

KT Activities of INFN - Italy

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INFN National Committee for KT



Promotion of the **innovative capabilities of INFN:**

- **Intellectual property** protection
- **Patenting new idea** coming from research activities
- Direct support of **innovative developments**
- **Industrialization** of new technologies
-

Knowledge transfer to enterprises and society:

- Collaboration in **R&D programs**
- Developments of specific **innovative projects**
- **Licensing** of patents and know how
- **Training** programs on INFN technologies

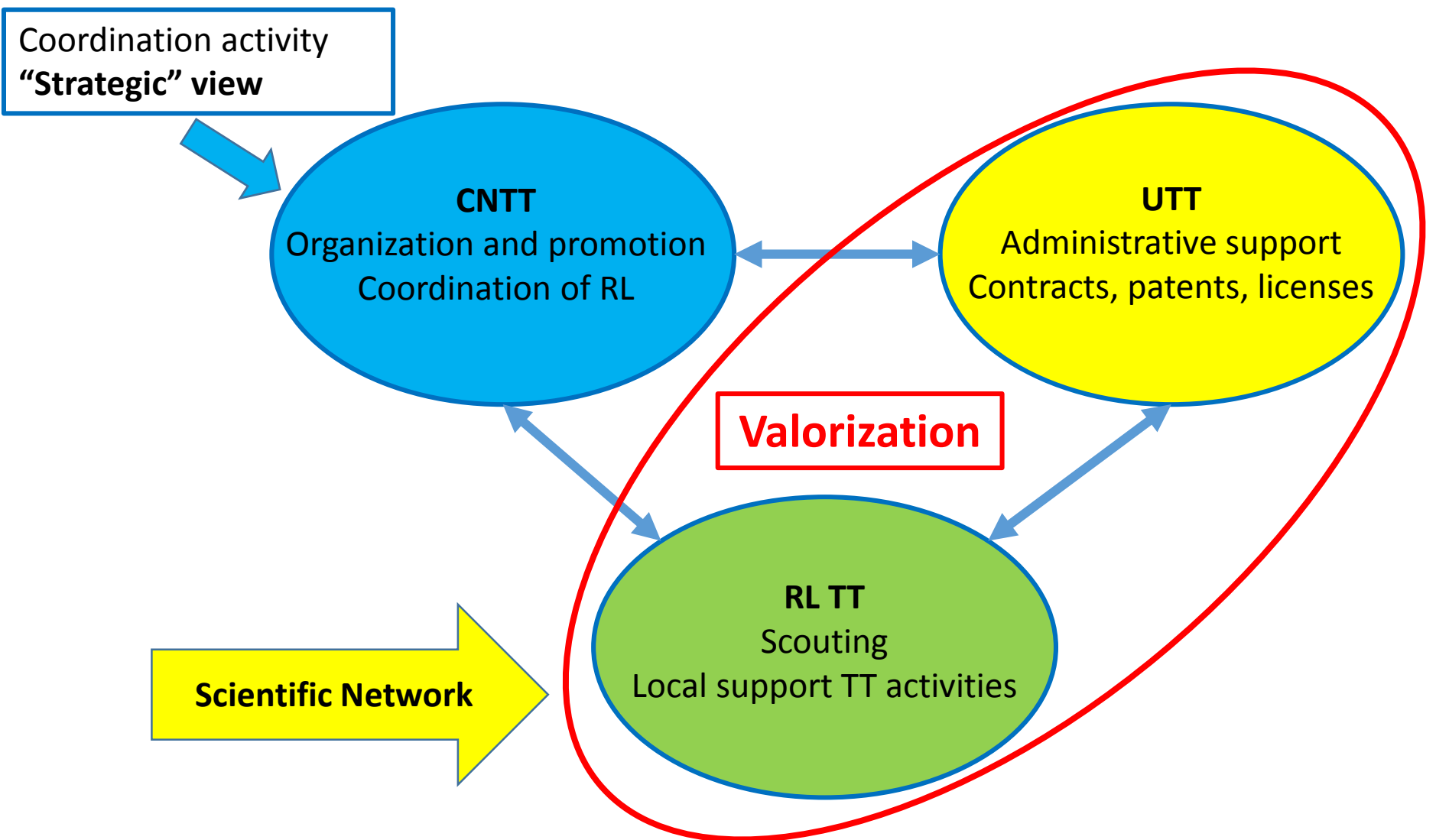


To support the **KT activities**, INFN has few structures:

