

Pharmaceutical innovation

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Huge medical needs

Big benefits if industry succeeds

➤ **Cardiovascular Diseases**

cause over 2 million deaths in the European Union (EU) each year

➤ **Cancer**

in Europe affects 1 in 3 men and 1 in 4 women at some time in their lives. It is estimated that 1,2 million EU citizens die from cancer each year

➤ **Allergic Disease**

Currently, 80 million people in Europe have some form and the prevalence is increasing

➤ **Diabetes**

Currently affects 246 million people worldwide and is expected to affect 380 million by 2025

➤ **Alzheimer's Disease**

Affects 26 million people worldwide, the number is expected to be four times that of today by 2050

➤ **HIV/AIDS**

In 2007, 32,2 million people were affected, and 2,5 million became newly infected

Source: www.efpia.org



Pharmaceutical innovation

A key contributor to the European knowledge-base

➤ **€26.0 billion invested in R&D**

- 19% of global business R&D expenditure and higher percentage than any other industrial sector

➤ **5th largest industrial sector**

- 3.5% of the total EU manufacturing value added

➤ **643,000 highly qualified jobs**

- all requiring university degree and big proportion at least a PhD degree
- 107,000 of them in R&D

➤ **Trade surplus of €44.4 billion**

- highest contribution among high-tech industries to Europe's trade balance

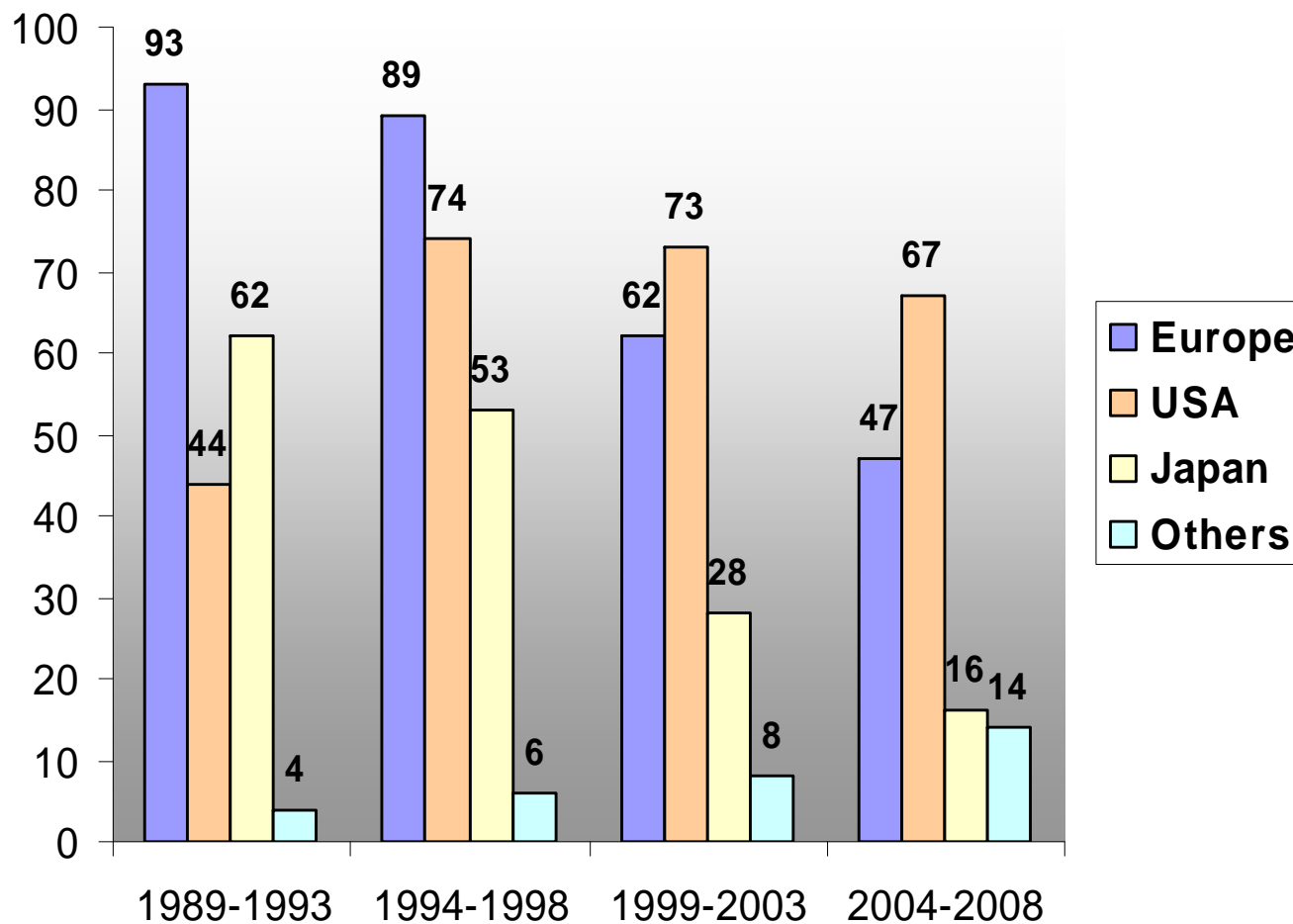
➤ **2-3 billion USD**
to bring one drug from
concept to market

