

Operations at Novartis

April 2026

Outline

Introduction to Novartis

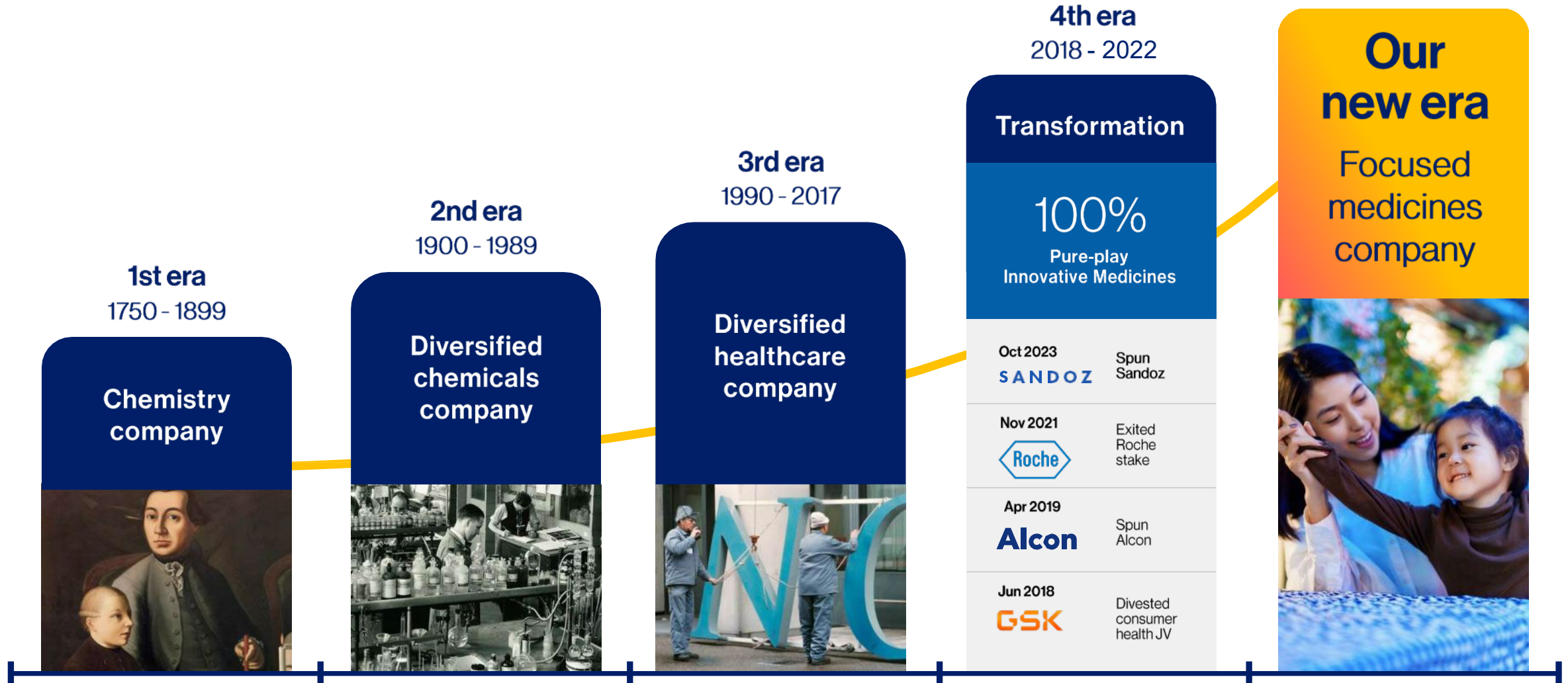
Novartis Operations Overview

TechOps - Insights and Evolution

Q&A



Novartis has entered a new era to become a focused medicines company



Novartis Overview



Novartis is an innovative medicines company engaged in the research, development, manufacturing, distribution, marketing and sale of a broad range of innovative pharmaceutical medicines

Highlights

USD 50+ bn

Full year Net Sales

USD 10 bn

Invested in R&D

13

In-market blockbusters

78,000+

Employees across globe

296 mn

Patients reached with our medicines

>70%

Reduction in greenhouse gas emissions¹ in our own operations since 2016

15+

Submissions-enabling readouts in next 2 years

30+

Potential high-value pipeline assets

20

Approvals for new medicines in the US, EU, Japan and China

1. Scope 1 and 2

Source: Novartis Integrated Society Report 2024 and Novartis investor presentation JP Morgan 2025

Novartis continues to execute on our focused strategy

Deliver high-value medicines that alleviate society's greatest disease burdens through technology leadership in R&D and novel access approaches

Focus

4 core therapeutic areas

Cardiovascular-Renal-Metabolic,
Immunology, Neuroscience, Oncology



2 + 3 technology platforms

Chemistry, Biotherapeutics
xRNA, Radioligand,
Gene & Cell Therapy



4 priority geographies

US, China, Germany, Japan



Priorities

Accelerate growth and deliver returns



Deliver **high-value medicines** (including launch excellence)

Strengthen foundations



Unleash the power of **our people**

Scale **data science and technology**

Build trust with **society**

Execution

Delivering through operational excellence



Driving efficiencies and agile resource allocation

Improving R&D productivity

Operations Vision

“Building an industry leading Operations unit, we are enabling the business to enhance performance by leveraging technology and operational excellence. Our mission is to deliver high-quality products to patients worldwide and provide technology and solutions to all Novartis associates to excel in their roles and perform at their best.

