



Smart Financing and **CROs**

Scaling clinical research capabilities

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The contract research landscape

For more than twenty years the trend of outsourcing R&D activities in the pharmaceutical industry has been gaining traction.¹

Driven by the need for continued innovation, outsourcing to a Contract Research Organisation (CRO) has now become a mainstay for pharmaceutical, biotechnology and biomed companies of all sizes. However, this outsourcing relationship often raises financing and cash-flow challenges for CROs as they see through the drug delivery process across the various phases of the journey from

pre-clinical and clinical research to trial management and pharmacovigilance. On the one hand, large pharmaceutical companies require a CRO to be self-sufficient managing the entire drug development process. On the other, small and emerging biotech often need the support of smart financing resources and infrastructure to fuel sustainable growth.

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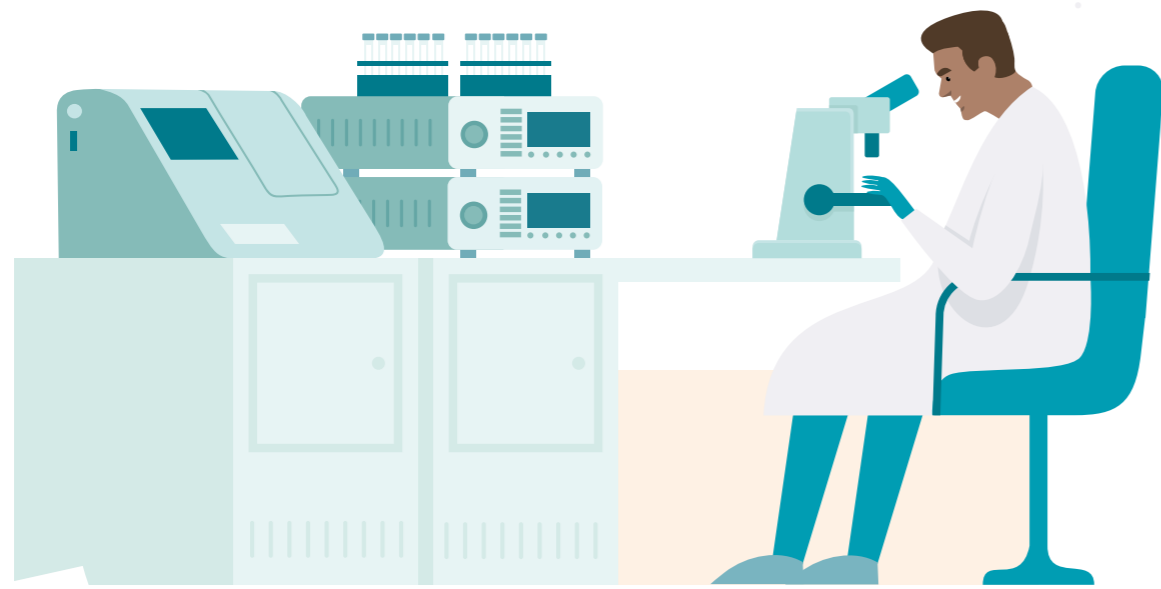
There can be no doubt that growth will remain strong for CROs. Their ability to navigate regulatory environments, conduct clinical trials and assist in bringing drugs to market makes them increasingly essential to the industry. In fact, independent tailored contract research activities and end-to-end development have become such a key part of the drug development process that the CRO market is expected to reach \$63.83 billion by 2024 from \$43.03 billion in 2019, at a compound annual growth rate (CAGR) of 8.2%.²

This parallels the growth of the laboratory equipment market which, at a global scale, is expected to grow by a further \$8.63 billion over the period

2021-2025, at a similar CAGR of 8%.³ Of course, the increased research activities in pharmaceutical and biotechnology industries are chiefly responsible for driving growth in the lab equipment market.⁴ Likewise, technological advancements in lab equipment enable developers to leverage artificial intelligence (AI), the Internet of Things (IoT), and virtual reality (VR) opening up new pathways in the drug development process.

