Report

Outsourced Pharma Services

A high-growth and resilient market characterised by high levels of M&A activity from both trade buyers and private equity.

Inside:

- Market overview of the following subsectors:
  - Contract Research Organisations (CROs)
  - Contract Development and Manufacturing Organisations (CDMOs)
  - Contract Commercialisation Organisations (CCOs)
- Leading global players
- Industry and M&A trends
- Notable recent transactions

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Market Overview

Whilst 2020 was a turbulent year for global markets following the outbreak of COVID-19, the life sciences industry has again demonstrated its defensibility to global macro-economic events, corroborated by the strong levels of M&A activity in the sector throughout 2020 into H1 2021.

Whilst COVID-19 resulted in disruption to clinical trial activity, particularly impacting clinical CROs, the life sciences sector has generally continued to perform strongly throughout the pandemic, buoyed by incremental growth opportunities driven by the industry's efforts to develop therapeutics and vaccines to combat the pandemic.

Perhaps most importantly, COVID-19 has put the global life sciences industry in the public spotlight and has demonstrated the fundamental role it plays in combating infectious disease and safeguarding public health. The speed at which therapeutics and vaccines are being developed, approved and commercially scaled is truly unprecedented and has showcased the scientific excellence and agility of the sector, alongside the importance of international collaboration in combatting global pandemics.

Against the backdrop of COVID-19, the life sciences market continues to be underpinned by attractive fundamentals, whilst margin pressures and increasing costs have resulted in an increasing propensity to outsource their operations to specialist providers. The strong underlying growth of the life sciences market in combination with this outsourcing strategy has resulted in significant growth of the pharma services industry, with specialist outsourcers increasingly becoming key commercial partners and integral components of their clients' operations.

M&A market dynamics

The attractive market dynamics underpinning the pharma services industry

have resulted in high levels of M&A activity, which have been sustained throughout the COVID-19 pandemic. The sector has continued to consolidate, with acquirers seeking to add scale, broaden their geographical footprint and expand their service offerings in order to become full-service providers to their customers and capture increasing share of outsourcing budgets.

In many cases, trade acquirers have sought to add complex and high-value services to enter attractive and high growth niches, with such assets attracting high valuations. This is illustrated in the CDMO industry, in which CDMOs serving the cell and gene therapy markets have attracted premium valuations, such as Charles River's recent acquisition of Cognate BioServices for €727m, representing c.6.3x LTM revenue.

While private equity (PE) has been particularly active across pharma services in recent years and responsible for much of the consolidation in the industry, activity levels have increased since the onset of COVID-19. The global PE markets continue to possess record levels of capital to deploy and are increasingly focussing on the pharma services market, which has performed strongly throughout the pandemic and has demonstrated defensibility whilst many other sectors have been adversely impacted.

PE activity since the onset of COVID-19 has been particularly high in the CCO market, which represents the pharma services sub-sector least impacted by the pandemic. Recent transactions include CD&R's acquisition of Huntsworth, Linden's acquisition of ProPharma, Bridgepoint's acquisition of Prescient, ICG's acquisition of Lucid and LLCP's acquisition of Prime Global.

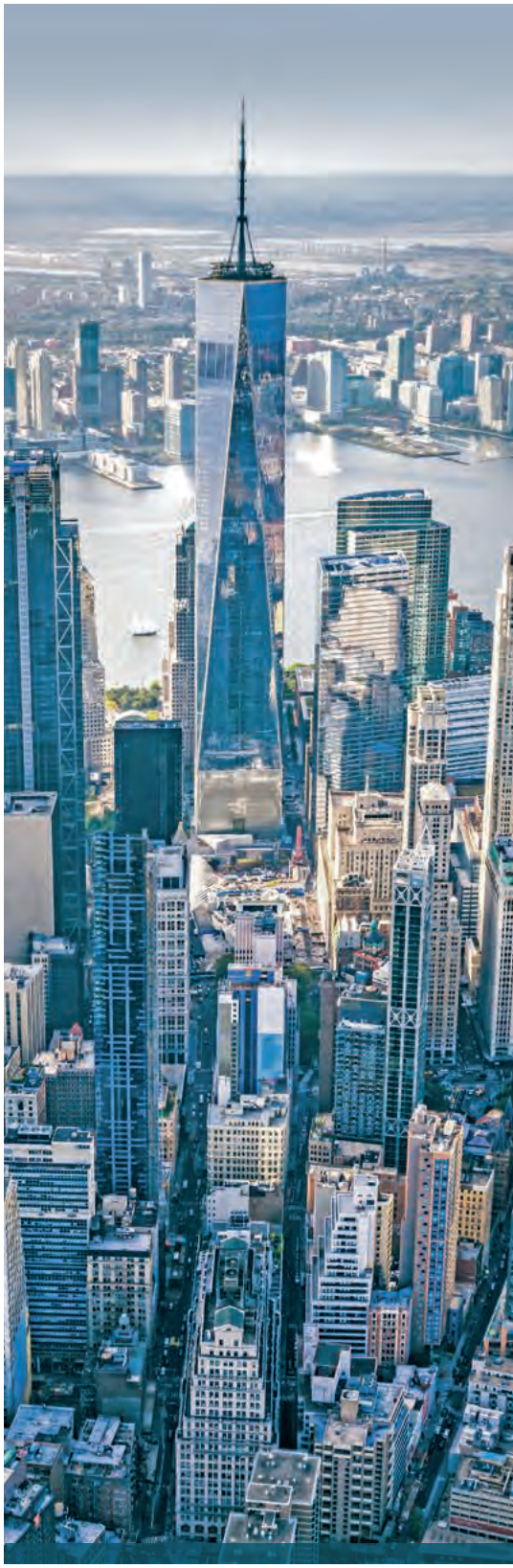
We expect continued strong PE activity across all pharma services sub-sectors in the medium term, not least because the pharma services market is forecast to outstrip both GDP and wider pharma sector growth. This growth, supported by attractive underlying fundamentals, will continue to attract investors and encourage strategic M&A in the sector.

FX rates used in report:
(average annual exchange rates)

	2014	2015	2016	2017	2018	2019	2020
EUR/ USD	1.329	1.110	1.107	1.130	1.181	1.130	1.139
EUR/ GBP	0.806	0.726	0.819	0.877	0.885	0.874	0.889

Source: www.ofx.com

Contents



Outsourced Pharma Services

The market is highly diversified, with thousands of companies providing a wide variety of services across the pharma life cycle - from early-stage drug discovery to clinical trials, advertising and PR services. Although many of the larger pharma services companies offer a broad suite of associated or synergistic services, most players are small and offer specific expertise in niche services.

