

Intelligent Industry. Powered by data

# Data-driven R&D in Life Sciences

The future of R&D, powered by data



Life science and pharma companies are facing increasing R&D costs and lead-time challenges: a newly discovered drug will take an average nine years to get to market, with an approximate cost of \$2.6bn.

R&D productivity is decreasing due to longer cycle times, while the digitalization of healthcare is affecting the entire value chain and generating large amounts of heterogeneous data. Demand for customized and personalized healthcare solutions is increasing, while the time and cost burden of regulatory approval is rising. And in a Covid-19 world, that is a problem: accelerating time to care could save countless lives and improving patient outcomes.

Now, thanks to Intelligent Industry, Capgemini's Data-driven R&D offer enables life sciences companies to improve the drug discovery process and optimize clinical trials. And by aligning the expertise of life science specialists, data scientists and data engineers, we can build robust and trusted data and AI platforms, that bridge the gap between life sciences R&D and AI and data at scale.

## Different thinking

Designing new drugs tends to be the outcome of scientific, medical and engineering-based thinking. This is necessarily very focused and regulated – but the wider world of your customers and market cannot be controlled in the same way.

Capgemini will help you harness the fast-growing set of tools and techniques of modern AI and data science, to apply them to datasets across a much wider frame of reference than ever before – new markets, new sectors, new customer targets – and bring it together at scale.

AI-enabled solutions will also help reduce time and cost of getting new therapies to the market, support regulatory approval processes and reporting, and avoid costly late stage failures, while AI-enabled R&D engines will deliver greater personalized therapeutics and patient-centricity.

## **DATA-DRIVEN R&D BENEFITS**

- Acceleration of R&D cycle times with 'inception to clinic' potentially 4x faster than industry norms
- Adaptive AI patient recruitment forecasting models to reduce clinical trial costs
- Machine learning tools for robotic lab automation boosts performance of therapeutic activity screening, driving assessment accuracy up to 99% and increasing output x1000
- Modern data foundation to fuel the entire R&D process

## The new law of the road

The development of pharmaceuticals and medical products has always implicitly assumed that people always follow instructions, using medicines and devices exactly as specified on the label. Now, data analytics can tell us what people actually do, and measure adherence and treatment effectiveness in real-world environments.

AI can analyse a broader body of knowledge, clinical data and literature about drugs and conditions, at a speed unimaginable for human researchers. R&D processes can now incorporate the complete and latest research data rapidly, which helps reduce risk and increase confidence in where you invest your time and resources.

Capgemini's services build on those advantages. Our AI Studio for Drug Discovery improves the drug discovery process by using AI and Analytics to enhance a wide range of critical activities including target identification, compound optimization and candidate testing. Our Intelligent Clinical Trials offer help optimize clinical trials, by developing innovative solutions delivering new levels of intelligent design, planning and execution. And we build robust and trusted data and AI platforms, allowing the seamless integration, sharing and processing of heterogeneous data and industrialized deployment of data-driven solutions.

## Why Capgemini?

**Balanced mix of core capabilities:** Our global pool of employees includes life science R&D data scientists, data science, data engineering and solution architecture experts – the best mix of talents required to deliver best-in-class data-driven R&D solutions at scale.