- **CNTT** – National Committee for KT (directly connected with INFN-EB)
- **RL** – Local Representative for KT (at least one in each research department/lab)
- **UTT** – National Office for KT activities (administrative support)

During the last few years new rules specifically related with KT were defined:

- New guidelines for **KT developments, promotion and protection**
 - ✓ **IP rights** on research developments
 - ✓ New agreement forms for **Collaborative R&Ds**
 - ✓ New contract forms for **Commissioned R&D**
- New guidelines for supporting INFN **spin-off**
- New registered **INFN-KT logo**
- Definition of **KT networks** on specific technologies
- **Analysis of the INFN KT impact** on collaborating enterprises



CNTT - KT National Committee

CNTT Coordinator

Ezio Previtali

EB Representative

Speranza Falciano

CNTT members

Maurizio Biasini

Agostino Lanza

Maria Rosaria Masullo

Cino Maticotta

CNTT consultants

Mauro Morandin (ILO)

Valter Bonvicini (CSN5)

Marco Ripani (INFE-E)

Giorgio Chiarelli (CN3M)

RL – Network Local Representative

UTT – KT Office

Research service manager

Bruno Quarta – DG INFN

UTT Administration

Cino Maticotta – Resp. UTT

Pier Paolo Deminici

Ilaria Giammarioli

Cristina Placido

External funds support

Franca Masciulli

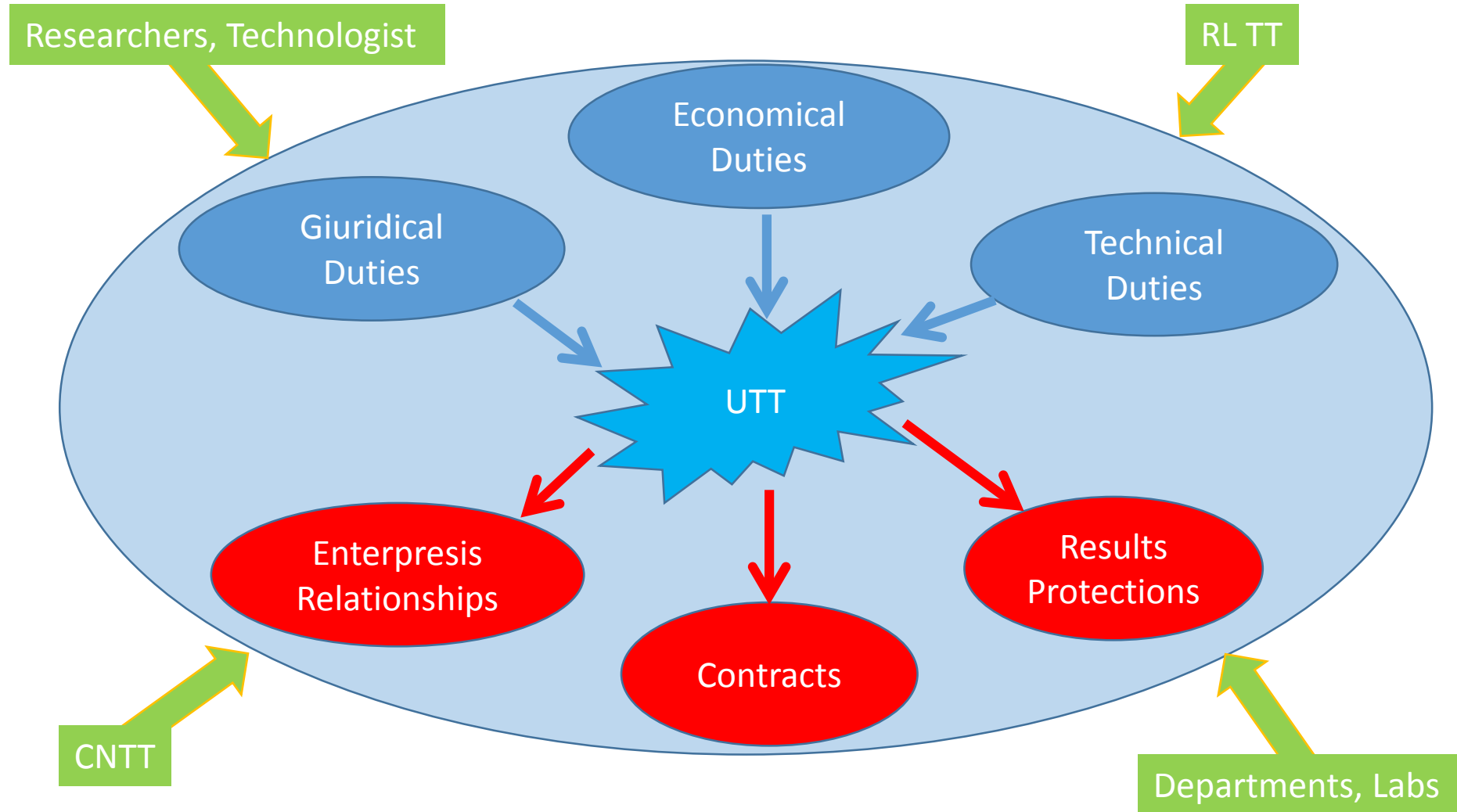
Veronica Valsecchi

Administrative and Balance support

Maria Rosaria Ludovici

Analysis of INFN-KT impact

Martina Dal Molin



INFN – KT UTT Activities

Call for TTO support			
138			
Up to september, 15th 2017			
	2015	2016	2017
IP Coownership agreement	2		
MoU	2		
R&D contract	2	2	4
Consultancy		4	1
Agreement with Spin off company	1		
Service agreement	5	10	3
Know-how/Software License	4	6	2
Patent License			1
Material Transfer Agreement (MTA)			1
Non Disclosure Agreement (NDA)	11	16	9
Patent Option			1
Cooperative Research	6	3	2
Patent transfer agreement			1
	33	41	25

INFN – KT

Intelletual Property

	2014	2015	2016
# Invention Disclosures	24	20	10
# priority applications filed (in Italy)	11	10	5
# patent applications filed	19	25	14
# patents (both applications and patents issued) active at 31.12.YY	59	63	71
Expenditure on legal support for patenting process k€	50	54	89

