

Pharmaceutical industry and wholesale trade in the medical care system

Institute of Pharmaceutical Technology and Biopharmacy
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Leaders





It was established (Basel, Switzerland) at the time (1896) when industrial revolution was changing the face of Europe.



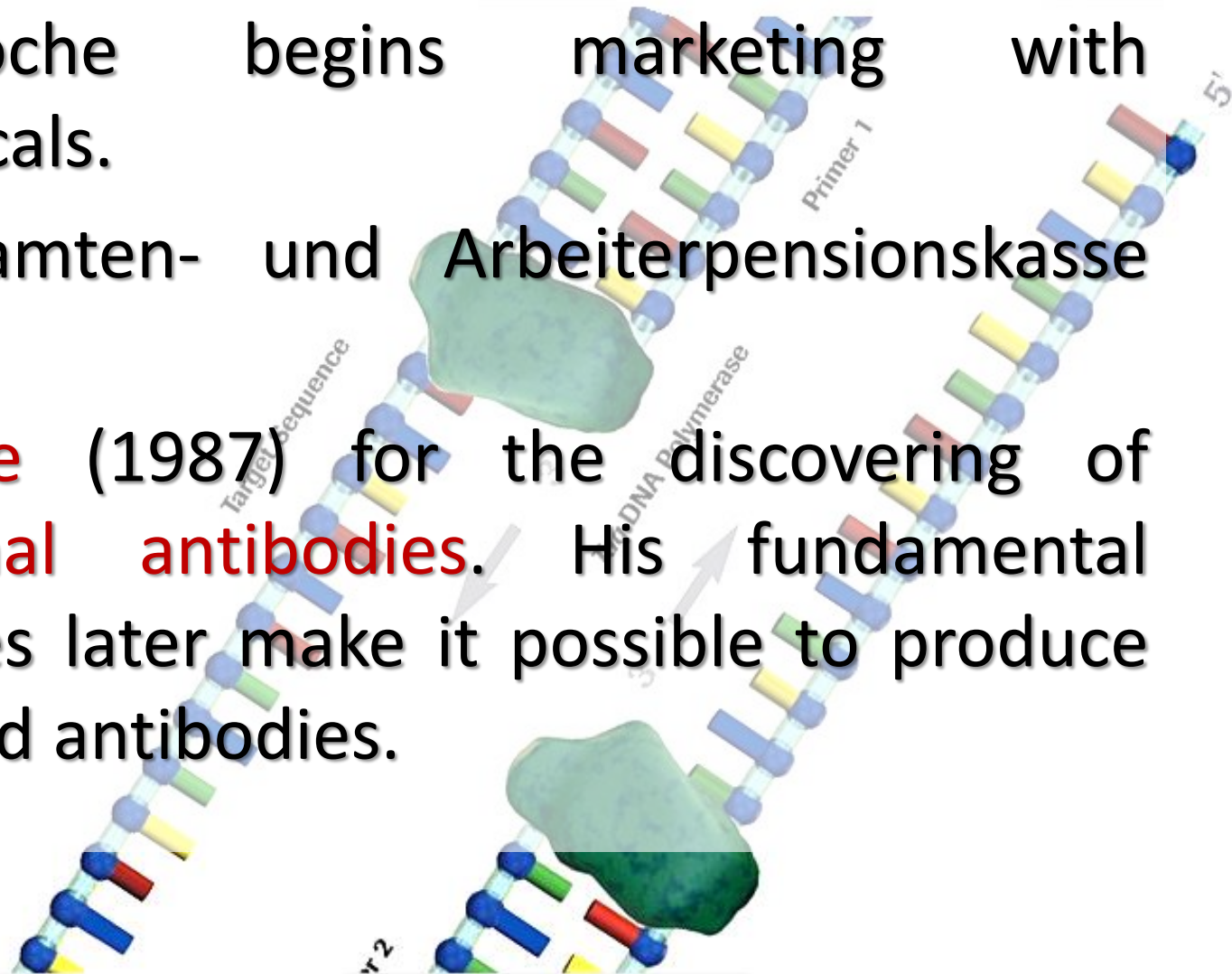
the drug stayed on the market until 1964

Roche

1920- Roche begins marketing with biochemicals.

