

China Clinical CRO Market: Returning to Growth

June 2025

DRAFT

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China’s clinical CRO market has resilient fundamentals, evolving competition and strategic opportunities

Market fundamentals	<ul style="list-style-type: none">• China’s large patient pool and vibrant innovation ecosystem make it a highly attractive pharma market, fueling strong clinical trial activity• This supports ongoing demand for CRO services, even after recent price-driven downturns, with the market expected to gradually recover• While oncology still dominates, other TAs including immunology and dermatology are rapidly expanding their presence in innovative drug trials
CRO competitive landscape	<ul style="list-style-type: none">• The clinical CRO market is highly fragmented, with a mix of multinational corporations (MNCs) and Chinese leaders alongside many smaller players• Leaders differ by trial segments:<ul style="list-style-type: none">– MNC-in-China trials: Led by MNC CROs leveraging global relationships– China-for-China (C4C) trials: Highly fragmented, with Chinese players competing primarily on price– China-to-global (C2G) trials: Chinese sponsors often start with established MNC CROs for their proven track record, but are increasingly open to splitting trial scopes among vendors for cost efficiency• Leading CROs compete by enhancing customer experience, optimizing talent models (e.g., tiered talent pool) and leveraging AI for operational efficiency
Opportunity and challenges	<ul style="list-style-type: none">• China’s CRO market presents both significant opportunities and notable challenges<ul style="list-style-type: none">– For MNC CROs: Success hinges on identifying the right segments and subsegments for growth, leveraging global strengths, and adapting to local dynamics– For Chinese CROs: Differentiation is critical - competing solely on price is unsustainable; building credibility, expanding service offerings, and innovating in delivery and technology are key to long-term success

Note: CRO=contract research organization; TAs=therapeutic areas; AI=artificial intelligence
Source: L.E.K. research and analysis

China remains a pivotal and attractive market for pharma in the long term, with its large patient pool and continued investment in the established innovation ecosystem

Attractive market fundamentals for pharma and pharma services



Sizable market

- World's second-largest biopharmaceutical market
- Largest patient pool globally for many diseases



Established innovation ecosystem

- Government continues to encourage differentiated innovation and quality of care
- Oncology remains the leading TA, with other TAs rapidly gaining momentum

