Partner of the biopharmaceutical industry

Our mission
We empower engineers to simplify and accelerate progress in bioprocessing. In this way, we enable new and better pharmaceuticals to be manufactured and help keep medications affordable.

Our vision
We are a magnet and dynamic platform for pioneers and leading experts in our field. We bring creative minds together for a common goal: technological breakthroughs that lead to better health for more people.

This is Sartorius Stedim Biotech
Sartorius Stedim Biotech in brief

>50
Locations worldwide; headquartered in Aubagne, France

>10,400
Employees\(^1\)

~€2.9bn
Sales revenue\(^1\)

35.8%
EBITDA margin\(^{1,2}\)

~33%
Sales revenue
Americas

~42%
Sales revenue
EMEA

~26%
Sales revenue
Asia | Pacific

1 Preliminary figures as of December 31, 2021. 2 Underlying EBITDA
Strong company values are the basis of all our activities

**Sustainability**
Growing profitably and acting responsibly towards all stakeholders

**Openness**
Driving change and progress internally and externally

**Enjoyment**
Working in an energetic and rewarding environment
Attractive market environment with strong growth opportunities

- **Favorable demographics**
  - ~9bn people by 2050;
  - >2bn 60 years or older

- **Rise of biosimilars**
  - ~30% CAGR for sales of biosimilars in 2020–2025

- **Strong R&D pipeline; advances in gene and cell therapy**
  - >40% share of biologics in the pharma R&D pipeline

- ~10% CAGR for the biopharma market in 2020–2025
What are biopharmaceuticals?

Biopharmaceuticals

<table>
<thead>
<tr>
<th>Active agent</th>
<th>Manufacturing</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small molecules</td>
<td>Chemical synthesis</td>
<td>Mainly oral</td>
</tr>
<tr>
<td>Large molecules &gt; 20,000 atoms</td>
<td>Cell culture processes with living cells</td>
<td>Mainly intravenous</td>
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Advantages

- First-time or improved treatment of serious illnesses, such as cancer, multiple sclerosis, rheumatism
- Targets only diseased cells; fewer side effects
- New vaccines

Chemical drugs
The manufacture of biopharmaceuticals is complex
The consequence: Biotech medications are extremely expensive

**HUMIRA®**

Annual revenue of $18 billion; is used to treat rheumatism and other inflammatory autoimmune diseases, such as Crohn’s disease and psoriasis

Manufacturer: Abbvie

Cost per annual treatment

€21,300 in Germany

First biosimilars out on the market:

- Imraldi® from Biogen up to 40% less expensive
- Hyrimoz® from Sandoz around 21% less expensive
- Amgevita® from Amgen about 18% less expensive

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**ZOLGENSMA®**

Currently the world’s most expensive medical drug; gene therapy used to treat spinal muscular atrophy

Manufacturer: Novartis

Cost per treatment

$2,100,000 in the U.S.
Our goal: Simplify manufacturing of biopharmaceuticals

Our technologies empower engineers in the biopharma industry to ...

... set up robust, flexible and safe processes for industrial production

... reduce setup costs

... enhance product yield
Our solution: Innovative technologies for all phases of drug production

Products
Scalable, easy-to-use technologies and products for the production of biopharmaceuticals, as well as digital tools for biopharma data analytics

Application areas
- Biopharmaceutical manufacturing
- Quality control and testing

- Filtration
- Cell culture technology & media
- Fluid management
- Purification
The widest offering of solutions in the industry

**Upstream**
Production of the desired drug
- Culture media preparation
- Seed cultivation
- Scale-up
- Production
- Clarification & centrifugation

**Downstream**
Isolation and filling of the desired drug
- Final filling
- Cryo-preservation
- Sterile filtration
- Concentration
- Virus removal filtration
- Polishing
- Chromatography
- Viral clearance

This is Sartorius Stedim Biotech
Flexible production systems are becoming more and more prevalent

**Classic stainless steel systems**
- High initial investment outlay
- High cleaning effort and expense
- Risk of contamination

**Flexible systems with sterile bags**
+ Faster setup and lower investment throughout the entire life cycle
+ Lower consumption of water and energy
+ Reduced risk of cross-contamination
Data analytics has huge potential for the biopharmaceutical industry

Sartorius Stedim Biotech supports its customers in the digitalization and automation of their processes with its leading software for analysis of bioprocess data.

- Enhanced process control and robustness
- Improved product quality
- Predictive process control

- Powerful solutions for modeling and optimizing development and manufacturing
- Helps provide insights derived from complex data sets
Leading market positions worldwide

Fluid Management #1
Fermentation #1
Filtration #3
Acquisitions strengthen and differentiate our portfolio

Acquired technologies include

- Cell line and process development services
- Automated single-use centrifugation
- Bioprocessing software
- Cell culture media
- Chromatography and tangential flow filtration systems; microcarriers

1 Acquired from Danaher
Sales revenue almost tripled over the last five years

- Sales CAGR: +~19%
- EBITDA margin: +14.3pp

Sales growth and CAGR in constant currencies. 1 Excluding extraordinary items 2 Preliminary figures as of December 31, 2021

~€544m
21.5


~€2,9bn
35.8

+19,4 %
+20,4 %
+4,1 %
+13,7 %
+18,8 %
+34,6 %
+52,6 %

+10,8 %
+15,9 %

Sales revenue EBITDA margin in %
Sartorius 2025 targets and initiatives

Strategic initiatives

Regional
- Participate in strong Chinese market growth
- Continue to outperform the important U.S. market

Portfolio
- Add high-impact innovations, e.g., digital tools
- Enhance process development capabilities
- Expand into adjacent applications

Operations
- Accelerate workflows across the organization through digitalization
- Extend manufacturing base in Asia

2025 targets

~€5bn
Sales revenue

~34%
EBITDA margin

2025 targets are based on 2020 currency exchange rates; EBITDA excluding extraordinary items
Production capacities significantly accelerated and expanded

**Guxhagen, Germany**
Capacity expansion for bioreactors and other equipment for the production of biopharmaceuticals; integration of a Customer Interaction Center

**Marlborough, MA, USA**
New Customer Interaction Center

**Yauco, Puerto Rico**
Buildup of cell culture media production; expansion of membrane, filter and bag manufacture in Yauco

**Göttingen, Germany**
New facility for membrane production; 12,000 m² extension for existing R&D capacities

**Beijing, China**
New cleanroom for bag production; more space for filter manufacture; new Customer Interaction Center

**Songdo, South Korea**
Construction of a new 25,000 m² site for cell culture media production, laboratories, and an application center
Thank you.