1921- „Beamten- und Arbeiterpensionskasse Roche“

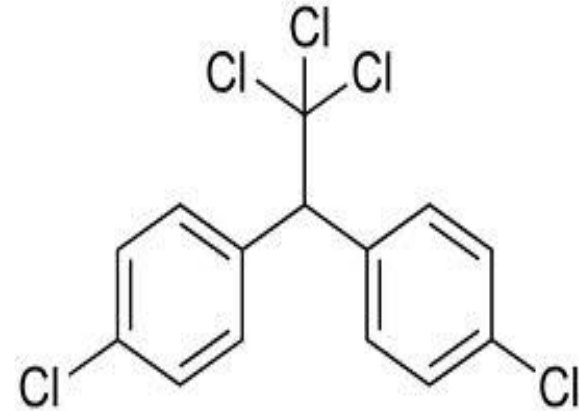
Nobel Prize (1987) for the discovering of **monoclonal antibodies**. His fundamental discoveries later make it possible to produce humanised antibodies.





Novartis is came to life by merging Sandoz and Ciba-Geigy manufacturers. (Basel, Switzerland)

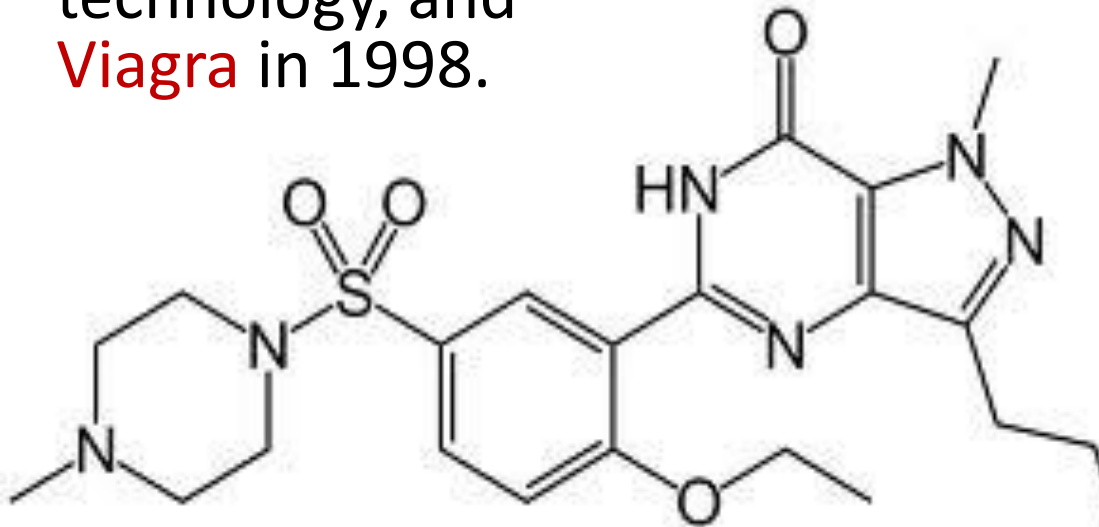
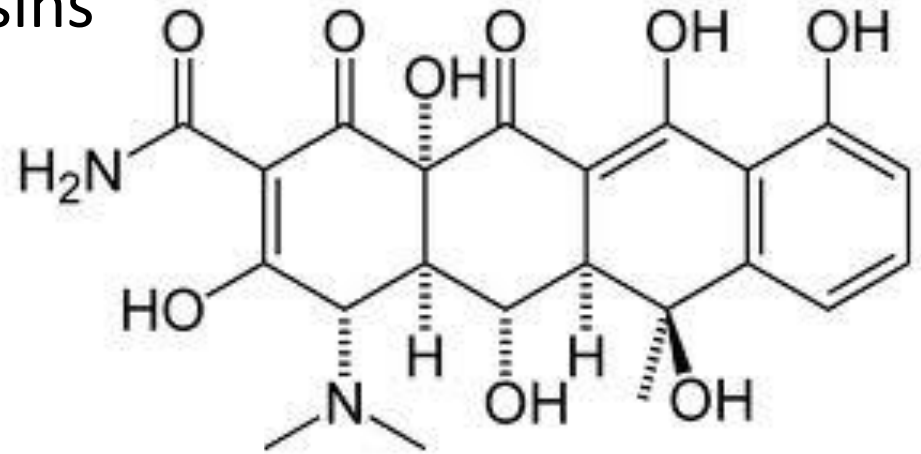
Nobel prize for the discovering of **DDT** (1948)