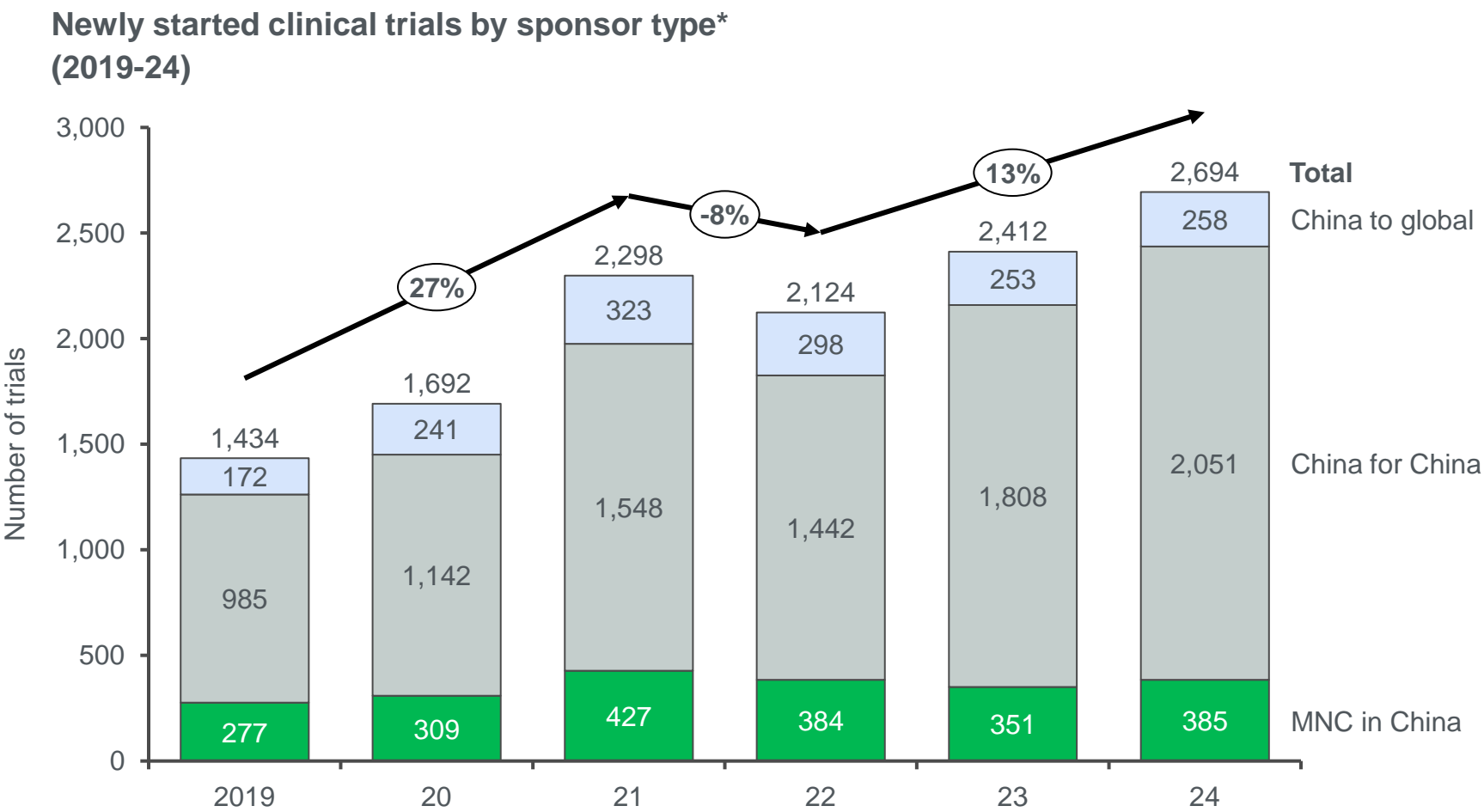


Sustained investment

- Both MNCs and Chinese pharma are committed to continued R&D in China

Note: TA=therapeutic area; MNC=multinational corporation
Source: L.E.K. research and analysis

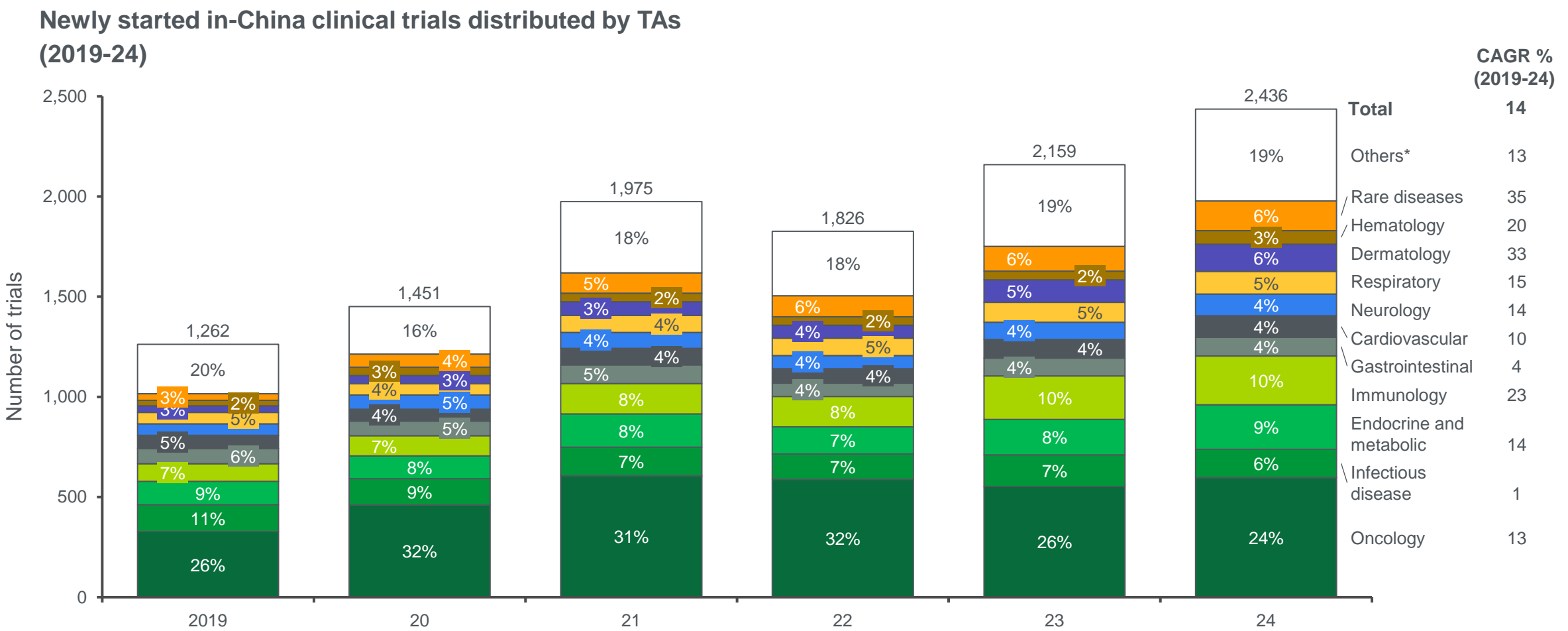
‘MNC-in-China’ and ‘China-to-global’ clinical trial volumes have seen a dip during 2022-23, but started to show signs of recovery in 2024