At the core, Operations serves as the backbone of the organization.”



Steffen Lang
President, Operations

Operations is the backbone of Novartis, delivering value for patients, associates and customers

We manufacture and supply high-quality, innovative medicines to patients



We deliver technology solutions and services to all employees enabling them to be at their best



Operations in the center of value delivering to our patients

Patient Value Creation

Biomedical Research

- **Collaborates** across **scientific organizations** with a focus on powerful **new technologies** to produce **therapeutic breakthroughs** for patients

Development

- **Advance investigational medicines** to provide **safe** and **effective transformative treatment options** through rigorous **clinical trials** and **regulatory processes**

Operations Manufacturing / Supply

- **Manufacture & Supply** of innovative, high-quality medicine with **optimum cost**, following **sustainable** and safe practices
- Key priorities: **performance, customer focus, operational excellence, technology & innovation** and **culture & growth**

Commercial – International & US

- Enable delivery of **superior value to shareholders and society** through **sustainable growth** of sales, margin and free cash flow

 **20+ bn**

Treatments supplied globally
Ensure successful product launch supplies

 **30+**

Manufacturing sites across globe
Provides high-quality medicines for patients

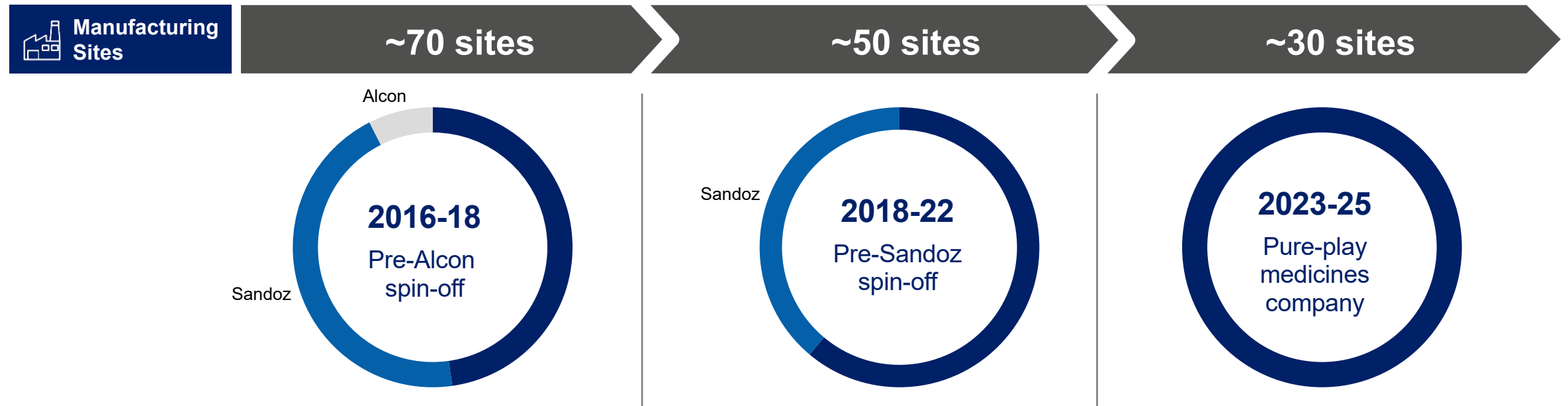
 **99.9%**

Customer Service Level
Ensure supply of medicines to Patients

 **~23k**

Operations Associates
Engage, develop & grow talent with the right skills

TechOps has evolved to build a streamlined, industry leading manufacturing network and become the partner of choice

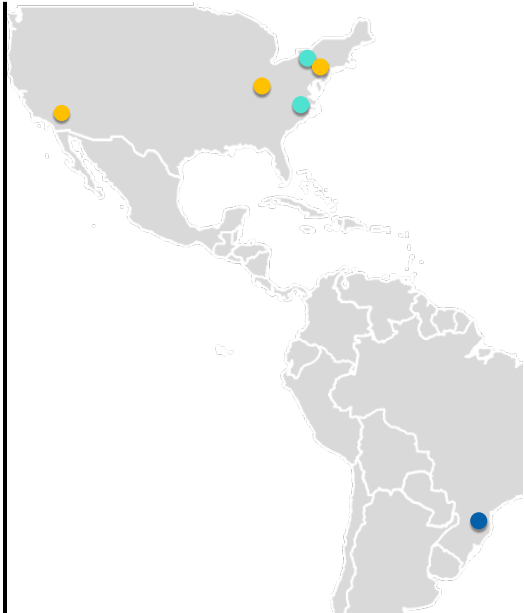


Transformed manufacturing growth and Scaled operations in advanced technology platforms