The market can be broadly divided into the following sub-sectors:

Contract Research Organisations (CROs)
provide drug discovery, pre-clinical, clinical and post-approval research services and research support services to the pharma industry.

Contract Commercialisation Organisations (CCOs)
provide sales, marketing and other commercialisation services to the pharma industry.

Contract Development and Manufacturing Organisations (CDMOs)
provide drug development and manufacturing services to the pharma industry. Manufacturing activities are typically categorised into the manufacture of active pharma ingredients (APIs incl. biologics) and finished dosage forms (FDFs).

Overview of CRO, CDMO and CCO services across the drug development cycle

Drug development timeline

Services offered	Drug discovery	Pre-clinical trials	Clinical trials	Commercialisation
	Three - six years		Six - seven years	Indefinite
	5000 compounds*	250 compounds*	Five compounds*	One approved drug*
CRO	- Target discovery and validation - Assay development and screening - Medical and process chemistry - Pharmacology services	- Toxicology - Pathology - Drug metabolism - Pharmacokinetics - In vitro studies - In vivo studies	- Patient recruitment - Site management - Project management - Pharmacovigilance - Medical writing	- Patient and site engagement - Post-approval studies - Real World Evidence (RWE) - Data analytics
CDMO			**Clinical batches** / **Commercial batches** Drug development and scale-up Tech transfer API production (e.g. extraction, synthesis, fermentation) Finished dose (e.g. solids, liquids, respiratory)	
CCO			- Market access, assessment and research - Launch and brand strategy - Customer engagement - Commercial modelling	- Clinical and promotional field teams - Recruitment - Medical communications - Health economics - Outcomes research

*Source: Clearwater International, illustrative number of compounds entering each phase of drug development for each approved drug.

Although a number of industry and M&A trends are specific to each of these sub-sectors, some trends are common across the pharma services industry:

Biopharma pressures driving an outsourcing trend

Although the fundamentals of the pharma industry remain attractive, increasing R&D costs and continued pressure on pharma companies' operating margins have encouraged the industry to outsource their non-core operations and rationalise their fixed cost bases, which has resulted in the significant growth of the pharma services market. Continued pressures on pharma, combined with significant headroom in outsourcing penetration today, are expected to drive high growth in the industry in the medium term.

Platform expansion

The pharma services market is consolidating as companies seek to add scale, broaden geographical presence and achieve synergies to gain a competitive advantage over their peers.

The 'one-stop-shop'

Driven by the desire of pharma to reduce the number of outsourcers they use, pharma services companies are expanding their service offerings, either organically or inorganically through M&A, in order to become full-service providers, simplifying their customers' operations and capturing maximum share of their outsourcing expenditures.

Shift of expertise to outsourcers

Pharma services companies typically offer their expertise in specific services to multiple pharma companies, allowing them to accumulate significant know-how from multiple projects. This, combined with increasing outsourcing penetration and decreasing levels of in-house expertise, means that pharma companies are becoming increasingly reliant on their outsourced service providers.

Increasing uptake of technology

Technology and data are playing an increasingly important role across all pharma services sectors and early adoption of innovative technologies are increasingly becoming key differentiators. Examples in the CRO sector include the use of AI and machine learning in drug discovery.

High levels of PE activity

PE has been highly active in the sector and responsible for much of the consolidation of the industry, often amongst the market leaders in their respective sectors. PE interest and activity in the sector is higher than ever before (particularly since the onset of COVID-19), and PE bidders are becoming increasingly competitive with strategic acquirers in M&A processes.

Contract Research Market

Key stats

Global CRO market was valued at

€38.8bn in 2018

forecast to reach €60.8bn by 2024[1]

Current market growth of

7.9% CAGR

through to 2024[1]

Consolidated market

with top nine players

accounting for c.60% of market share[2]

CRO penetration of pharmaceutical research market expected to

reach 50%

in 2020[2]

Overview of sub-sector

The CRO market is reasonably consolidated, with market leaders including IQVIA, Syneos, Parexel, PPD and ICON. Large CROs have become key strategic partners of their sponsors/ pharma companies and the high growth of the market is the result of the following factors:

The need to reduce R&D expenditure
With rising costs of R&D, it is becoming increasingly inefficient for innovators to maintain development teams and facilities. Outsourcing has allowed innovators to rationalise fixed R&D cost bases and achieve operational efficiencies.

Increasing complexity of drugs and clinical trials
The complexity of therapeutics in development is constantly increasing, making them more costly and challenging to develop in-house. Furthermore, heightened regulatory protocols have increased the duration, cost and complexity of clinical trials.

Time and efficiency
Innovators are increasingly reliant on CROs to optimise R&D activities, shorten development timelines, reduce attrition rates and expand clinical trial management capabilities globally.

Expanding CRO solutions and technologies
CROs are constantly expanding their addressable markets by broadening their service offerings, capturing an increasing share of pharma R&D expenditure. Investment in technology and big data will continue to play an important role in the expansion of the CRO sub-sector.

Despite the growing range of services offered by CROs, they can broadly be grouped into the three following categories:

Pre-clinical
Pre-clinical services can be sub-divided into drug discovery and pre-clinical trial services:

- Drug discovery services are typically lab-based and involve the identification of promising 'lead compounds'.
- Once selected for further research, the molecules then enter pre-clinical trials. Assuming the compound shows signs of efficacy and is safe, the innovator will submit an Investigational New Drug Application (IND). If approved by regulators, the innovator has permission to proceed with clinical trials.

Clinical
Clinical trials are typically conducted in three distinct Phases (I, II and III), each with different objectives, increasing numbers of patients and costs.

