc.	Biopharma	Vaccines / infectious disease	R&D, production and sales of human vaccines
Shanghai Synyi Intelligent Technology Co., Ltd.	AI healthtech	Healthcare AI / clinical data governance	Medical data governance, mining, and application
Fosun Adgenvax (Chengdu) Biopharmaceutical Co., Ltd.	Biopharma	Vaccines / infectious disease	R&D, production and sales of human vaccines
NeuroGen Pharma Limited	Pharma	Neurology/CNS, pain management	Small molecules
WinHealth International Holding Group Company Limited	Pharma	Nephrology, Hematology diseases	Small molecules, peptides
EpimAb Biotherapeutics Inc. - B	Biotech	Oncology, Hematology	Multi-specific antibodies, TCE
CSPC Innovation Pharmaceutical Co., Ltd.	Biopharma	Oncology, metabolic, autoimmune/inflammation	ADCs, mRNA vaccines
Guangzhou Zhiyi Biotechnology Co., Ltd. - B	Biotech	Gastroenterology	Microbiome therapy
Shanghai Juncell Therapeutics Co., Ltd. - B	Biotech	Oncology	Cell therapy focused on TIL (tumor-infiltrating lymphocyte)
Lynk Pharmaceuticals Co., Ltd. - B	Biopharma	Autoimmune/inflammatory	Small molecule, Molecular glue degrader
Ningbo Sanxing Medical Electric Co., Ltd.	Healthcare services	Rehabilitation hospital services	Smart power distribution/electrical equipment
Yantai Lannacheng Biotechnology Co., Ltd. - B	Biotech	Oncology, radionuclear imaging	Theranostic radiopharmaceuticals in oncology
Ganzhou Hemay Pharmaceutical Co., Ltd. - B	Biopharma	Autoimmune/inflammation, oncology	Small molecules
Guangdong True Health Medical Technology Development Co., Ltd. - B	AI robotics	Oncology / lung cancer	Percutaneous Puncture Surgical Robots, Tumor Ablation Robots
Hangzhou Highlightll Pharmaceutical Co., Ltd. - B	Biopharma	Immunology/autoimmune	Small molecules
Earendil Lab[1]	AI Biotech	Oncology, autoimmnue	Bispecific antibody, ADC
Intellective Biologics (Suzhou) Co., Ltd.	CDMO	Biologics CDMO	Production-driven full-lifecycle biologics CDMO
Genuine Biotech Limited - B	Biotech	Infectious Diseases / Antiviral, oncology	Small molecules, nucleotide analog
Lupeng Pharmaceutical Ltd. - B	Biopharma	Oncology, Hematology	Small molecules, PROTAC
Aier Eye Hospital Group Co., Ltd.	Healthcare Services	Ophthalmology (hospital chain services)	Cataract surgery,glaucoma and oculoplastic service
Elpiscience Biopharmaceuticals, Inc. - B	Biopharma	Oncology, autoimmnue	Bispecific antibody, mAb
Shanghai Simpletouch Robot Co., Ltd. - B	Robotics	interventional pulmonology / image-guided percutaneous puncture	RC120 Robotic Needle Positioning System
Sino Medical Sciences Technology Inc.	Medical Device	Cardiovascular medical devices	BuMA Supreme drug-eluting coronary stent system

Note: 1. Earendil Lab reportedly filed confidentially for a HKEX IPO in March 2026; The list of applicants is based on publicly disclosed HKEX listing applicants. Confidential filings are not reflected; Data cutoff date: Sep. 22nd, 2026
Source: Company disclosures, HKEX, Bernstein analysis

EXHIBIT 39: **Healthcare and biopharma HKEX IPO pipeline in 2026: publicly disclosed HKEX applicants - part 2**

Applicants' name	Company type	Therapeutic area focus	Main pipeline / assets
Guangdong Rong Tai Pharmaceutical Co . Ltd	Healthcare Supply Chain Service	Out-of-hospital pharmaceutical distribution and digital marketing	Provider of digital marketing and supply-chain services for China's out-of-hospital pharmaceutical market