CAGR %				
19-21	21-22	22-23	23-24	19-24
27%	(8%)	14%	12%	13%
37%	(8%)	(15%)	2%	8%
25%	(7%)	25%	13%	16%
24%	(10%)	(9%)	10%	7%

Note: *Bioequivalence trials are not included; MNC=multinational corporation; CAGR=compound annual growth rate
Source: DXY; Trialtrove; L.E.K. research and analysis

While oncology still dominates, other TAs including immunology and dermatology are rapidly expanding their presence in innovative drug trials



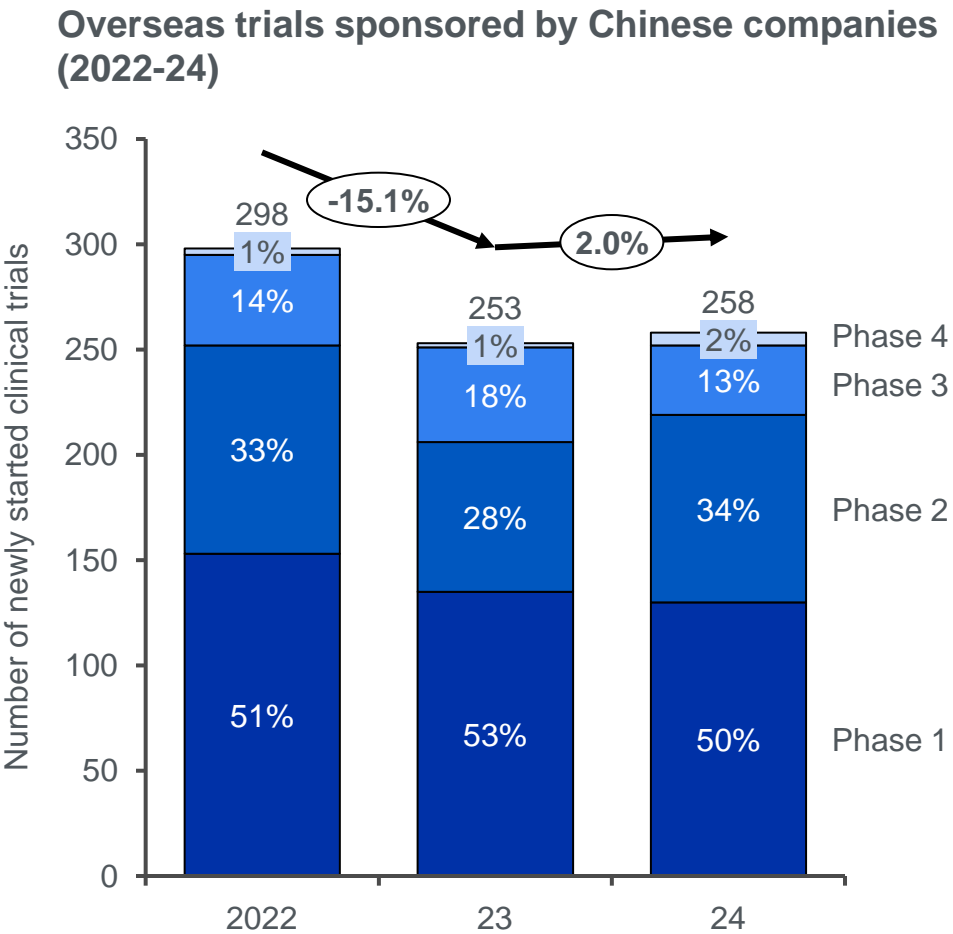
Note: *Others includes ophthalmology, urology and more; TA=therapeutic area; CAGR=compound annual growth rate
Source: DXY; L.E.K. analysis

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Chinese pharmas continue to drive China-to-global clinical trials, making the segment a resilient and viable opportunity for clinical CROs



Note: CROs=contract research organizations; C2G=China to global
Source: Trialtrave; L.E.K. research and analysis

Example Chinese companies with C2G trial activities, 2022-24

BeiGene

- 52 trials
- 6 Phase 3, 18 Phase 2
- U.S., Australia, France, Spain, U.K., etc.

Innovent
信达生物制药

- 19 trials
- 1 Phase 3, 10 Phase 2
- U.S., Australia, France, Japan, etc.

SCT 神州细胞
SinoCellTech

- 15 trials
- 2 Phase 3, 12 Phase 2
- Australia, Turkey, United Arab Emirates, etc.