- Phase I trials are focused on basic safety and pharmacology in patients who may not necessarily have the target disease (c.20-100 patients). These studies are typically conducted at specialised research centres and are designed to monitor the metabolic reactions and patient tolerance to the compounds at multiple dosage ranges.
- Phase II and III trials are primarily efficacy studies on patients afflicted by the target disease. Phase II trials (often known as proof of concept trials) test efficacy alongside dose ranging

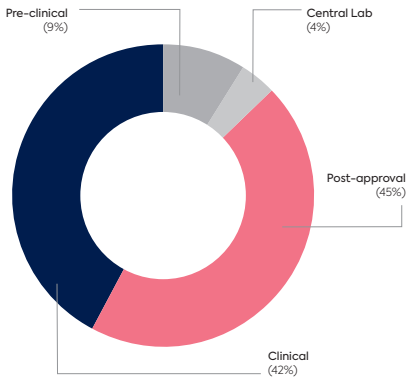
and further safety testing (c.100-500 patients). Phase III trials are much larger (c.500-1000 patients), in which advanced efficacy and safety testing are conducted at multiple testing centres. These are typically the longest and most expensive trials, and regulatory authorities typically require two successful Phase III trials to obtain approval.

Post-approval

Post-approval, regulatory agencies typically require innovators to collect and periodically report additional safety and efficacy data - sometimes referred to as real world evidence or 'RWE' studies. If marketed internationally then surveillance data from all countries must be collected.

Across clinical and post-approval trials, many CROs have developed a full suite of services allowing innovators to fully outsource their R&D activities and partner with CROs in the design and delivery of research operations. Services CROs typically include trial planning, project management, patient recruitment, site access, clinical staffing, patient monitoring, pharmacovigilance and data analysis.

CRO market by segment



Source: Credit Suisse Research[2]

The market remains reasonably fragmented, with the top nine players accounting for c.60% of the global market[2] and several hundred smaller players making up the remainder of the market[2].

The market has undergone a period of intense consolidation over the last decade as a result of numerous landmark mergers including LabCorp/Chiltern, INC/InVentiv, LabCorp/Covance, which have been primarily driven by the desire of big pharma to partner with fewer full-service providers.

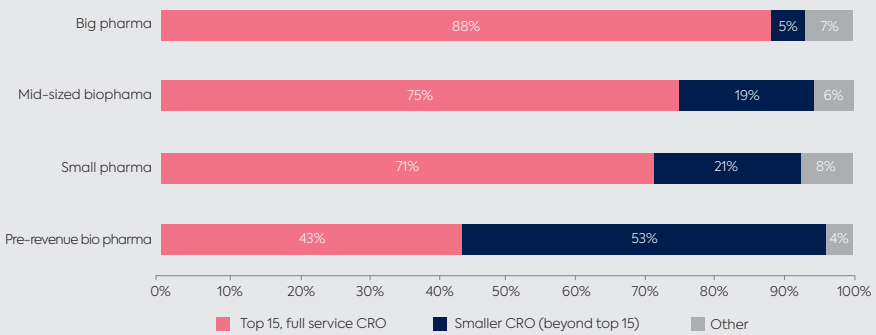
Despite this, among small and mid-sized players, there is often a preference to partner with mid-sized CROs that will focus on maintaining a long-term quality relationship. Small and mid-sized biopharmaceutical companies are also more likely to partner with CROs with a therapeutic focus or specific expertise.

COVID-19 impacts on the CRO sub-sector

Whilst the pre-clinical CRO market has continue to perform strongly throughout COVID-19, the clinical CRO sector has been adversely impacted, with numerous clinical trials being delayed, suspended or cancelled altogether, predominantly as a result of patient recruitment and monitoring challenges throughout the pandemic.

The clinical CRO sector has, however, begun to recover as a result of substantial investment in R&D for COVID-19 vaccines and therapeutics, alongside many organisations transitioning to 'hybrid trials' involving the remote enrolment and virtual monitoring services to conduct clinical trials. COVID-19 has resulted in a rapid increase in the adoption of such approaches, which is driving the recovery of the sector and is expected to have long lasting impacts on how clinical trials are conducted in the future. A recent acquisition demonstrating this trend is Syneos' acquisition of Illingworth (a specialist in clinical research home health services) in December 2020 for €97m.

Large biopharmaceutical companies prefer to outsource to full-service CROs



Source: Credit Suisse Research[2]

1. European Pharmaceutical Review article: Global CRO market to reach $71.7 billion by 2024, says research
2. Credit Suisse report: CRO Industry Primer

Leading Global players

Note: 2020 Total company revenues Source: CapIQ, Mergermarket estimates

CRO M&A activity - selected recent transactions

Date	Acquiror	Target	Enterprise value (€m)	EV/LTM Revenue	EV/LTM EBITDA	Strategic rationale
15/04/2021	Thermo Fisher	PPD	18,496	4.2x	22.8x	- Entry into CRO market following entry into CDMO market through M&A
24/02/2021	ICON	PRA Health Sciences	10,084	3.8x	26.1x	- CRO 'mega-merger', creating a world leading healthcare intelligence and clinical CRO
02/09/2020	Archimed	NAMSA	c.340	NA	12.1x	- PE deal - Medical devices CRO
14/11/2019	Leonard Green & Partners	WCG	c.2,800	NA	c. 17.7x	- PE deal - Clinical trial enrolment services
12/06/2019	Dassault Systemes	Medidata	5,144	8.8x	NM	- Entry into CRO market - Cloud based digital solutions with clinical development and RWE applications
17/04/2019	LabCorp	Envigo PC CRO business	429	3.1x	NA	- Enhances early-stage services - Adds respiratory research expertise
13/02/2019	Charles River	Citoxlab	448	NA	13.8x	- Enhances early-stage services - Grows geographic footprint
13/02/2018	Charles River	MPI Research	647	3.3x	11.7x	- Enhances early-stage services - Larger biotech customer base
07/08/2017	PRA	Symphony	449	2.6x	NA	- Access to cloud-based RWE data analytics platform
31/07/2017	LabCorp	Chiltern	1,018	2.2x	12.6x	- Access to high-growth emerging pharma - Oncology expertise
31/07/2017	Pamplona	Parexel	4,502	2.4x	14.6x	- PE deal - Leading global CRO

Source: CapIQ, Company information, press releases, Mergermarket estimates Notes: 'NA': not available, 'NM': non meaningful

CRO M&A trends

The sub-sector continues to consolidate, with PE continuing to be highly active in the sector.

Key drivers include:

Increased competition for niche CRO assets
The large CROs are continually seeking small, niche acquisitions to fill any gaps in or expand their existing portfolios. As smaller and specialised CRO customer bases tend to be comprised of small and mid-sized biopharma, acquiring such companies allows larger CROs to better compete with small CROs. ICON's €40m acquisition of MedPass in June 2020 is a good example of this, providing ICON with increased access to the medical devices CRO segment.

