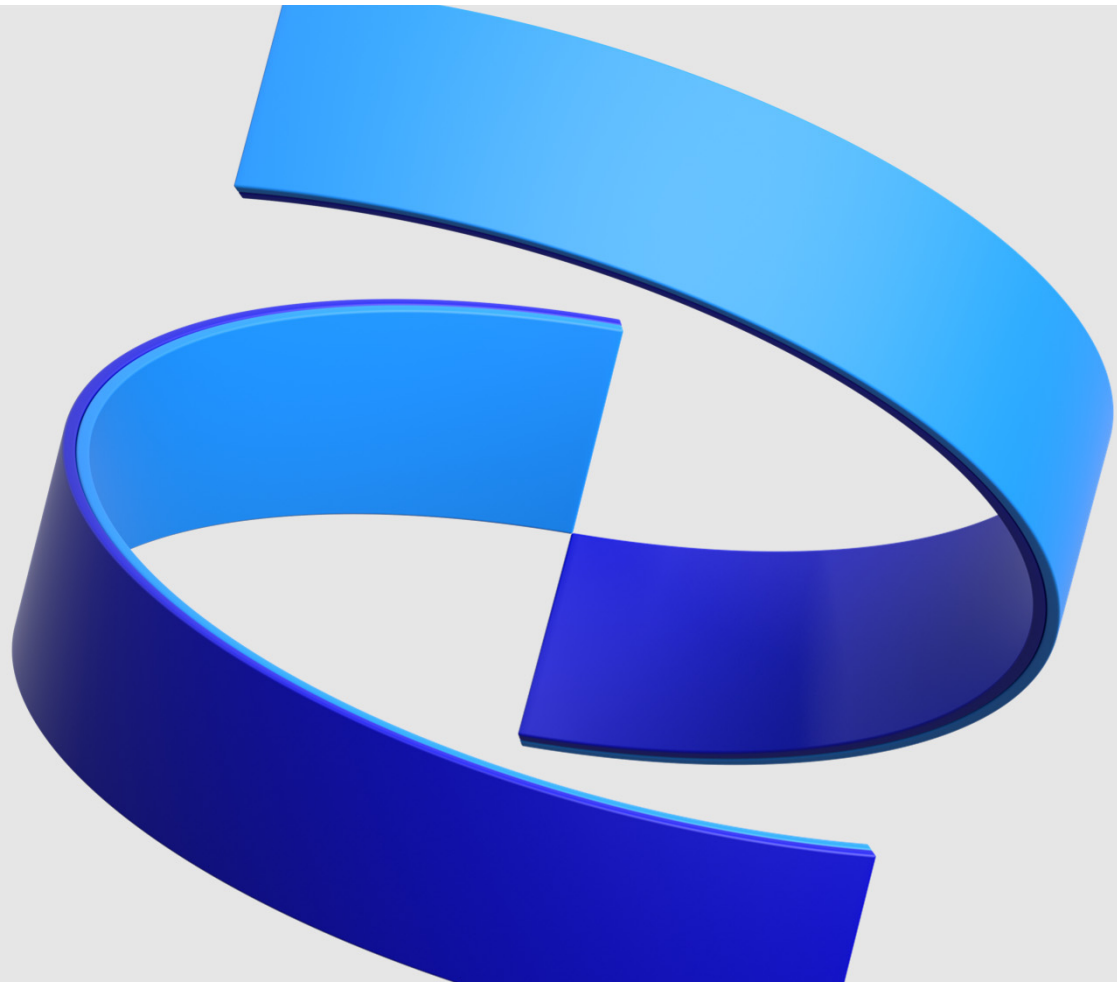

PGS FREIBURG

Smart & sustainable
factory as enabler to
bring new medicines
to the world faster

Anne Kessler, Director Manufacturing
Dec 1, 2021



Pfizer Worldwide

Second largest
pharmaceutical group
worldwide

Established 1849

75,000 people

42 manufacturing
sites

Sales 2020:
USD 41.91 billion

Distribution in
156 countries

95 research and
development
projects



Pfizer Blueprint

Breakthroughs

that change patients' lives.

PGS Freiburg

- One of the most advanced pharmaceutical manufacturing sites for manufacturing highly efficient drugs in the world
- Largest Pfizer plant for manufacturing solid oral dosage forms (SOD)
- Production & packaging for 156 countries: 30 percent each for Europe, USA, and Asia as well as 10 percent for South America/Africa
- New Product launch site



PGS Freiburg – Facts and Figures

155,000 m² surface

1,800 associates

1 out of 5
associates working
in Quality

Growth course: 300
new hires in 2021

Solid Oral Doses (SOD):
tablets & capsules,

43 APIs

More than 200 product
formulations

3,500 SKUs

Supplying 156 markets

Manufacturing
6 billion tablets &
capsules per year
= 1.4 million packages
per day