➤ **12 years**
to develop a new
medicine

➤ **One in 5000**
new chemical
compounds make it to
market

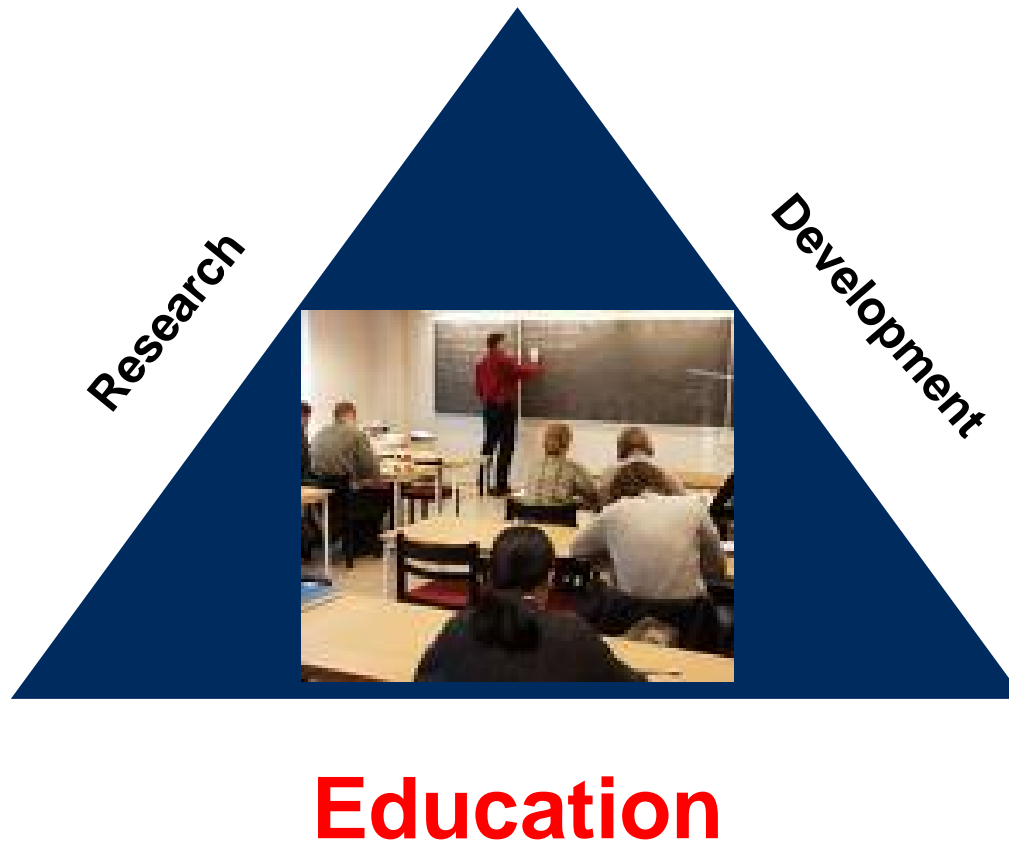
➤ **80% drug
projects fail**

New Molecular Entities 1989-2008



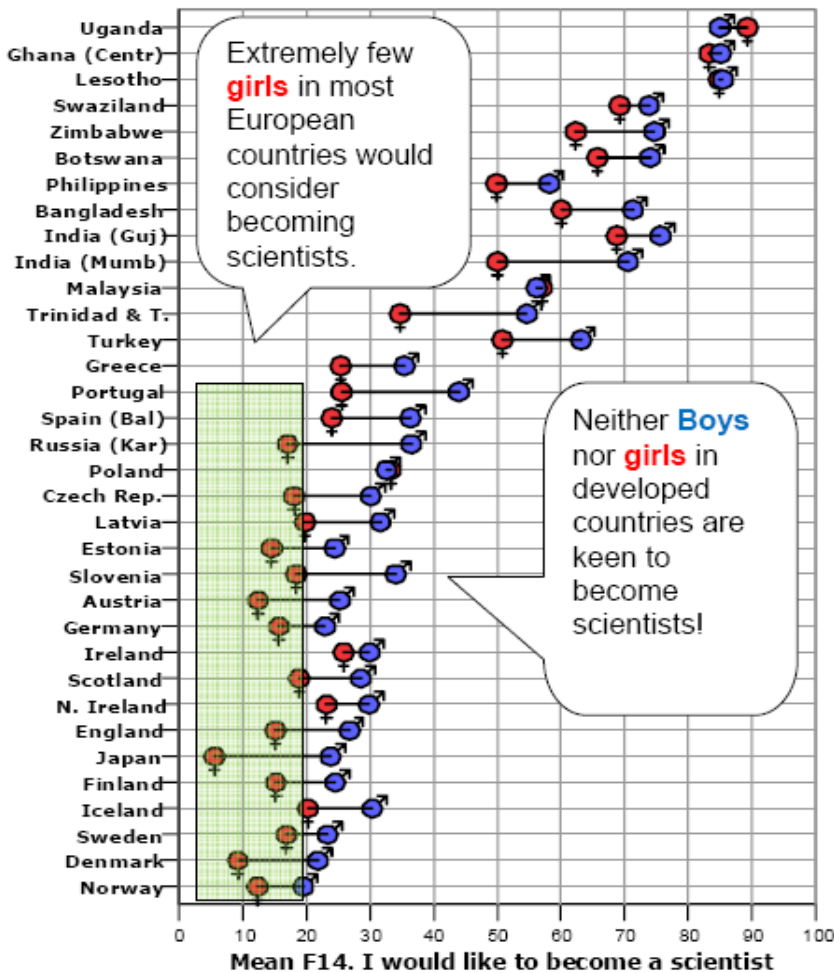