Entry into emerging therapeutic areas
Rather than develop therapeutic area expertise in new and complex areas in-house, many CROs have used M&A as a means to acquire this expertise. An example is Sygnature Discovery's June 2020 acquisition of Alderley Oncology, adding expertise in pre-clinical oncology research.

Entry into high-growth mid-sized and emerging biopharma segments
Although big pharma have the largest CRO outsourcing budgets and make up a significant portion of the global CRO market, the highest growth segment is emerging and mid-sized biopharma companies[1], which prefer to partner with smaller, more specialised CROs. In order to participate in this high growth, large CROs have used M&A as a means of adding more emerging and mid-sized biopharma to their customer portfolios, as demonstrated by Syneos' acquisition of Synteract in October 2020.

Increased interest in data-driven CRO services
Data and analytics are becoming increasingly important in the delivery of CRO services and a number of companies specialising in these fields have been M&A targets in recent years, particularly since the onset of COVID-19. The use of big data in trials is growing rapidly and has improved the quality of data collection, allowing improved analysis of large data sets. Examples of this are WCG's December 2020 acquisition of Trifecta, a provider of tech-enabled clinical trial solutions, Charterhouse's January 2021 acquisition of Phastar, a provider of biostatistics services to the CRO industry, and Diamond Light Source and Scripps Research partnership with Existencia, an AI-based drug discovery company, to identify COVID-19 antiviral therapies in March 2021.

"PE continues to be active in the mid-market for CRO assets."

PE continues to be bullish on CROs
PE has played a key role in the consolidation of the CRO market, examples including Pamplona/Parexel, Advent/InVentiv Health, Bioclinica/ERT. Although these are examples of large PE transactions, PE continues to be active in the mid-market for CRO assets. Examples include Permira's acquisition of Quotient in 2019 and GHOs acquisition of X-Chem in June 2020.

1. Credit Suisse report: CRO Industry Primer

Contract Development and Manufacturing Market

Key stats

c.€62bn

Global CDMO market in 2017

expected to reach c.€89bn by 2022[1]

Sector growth of

c.5.0% – 6.5%

CAGR is outstripping pharma sector growth[2]

Highly fragmented sector

top five players

only account for c.15% of global market[2]

CDMO penetration of pharma development and manufacturing market set to increase from 30% in 2017

to 40%

in 2020[2]

Overview of sub-sector

As innovator pipelines have deepened and the complexities of developing and manufacturing more recent generations of pharma (including biologics) have increased, the need to simplify manufacturing operations and reduce operating expenditure has led to the emergence of the CDMO industry.

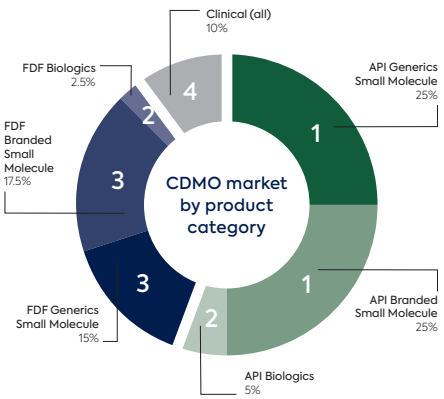
Although many CDMOs today are multi-disciplinary, there are very few true 'one-stop-shops' and pharma companies will typically use a range of CDMOs across their product portfolios selected on development/manufacturing technologies or expertise, manufacturing capacity or geographical location.

CDMO activities can broadly be divided into three fields: product development, manufacture of active pharmaceutical ingredients (API), and manufacture of finished dosage forms (FDF) - all of which are required from the production of small-scale clinical batches to large-scale commercial production. As such, once a dedicated manufacturing line is established and validated at a CDMO, it is often difficult, time consuming and costly to switch CDMOs, meaning partnerships between pharma companies and their CDMOs are often long-lasting.

Despite high levels of M&A activity, the sub-sector remains highly fragmented. The top five players have approximately 15% total market share and there is a long tail of over 300 companies worldwide offering CDMO services[2].

1 Active Pharmaceutical Ingredients (API)

The commercial small molecule API market is roughly divided equally between originator products and generics. Although generic APIs typically deliver lower margins to manufacturers, this is often compensated by the ability to supply multiple customers with the same API.



Source: Clearwater International

2 Biologics

Despite small molecule commercial revenues accounting for the majority of the CDMO market today, biologics are the highest growth sub-sector as a result of increasing numbers of biologic approvals and the emerging biosimilar market (as increasing numbers of biologics reach patent expiry).

"Although many CDMOs today are multi-disciplinary, there are very few true 'one-stop-shops'."

3 Finished Dosage Forms (FDF)

FDF represents a smaller share of the market than API, a majority of which is accounted for by oral solids. However, the oral solids market is relatively mature and lower growth than other FDFs including liquids, semi-solids and injectables.

Injectables is the highest growth FDF segment. High levels of demand for injectables (primarily resulting from the growth in biologics and oncolytics), combined with high technological barriers to entry has resulted in manufacturing shortages of sterile injectables. Pre-filled syringes (PFS) and other more complex injectable delivery systems, (including auto-injectors) are the categories undergoing highest levels of growth.

4 Clinical

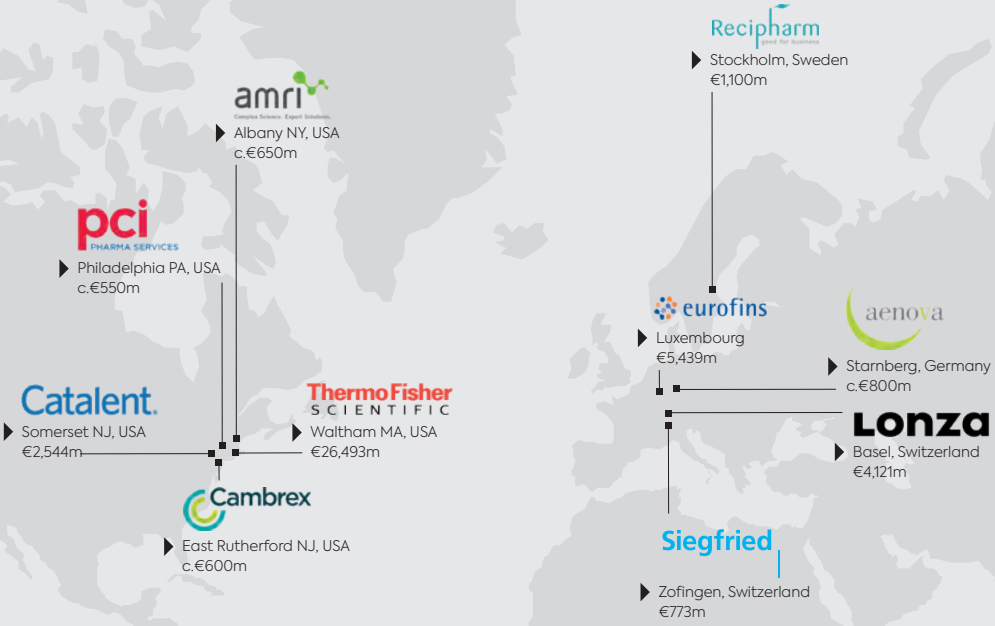
Despite clinical manufacture representing only a minority of the CDMO market (due to smaller volumes), it is crucial for securing customers and building relationships that support commercial scale manufacturing.