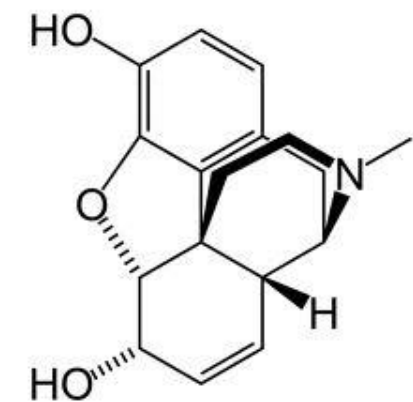




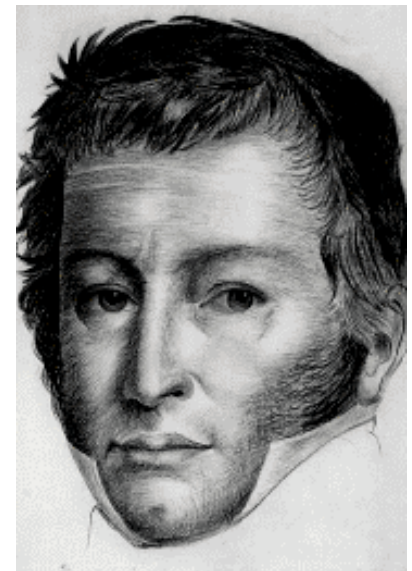
NY, USA. It is founded by cousins in 1849.

It is a research-based pharmaceutical company: oxytetracycline, fermentation technology, and **Viagra** in 1998.

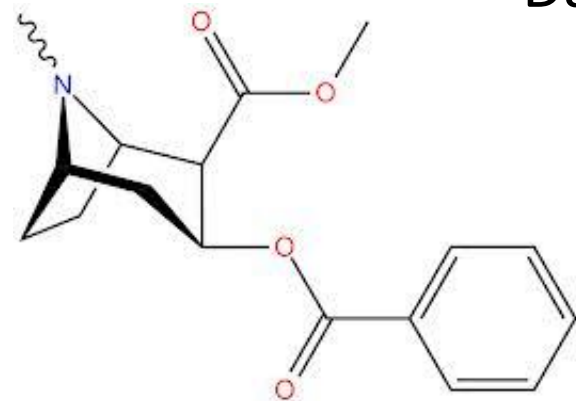




The world's oldest operating chemical and pharmaceutical company. In 1668, Friedrich Jacob Merck, an apothecary, assumed ownership of the Engel-Apotheke ("Angel Pharmacy") in Darmstadt, Germany.