Puxiang Healthcare Holding Limited	Healthcare Services	Integrated healthcare and eldercare	Medical-elderly care provider
BrightGene Bio-Medical Technology Co., Ltd.	Biopharma	Metabolics, oncology	Small molecules, peptides
Zhejiang Shimai Pharmaceutical Co., Ltd. - B	Biotech	Oncology	Multi-specific antibodies, T-cell engager
Shandong Ande Healthcare Apparatus Co . Ltd	Medical Device	Vascular access and infusion therapy	Vascular access, medication/infusion delivery
Axbio International Limited - B	AI Genomics Technology	Molecular diagnostics / nanopore gene sequencing	Nanopore sequencing, Bio-CMOS chip design and electrochemical sensing
HJ Science Co., Ltd. - B	Biotech	Oncology, metabolics	Small molecules
Shenzhen Mindray Bio-Medical Electronics Co., Ltd.	Medical Device	Imaging, in-vitro diagnostics, anesthesia	In-vitro diagnostics, medical Imaging, surgical equipment
Kexing Biopharm Co., Ltd.	Biopharma	Oncology, autoimmune	Multi-specific antibodies, mAb
Alebund Pharmaceuticals (Jiangsu) Limited - B	Biopharma	Nephrology	Small molecules, fusion protein
Jiangxi Institute of Biological Products Inc.	Biopharma	Infectious disease, immunoprophylaxis	Animal-origin immunoglobulin preparations
Anhui Huaheng Biotechnology Co., Ltd	Bio-manufacturer	Synthetic biology / bio-based amino acids	Global synthetic biology and fermentation manufacturer
Sichuan Neautus Traditional Chinese Medicine Co., Ltd.	TCM	TCM herbal decoction pieces and health supplements	GMP-certified manufacturer of TCM herbal decoction pieces
Ecogene Inc. - B	Biotech	Cardiometabolic and obesity	Small molecules, peptides
Wecare Probiotics Co . Ltd.	Biotech	Microbiome	Probiotic strain manufacturer
Beijing QL Biopharmaceutical Co . Ltd - B	Biopharma	Metabolic	Peptides, fusion proteins
InxMed Limited - B	Biotech	Oncology	ADC, mAb
Annoroad Gene Technology (Beijing) Co., Ltd.	Genomics Technology	Oncology, rare disease	IVD medical devices and life science research services
Good Doctor Cloud Healthcare & Technology Group Co., Ltd.	Healthcare Services	Primary healthcare services / diagnostics	Integrated testing-diagnosis-medication loop
Wuhan Ammunition Life-tech Co., Ltd. - B	Biotech	Oncology diagnostics / early cancer screening	Non-invasive methylation-based early cancer detection products
Binhui Biopharmaceutical Co., Ltd - B	Biopharma	Oncology	Oncolytic virus
Shanghai Huilun Pharmaceutical Co., Ltd.	Pharma	Immunology/inflammation	Small molecules
Shaanxi Micot Pharmaceutical Technology Co . Ltd. - B	Biotech	Nephrology, metabolic	Bi-/multi-specific peptides
Sirius Therapeutics - B	Biotech	Cardiovascular, cardiometabolic	siRNA
IMPACT Therapeutics, Inc - B	Biotech	Oncology	Small molecules, PROTAC
Mabwell (Shanghai) Bioscience Co., Ltd. - B	Biopharma	Oncology, autoimmnue	mAb, ADC, Bispecific antobodies
Metis TechBio Co . Ltd - P	AI Biotech	Oncology, autoimmnue	mRNA, multispecific antibodies, small molecules
Hangzhou Sciwind Biosciences Co . Ltd - B	Biotech	Metabolic	Peptides
Atom Therapeutics Co., Ltd. - B	Biotech	Immunology/inflammation, metabolic	Small molecules
Shanghai Ark Biopharmaceutical Co., Ltd. - B	Biopharma	Infectious disease, CNS/neurology	Small molecules
Cofoe Medical Technology Co . Ltd	Medical Device	Home health monitoring, respiratory support	Health monitoring, respiratory support, rehabilitation aids, hearing solutions, wound/ostomy care, and IVD test kits