Source: SCRIP - EFPIA calculations (according to nationality of mother company)

The Knowledge Triangle for a sustainable knowledge based economy



Mind the gap

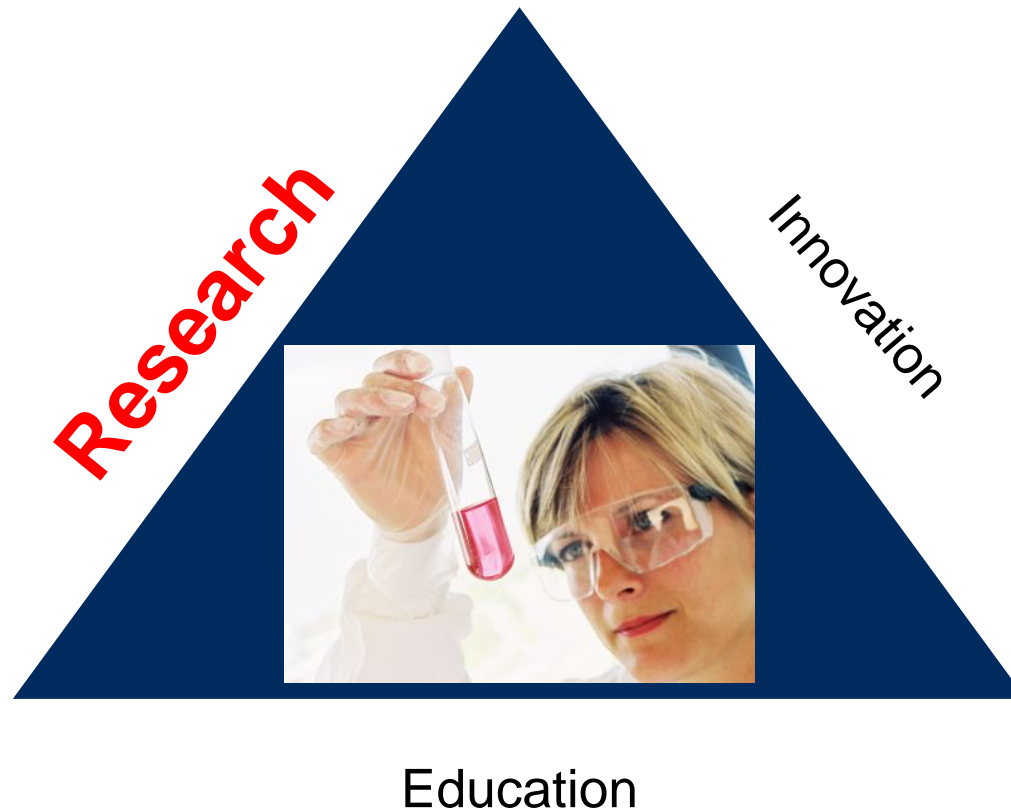
There will be a lack of scientists in the future!