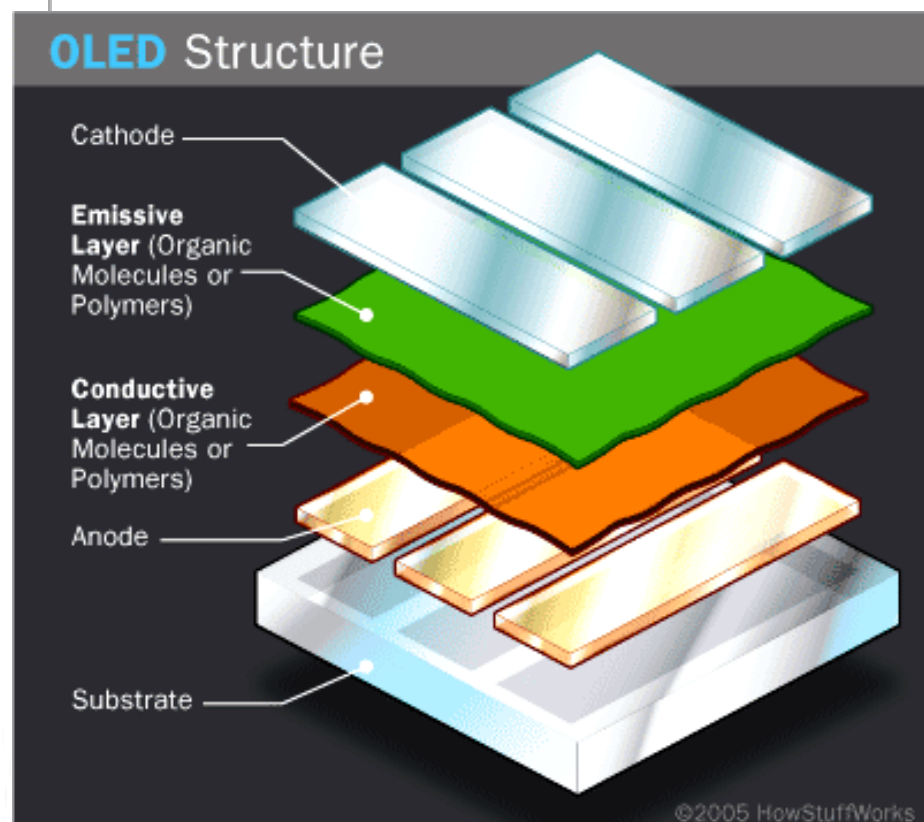
Friedrich Jacob Merck





Erbix[®]