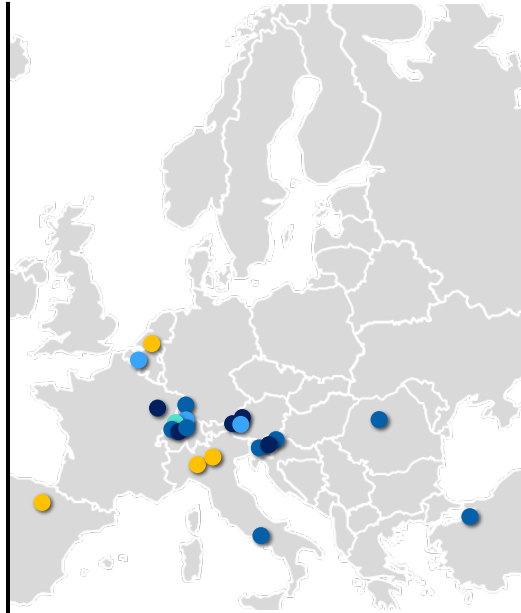
- **Manufacture and Deliver high quality medicines to patients worldwide across 5 technology platforms**
- **Optimized network**, and strategically investing across **advanced technology platforms** (xRNA, RLT and CGT)
- **Deep technical expertise** supporting pipeline development, and building **new capabilities**
- **A partner of choice** with **multiple contract manufacturing agreements**

Our global manufacturing network provides high-quality medicines for patients

Americas¹ (5 sites)



Europe (20 sites)



Rest of the World (7 sites)



New RLT sites announced in USA, China & Japan

● Large Molecules (6) ● Aseptics Drug Product (3) ● Cell & Gene Therapies (3) ● Small Molecules (13) ● Radioligand Therapies (7)

Current Global Manufacturing network delivering to patients worldwide from 32 sites²

- Further building and expanding capacity across Biologics and Radioligand therapy
- Deep manufacturing technical expertise enables to deliver medicines for patients worldwide
- Innovative and product-centric approach to ensure competitive costs while adhering to sustainable & safe practices

1. Investment committed to add new sites in US across platforms over the next 5 years; 2. Updated as on Mar, 2026, and subject to change during the course of the year

