



Knowledge and Technology Transfer @ CERN



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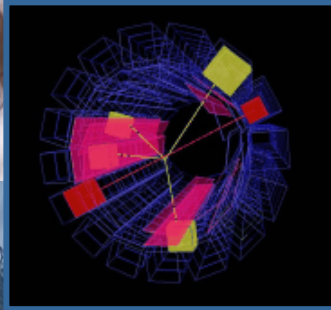
Outline

- TT @ CERN
- CERN & Industry
- Knowledge transfer

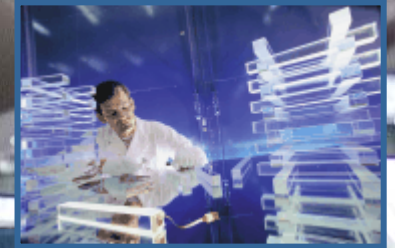
CERN

where the scientific knowledge and the technology are transferred to industry and society

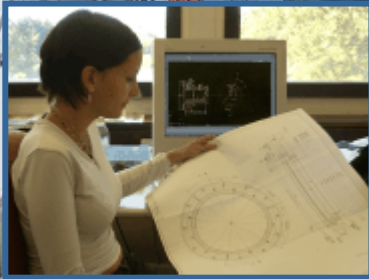
Research



Technology



Training



Collaboration



CERN: Science and Technology

In addition of being a centre of excellence for HEP, CERN Member States want to make the Laboratory known as a "centre of excellence for technology and knowledge"

TT policy:

- Maximize technology & know-how dissemination throughout the Member States, with equal opportunities.
- Take all the necessary IP protection measures to support dissemination.



TT @ CERN

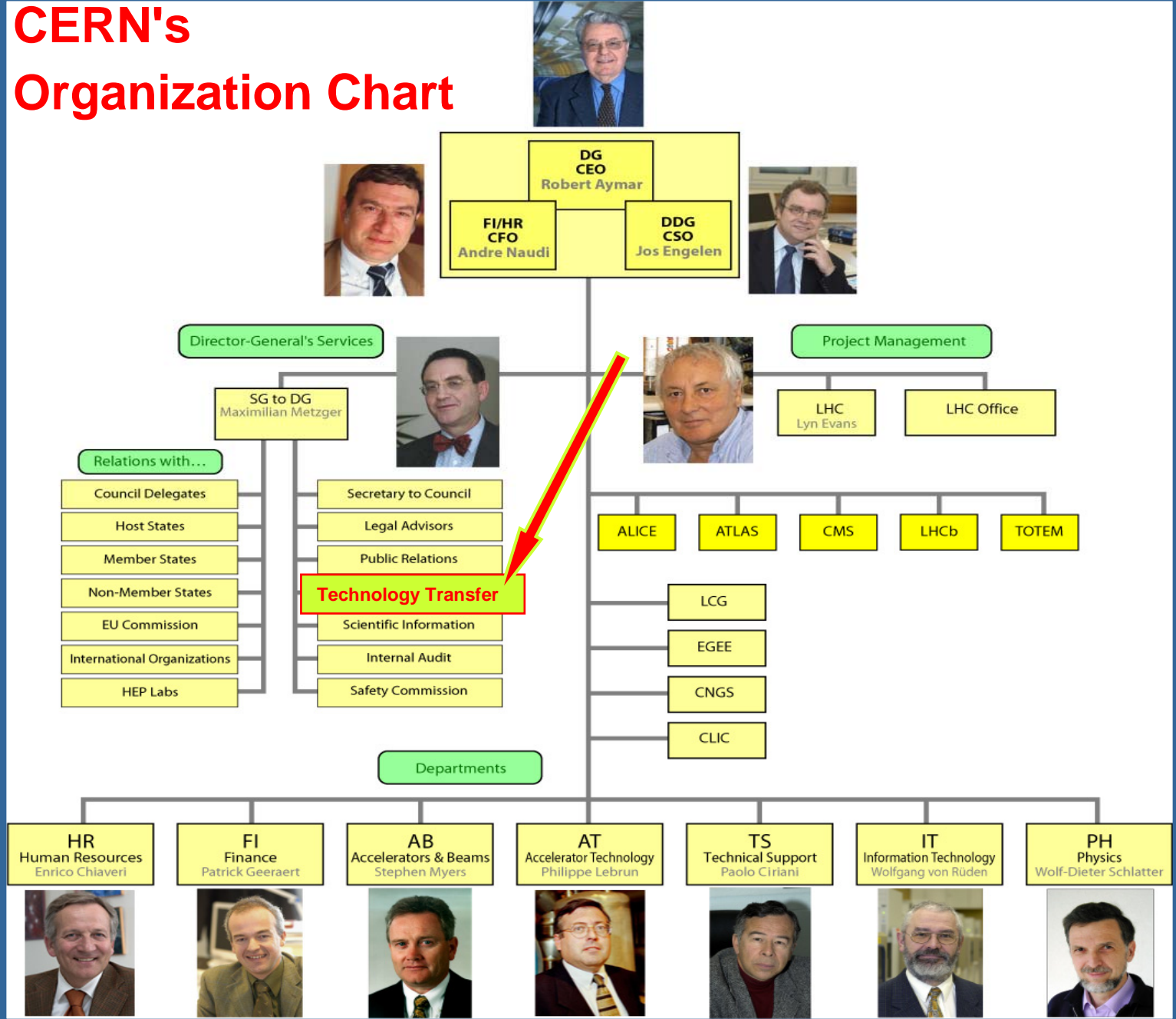
Technology Transfer is through:

- TT R&D projects:
 - R&D collaborations,
 - Partnerships with Industry,
- Commercialization of IP:
 - Licences,
 - Services & Consultancy,
- Purchasing.

Knowledge Transfer is through:

- People

CERN's Organization Chart





CERN & Industry

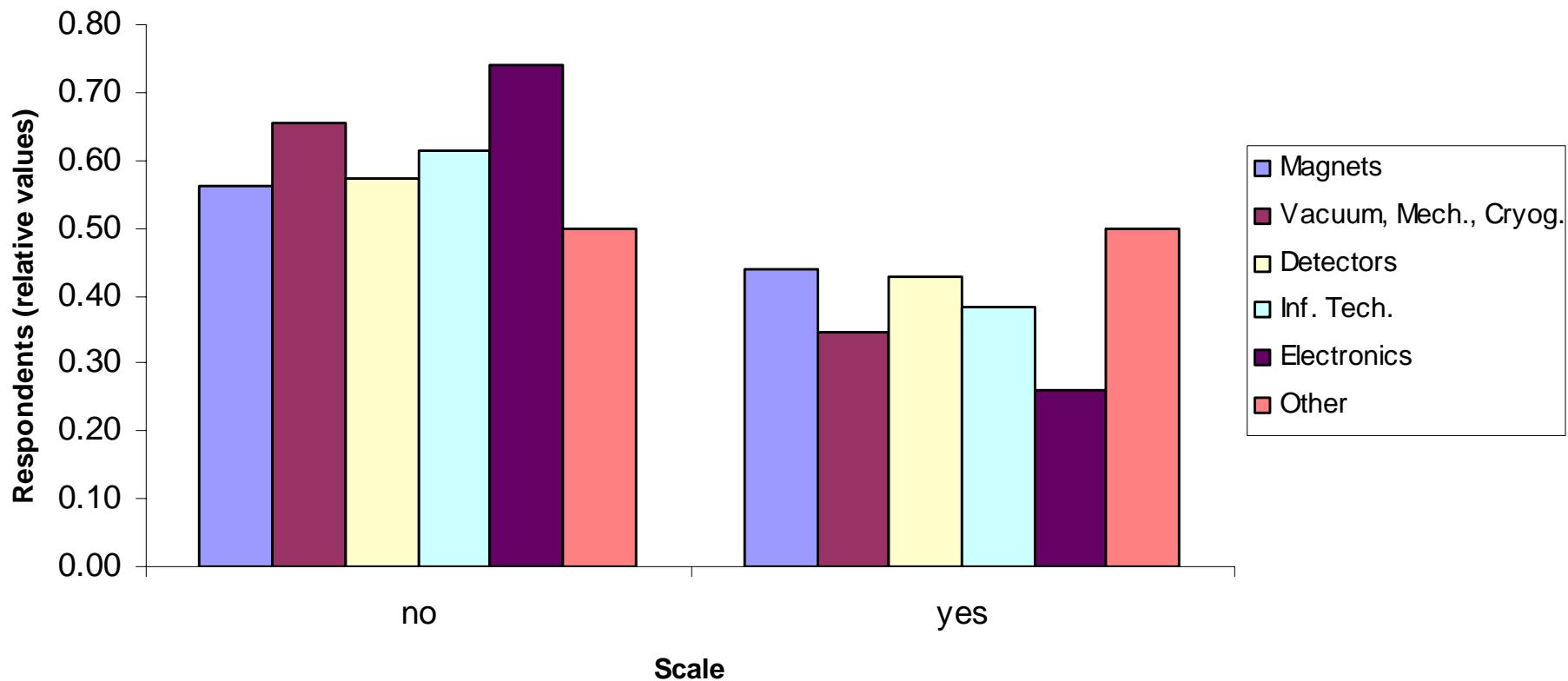
Procurements from 1997 to 2001:

- 6 29 High Tech supplier projects = 1197 MCHF
- Companies < 25 kCHF in orders were ignored
- 178 survey respondents, 5% IT

Results:

- 44% indicated technological learning
- 42% increased their international exposure
- 38% developed new products as a direct result of the supplier project
- 36% indicated market learning
- 17% opened a new market
- 14% started a new business unit
- 13% started new R&D teams because of the CERN project

New products or services developed as a direct result of CERN relationship



Knowledge Transfer

- TT through people has become an increasingly recognized component of CERN's TT activities.
- The transfer of technology is accompanied by a transfer of competences.
- Member States and industry can enhance their technological return by funding the transfer of knowledge to designated people on the basis of defined projects carried out at CERN.
- The high turnover of human resources at CERN contributes to an efficient dissemination of technology and expertise.

Knowledge Transfer

Ph.D.thesis model (2004)

from

The learning process
in an individual

to

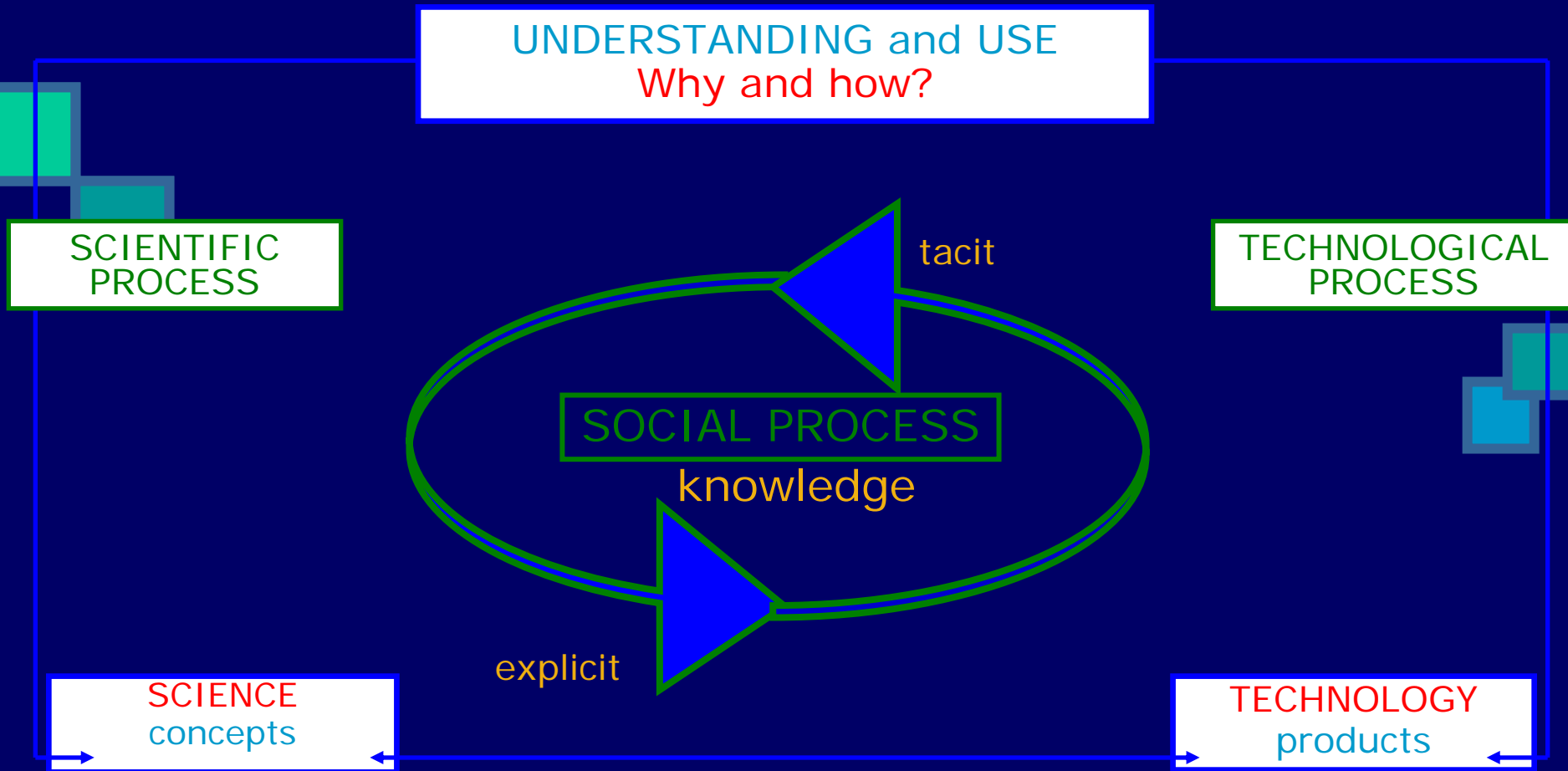
the knowledge acquisition
in an organization