FOSUNPHARMA
复星医药

- 13 trials
- 7 Phase 3, 3 Phase 2
- U.S., Australia, France, Spain, Japan, etc.

恒瑞

- 13 trials
- 1 Phase 3, 7 Phase 2
- U.S., Australia, South Korea, Japan, etc.

康希诺生物

- 9 trials
- 4 Phase 3, 1 Phase 2
- Australia, Canada, Indonesia, etc.

先声药业
Sincere

- 9 trials
- 2 Phase 3, 1 Phase 2
- U.S., Australia, Singapore, Malaysia, etc.

三叶草生物制药
CLOVER BIOPHARMACEUTICALS

- 9 trials
- 4 Phase 3
- Australia, New Zealand, Philippines, etc.

和黄医药
HUTCHMED

- 9 trials
- 1 Phase 3, 1 Phase 2
- U.S., Australia, France, Spain, Italy, etc.

After a price-driven downturn from 2022 to 2024, sustained trial activity and a gradual price uplift are set to restore growth in market value

DIRECTIONAL

Key market trends impacting CRO clinical service volume growth (2024-29F)

Key market trends	Trial segments			
	MNC	China to global (mainly biotech)	China for China	
			Chinese biotech	Chinese pharma
Chinese government’s supporting policy toward innovative drugs				
Continuous MNC pharma investment in China				
Rationalization and uncertainty of PE/VC funding				
Chinese biopharmas’ continuously increasing R&D spending				
Globalization as an increasing imperative for Chinese biotech				
Total market volume growth (new contracts)	4%-5%			

Level of impact:	Significantly negative	Slightly negative	Neutral/Not applicable	Slightly positive	Significantly positive
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Historical market downturn

- Over the past two years, trial volume growth was offset by price reductions, leading to a decline in China clinical CRO market value
- Since mid-2024, pricing has stabilized and appears to have bottomed out



Growth outlook




















- China to global:** Mild increase in trial volumes and stable pricing are expected to sustain growth
- China for China:** Domestic recovery will be led by moderate trial volume growth and pricing rebound, particularly after 2026
- Global to China:** Positive clinical development activities and steady pricing will help maintain a stable growth trajectory
 - China remains a key market for foreign pharma and biotech, supported by its scale, growth and improving infrastructure

Note: CRO=contract research organization; MNC=multinational corporation; PE=private equity; VC=venture capital
Source: L.E.K. prior experience

The clinical CRO landscape in China can be structured into three categories, reflecting varying levels of service integration and market focus