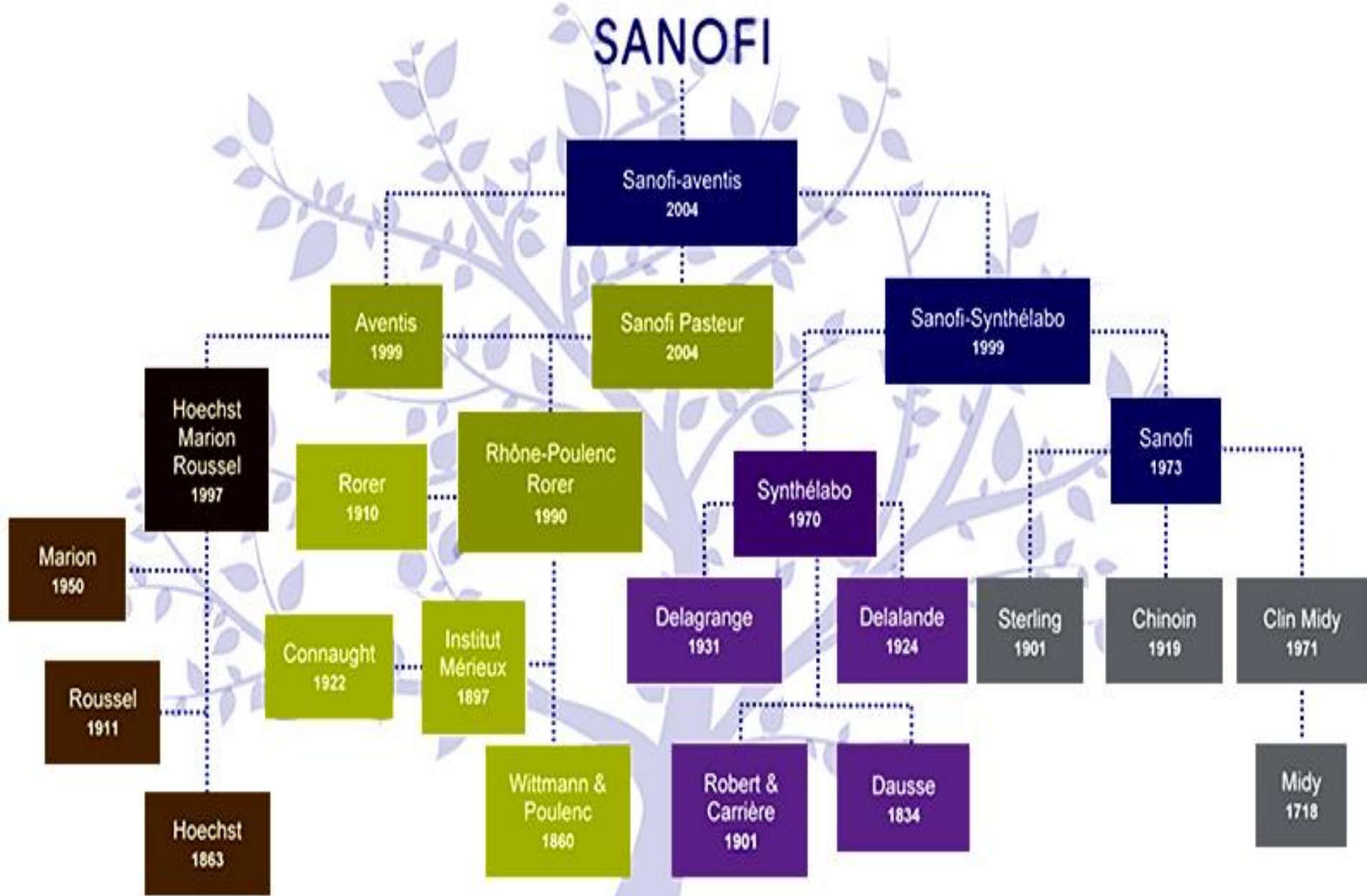


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In analytic, Merck plays a leading role in the development of chromatographic materials



SANOFI





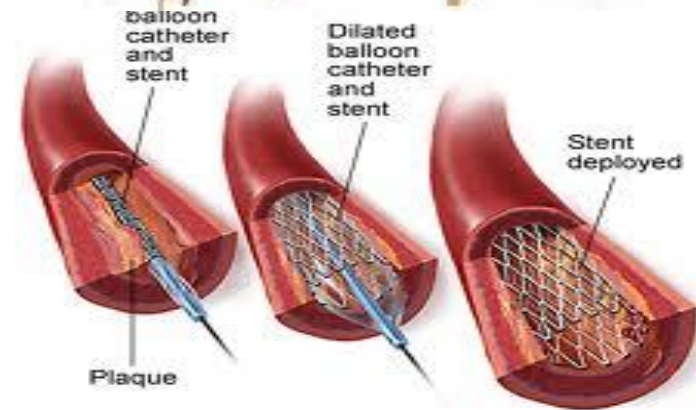
Until 1924 the company did not prepare any medication just food supplements and raw materials.



Johnson & Johnson

1886 Three brothers founded it in New Jersey, U.S.

- first commercial first aid kits
- adhesive bandages
- contraceptive gel
- acetaminophen (aspirin-free for children)
- first disposable contact lenses





Bayer

Friedrich Bayer (the dye salesman) founded the company in 1863 (Many dye factories were built at this time).

Rubber synthesis

"drug of the century" → **ASPIRIN®**

Prontosil, the first sulfonamide.





British-Swedish company

Astra AB was founded in 1913 in Södertälje, Sweden by 400 doctors and apothecaries as a non-profit organization.