Key success factors to deliver high-quality medicines for our patients



**Quality &
Compliance**



**Customer
Service Levels**



Financials

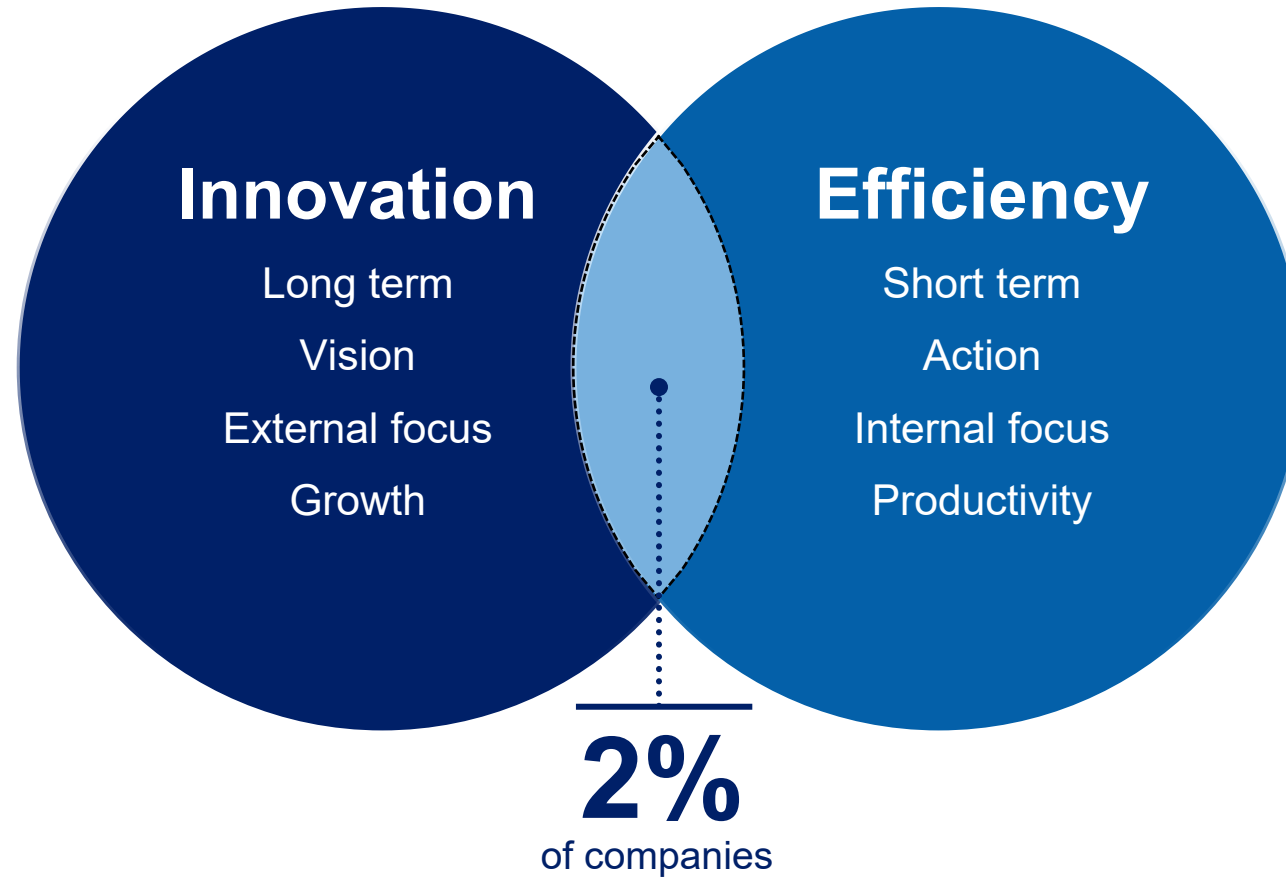


**Health &
Safety**



**Environmental
Sustainability**

Execution requires a balanced approach to excel at both innovation and efficiency



Source: BCG Henderson Institute

Novartis is pioneering advanced manufacturing technologies to deliver high quality medicines to patients

siRNA¹ Drug Substance



- Advanced platform utilizing various forms of ribonucleic acids (RNA) to modify biological pathways
- Highly automated and Efficient delivery

Biotechnology Drug Product



- Mature platform for high quality biologics & biosimilars production
- Mammalian, Microbial, Plasmid DNA, Viral Vectors
- Fully Automated and End-to-end manufacturing

Cell & Gene Therapy manufacturing



- Advanced platform supporting manufacturing and supply of
 - Novel CAR-T cell therapies
 - Cutting-edge gene therapies
- Personalized manufacturing

