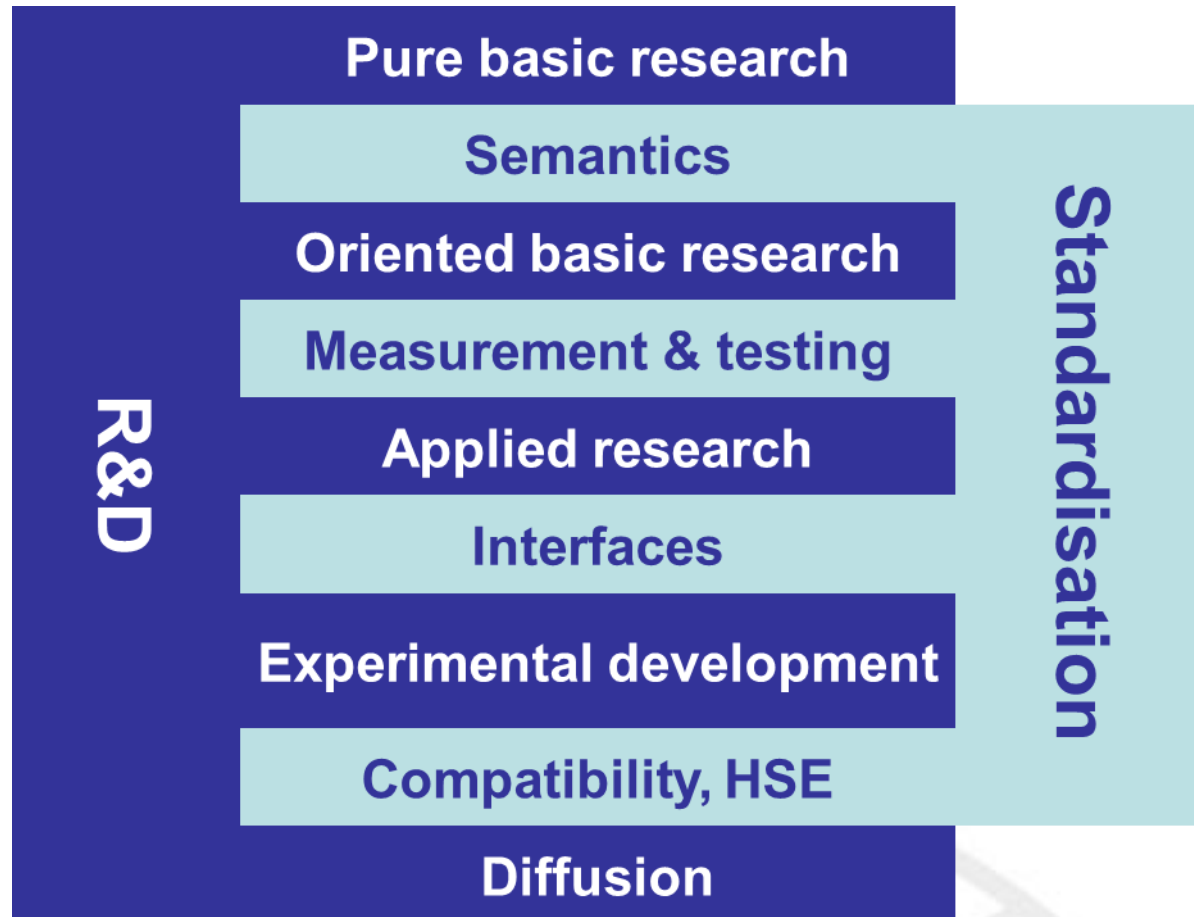


# Role of standards in the research and innovation process (2)

From prof. Knut Blind (Tech. University of Berlin, Germany)





# Quotes

*“Intelligently crafted standards that surface at just the right time can do much to nurture nascent industries and encourage product development simply by creating a trusted and reliable basis for interoperability”*

**Gordon Bell**, senior researcher in Microsoft’s Media Presence Research Group, former vice president of research and development at Digital Equipment Corp. (1960-1983), founder of Encore, and much more



## Quotes (2)

*“The old view of standards was to “agree on a format after industry use stabilize”. But today’s challenges require broad supply-chain alignment around the world, This alignment is the only sensible way to make any progress. In today’s interconnected ecosystem, standards can enable new growth and innovation for challenges that are too large for any company to solve by itself.”*

Steven Schulz, Chip Design Mag (describing the Open Access Ecosystem for EDA), *President and CEO, Si2*



# Some examples

## *Architecture-based approaches to international standardization and evolution of business model*

Junjiro Shintaku et al. Tokyo University

(Research focused on the optical storage industry – demonstrates how the shift to **modular product architectures based on open standards** triggered market growth and a new international division of labour. Market leaders from industrialized economies and new players from emerging economies have been able to share economic gains and collaboratively generate a much larger market.)