NON-EXHAUSTIVE

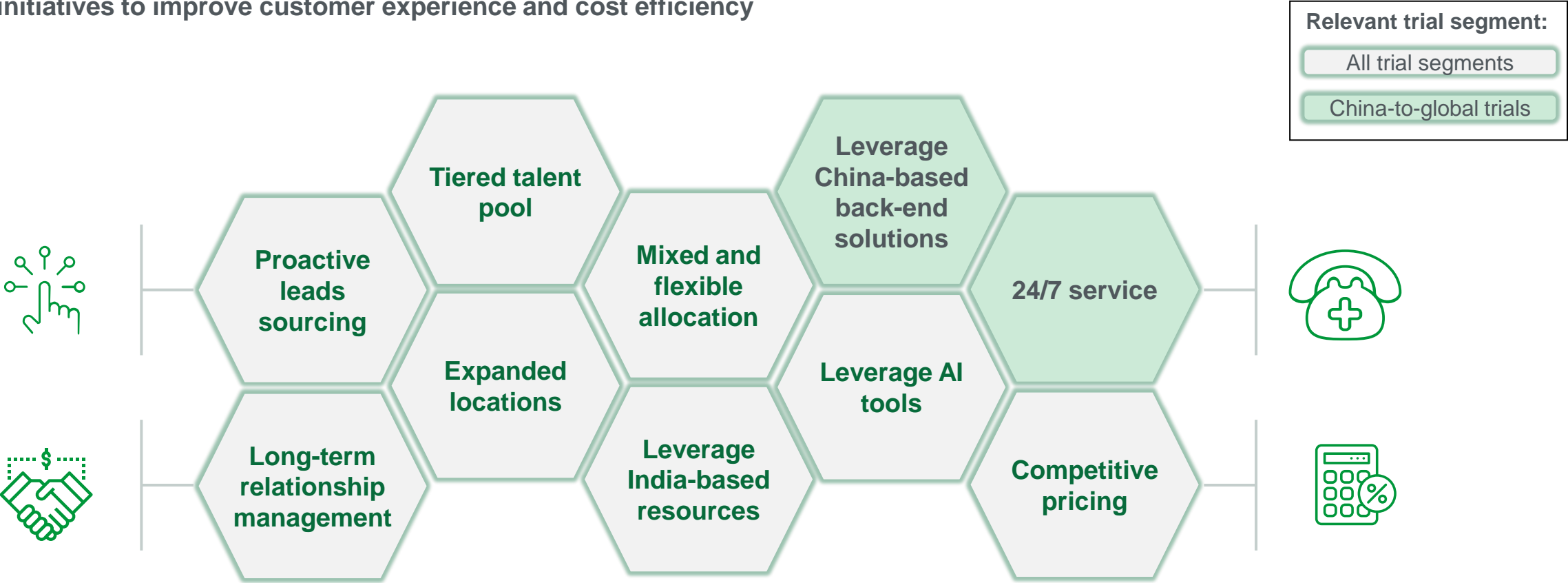
Clinical CRO categorization in China

	Description	Est. # of players	Example players
Integrated CRO & lab providers	<ul style="list-style-type: none">Offer both clinical trial management and in-house laboratory testing services	5-10	    
Established clinical service players	<ul style="list-style-type: none">Focus primarily on clinical trial executionLimited or no in-house lab capacity; might partner with third-party labs	30-50	     
Long-tail clinical service players	<ul style="list-style-type: none">Smaller players focusing on specific service types and trial typesTypically compete through low pricing	Hundreds	       

Note: CRO=contract research organization
Source: L.E.K. prior experience

Leading CROs are optimizing business development, delivery models and operational efficiency to enhance customer experience and competitiveness

Key initiatives to improve customer experience and cost efficiency



Note: CROs=contract research organizations; AI=artificial intelligence
Source: L.E.K. prior experience

Usage of AI is expanding throughout the pharma R&D value chain, including in many clinical functions

NONEXHAUSTIVE

AI adoption across pharma R&D value chain

Target ID and validation		Drug discovery		Preclinical		Clinical	
Portfolio management: predicting optimal R&D portfolio structure (asset-level PoS, trial timeline, cost, expected revenue) based on internal data, competitor clinical readouts, etc.							
Target ID	Drug repurposing	PK/PD parameter prediction	Study design/trial Strategy	Designing trial protocols that meet the needs of a product while ensuring feasibility			
Druggability of targets	Small-molecule virtual screening	In silico safety and toxicology					
Target prioritization	Small-molecule structure, design and optimization	Hypothesis-driven dosage prediction	Patient recruitment and retention	Patient identification			
				Recruitment and enrollment			
				Patient adherence			
Omics based ID/validation	Biologics and small-molecule structure, design and optimization	High maturity of analytics tools, but limited AI-driven models exist due to lack of data	Site-based analysis	Site discovery			
				Site selection			
				Site onboarding			
				Site management			
Biomarker ID and evaluation			Data management	Data collection			
				Data centralization			
				Data monitoring			
				Data analysis			

Note: AI=artificial intelligence; PoS=probability of success; ID=identification; PK=pharmacokinetics; PD= pharmacodynamics
Source: L.E.K. research and analysis

Current level of adoption

Higher

Intermediate

Lower

Final thoughts and Q&A



For CROs

- How would you describe your organization's historical strengths and future strategic direction in China?
 - Across customer segments (e.g., MNC in China, China to global, subsegments within China for China)
 - By trial segments (e.g., TA, modality)
 - By service lines (e.g., full-service outsourcing vs. functional service provider, clinical operations, data management, biostatistics, pharmacovigilance)
- What strategies is your organization pursuing to differentiate beyond pricing in a highly competitive environment?
- What are your key areas of focus for future investment (e.g., AI-enabled solutions, localization of delivery teams, expanding capabilities in high-growth therapeutic areas)? What are the biggest risks or uncertainties associated with these investments?