1998 plans for a fusion with Zeneca what happened at 1999.

Lilly

The company was founded in 1876.

first innovation was gelatin-coating for pills and capsules
first company have mass-produced penicillin, insulin and recombined DNA technology

The world's largest manufacturer and distributor of psychiatric medications





The company was founded by Chicago in 1888.

In 1985, the company developed the first HIV blood screening test.

world leader in immunoassays and blood screening



RICHTER GEDEON

The largest pharmaceutical factory in Hungary. (1901)

extracts from animal organs
lecithin products, antiseptic and
febrifuge products as well as pain
killers

(Hyperol, Kalmopyrin, Tonogen)

synthetic steroid





The word Egis comes from the Greek word “aigis”, which refers to the shield of Pallas Athene, symbolizing protection.

The main products of the company are nutriments, malted preparations and medical drops.

Between 1955 and 1966, the company launches 104 new generic and licensed products onto the market



Pharmaceutical industry

What are the requirements for a medication?

- **Quality**
- **Safety**
- **Efficacy**
- **Economy**

'NIL NOCERE'

The Safety is the primary concern of the preparation. The patient does not get any harmenss from the preparation, if it can not reach its desired effect. Think here to the Hippocratic Oath. It requires a new physician to swear upon a number of healing gods that he will uphold a number of professional ethical standards