In order to encourage this impressive growth and keep up with demand, CROs will need to invest in state-of-the-art technology – this is where smart finance can help.

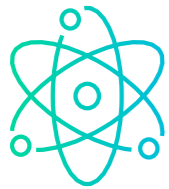




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CROs in the UK

Before we examine what smart finance looks like and how it works, we should review the CRO sector specifically in the UK, and why the issue of smart financing is such an issue here.

While CROs are international by nature, contributing to global healthcare research, the UK has established an impressive footprint. According to the Contract Research Map there are almost 1700 labs operating in the UK.⁵ In England alone, clinical research is worth £2.7 billion a year,⁶ and the UK pharmaceutical industry invests £4.3 billion a year into R&D.⁷

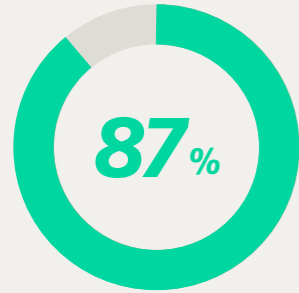
Clinical trials – a key aspect of R&D – are predominantly undertaken in Europe with the UK leading the pack in early clinical research.⁸ Prior to the pandemic, research from the Association of the British Pharmaceutical Industry (ABPI) recognised the UK as a world-leading expertise in the areas of

heart disease, immunology and conditions affecting the nervous system research.⁹

Despite the impact of the pandemic, the UK still faces serious competition from research organisations around the world but especially in the USA, Germany, China and Japan where higher investment levels have culminated in continued sector dominance (for the USA) and enhanced competitive advantage (Germany, China, Japan).



Pandemic trends



At its peak, the pandemic reduced clinical research capacity by 87% in England

Further pressures are also affecting the need for CROs to acquire the medical technology they need, at scale and at speed.

Overall the growth in the CRO market in the UK and beyond is driven by the accelerated research practices linked to COVID-19 response as well as the need to develop new medicines to treat and fight the increasing prevalence of chronic diseases and conditions.

Not only did the pandemic shine a light on the sector, it also well and truly side-lined the long-established processes, parameters and timelines for clinical development.

At its peak, the pandemic reduced clinical research capacity by 87% in England.¹⁰ Similarly, more than 50% of members of the Association of Medical Research Charities reported stopping, deferring or pausing most of their trials.¹¹

Likewise, study participation dropped dramatically. For example, most impacted was oncology – formerly the majority of the UK’s research portfolio – where enrolments fell by 87.5% in May 2020 compared to same period of the previous year.¹²

Across the board, research activities and clinical trials relating to chronic diseases and conditions were halted or delayed as researchers devoted their expertise and attention to the pressing need for a defence against COVID-19. The industry was forced to respond to the twin challenges of restrictions on performing clinical trials – due to social distancing measures – and the very urgent need to deliver yet more trials, more efficiently than ever, for the development of a COVID vaccine.

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As such, the pandemic has not only affected the number of trials conducted but equally the way clinical trials are now designed and delivered. Faced with this contradictory challenge alongside the disruption of all related processes (planning, feasibility, design, protocol, execution), CROs have been forced to rethink and reshape approaches.

The result is an increase in hybrid models where traditional clinics operate in parallel with decentralised trials and

environments.¹³ Quite simply, hybrid clinical trials and remote patient monitoring have enabled uninterrupted trials during the sequential lockdowns and changing restrictions as well as cost savings of 15-20%.¹⁴ This more digital approach to the clinical process therefore presents significant growth prospects for the CRO market. However, changing practices and digital transformation often require a wholesale replacement of key technologies and equipment, all of which is a challenge for fast-growing CROs.

Scaling the drug development pathway

While the CRO market suffered disruption as a result of the pandemic, recovery is expected to be swift.

This means CROs of all sizes but especially those in the development stage need to rapidly scale their offering to respond to both the backlog of R&D work delayed by the pandemic and the now elevated standards for solution delivery driven by the rapid vaccine response.