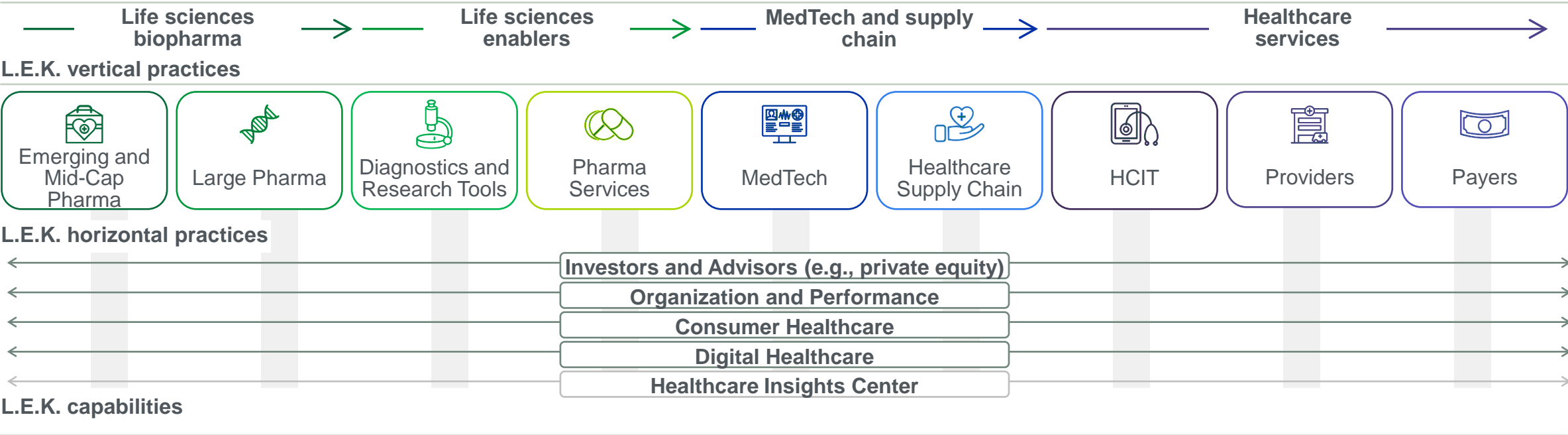
For investors

- What are the key qualitative and quantitative criteria you use to assess CRO players in China? Are there specific segments or emerging trends that are particularly compelling?
- Which CRO-related assets or operations in your portfolio present opportunities for optimization or strategic value enhancement?
- Given the market's fragmentation and the recent pricing-led downturn, do you see attractive investment opportunities emerging?

Note: CROs=contract research organizations; MNC=multinational corporation; TA=therapeutic area; AI=artificial intelligence
Source: L.E.K. research and analysis

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- **About 75** full-time healthcare-focused Managing Directors / Partners globally across nine vertical and five horizontal practices
- **Hundreds of dedicated** healthcare consulting staff around the world (plus hundreds more in critical supporting functions)
- Global network of **10,000+** healthcare industry executives, experts, clinicians, thought leaders (for research and industry insights)
- **Hundreds of projects** per year with a diverse range of large-cap, mid-cap and PE-backed clients
- Industry-leading **thought leadership and IP** (e.g., best-in-class methodologies, benchmarks, market fact bases, industry surveys)
- Recognized as a leading advisor for **growth strategy, M&A support** and solving key **strategic and complex business issues**

Note: HCIT=healthcare information technology; PE=private equity; IP=intellectual property
Source: L.E.K. research and analysis

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Selected L.E.K. insights



EXECUTIVE INSIGHTS

Advanced In Vitro Models: Opportunities and Challenges for US Drug Development

Advanced in vitro models are an emerging approach for preclinical experiments

Pharmaceutical companies invest over \$50 billion annually in drug discovery and preclinical development, yet only 3% of drug candidates gain approval.¹ A significant portion of this spending goes toward experimental systems that are overly simplistic (e.g., 2D immortalized cell cultures), insufficiently predictive (e.g., rodent models) or ethically sensitive (e.g., nonhuman primate models), failing to fully replicate human pathophysiology and accurately predict both safety and efficacy of drug candidates.

Much of this testing is also driven by IND-enabling guidelines that rely heavily on animal-based data, reinforcing legacy models. As a result, biopharma companies must navigate the drug development process with suboptimal experimental tools that convey partial insight into biologic function/phenotype, leading to costly development cycles where many drug targets or candidates prove ineffective and fail later in development. These inefficiencies result in pharma companies allocating significant resources (e.g., time, money, labor) to projects unlikely to succeed.

Advanced in vitro models are an emerging class of tools that, alongside in silico modeling and artificial intelligence (AI) insights, are poised to unlock better decision-making regarding candidates earlier in the preclinical value chain.² Over the past few years, efforts like the FDA Modernization Act 2.0 and the iSTAND program have begun to ease regulatory barriers and encourage validation of nonanimal methods.^{3,4} More recently, the FDA's announcement that it would phase out animal testing requirements for monoclonal antibodies (mAbs) marks a significant step forward.





LEK

AI and Biopharma: New Solutions Emerging Across the Value Chain

Artificial intelligence (AI) is transforming every stage of the value chain across the pharmaceutical industry, from drug discovery and development to manufacturing, clinical trials and commercialization. In the past year, the pace of innovation has accelerated substantially. By rapidly analyzing vast datasets, AI accelerates the identification of potential drug candidates, predicts therapeutic efficacy and aids in designing precision treatments.

In clinical trials, AI-driven models optimize patient recruitment, streamline trial processes and improve patient monitoring, leading to faster and more cost-effective studies. In manufacturing, AI enhances quality control, predicts equipment maintenance needs and optimizes production processes. Finally, AI supports commercialization by analyzing market trends, personalizing marketing efforts and enhancing supply chain efficiency, ultimately ensuring faster and more targeted delivery of treatments to patients.