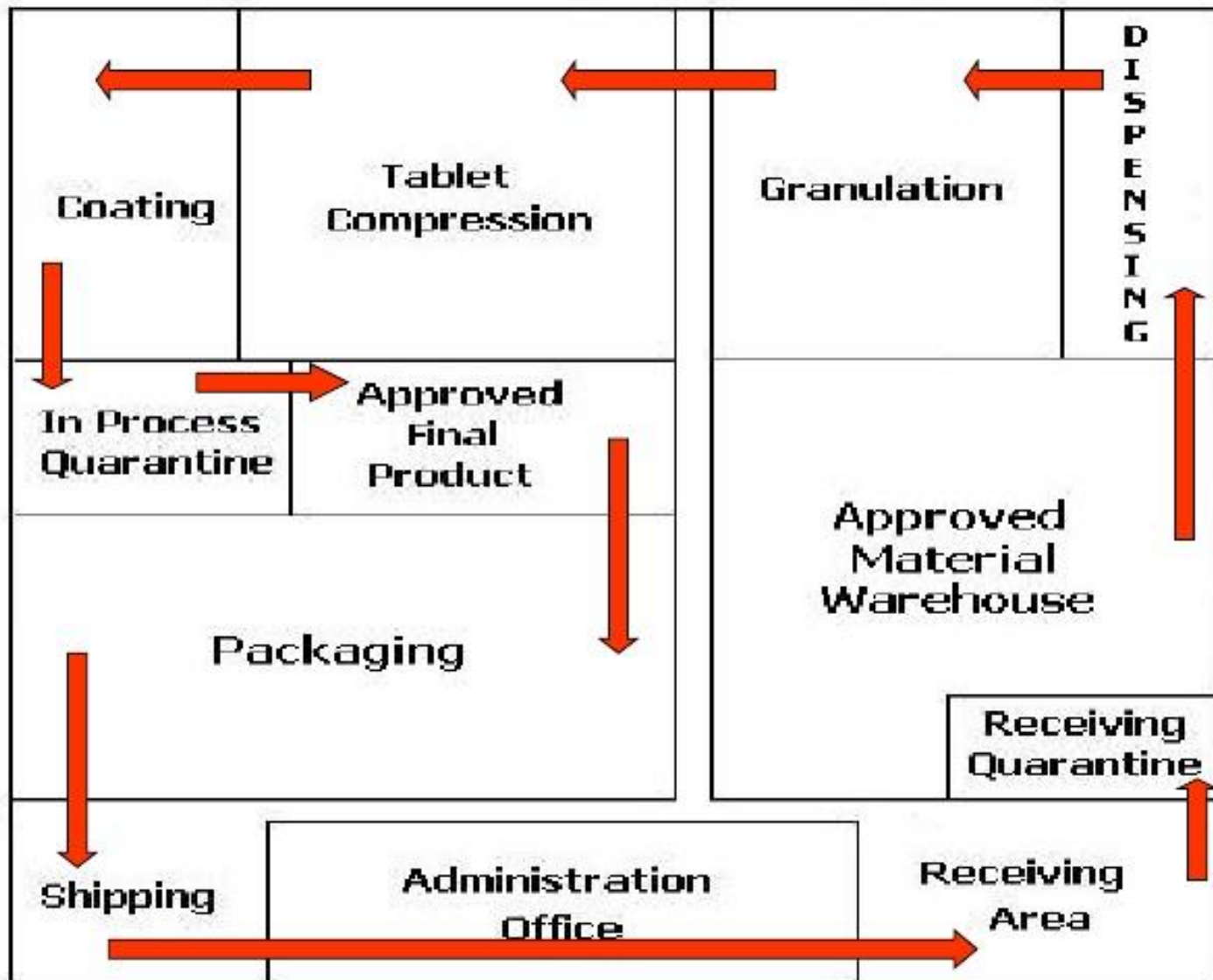
Pharmaceutical industry

GMP – Good Manufacturing Practice

In the GMP, the followings are qualified:

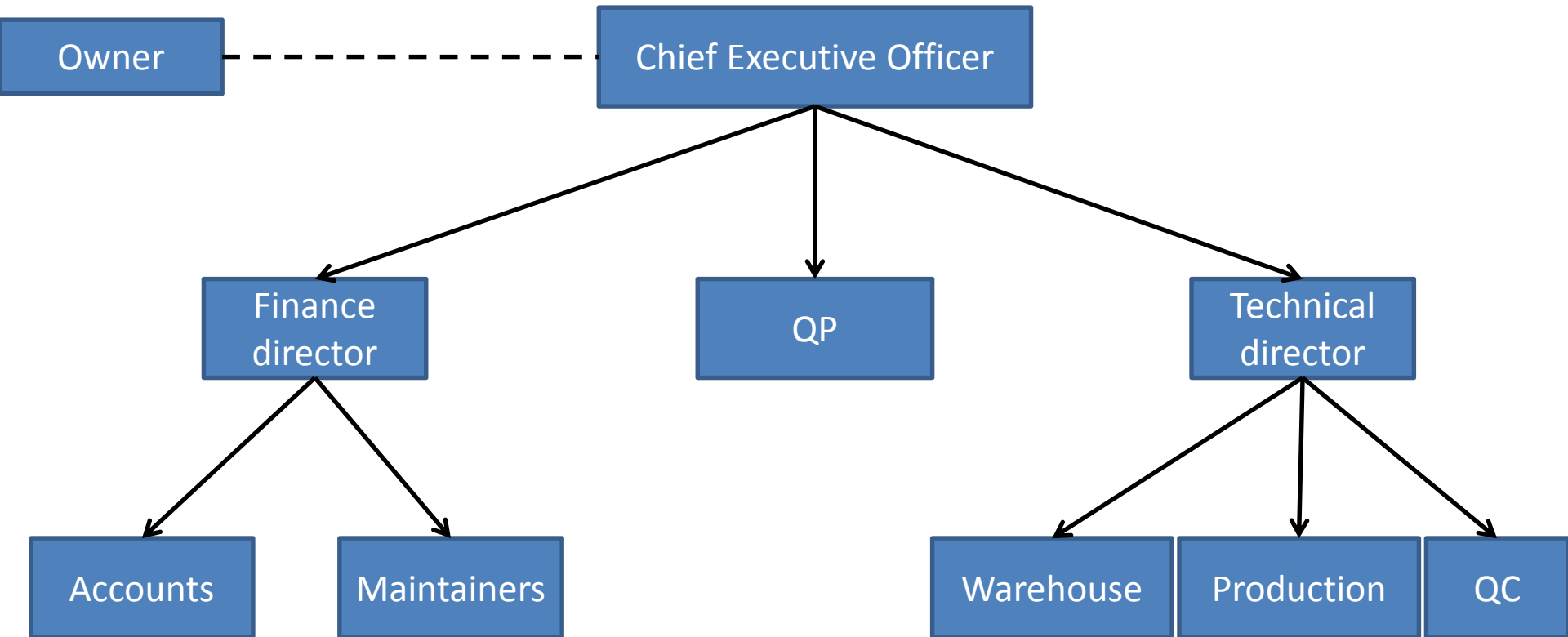
1. control, and the quality control process (guidence)
2. person, staff
3. rooms and equipments
4. documentation
5. production
6. quality control (inspection)
7. wage labours (contract-based production and analysis)
8. complaints and product recall
9. self-control (inspection)