Packaging 12 billion
tablets & capsules per
year

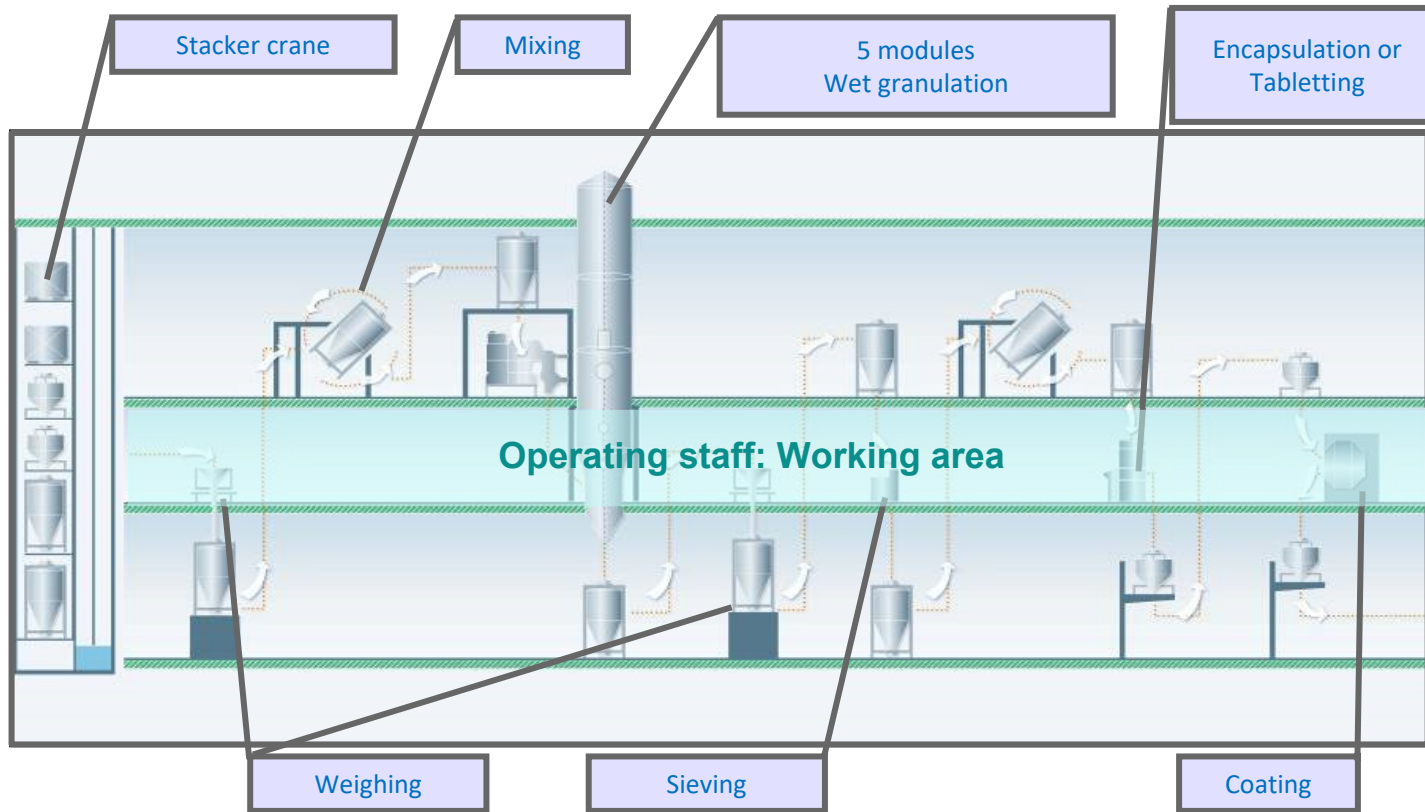
Production Made in Germany

6 billion capsules & tablets (SOD) per year

- Automated dispensing: no traditional dispensing rooms
- CMT (Continuous Mixing Technology): processing 400 kg per hour; more reliable & efficient than traditional batch processing
→ cost savings 30 percent
- Instead: full digitization including control and data collection of the entire equipment



Fully automated multi-product manufacturing of tablets & capsules



Highest degree of automation along the supply chain

- Replenishment: Orders are triggered automatically by using customer warehouse inventories for production management
- Thorough control of material flows along the entire production chain up to the compilation of orders
- Incoming materials for automated dispensing in Big Bags: Contents are identified through the walls by means of Raman spectroscopy
- Data are automatically sent online to the quality organization for release



Packaging

12 billion tablets & capsules per year

- 30 packaging lines
- Wide range & high flexibility
- PVC blisters, aluminum, wallets, childproof wallets, bottles
- Robots for special trays
- Blister Express:
computer-controlled changeovers
- POD with online printing