Where are AI-enabled solutions being implemented?

Applications and use cases for AI in biopharma

Research and discovery

- Disease mapping / target identification
- Digital pathology / advanced image assessment
- Biomarker discovery
- Drug design
- Predictive toxicology integration
- Multi-omic data analysis
- Automated literature review

Commercial and medical affairs


- Commercial operation support
- Patient finding
- Pricing and market access prediction
- Competitive intelligence
- Key Opinion Leader identification

Clinical trial support

- Patient recruitment support
- Protocol design
- Site optimization
- Digital training
- Report generation
- Real-time data monitoring
- Data management

Supply chain and manufacturing

- Supply chain management
- Demand forecasting/stock management
- Process design
- QC optimization
- Regulatory compliance support



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Proving AI's Value in Life Sciences

R&D productivity in the life sciences sector is under increasing pressure. Biopharma companies face the challenge of bringing drugs to market faster, more cost-effectively and with higher success rates, all while managing rising costs and adapting to evolving standards of care. AI is emerging as a vital enabler, helping the industry rethink traditional R&D approaches and unlock new levels of efficiency, speed and precision.

AI's impact spans the entire R&D value chain, with maturity varying across stages. It is most advanced in drug discovery and early research, where it accelerates target identification, optimizes chemical structures and reduces unnecessary iterations. AI is also evolving in clinical development, with applications such as patient selection, adaptive trial design, and digital twins enabling smarter trials and faster results.

The true potential of AI lies in its ability to connect patient data – biomarkers, genetic profiles and other therapeutics – to drug response, driving the development of precision therapies in oncology and increasingly in areas such as immunology, neurodegenerative disease and neurology. A foundational step in this journey is consolidating and cleaning data, ensuring AI systems can deliver actionable insights and maximize their impact.

Realizing AI's promise demands a strategic approach. Biopharma companies must embrace a dual-track strategy: partnering with AI innovators that offer differentiating approaches while simultaneously building robust in-house capabilities to establish long-term competitive advantage.

Successful integration of AI also requires more than just technological investment – it calls for organizational evolution. Actively driving change management across teams and processes will be essential to embedding AI as a core enabler of business transformation.

In focus: AI's role in R&D productivity

- 1 Speeding up discovery:** AI reduces drug discovery timelines from 3-4 years to as little as 1-2 years, with technologies like AtomNet cutting early screening by 50%.
- 2 Increasing success rates:** AI tools have been reported to improve Phase 1 success rates to 80-90%, compared to the industry average of 40-60%.
- 3 Maximizing resource efficiency:** AI is poised to reduce the number of R&D full-time equivalents (FTEs) required per programme by up to 30%, freeing up capacity for other activities.

Want to find out more?

Continued in our discussion from L.E.K., how biopharma leaders navigate the challenges of the AI Delta – the gap between AI's theoretical potential and real-world impact. We collaborate with clients to develop tailored strategies that accelerate AI's role across the R&D value chain, balance external partnerships with in-house investments and embed AI as a transformative driver of productivity. Explore our Look Forward series to learn why 2025 is the year AI transforms industries.

The AI-enabled asset pipeline has grown at **20%** annually over the past decade, with 70+ assets now in clinical development.

AI can reduce the number of control patients needed by **20-50%**

To drive R&D innovation, leading biopharma companies have each executed **15+** AI partnerships

Source: L.E.K. research and analysis, Q1/Q2 2024

Explore the Look Forward series





EXECUTIVE INSIGHTS

Quantum Computing in Biopharma: Future Prospects and Strategic Insights

Quantum computing – what can it do for biopharma?

Rising clinical thresholds, the growing need for complex drug modalities and extended development timelines are making novel molecular entities (NMEs) increasingly difficult to develop. The annual R&D spend per NME, from discovery to launch, is estimated at \$1.5 billion-\$3.5 billion,¹ with annual R&D spend across the top 15 pharmaceutical companies (PharmaCo) growing roughly one and a half times since 2010 and projected to reach up to \$18 billion by 2030.² Compounding this challenge, biopharma faces mounting pressure to accelerate innovation due to compressed product life cycles under the Inflation Reduction Act, and more than \$200 billion in biopharma revenue is potentially at risk from loss of exclusivity by 2030.³

Could technological advances in artificial intelligence (AI) or quantum computing (QC) help address biopharma's throughput and spending challenges? AI has seen explosive growth in the past five years, and QC is following suit, as evidenced by increasing publication trends (see Figure 1). QC leverages principles from quantum mechanics to process information exponentially faster than classical computing. The potential for QC and AI to revolutionize the biopharma industry together by offering unprecedented computational power and problem-solving capabilities is enormous.