COVID-19 impacts on the CDMO sub-sector

The CDMO market has continued to perform strongly throughout COVID-19. Whilst clinical trial disruptions have had a knock-on effect on non-COVID related clinical manufacturing revenues for CDMOs, clinical trial supply only represents a small portion of the overall CDMO market and COVID-19 has had little impact on the supply of approved medicines, for which demand has remained strong throughout the pandemic.

1. Contract Pharma article: CDMOs On The Rise
2. Kurmann Partners: Pharma M&A Report 2018

Leading Global players



Note: 2020 Total company revenues Source: CapIQ, Mergermarket estimates

CDMO M&A activity - notable transactions

Date	Acquiror	Target	Enterprise value (€m)	EV/LTM Revenue	EV/LTM EBITDA	Strategic rationale
17/02/2021	Charles River	Cognate BioServices	727	6.3x	NA	- Adds cell and gene therapy CDMO capabilities
14/12/2020	EQT	Recipharm	3,226	3.2x	19.6x	- PE deal - Leading European FDF CDMO, with expertise in sterile injectables
24/08/2020	Kohlberg & Co	PCI Pharma Services	c.2,550	NA	c.17.6x	- PE deal - Leading US CDMO
20/07/2020	CVC	Genetic Group	c.300	NA	12.0x	- PE deal - Italian CDMO focussed on ophthalmology, respiratory and oncology therapeutics
17/03/2020	AGC	Molmed	239	5.8x	28.9x	- Adds cell and gene therapy, viral vector development and manufacturing capabilities
07/08/2019	Permira	Cambrex	2,267	4.4x	17.4x	- PE deal - Leading global CDMO
15/04/2019	Catalent	Paragon Bioservices	1,062	6.0x	21.4x	- Increased exposure to high-growth gene and cell therapy markets
25/03/2019	Thermo Fisher	Brammer Bio	1,503	8.5x	NA	- Increased exposure to high-growth gene and cell therapy markets
23/07/2018	Cambrex	Halo Pharma	363	4.0x	15.7x	- Adds small molecule FDF capabilities - Vertical integration
06/06/2017	Carlyle/GTCR	AMRI	1,414	2.5x	22.2x	- PE deal - Leading global CDMO

Source: CapIQ, Company information, press releases, Mergermarket estimates Notes: 'NA': not available, 'NM': non meaningful

CDMO M&A trends

M&A across the CDMO sub-sector continues to be highly active and recent months have been marked by high volumes of CDMO transactions globally, including some large landmark transactions. We have identified a number of key M&A trends:

Platform expansion and the 'one-stop-shop'
The desire of pharma to deal with fewer and larger CDMOs, with broad development and manufacturing capabilities, has driven M&A in the sub-sector as companies look to expand services offered, geographic footprint and client portfolios. Examples of this include Lonza's €5.3bn acquisition of Capsugel, and Cambrex's €363m acquisition of Halo Pharma.

Premium valuations for complex and high-margin manufacturing capabilities
CDMOs with niche and complex manufacturing capabilities in high growth and high margin end markets have commanded the highest M&A multiples. Examples of this include:

- Sterile injectables – EQT's acquisition of Recipharm for €3.2bn (c.20x LTM EBITDA)
- Biologics – Catalent's acquisition of Cook Pharmica for €794m (17.3x LTM EBITDA)

Although these sub-sectors continue to be highly valued, the sector has seen a number of recent landmark deals at unprecedented valuations for advanced therapy (cell and gene therapy) CDMOs. This is due to the rapid growth in the number of advanced therapies being developed, a bottleneck in manufacturing capacity and the high levels of complexity involved in developing and manufacturing these therapies. Example transactions include ACG's acquisition of Molmed for €239m (28.9x LTM EBITDA), Catalent's acquisition of Paragon BioServices for €1.1bn (21.4x LTM EBITDA) and, most recently, Charles River's acquisition of Cognate BioServices for €727m (6.3x LTM revenue).

Pharma streamlining manufacturing operations
As pharma companies continue to reduce their in-house manufacturing footprints and operational expenditure, many are divesting their non-core manufacturing facilities, often with supply contracts, to peers, CDMOs and PE investors which are able to operate them as standalone CDMOs. Examples of recent pharma facility divestitures include AstraZeneca's divestiture of its biologics facility to AGC for €90m, GSKs divestiture of its Ontario facility to Bora Pharmaceuticals for €12m and Pfizer's divestiture of its Hangzhou biosimilars facility to WuXi Biologics.

New entrants
A number of new entrants have been attracted to the CDMO industry and have entered through M&A. Examples include Thermo Fisher's 2017 acquisition of Patheon for €6.6bn, and ACG's 2016 acquisition of CMC Biologics for €450m.

Increasing levels of private equity activity
PE has played a significant role in the consolidation of the CDMO industry and a number of CDMO PE buyouts have occurred in the last year. In addition to the large transactions noted above, PE activity has also been strong in the mid-market. Examples include CVC's acquisition of Genetic Group for c.€300m, GHOs acquisition of Ardena, Permira-backed Quotient's acquisition of Arcinova, and Keensight Capital's acquisition of 3P Biopharma.

Contract Commercialisation Market

Key stats

Global CCO market valued at

c.€27bn

in 2019, expected to reach c.€35bn by 2022[1]

Forecast CCO market growth of

c.8%

CAGR through to 2022[1]

CCO penetration of global pharmaceutical commercialisation expenditure estimated at

19%

today[1]

Biopharma sales and marketing estimated at

2x

R&D spend[1]

Overview of sub-sector

CCOs offer a broad range of commercialisation services to their customers, typically focussed on preparing new products for launch and maximising sales post-approval.