In short, following the pandemic research overdrive, the pace of future research is now expected to be higher with tighter deadlines where CROs are required to react with total flexibility.

This can only be achieved with access to digital ready and high-end clinical chemistry equipment such as high-resolution mass spectrometers that can simultaneously quantify thousands of samples enhancing precision, depth, and throughput; flexible, scalable, automation-ready immunoassay and chemistry analyzers including PCR machines; state-of-the-art centrifuge models to meet growing volume and turnaround requirements; and chemical reactors with programmable software and data logging capabilities.



As technological capabilities advance, projects are now being designed around the ability to easily scale up and down at different stages. Smart automation software is facilitating seamless scheduling, data collation and sharing as well as improved safety and security measures.

Clearly, for research organisations to remain competitive and meet the heightened expectations for seamless drug delivery will necessitate significant investment in both equipment, software and infrastructure.

“Many CROs are turning to smart finance to enable sustainable pathways to investment.”

Many CROs are turning to smart finance to enable sustainable pathways to investment. Smart financing – offered by specialist financiers – enables the acquisition of technology and equipment for competitive advantage, in a way that is financially sustainable and tailored to the organisation’s specific business and cash-flow needs.



Smart financing offers three major advantages over generalist finance:

- Technology expertise which understands real business outcomes;
- Breadth of financing solutions which can meet every organisation’s exact needs;
- Smooth, sophisticated processes which makes the use of smart finance seamless and easy.

Technology expertise leverages deep understanding of the technology and how it is applied in practice, plus the benefits and return on investment it delivers in real-world applications.

Breadth of financing solutions offers a true spectrum of financing products and solutions which can be flexed and customized to fit each organization’s individual circumstances.

Smooth processes put customer experience front and centre – delivering speed and ease, supported by digital tools, techniques and specialist sector experts.

Conclusion

While COVID has indisputably accelerated the pace of research, it has also had delayed essential research into and clinical trials for other ailments and diseases.¹⁵ For CROs to get processes back on track and meet the heightened demand for their services, significant investment in high-end equipment and technology is required.

For this reason, an increasing number of CROs – particularly those in the pre-profit, post-revenue stages – are turning to smart finance solutions from specialist financiers. Drawing on a deep knowledge of the drug research and development sector, specialist financiers work with the CROs to flex finance periods and terms to align with strategic goals and outcomes.

www.siemens.co.uk/healthcare-finance

- ¹ PwC, How can pharmaceutical and life sciences companies strategically engage global outsourcing? (2015)
- ² Frost & Sullivan, Hybridization of Clinical Trial Designs Reviving Global CRO Market Post-pandemic; 2019-2024 (2020)
- ³ Infiniti Research, Global General Laboratory Equipment Market 2021-2025 (2021).
- ⁴ <https://www.marketsandmarkets.com/Market-Reports/laboratory-equipment-service-market-171213101.html>
- ⁵ <https://www.contractresearchmap.com/places/united-kingdom>
- ⁶ ABPI, Clinical trials: How the UK is researching medicines of the future (2019).
- ⁷ ABPI, Clinical trials: How the UK is researching medicines of the future (2019).
- ⁸ ABPI, Clinical research in the UK: an opportunity for growth (2021).
- ⁹ ABPI, Clinical trials: How the UK is researching medicines of the future (2019).
- ¹⁰ https://www.pharmatimes.com/news/clinical_research_cut_87_at_peak_of_pandemic_1347290
- ¹¹ <https://committees.parliament.uk/work/243/impact-of-covid19-on-the-charity-sector/publications/written-evidence/?page=2>.
- ¹² ABPI, Clinical research in the UK: an opportunity for growth (2021).
- ¹³ outsourcing-pharma.com/Article/2021/09/28/CROs-facing-formidable-challenges-in-clinical-research-survey
- ¹⁴ <https://www.frost.com/news/press-releases/post-pandemic-contract-research-organization-market-to-reach-63-83-billion-by-2024-says-frost-sullivan/>
- ¹⁵ <https://www.frontiersin.org/articles/10.3389/fmed.2020.598038/full>