

Advancing Scientific Breakthroughs

Providers of Outsourcing Services Help Pharma Companies Dedicate Space, Time, and Resources to the Core Aspects of R&D

Avantor is a global provider of research and development products and services to customers in the biopharma and healthcare industries. For its Services business, Avantor specialists and associates work with customers to deliver expert optimization of lab, clinical, and production operations and workflows. Michael Reubold asked Christophe Couturier, Executive Vice President, Services and Claudia Berrón, SVP Clinical Services at Avantor, about the current market trends and how the Covid-19 pandemic amplifies certain developments.

CHEManager: *To begin with, could you give us a quick history lesson on the origin of the company and its main business activities?*

Christophe Couturier: The story of Avantor is broken down to its two legacy companies. One of them was founded in 1904 under the name of J.T. Baker, its founder. It then turned

into a standard-setting manufacturer of high quality and high purity chemicals. The other one, VWR started in 1852, selling products to serve the mining and laboratory markets. Over time, it became a leading global provider of product and service solutions to laboratory and production customers. In 2017, Avantor acquired VWR, bringing together the knowledge of a



Christophe Couturier, Avantor



Claudia Berrón, Avantor

manufacturer and the network of a worldwide distributor.

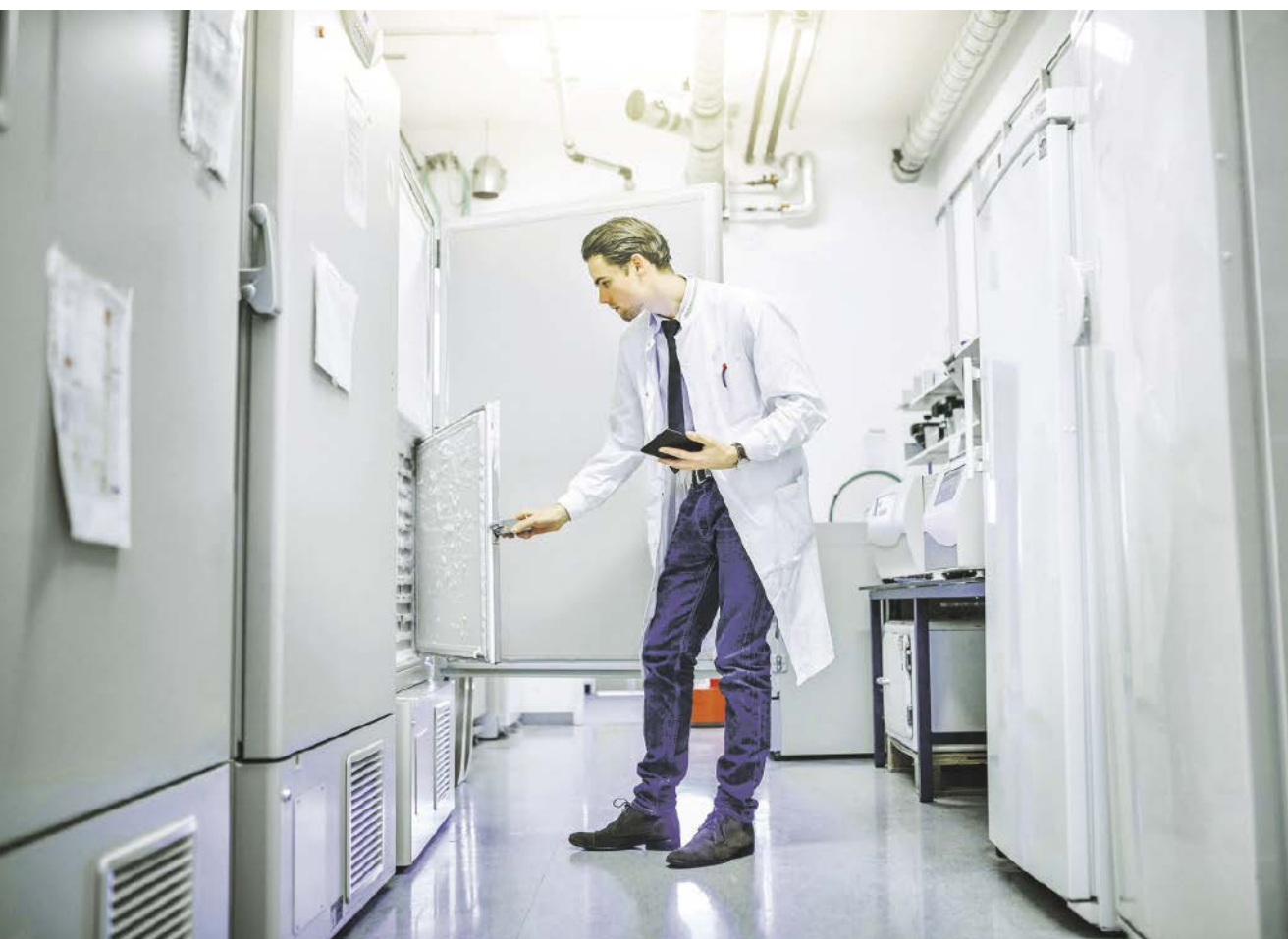
We provide mission-critical products and services to a wide range

of industries: biopharma, healthcare, education and government, advanced technologies, and applied materials. Our portfolio is used in virtually every stage of the research, development, and production activities of our customers. From small-scale bench to full commercial manufacturing, we help them provide, among other things, new treatments for patients in a smarter and faster way.

Which role does the Services business play within the company?