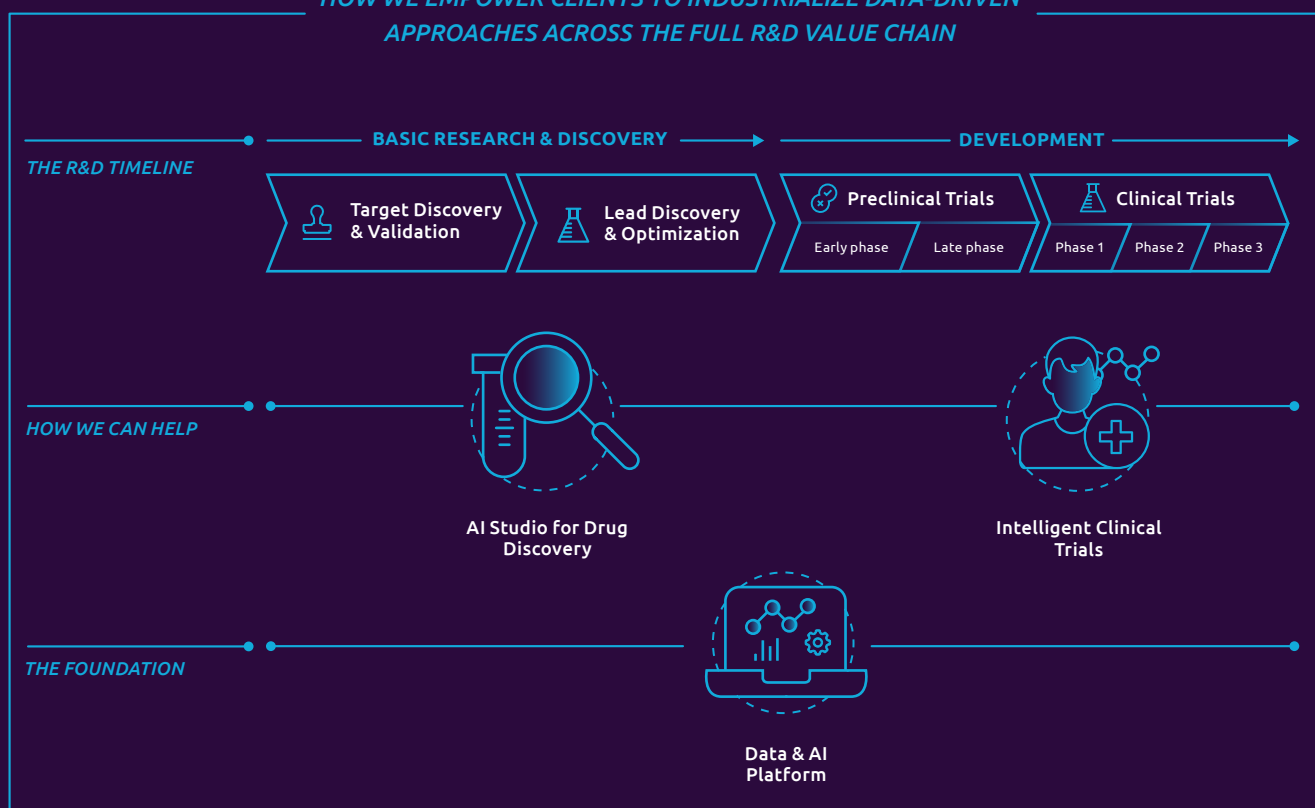
**Seamless delivery across full solution lifecycle:** From digital innovation through to enterprise wide implementation, our end-to-end approach is focused wholly on your business outcomes. We bring expertise and understanding from broad range of industries to help you find new solutions and approaches.

**Focus on proof of value:** Our goal is to make sure our clients can build on proofs of concept, and move quickly from 'What can we do?' to 'What should we do?'

**Partnership orchestration:** We bring together best in class cloud technology and life science-specific services, to help us design and implement data-driven R&D solutions that deliver trusted results at speed.

**Cultural fit:** We understand the processes, challenges and culture of R&D. Our role is to augment the work you are already doing, and improve it.

### HOW WE EMPOWER CLIENTS TO INDUSTRIALIZE DATA-DRIVEN APPROACHES ACROSS THE FULL R&D VALUE CHAIN



## **CAPGEMINI – PIONEERING INTELLIGENT INDUSTRY**

Capgemini is harnessing the power of data to help our clients foster innovation, make new and differentiated smart products, improve supply chains, create new customer experiences, reduce costs and times to market, increase production efficiency, and develop new as-a-service business models.

Thanks in part to our complete integration with Altran, we are the only global firm with both the depth of product engineering and breadth of specialist capability to master complex data, and deploy novel AI solutions and technologies at scale.

**The future of industry is intelligent.  
And powered by data.**

**We can help you apply the potential of Intelligent Industry to discover new drugs and develop new products, at speed, that are **always right for patients, consumers and payers.****

● **Get in touch** to discuss how data-driven R&D could transform your life sciences business.