EXECUTIVE INSIGHTS

Clinical Trial Challenges: Patient Recruitment and Diversity

The biopharmaceutical industry has experienced significant growth over the past decade, underpinned by the increasing volume of assets in development, their complexity and precision, and an increasingly competitive clinical trial landscape. A challenge that is only exacerbated by growth is the difficulty in identifying, enrolling and retaining patients required for clinical testing. However, the status quo for finding and retaining the right patients is insufficient and has not been optimized in trial processes.

Current strategies primarily focus on enrolling enough patients to meet endpoints, and they lack proactive targeting to efficiently connect the right patients to the right trials. Only 27% of volunteers screened are eligible to participate in a clinical trial, driving up costs to screen a large number of patients to compensate for high attrition rates.¹

In recent years, phase 1 and phase 2 recruitment budgets rose by 157% and 108%, respectively, in part to meet enrollment goals.² In addition, several macro industry trends are slated to amplify these preexisting challenges: More complex therapies enter clinic development each year, requiring novel trial designs to target and retain an increasingly precise subset of patients. Furthermore, U.S. regulations passed in January aim to improve diversity in clinical trial populations and will require proactive, thoughtful patient targeting and engagement to meet this critical requirement.

Clinical trial challenges of patient identification, recruitment/enrollment and retention

While challenges exist across the entire clinical trial execution process, particular challenges can be seen acutely when zooming in on patient identification, recruitment/enrollment and retention. The major pain points across each are distinct (see Figure 1).



[Advanced In Vitro Models: Opportunities and Challenges for US Drug Development](#)

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[Proving AI's Value in Life Sciences](#)

[Quantum Computing in Biopharma: Future Prospects and Strategic Insights](#)

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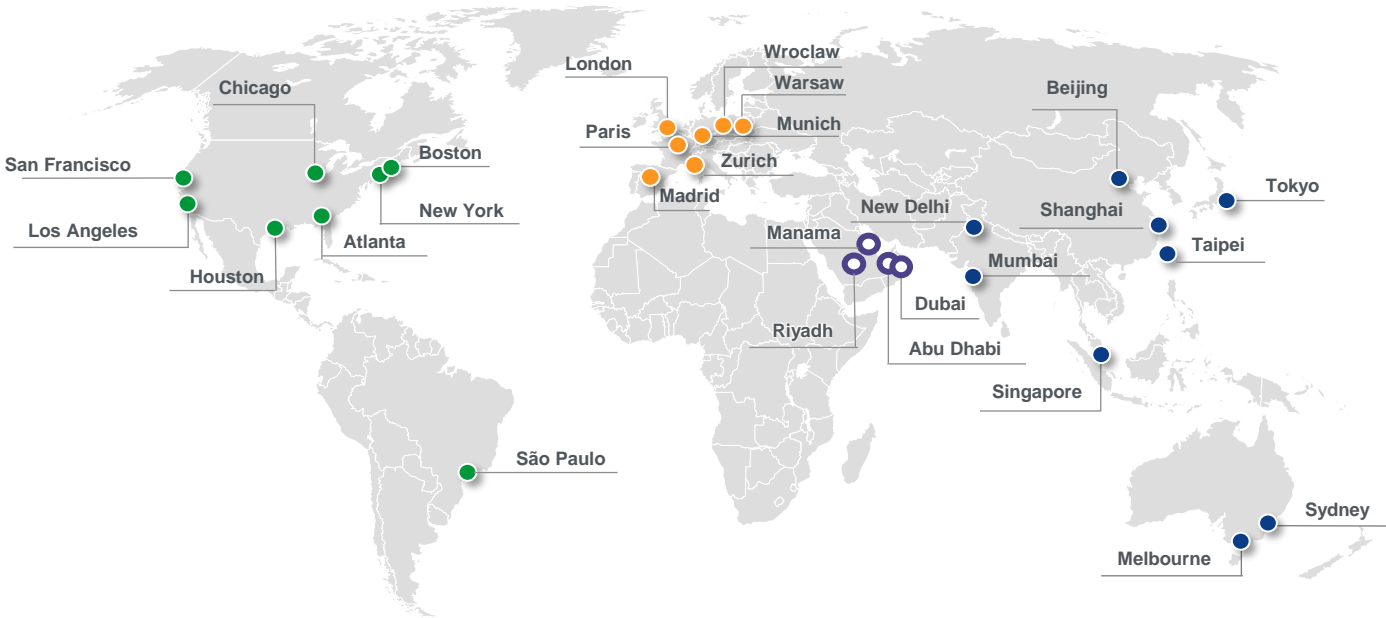
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