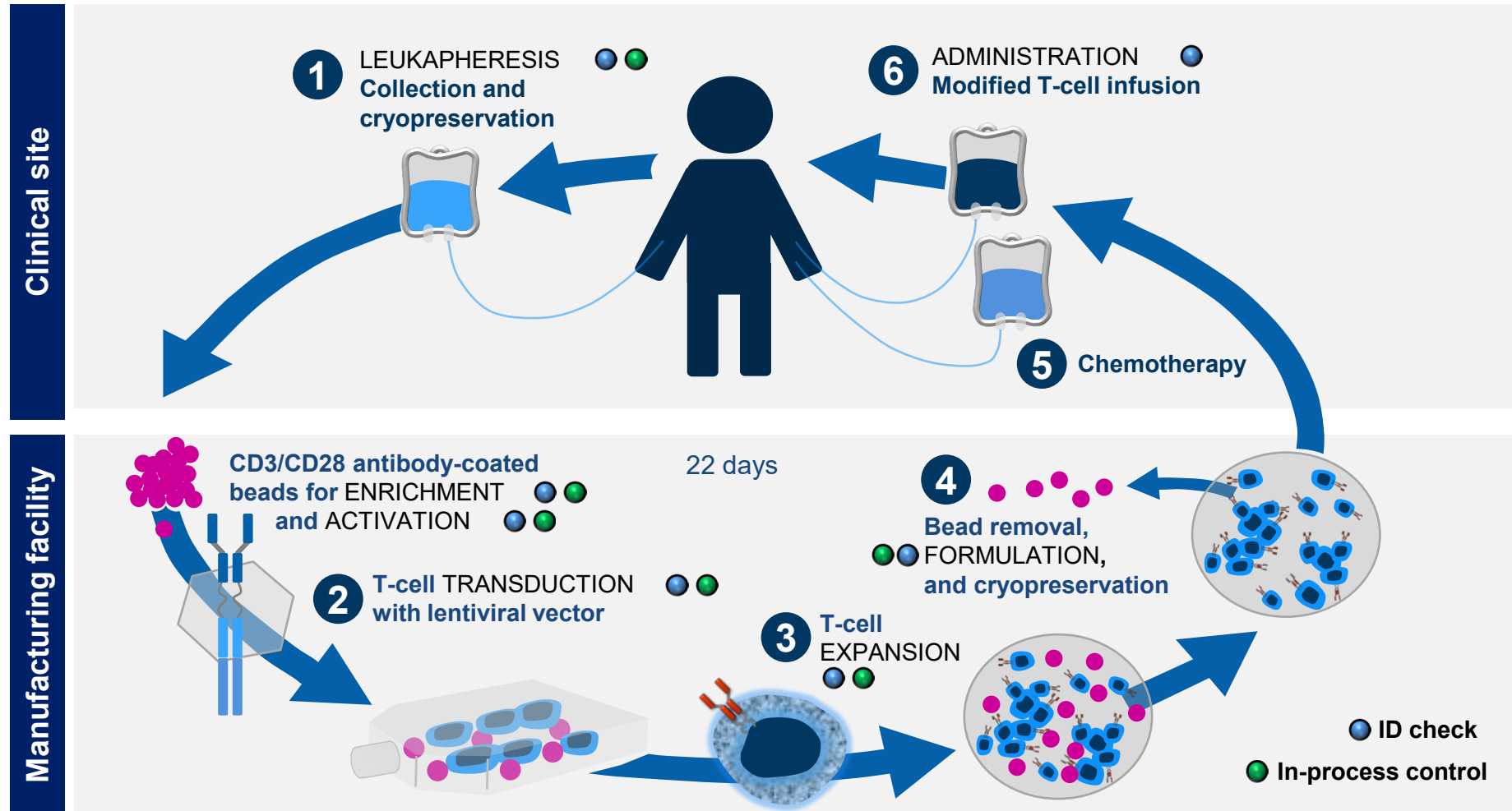
Radioligand Therapy manufacturing



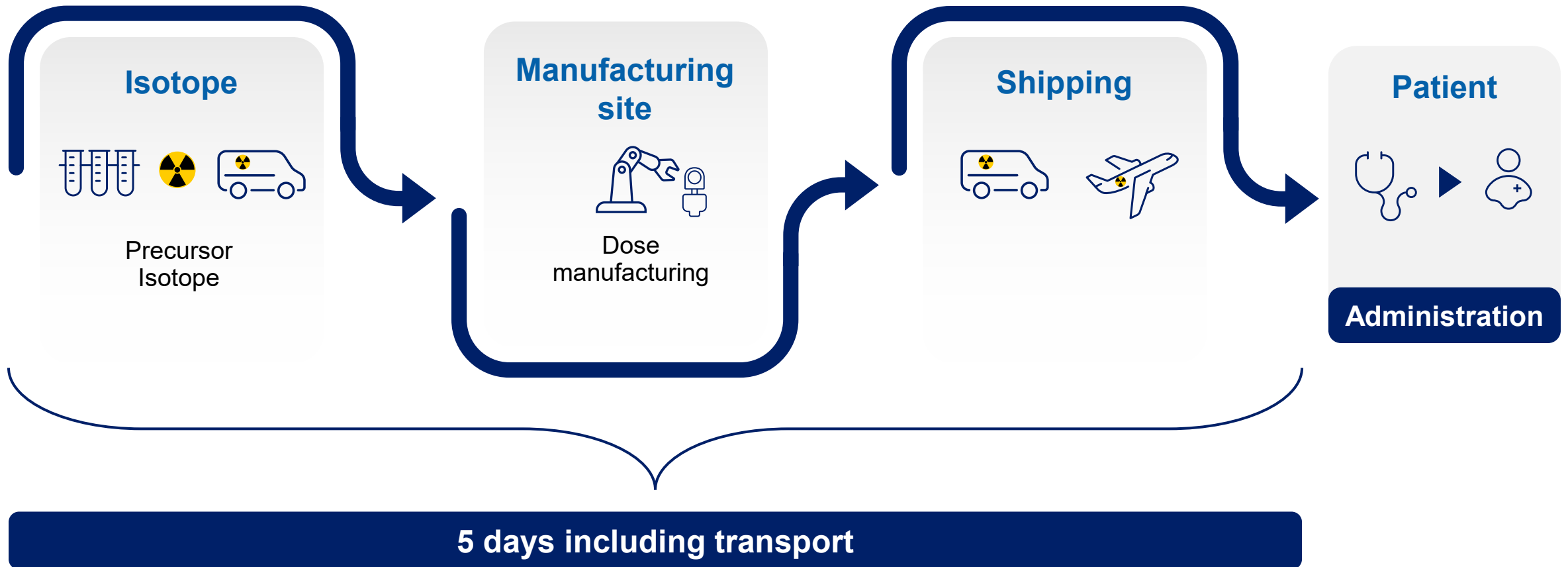
- Advanced platform supporting manufacturing of precision treatments
- On-time delivery to specialized centers

1. siRNA: Small Interfering Ribonucleic Acid;