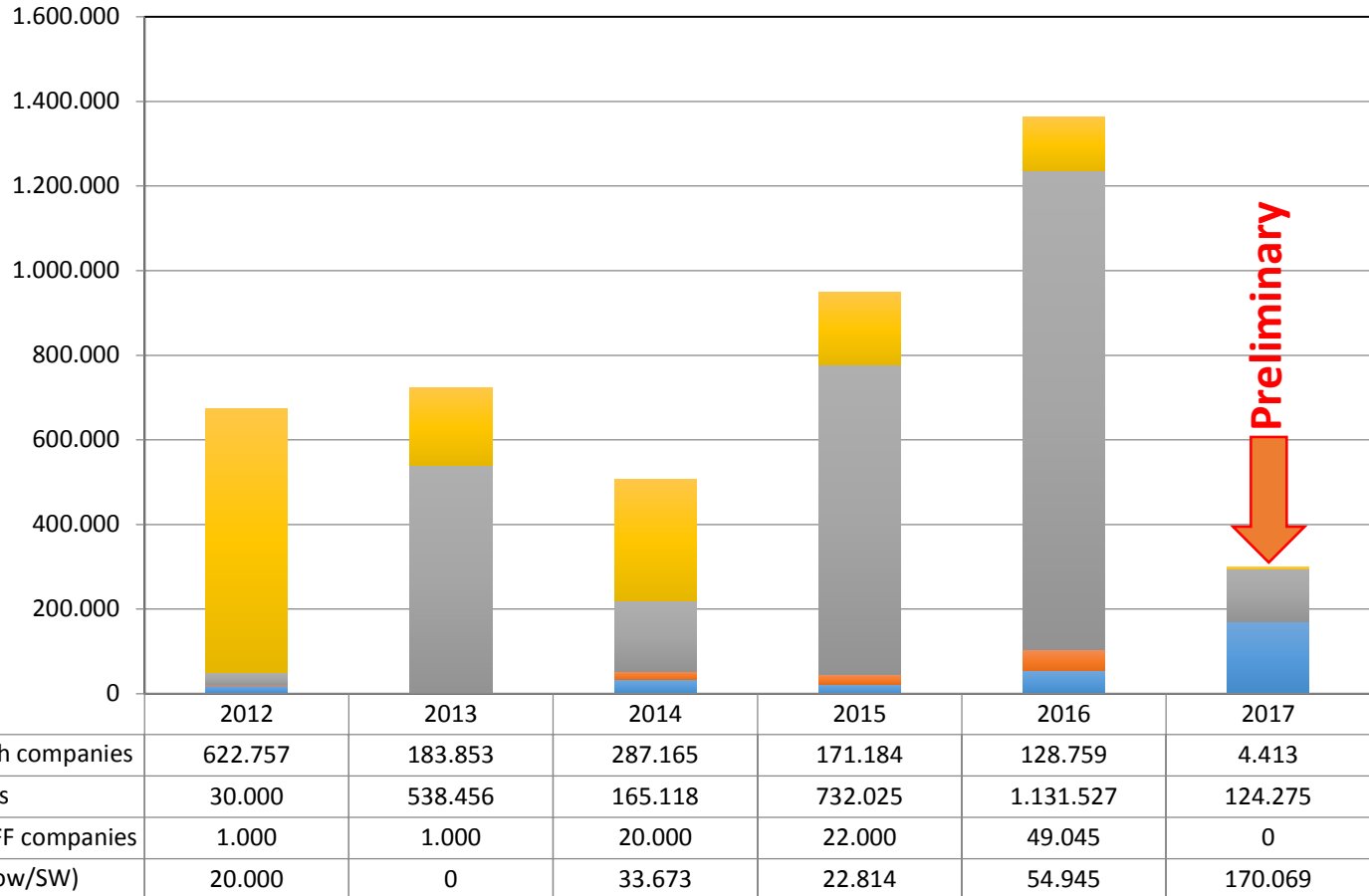
PI and patents

	2014	2015	2016
# licences active	6	10	14
# to italian	3	6	11
# to EU	3	3	2
# generating revenues	3	4	9
# linked to patent	3	2	1
revenues	€ 33.673	€ 22.814	€ 54.945

Licences



INFN – KT “Direct” Budget



These data refer to the “direct” KT budget managed by UTT

INFN – KT

Analysis KT in INFN

One important question is: in which ways INFN operates KT to enterprises?

- During the applied research activities and services to enterprises?
- In **collaboration with industries** having consolidated activities with INFN?
- During R&D activities commissioned by enterprises?
- **Inside R&D programs** on fundamental science research activities?
-

To better evaluate these aspects in 2015 CNTT began a survey with:

- **Direct interview to INFN researchers** (specifically involved in R&D programs)
- **Interview to industrial partners** that collaborate in R&D activities
- **Collaboration with experts** in evaluation of economical impact of research

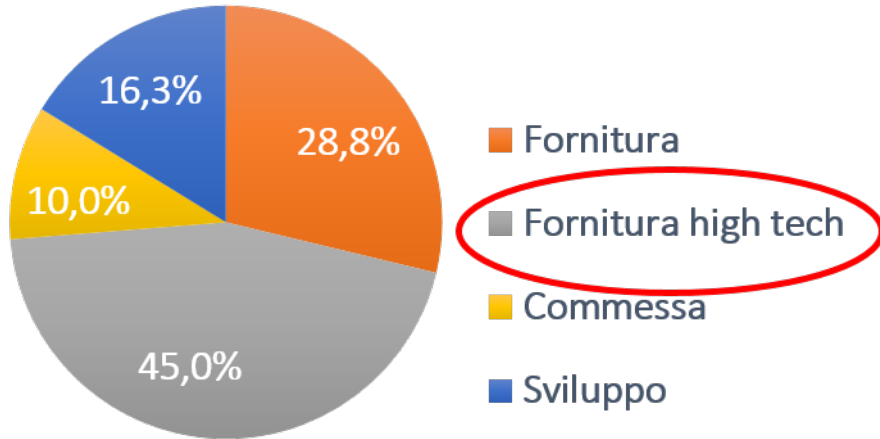
The complete survey produces:

- ~200 Interview from researchers
- ~160 Interview from industries

Analysis is ongoing

Preliminary results of the survey

Number and type or relationship for enterprises

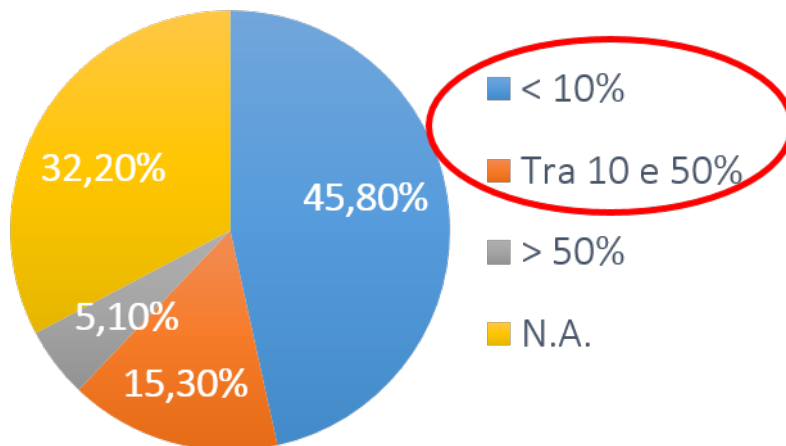


From a preliminary analysis

Enterprises declare some advantages:

- A **better image** of the company
- A **direct impact on the total budget**
- Acquisition of **new technical skills**
- Support for **new products**

R&D investments (% of the annual budget)



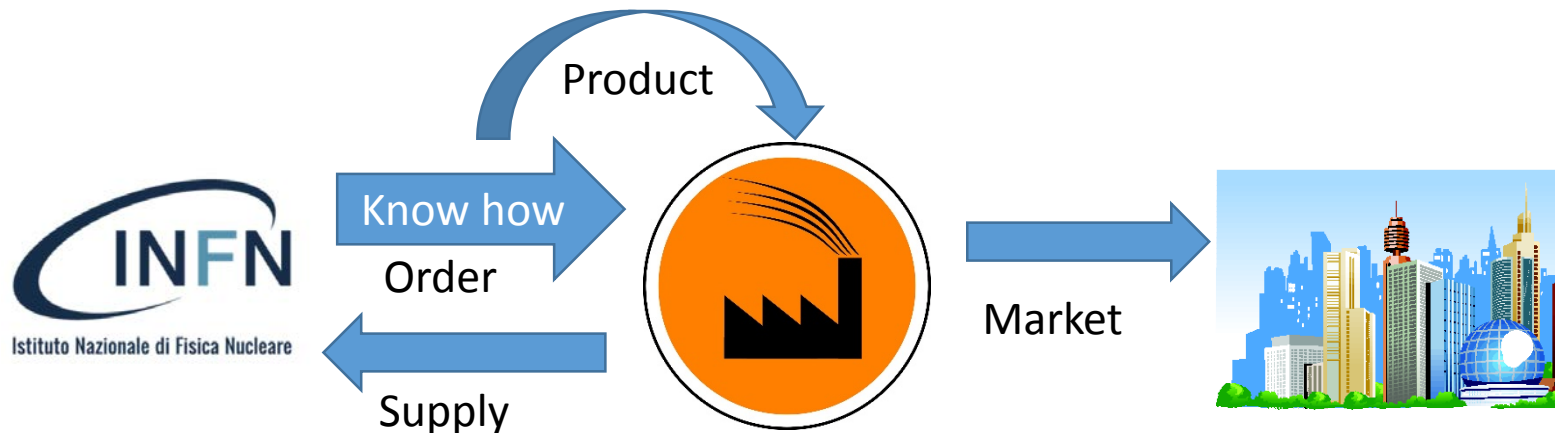
Large parts of the advantages were acquired **during the R&D phases for INFN experiments**