C. Couturier: Services offers a holistic supply chain management solution for lab operations. Combined with Avantor's distribution offerings, we become a one-stop shop extending the delivery of lab consumables to the scientist at point-of-use, enabling productivity and supporting key workflows in research, scale-up and production. Even for hard-to-find, non-core lab consumables, our procurement services can develop customized solutions.

Claudia Berrón: Clinical Services support our customers during the development phase, when their products are being tested in the pre-clinical and clinical trial stages. Our capabilities are focused on the clinical supply chain and sample management to help our clients optimize their trials.



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Avantor Services uses its experience in order to help customers propel the journey of a drug forward. Where in your opinion are critical bottlenecks in the drug development and deployment process and what solutions does Avantor provide to overcome these challenges?

C. Berrón: Drug development is complex and full of challenges. With the increased number of studies and their globalization, access to patients and the integrity of the research results represent potential bottlenecks: In pre-clinical lab activity, there are many critical testing and bioreposi-

standing of the best working combinations for specific areas of research within the lab. When integrated into our e-commerce platform, the lab becomes a secured, optimized ecosystem that supports the scientific space at the heart of its discovery stage, leading into the pre-clinical and clinical stages where our dedicated teams add a unique level of expertise.

In November of 2020, Avantor opened its new biorepository and sample archiving facility in Europe. What is the purpose and significance of the new facility for Avantor's strategy?

C. Couturier: The investment in developing the purpose-built, state-of-the-art facility in Frankfurt underpins Avantor's continued focus on clinical trials and services being delivered globally. It offers unparalleled capabilities in meeting pharma professional exacting biorepository and archiving needs as well as the logistical challenges and regulatory requirements of the market.

C. Berrón: We offer flexible and refrigerated and deep-freeze cold storage, scalable capacity, adaptable archiving and retrieval, critical data administration and client management. While our focus has traditionally been on pre-clinical and clinical stages, we also provide storage of manufacturing materials and bulk drug substance. Avantor's experience in providing meticulous care to clients' research assets has also been leveraged: all materials are controlled within an audited environment, sustained by dedicated operations management, industry standard operation procedures and quality assurance teams.

C. Couturier: We embarked upon the creation of the Frankfurt facility back in 2018, well before Covid-19. It was part of our international deployment plan aimed at providing customers best-in-class solutions. Our facility delivers a complete range of biorepository and archiving solutions. Avantor has been providing said solutions for over 40 years and will continue to support developments not just against Covid-19, but also in a wide range of therapeutic areas: oncology, CNS, cardiovascular, etc.

Clinical trials are critical in the development of all vaccines and drugs and we deliver end-to-end so-

lutions: custom kitting, clinical trial equipment & ancillary solutions, as well as biorepository and archiving services such as we offer at Frankfurt. Our solutions can be customized to meet customers' development needs, whether they're a global pharmaceutical company, CRO or biotech.

What are the major technological requirements to run such a specialized facility and how important are logistical requirements such as easy and fast access?

C. Berrón: Our new facility has been built to provide a safe and secure location for irreplaceable research assets. Indexing and traceability are of paramount importance, so our proprietary material management system ensures visibility of the whereabouts of any materials anywhere across our global network. 24/7/365 monitoring and advanced security systems, plus fire suppression systems, combined with back-ups and redundancies technologies are all in-

Avantor's History

Avantor was founded in 1904 as J.T.Baker Chemical Company and acquired by Procter & Gamble in 1985. P&G sold the company to Mallinckrodt in 1995. 5 years later, Mallinckrodt Baker was acquired by Tyco, which subsequently renamed itself Covidien. In 2010, New Mountain Capital acquired the company from Covidien and took the Avantor-named company public in May 2019 for \$3.8 billion, the largest US healthcare IPO in history. The company generated over \$6 billion of revenue in 2019.

"Drug development is complex and full of challenges."

tory requirements. In the clinical phase, focus switches to the trial participants where logistic capabilities like equipment, drug comparator, ancillaries, sample collection kits and sample management, including chain of custody, cold chain, sample processing and testing and biorepository, are critical to the evaluation and outcome of a drug. We are active in these areas, offering customized solutions fitting our customers' research objectives. Combining our capabilities and international expansion, we enable end-to-end support and address their handover points.

Globalization, digitalization, and systems automation/integration are transforming pharmaceutical R&D. What is your vision of the "lab of the future" concept and how much of it is already real?

C. Couturier: The lab of the future is happening and it is very exciting. Scientists are and will be able to leverage years of knowledge through data analytics and operational efficiencies to make recommendations based on machine learning to advance science faster. Technology is at a point where IOT, RFID, sensors, digitization are mature enough to enter the lab and enable further optimization of daily operations. We are tapping into all these elements to help our customers take advantage of these innovations. Integration of lab data from point of use, equipment, ELN, LIMS will lead to better efficiencies and under-

controlled shipments and specialized cold chain logistics are enabled throughout Europe and across the globe.

Do you expect the trend of pharmaceutical companies outsourcing their sample management, as well as other critical operations, to external service providers to continue or even grow?

C. Couturier: Yes. All indicators show the increase in clinical trials will continue in the near future. The logistics they imply require capabilities and scale that often go beyond the reach of pharma companies to be run effectively and economically. The market is also comprised of smaller biotech companies who just can't perform this themselves. Outsourcing to service providers such as Avantor ensures they can dedicate the necessary space, time and resources to the scientific aspects of R&D.

"The lab of the future is happening and it is very exciting."

corporated and meet the standards of the German Quality Management Association.

We are also EnEV certified for Energy and meet the DGNB Gold Award for Sustainability. Just 13 km from Frankfurt airport, our facility offers direct service to 300+ global destinations and answers our customers' need for easy and fast access to their research materials. Quality-

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