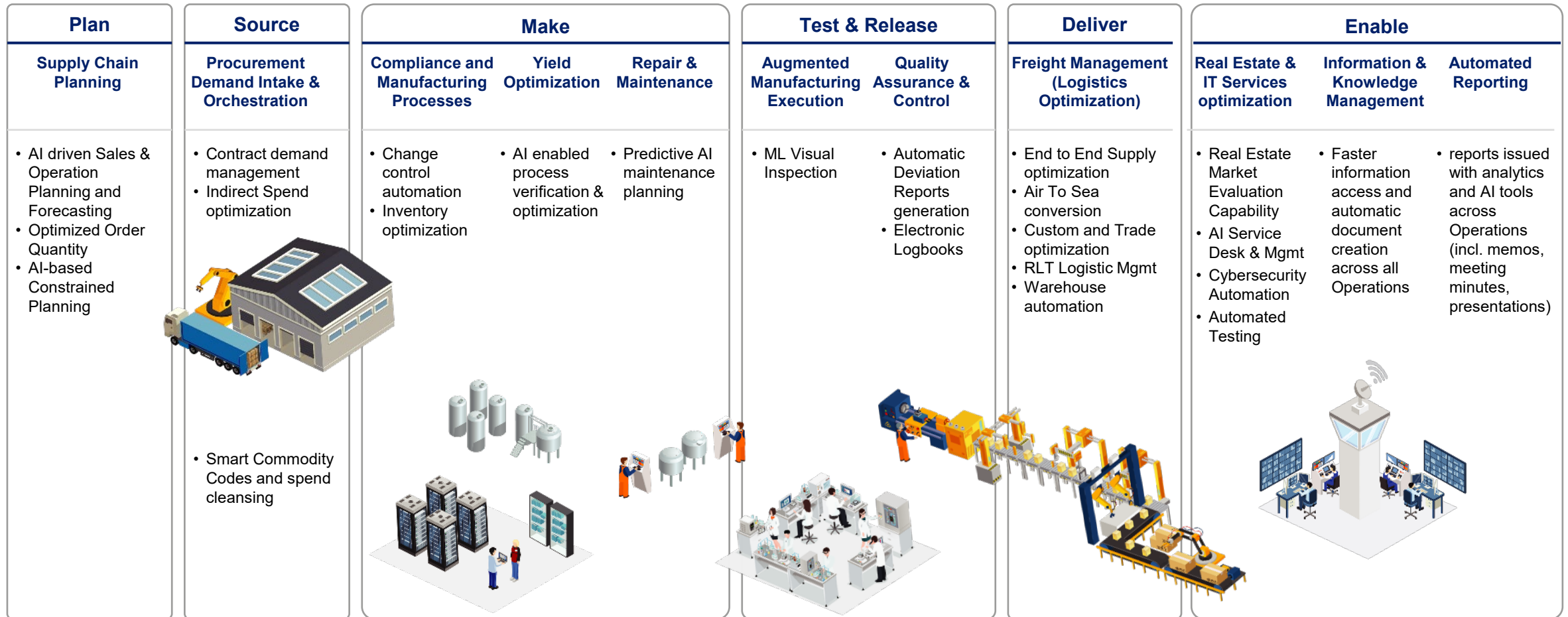
Cell Therapy - An autologous immunocellular therapy



Manufacturing and supply of Pluvicto[®]: Every hour counts



Operations is leveraging Automation and AI to drive innovation and enhance efficiency across value chain




Use Case: Visual Inspection at manufacturing sites

Improving processes increases quality & safety for patients

Filled syringes undergo automatic visual inspection that distinguishes air bubbles from actual defects, minimizing False Eject Rate (FER) and avoiding manual re-inspections

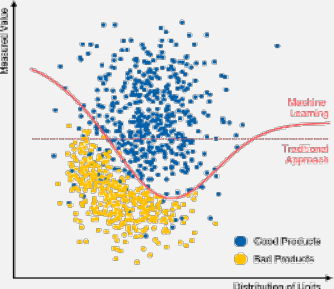
Scope

- Implementation of **Machine Deep Learning Technology** on existing equipment
- Full automated visual inspection for key Brands in Stein: **Xolair, Cosentyx and Kesimpta.**





Benefit

- Reduction of eject rates from **10-30% down to 2-3%**
- TPT and Inventory cost Reduction**
- Increase of **27% equipment utilization**
- Process Automation Level Increase from **51% to 65%**
- Improves HSE standards**



Process Improvement Metrics

Infeed	➔	Automatic Inspection	➔	Automatic Reject	➔	Inspection of ejects	➔	Ringcode labelling	➔	Outfeed
0%		100%		100%		100%		100%		0%
0%		90%		100%		0%		100%		0%