INFN – KT

Preliminary results of the survey

- KT process is mainly produced during **procurement phases**, especially with high tech partner in INFN **fundamental research activities**
- For industries there is a relevant **impact on innovation and training** with direct and indirect **increase of their competitiveness**
- During the collaboration with INFN, these **enterprises acquire information on new technology and new products** with a **very low investments in R&D**

Practically INFN acts as the R&D center for these enterpris



INFN – KT

Maps of INFN KT Capabilities

Having distributed infrastructures it is difficult a complete view of INFN-KT possibilities
Some important activities to optimize the KT process are ongoing

A complete analysis of the KT capabilities inside INFN is in preparation

An almost complete picture of the infrastructures for KT was done

An analysis of technological skills will be completed soon

A complete catalog of innovative technologies is in preparation

Optimization of the scouting program

A new and direct involvement of departments and labs is necessary

A more strict cooperation with CSN is crucial

An evaluation of possible KT aspects in INFN approved experiment is important

Having distributed infrastructures, **it is necessary to coordinate specific activities**

INFN is organizing **thematic networks** in order to:

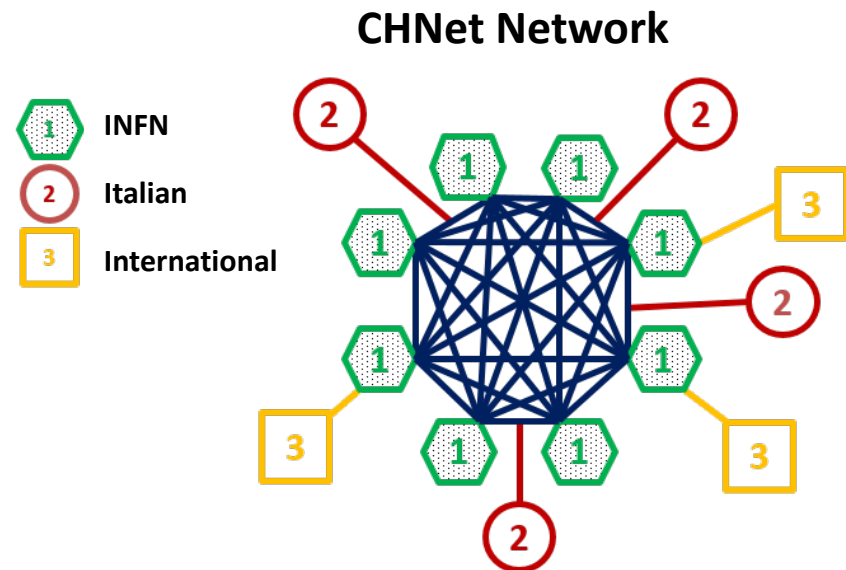
- **Coordinate the R&D and the KT activities**
- **Create a synergic interaction** between the various departments/labs
- **Propose a unitary answer** to the requested support from enterprises

Actually two networks are defined:

- **CHNet** (Cultural Heritage Net)
- **ASIF**

Other are under discussion:

- Applications to **Medicine**
- **Electronics and Instrumentation**
- **New materials and superconductivity**
-



In 2017 INFN promotes a **call for KT projects** finalized to:

- Complete the **development of innovative ideas**
- Allows mature project **to reach the market**
- Promote **cooperation with industries** on innovative R&D
- Help **the collaboration for industrialization**
- Support new ideas coming from basic research **to increase their TRL**

There are some peculiarities aspects that has to be taken into account:

- **Technological** aspects
- **Market** opportunities
- **Feasibility** of the project

The first call 2017 was closed last week

The total budget is 100 kEuro

The projects requested something around 360 kEuro

The complete evaluation of the projects will be completed in a couple of weeks

INFN generated few spin-off and support few start-up
Some of them was very successful

To optimize the spin-off process, new guidelines were approved
INFN will help new enterprises with:

- Technologies
- Infrastructure
- Consultant

In parallel, thanks to an agreement with CERN, **the R2I network of BIC** is in preparation

The **CERN-INFN R2I-network of BIC** imply:

- Definition of a **Network of Incubators in Italy**
- Possible **access to CERN/INFN technologies** and know how
- Support from **CERN/INFN experts**

The open call for Italian Incubators will be completed soon