CCO services can broadly be divided into four sub-sectors:

Medical affairs
Services dedicated to communicating the clinical rationale, evidence and best practice for a therapy to healthcare professionals (HCPs).

Marketing
Focussed on activities relating to establishing a successful brand, including analysis of the target market, developing a brand proposition and engagement strategies for key stakeholders.

Market access
Activities relating to making a drug available to patients, including developing pricing and reimbursement strategies, healthcare economics and outcomes research (HEOR) to support pricing strategies and payer/KOL engagement services.

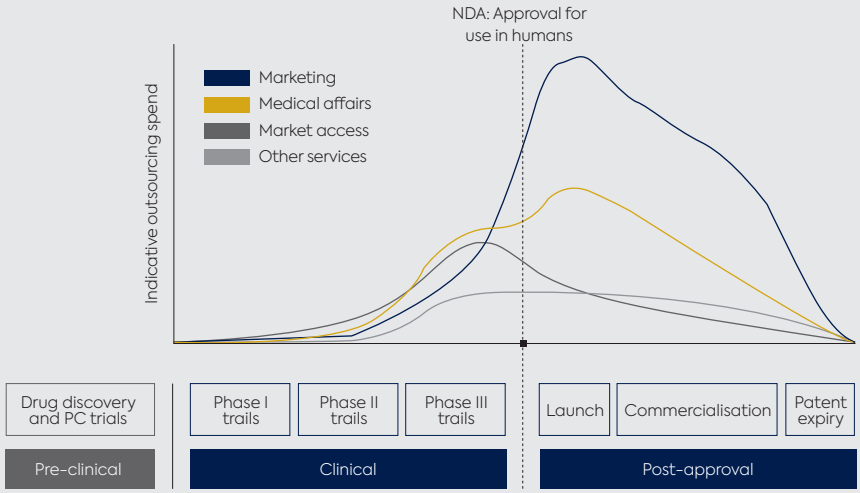
Other
Predominantly regulatory, technical and operational services, such as pharmacovigilance, to support the commercialisation of a product post launch.

Despite the high levels of recent M&A activity in the sector, the less mature nature of the CCO market means that it remains highly fragmented, with players ranging from small agencies or consultancies specialising in specific services or regions to large, diversified CCOs with global operations.

Overview of Contract Commercialisation Services

Sub-sector	Medical affairs	Marketing	Market access	Other
Key services	Medical communications	Market research	Market access and pricing strategy	Regulatory support
	Medical education	Brand strategy	Health economics and outcomes research	Pharmacovigilence support
	Medical information services	Creative development/advert	Payer and KOL engagement	IT/technical support
	Medical science liaison	Healthcare PR		
	Real World Evidence (RWE)	Patient engagement		
		Salesforce deployment/training		

Spend on outsourced commercialisation services throughout the drug lifecycle



Whilst medicines can have a lifecycle of 20+ years with outsourced commercialisation services required throughout this lifecycle, the majority of this spend is focussed immediately prior to and in the years immediately following launch, although the distribution of this spend varies by sub-sector according to the nature of the services in relation to the drug development cycle.

Medical affairs
Expenditure usually commences around Phase II, following which spend increases until its peak during launch, in line with HCP engagement activity both pre and post launch.

Marketing
Marketing is the largest sub-sector, with spend typically beginning around phase III and peaking during the launch phase as promotional activities intensify.

Market access
Spend is typically the earliest in the drug lifecycle, given the need to assess the likely pricing and reimbursement landscape and the commercial prospects of a drug early in its development.

Other
Other CCO services are typically regulatory or operational in nature and therefore, spend on these tend to be later in the drug development and sustained post the launch phase.

Given the increasing cost and complexity of R&D, successful execution of commercial strategies is becoming increasingly important, and biopharma are investing in commercialisation services earlier in the drug lifecycle as a result, across all sub-sectors.

COVID-19 impacts on the CCO sub-sector

With the exception of field sales services, the CCO sector has been particularly resilient to COVID-19, with a majority of companies in the sector being virtual organisations performing desktop-based work for global biopharma customers. As such, most of these service providers have transitioned well to 'working from home' environments, with minimal COVID-19 related disruption. The resilience of the CCO market combined with its fragmented nature has resulted in significant levels of M&A activity since the onset of the pandemic, a majority of it driven by PE.

1. Delancey Street Partners report: Outsourced Pharmaceutical Services – Convergence of CROs and Healthcare Agencies

Leading Global players

Note: 2020 Total company revenues Source: CapIQ, Mergermarket estimates

CPO M&A activity – notable recent transactions

Date	Acquiror	Target	Enterprise Value (€m)	EV/LTM Revenue	EV/LTM EBITDA	Strategic Rationale
26/01/2021	UDG	PHMR	36	NA	NA	- Strengthen European operations - Addition of HEOR capabilities and increased exposure to market access segment
01/07/2020	Arsenal Capital	Cello Health	198	1.1x	13.3x	- PE deal - Pharma strategy consultancy and Med Comms business
03/03/2020	CD&R	Huntsworth	642	2.1x	9.9x	- PE deal - Leading Med Comms and PR agency
17/01/2020	Clarivate Analytics	DRG	863	4.6x	19.9x	- Increased exposure to life sciences market - Market access business with proprietary AI-technology tools
21/05/2019	UDG	Putnam Associates	79	NA	11.1x	- Expansion into new service vertical - Specialist consultancy focussed on product commercialisation strategy
31/01/2019	Altamont Capital	Amplity	NA	NA	NA	- PE deal - CSO and commercialisation business
20/08/2018	Syneos	Kinapse	106	NA	NA	- Expands scale in key growth markets - Enhances commercialisation services
27/07/2017	ICON plc	MAPI Development	129	2.5x	NA	- Expands heath outcomes research and commercialisation services
10/05/2017	INC Research	inVentiv Health	4,155	2.1x	15.4x	- Adds commercial services platform - Consolidation of CRO businesses
07/09/2016	PPD	Evidera	102	4.3x	13.9x	- CRO expending into commercialisation services - Market access and analytics business

Source: CapIQ, Company information, press releases, Mergermarket estimates Notes: 'NA': not available, 'NM': non meaningful

CCO M&A trends

Platform expansion
Recent M&A activity in the sub-sector has been driven by the desire to consolidate but also to diversify, driven by pharma's wish to work with fewer outsourced service providers. Although much of this has been driven by PE bolt-on M&A activity, trade acquirers are also seeking to diversify their service portfolios via M&A. A good case study of this is Ashfield (UDG) who have acquired the following new capabilities through M&A, in order to create a diversified network of services to its global customer base:

- Market access, through its acquisition of PHMR in 2021 for €38m.
- Strategic consultancy, through its acquisition of Putnam Associates in 2019 for €79m.
- Medical communications, through its acquisition of Create NYC in 2018 for €59m.