Operations Organizational setup to deliver on our focus areas

Delivering high-quality medicines for patients



Small Molecules



Large Molecules



Aseptics
Drug Product



Cell & Gene
Therapies



Radioligand
Therapies



Supply Chain
Management



Global Manufacturing
Functions



Global
Quality

Enhanced experience for customers and our people



Data, Digital & Information
Technology (DD&IT)



Lean Digital Core
(LDC)



Procurement



Real Estate



Health, Safety and Environment &
Environmental Sustainability



Contract Manufacturing
Organization

Contract Manufacturing Organization (CMO) Aspiration



Aspiration

- Become the **CMO of choice** for pharma companies to serve more patients and a contributor of Novartis growth



Levers

- As a reliable manufacturing partner for Contract Manufacturing across **all technologies**

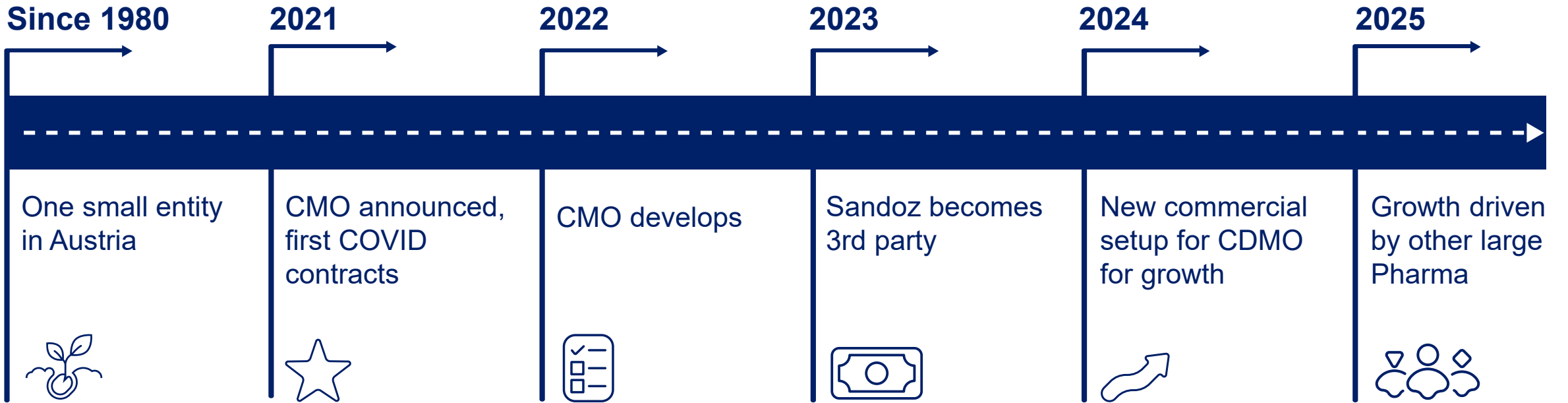


Impact

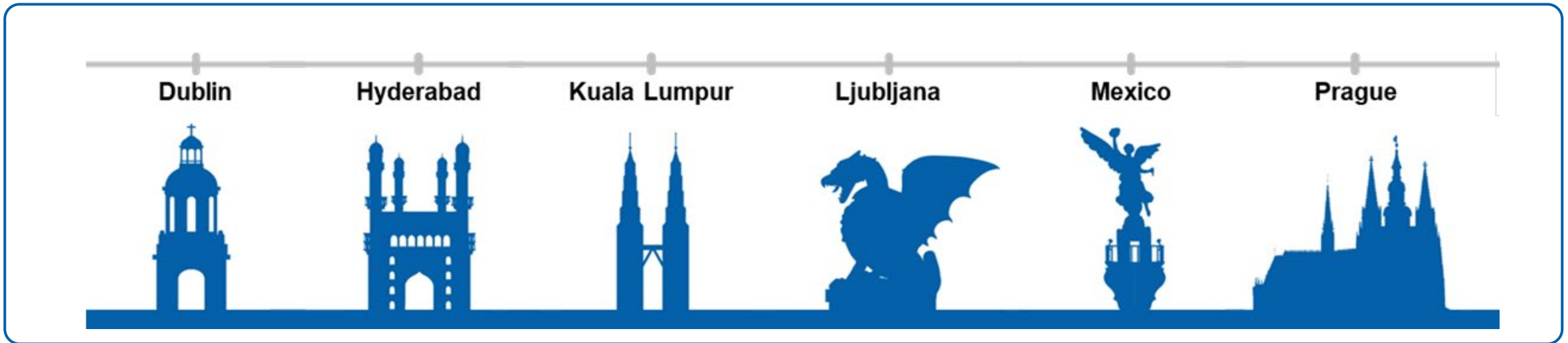
- **Fill Idle capacities** within Novartis network
- Strong contribution to **Novartis Financials**