HighCon: Cutting-edge pharmaceuticals production

- Manufacture of pharmaceuticals with high and highest efficacy OEB1-4
- Production start planned for 2022
- Floor space: 5,070 m², height: 22 m
- Usable space: 7,127 m²
- Total volume of building: 126,673 m³



PPD: Process & product development

- Research & Development, Global Technology & Engineering
- 75 staff
- Introduction of new product SOD
- Responsible for new products in the co-development process after the first clinical phases and successful manufacture of small batches by Drug Product Development



PCMM: Worldwide unique in the commercial field



- High space and equipment requirements
- Processes distributed over several floors
- Material has to be transported between the different process steps
- Defined batch sizes



- Up to 50 percent less space
- Development cycle reduced by 50 percent
- Variable batch sizes
- Predictable lead times, max. 30 kg per hour
- Smart control and monitoring for excellent quality

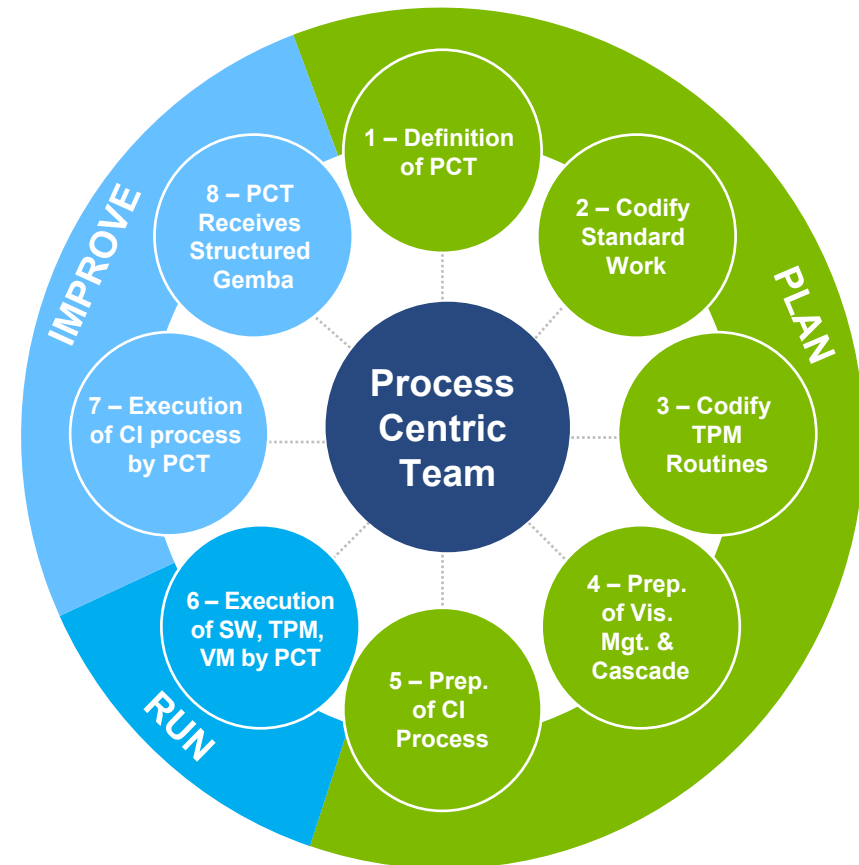
IMEx: Lean Management

An orchestra works by all instruments playing the same song in the same key in the same pace. This means translated

IMEx – Integrated Manufacturing Excellence

All production and adjacent areas will be organized according to the same principles and the processes will be controlled with the same methods.

Aim: Lastingly making high-quality products and bringing them to the customers fast and cost-efficiently



IMEx Praxis

Process Centric Teams

- Collection of line key data
- Definition of improvement objectives
- Workshops with coaches help the teams to optimize process parameters such as changeover times
- 3,000 improvements per year made & implemented by colleagues



Pfizer Green Site

- Involving local and supra-regional start-ups in *Green Site* projects
- Participating in European research projects *European Green Deal* in collaboration with universities
- Optimizing ventilation and a/c systems with CI / energy efficiency
- Evaporator reduces the ecological footprint of our wastewater
- Pellets plant can cover up to 95 percent of our energy demand
- Large-scale photovoltaic plant



Our Values and Behaviors

Courage



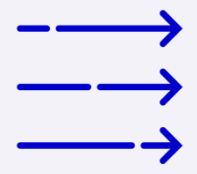
Think big
Speak up
Take decisions

Excellence



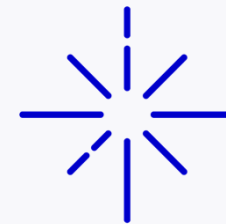
Focus on what's
important
Sense of ownership
Measure progress

Equity



Embrace different
opinions
Act with integrity
Reduce health care
inequalities

Joy



Be proud of our
contribution
Appreciate each other
mutually
Have fun