Medcaptain Medical Technology Co., Ltd.	Medical Device	Infusion systems, life support, minimally invasive intervention, IVD	Life support, minimally invasive intervention, and in-vitro diagnostics
Star Sports Medicine Co . Ltd.	Medical Device	Orthopedics, sports medicine	All-suture and titanium suture anchors, arthroscopic shaver
Beijing Wehand-Bio Pharmaceutical Co . Ltd. - B	Biotech	Metabolic, cardiovascular	Small Molecules
LongBio Pharma (Suzhou) Co . Ltd. - B	Biopharma	Hematology, oncology, autoimmune	mAb, Bispecific antobodies
Suzhou Leadsynbio Technology Co., Ltd.	Biotech	Human nutrition, animal health	Pharmaceutical intermediates, APIs
PANACRO (Hangzhou) Pharmaceutical Technology Co., Ltd.	CRO	Oncology, autoimmunity, metabolism, infection, ophthalmology, respiratory	IND/NDA applications, Phase I-IV study conduct, and post-marketing studies
TenNor Therapeutics (Suzhou) Limited - B	Biotech	Infectious, metabolic	Small molecules, Small molecule drug conjugates
WiseTek Med Ltd.	Medical Device	Urology and minimally invasive surgery	Single-use flexible endoscopes for urology
Sino Pharma Co., Ltd.	CDMO	Consumer health, nutraceuticals	Softgels, gummies, tablets, probiotics
ACROBIOSYSTEMS CO., LTD	Healthcare Services	Bioprocess reagents and tools	Recombinant proteins, antibodies, assay kits, stable cell lines, organoids, and GMP-grade reagents
Beijing Tong Ren Tang Healthcare Investment Co., Ltd.	TCM	TCM	Primary care clinics, internet hospital services, and health management programs under the "TCM+" service model
Shanghai Aucta Pharmaceuticals Co., Ltd. - B	Pharma	CNS / neurology, metabolic	Small molecules
BioMap[1]	AI Biotech	Oncology, autoimmnue	mAb, Multispecific antibodies
Knature Biopharmaceutical Co., Ltd	Biopharma	Anti-aging, cardiovascular, neurological diseases	Mitochondrial medicines, NAD+ drugs
Anhui Guoyi Technology Co., Ltd.	Healthcare Supply Chain Service	Medical logistics and smart storage	SPD software, smart cabinets, smart storage rooms, smart medicine cabinets
Shanghai Duoning Biotechnology Co., Ltd	Healthcare Supply Chain Service	Bioprocess solutions	Bioreactors, single-use bioreactor systems, fluid management, tubing and injection-molded components
Shanghai MediTrust Health Technology Group Co., Ltd.	Healthcare Services	Healthcare payment and insurance technology	Innovative healthcare payment platform connecting pharma, insurers and patients
Chengdu Zenitar Biomedical Technology Co . Ltd - B	Biotech	Oncology, autoimmnue	Small molecules
Simcere Zaiming Pharmaceutical Co., Ltd.	Biopharma	Oncology	Small molecules, ADCs
BioRay Biopharmaceutical Co., Ltd.	Biopharma	Oncology, autoimmnue	mAb, ADC, Bispecific antobodies
Hangzhou Diagens Biotechnology Co., Ltd. - B	AI Medical Device	Medical imaging AI, reproductive genetics, diagnostics	Multimodal medical imaging foundation models, intelligent imaging devices, and AI-assisted diagnostic software
Healife Group Co., Ltd.	AI Healthcare Services	Medical education and digital healthcare services	Conference management software, live streaming platforms, doctor training courses

Note: 1. BioMap reportedly filed confidentially for a HKEX IPO in March 2026; The list of applicants is based on publicly disclosed HKEX listing applicants. Confidential filings are not reflected; Data cutoff date: Sep. 22nd, 2026
Source: Company disclosures, HKEX, Bernstein analysis