Large players consolidating CRO and CCO operations
A number of the larger CRO providers have achieved substantial synergies by adding commercialisation services to their portfolios through M&A, allowing them to provide an 'end-to-end' solution to their clients throughout the drug life cycle. Example of such transactions include the INC/Inventiv merger (creating Syneos), the Quintiles/IMS merger (creating IQVIA) and PPD's acquisition of Evidera.

"The use of data and technology has revolutionised the CCO market."

Increasing importance of data and technology
The use of data and technology has revolutionised the CCO market, accelerated during the COVID-19 pandemic. A number of recent deals at high valuations have underlined the importance the market places on having access to data and technologies which can provide a competitive advantage over peers. Recent examples of such transactions include Clarivate Analytics' recent acquisition of DRG for €863m, GHO's recapitalisation of Envision Pharma (both 2020), and New Mountain Capital's investment in W2O in 2019.

"A number of recent deals at high valuations have underlined the importance the market places on having access to data and technologies."

High levels of PE activity in the sector
PE activity in the sector has accelerated throughout COVID-19, primarily driven by the high growth and resilient nature of the sector, which has faced relatively little disruption during the pandemic. Recent successful PE exits in the sector have also increased the attractiveness of the sector to many generalist funds, increasing both the competitive tension and valuations in M&A processes. In addition to those noted above, recent notable PE deals in the sector include, ICGs acquisition of Lucid in 2021, Northedge's acquisition of Helios in 2021, Bridgepoint's acquisition of Prescient in 2021 and Fishawack in 2020, and Waterland's acquisition of IMC in 2020.

Our recent transactions

With 18 offices around the world and deals completed in 44 countries, our team makes us a natural choice for transactions requiring knowledge of, and access to global markets.

The healthcare team has completed over 120 healthcare related deals – 28 of these deals have completed within the last 18 months.

The business has more than 250 staff across Europe, North America and Asia and running throughout our business is an overriding commitment to exceptional outcomes for our clients.

PHMR

on its sale to

UDG Healthcare plc

Sell-side
€36m

uniphar

acquired

DURBIN

Acquisition
Undisclosed

CAPSA HEALTHCARE

acquired

robopharma PHARMACY AUTOMATION

Acquisition
Undisclosed

PC PROCLINICAL

sold to

ICS Independent Clinical Services

Sell-side
Undisclosed

WATERLAND PRIVATE EQUITY INVESTMENTS

raised debt finance from

LGT Capital Partners

to support the acquisition of

imc group

Aquisition finance
Undisclosed

ChargePoint TECHNOLOGY

sold to

ARCLINE INVESTMENT MANAGEMENT

Sell-side
Undisclosed

chase

received investment from

Vespa Capital

Sell-side
Undisclosed

Gimv MERIEUX

acquired

Stiplastics® Healthcaring

Buy-side
Undisclosed

ORDESA

acquired

Colnatur

Buy-side
Undisclosed

LDC Private Equity Less Ordinary

MBO of

FISHAWACK group of companies

Buy-side
€44m

THE CREATIVE ENGAGEMENT GROUP

sold to

HUNTSWORTH

Sell-side
€28m

farmalíder® INNOVATIVE PHARMACEUTICAL CENTER

sold a minority stake to

Ascendis HEALTH

Sell-side
Undisclosed

Selected Transactions

A 360-degree perspective across the healthcare spectrum enables Cain Brothers to bring unique and strategic ideas.

CAIN BROTHERS
A division of
KeyBanc Capital Markets
Partner of Clearwater International

MedTech/Life Sciences

- Devices
- Medical Products and Supplies
- Pharmaceutical Services and Outsourcing
- Tools and Diagnostics
- Contract Manufacturing
- Biomaterials

Healthcare IT

- Revenue Cycle Management
- Patient & Provider Engagement
- Telehealth/Virtual Care
- Digital Health and Engagement
- Data Analytics
- Payer Services and Payments
- Pharma/MedTech IT

Healthcare Providers

- Hospitals and Health Systems
- Academic Medical Centres
- Post-Acute Facilities and Services
- Alternate Site Providers
- Physician Practices
- Behavioural Health
- Laboratories

Healthcare Services

- Managed Care/Insurance
- Outsourced Hospital Services
- PBMs and Pharmacy
- Distribution: Pharma and Products
- Benefits Management
- Population Health Management
- Consulting/Education

cea clinical education alliance
a portfolio company of
RENOVUS CAPITAL
has been acquired by
Riverside.
Sell-side advisor
CME

EXCELLIS HEALTH SOLUTIONS
has signed a definitive agreement with
nnit
Sell-side advisor
Life Sciences Consulting

seracare
a portfolio company of
LINDEN
has been acquired by
LGC
a portfolio company of
KKR
Sell-side advisor
Life Science Tools

AMPAC FINE CHEMICALS
has been acquired by
SK
Sell-side advisor
CDMO

Cytel
has been acquired by
NMC
New Mountain Capital
Sell-side advisor
CRO

aptuit
a portfolio company of
WCAS
has been acquired by
evotec
Sell-side advisor
CRO/CDMO

Disclosure: Clearwater International and KeyBanc Capital Markets (KBCM), the corporate and investment banking arm of US-based KeyCorp (NYSE: KEY), have entered into a strategic alliance designed to enhance growth for global mid-market companies. Working in concert, KBCM and Clearwater International will further increase the level of cross border mergers and acquisitions (M&A) on behalf of both firms' corporate and institutional clients across the United States, Europe and China. Clearwater International is not affiliated with KeyBanc Capital Markets Inc or its parent, KeyCorp.