for

the knowledge transfer
from CERN to other institutions

403 individuals, 25% respondents

The process model



403 individuals, 25% respondents

Technology acquired or skill improved while at CERN

Fields	FINNS (38)	ITALIANS (49)
Technology related to the work activity	6	12
Information Technology and Electronics	15	19
Technology process: from conception to spin-offs	2	2
Knowledge related to the work activity	7	7
Project and Personnel management	4	2
Not applicable	4	7

403 individuals, 25% respondents

Difference between actual work and CERN experience (average)

Fields	FINNS (30)				ITALIANS (46)			
	Physicists (n=16)		Engineers (n=14)		Physicists (n=33)		Engineers (n=13)	
	Work	CERN	Work	CERN	Work	CERN	Work	CERN
Managerial	2.75	2.25	3.14	2.14	2.12	2.33	2.38	2.38
Scientific stimulation	2.88	4.19	2.01	4.07	2.48	4.39	2.61	4.62
Financial considerations	2.81	3.06	3.14	2.64	2.75	3.03	1.76	2.61
Multicultural aspects	2.31	3.94	2.51	4.07	2.00	4.45	2.46	4.30

Technology promotion

Available tools:

- TT database,
- TT newsletter,
- Booklets,
- Posters,
- Flyers,
- Brochres.

www.cern.ch/TechnologyTransfer



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