GSM in Europe and Nokia

Korea and CDMA (broadband infrastructure in Korea)

**Remarkable ISO examples:** Freight containers and Digital media (MPEG)



# Freight containers

*“The ability to ship things long distances fairly cheaply has been there since the steamship and the railroad. What was the big bottleneck was getting things on and off the ships..”*

**Paul Krugman**





# Freight containers



**Malcom Mc Lean**

*Brought to life the concept of **Intermodal transportation** – combining a radically innovative business idea with clever engineering*

Direct Road Movement to Port



Intermodal/Export



Intermodal



Intermodal/Domestic

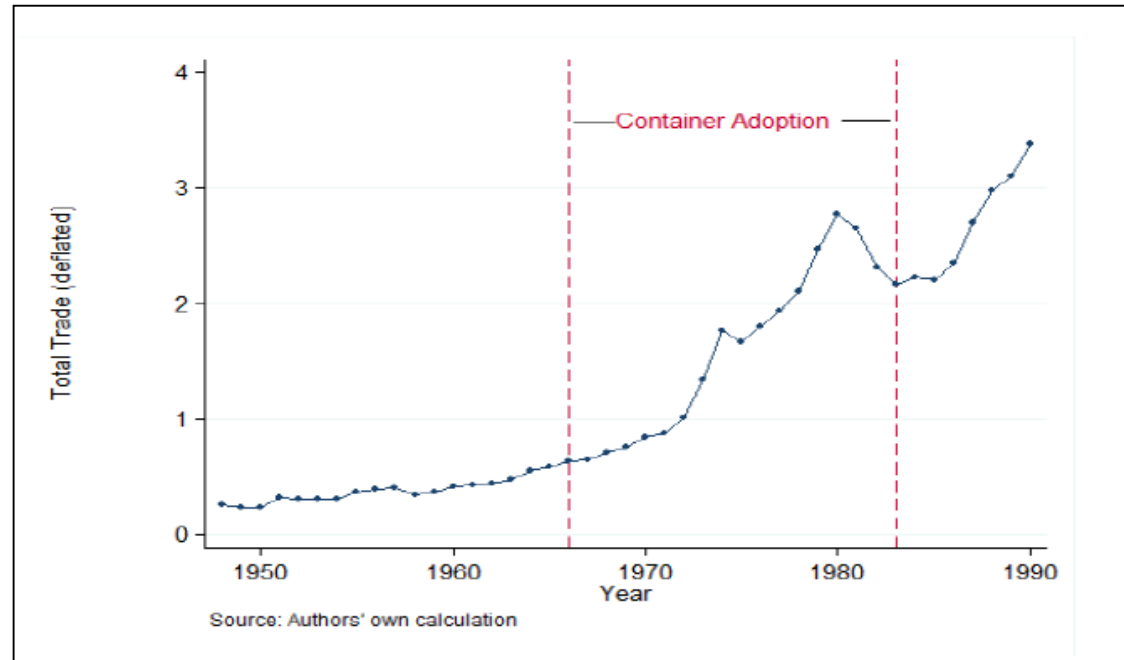






# Impact of containerization

Containerization is considered probably the most important driver for the development of global trade



*Daniel M. Bernhofen, Zouheir El-Sahli, Richard Kneller, School of Economics and Management, Lund University (Sweden)*



# Impact of containerization

"I talked to an old London dockhand some time back. He allowed as how in 1970 it took **108 guys about five days to unload a timber ship**. Then came containerization. The comparable task **today takes eight folks one day**. That is, a **98,5 % reduction in man-days**, from 540 total to just eight."

**Malcolm McLean**, inventor of the shipping container.

*Time Magazine, Asia, May 22, 2000*