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GI PARTNERS

has acquired

Clinical Ink
Confident Decisions. Faster

Buy-side advisor

eClinical

Blackstone
Tactical Opportunities

has invested in

sema4

a spin-out of

Mount Sinai

Buy-side advisor

Life Science Tools

Toronto Research Chemicals

has been acquired by

LGC

a portfolio company of

KKR

Sell-side advisor

Life Science Tools

CATO RESEARCH

a portfolio company of

JLL Partners

WATER STREET

Senior secured credit facilities

Sole lead arranger, sole bookrunner & administrative agent

CRO

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sciformix

has been acquired by

COVANCE
SOLUTIONS MADE REAL

the drug development business of

LabCorp

Sell-side advisor

CRO

TARGET PharmaSolutions

has been acquired by

NORWEST VENTURE PARTNERS

Sell-side advisor

RWE

JLL Partners

WATER STREET

have acquired

EVERSANA

Senior secured credit facilities
$385,000,000

Joint lead arranger, sole bookrunner, administrative agent

CRO

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iCardiac TECHNOLOGIES

a portfolio company of

NORWEST VENTURE PARTNERS

has been acquired by

ERT
Confidence at every turn

Sell-side advisor

CRO

PERMIRA

has acquired

LSNE
CONTRACT MANUFACTURING

Buy-side advisor

CDMO

Bracket

a portfolio company of

PARTHENON CAPITAL

has been recapitalized by

GENSTAR CAPITAL

Sell-side advisor

CRO

ERT
Confidence at every turn

a portfolio company of

GENSTAR CAPITAL

has acquired

PHT

Buy-side advisor

CRO

Patheon

a portfolio company of

JLL Partners

has acquired

gallus

Senior secured credit facilities
$250,000,000

Joint lead arranger, sole bookrunner, documentation agent

CDMO

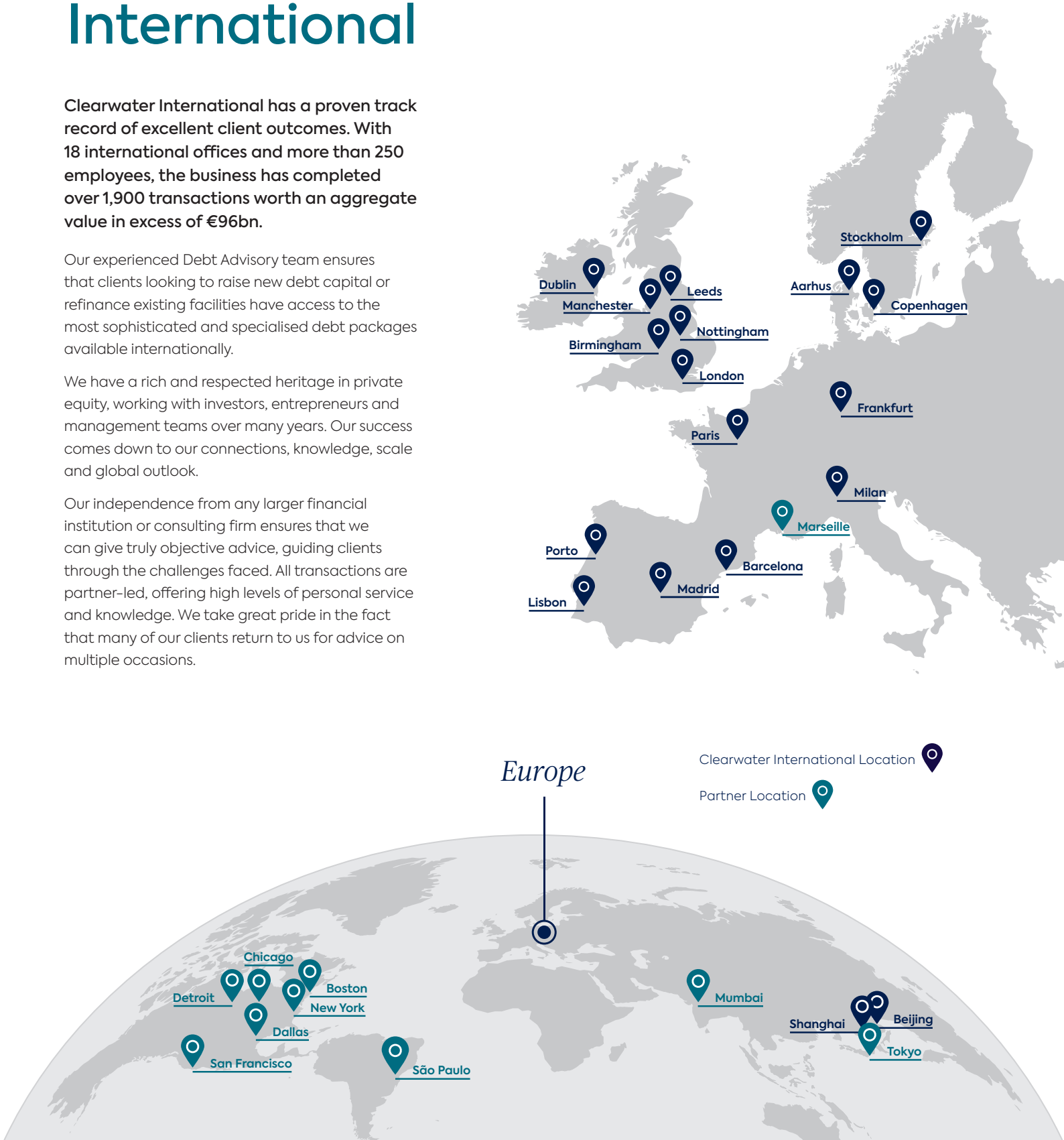
About Clearwater International

Clearwater International has a proven track record of excellent client outcomes. With 18 international offices and more than 250 employees, the business has completed over 1,900 transactions worth an aggregate value in excess of €96bn.

Our experienced Debt Advisory team ensures that clients looking to raise new debt capital or refinance existing facilities have access to the most sophisticated and specialised debt packages available internationally.

We have a rich and respected heritage in private equity, working with investors, entrepreneurs and management teams over many years. Our success comes down to our connections, knowledge, scale and global outlook.

Our independence from any larger financial institution or consulting firm ensures that we can give truly objective advice, guiding clients through the challenges faced. All transactions are partner-led, offering high levels of personal service and knowledge. We take great pride in the fact that many of our clients return to us for advice on multiple occasions.



Our international healthcare team

With offices in Europe, the US and Asia, our team can deliver seamless, integrated global advice to SME/owner-managed, corporate and private equity clients. The dedicated team provide in-depth knowledge and industry experience to every project. For more information about any of these topics or how we can assist your business, please contact:

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