Evolution of Novartis Contract Manufacturing

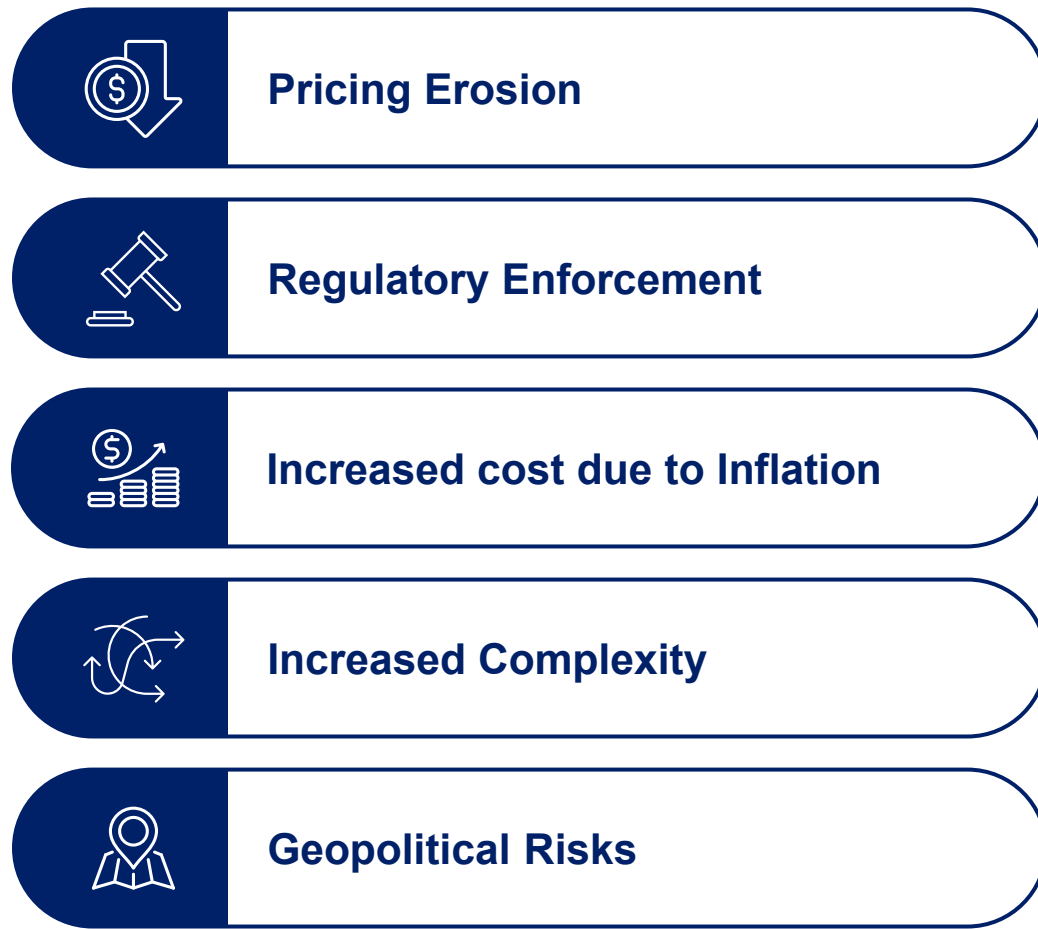


NOCCs are key enablers of Novartis' strategy



 <p>Innovation</p>	 <p>Operational excellence</p>	 <p>Talent pipeline</p>	 <p>Nurturing culture</p>	 <p>Business resilience</p>
<p>Evolving into centers of transformation, future capabilities, and innovation, becoming a source of competitive advantage for the company</p>	<p>Delivering efficiencies through simplification, standardization, and digitalization, while generating economies of scale</p>	<p>Serving as a pipeline for recruiting and developing leadership talent, thereby expanding the talent pool for business units and global functions</p>	<p>Corporate centers represent ~25% of the office-based workforce, significantly influencing enterprise culture, diversity, and people experience</p>	<p>A source of business resilience and a key enabler of enterprise risk management</p>

Challenging external environment requires continued focus on Technology and operational excellence



Operational Excellence 

To remain competitive and deliver sustained performance

Empowering the next generation

Novartis SchoolLab



Igniting a passion for science among young individuals. More than 3,000 pupils visit the Novartis SchoolLab each year.

Vocational education and training



Our program equips trainees with valuable knowledge and skills across 11 different occupations.

Students, Graduates & Early in Career Professionals



We offer internships and graduate programs for:

- Students
- Graduates, bachelor's and master's students, Ph.D. students and postdocs
- Early in Career Professionals (2-5 years of experience)



#weareoperations

Follow us and our President, Steffen Lang, on Social Media and join the Operations conversation:



Steffen Lang



steffenlangnvs

**Reimagining
medicine,
together.**