Pharmaceutical Industry



Pharmaceutical industry

How to build up a pharmaceutical company, what is the general structure?



Wholesalers

‘Wholesaling, distributing the sale of goods or merchandise to retailers, to industrial, commercial, institutional, or other professional business users, or to other wholesalers and related subordinated services.’

From the companies to the pharmacies or to other distributors
(no direct contact with the patients)

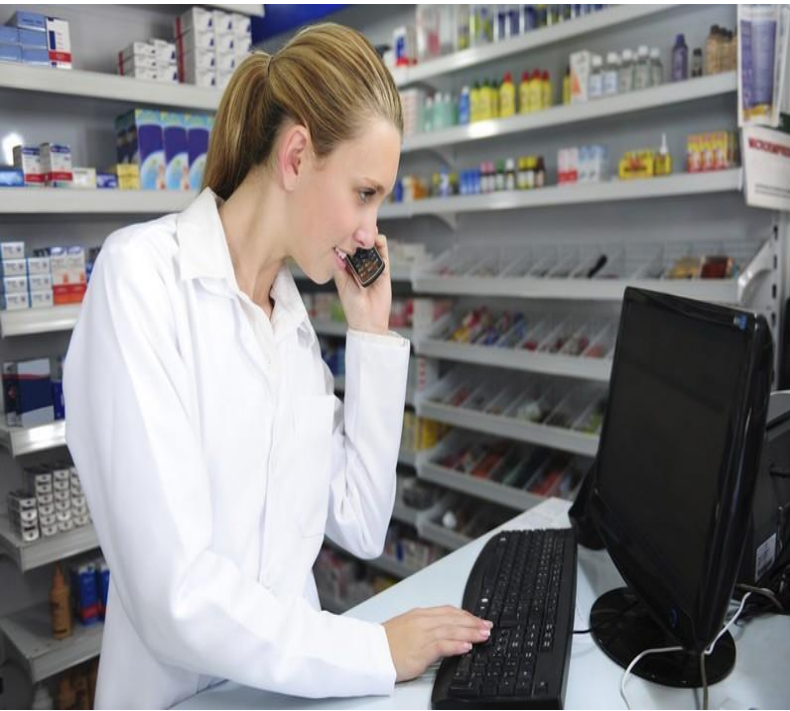
Main tasks:

- **storage and**
- **transport**

inspected by drug registrar authorities.

The generic manufacturers (companies) have a right to sell their products direct the pharmacies too.

How do they work?



How do they work?



How do they work?



How do they work?



How do they work?



How do they work?



How do they work?



What can we buy from a wholesaler?

- Medications
- Raw materials
- Homeopathic medications
- Packaging materials
- Therapeutical equipment
- Medical foods / nutritions (not just for babies)
- Herbal medications, vitamins
- High purity waters (for babies)
- Dietary supplements

*Thank you for your
attention*