Svein Sjøberg and Camilla Schreiner: ROSE background paper

- Young Europeans' low interest in mathematics, science and technology has to be tackled by the educational system
- **Include R&D in the education from the start**

The Knowledge Triangle for a sustainable knowledge based economy





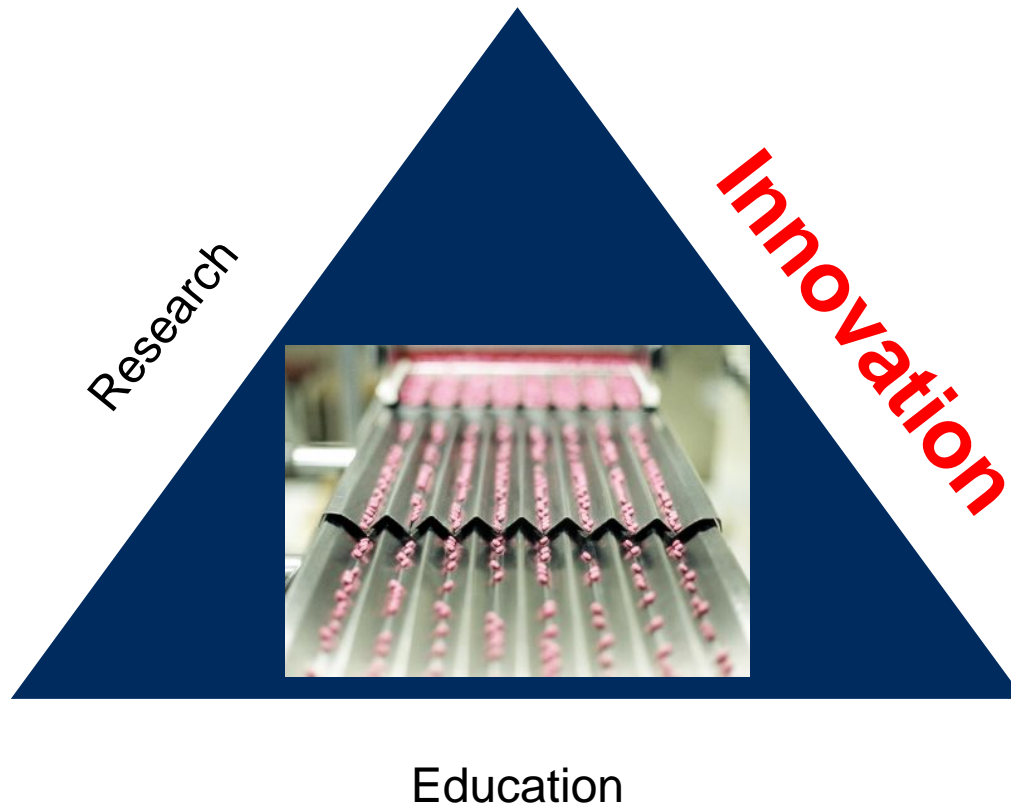
EU needs

massive investments in R&D

- **The share of GDP has to increase – far from the target in the Lisbon agenda (3% of GDP in 2010)**
- **The European Research Area has to be strengthened and research in Europe better coordinated**
- **Joint Technology Initiatives like Innovative Medicines Initiative (IMI) is a promising way forward**
- **The research infrastructure has to be given more attention**
 - biobanks
 - health registers
 - healthcare registers

The Knowledge Triangle

for a sustainable knowledge based economy



EU needs



a healthcare sector driven by innovation

- **Clinical research of excellent quality is of utmost importance for the patients and the pharmaceutical industry**
- **A healthcare sector that asks for new innovations to the benefit of patients and is willing to pay for new efficient treatments**

good governance and efficient authorities

The "cycle" of pharmaceutical innovation" needs:

- **Transparent and rigorous ethical framework**
- **Strong intellectual property and data exclusivity protection**
- **Clear and predictable regulatory and antitrust framework for the approval of medicines**
- **Fair reward for innovation, including incremental innovation**
- **Early patient access to innovative medicines**
- **Transparent, fair, swift and predictable pricing and reimbursement processes**
- **Reasonable risk-benefit balance in the regulatory approval processes**

The pharmaceutical industry's contribution



Education

- Examination works
- Trainee posts
- Summer schools
- Thesis
- Teachers from industry
- Science ambassadors
- Study visits

Research

- Commitment to find solutions to unmet medical needs, triggering research in important areas
- Private public partnerships e.g. IMI
- Collaborations
- Grants
- Infrastructure
- PhDs
- Postdocs
- Adjunct professors

Innovation

- Products and services
- Precompetitive knowledge
- Dissemination of knowledge
- Creative ideas

EU needs



Politicians passionate about education and research to solve the challenges of tomorrow!

