

The context of the meeting

Rome - 28 June 2016

MAURO MORANDIN - INFN

CERN INDUSTRIAL LIAISON OFFICER FOR ITALY

the ILO office

The Italian **Industrial Liaison Officer (ILO)** for CERN is nominated by the Italian Government, in collaboration with the Italian National Institute for Nuclear Physics (INFN), with the mission of:

- supporting CERN in finding Italian companies that are well suited to compete for the procurement of supplies and services;
- promoting and facilitating the successful participation of the Italian suppliers in the CERN procurement procedures with the goal of maximizing the Italian industrial return;

INFN provides the personal and material resources to operate the ILO office that is currently located in the Padova INFN site (Sezione)

- Mauro Morandin - ILO
- Cristina Miletti - Office assistant

Industrial procurement at CERN

CERN is the most important High Energy Physics laboratory

- the main mission of the lab is to design, build and operate the largest and most sophisticated existing accelerator complex
- therefore, although CERN serves a vast community of more than thirteen thousands scientists from every part of the world, most CERN personal is formed by engineers and technicians;
 - CERN operate therefore in many ways as a large industrial facility
- CERN budget ~ 1.1 BChF per year
- nearly 40% of the budget is invested in procurement of supplies and services
 - this fraction is expected to grow with the ramp-up of the LHC upgrade program that will be presented today

ILO office activity

essentially :

- **systematic distribution** of CERN procurement procedures announcements as they are communicated (w/ total amount > 50 kChF)
- **organization of events** to illustrate the opportunities existing in the various CERN industrial sectors
 - last year: **general meeting in Bologna** where also ESS, ESRF and italian INFN activities leading to industrial involvement were presented
 - 11 June 2015 - Industrial Opportunities Day CNR Congress Center, Bologna
 - next year: **exhibition of Italian firms at CERN, “Italy at CERN 2017”** - 4-7 April
 - support **effective contacts** between companies and CERN buyers
 - participation in the CERN Finance Committee and interaction with CERN Procurement offices to ensure the **Italian industry potential is fully exploited**

Why this meeting ?

- CERN Council not later of a couple of weeks ago approved a **major upgrade of its flagship accelerator machine**, the Large Hadron Collider (LHC)
- the project has been named: “**High Luminosity LHC**” o in short, **HiLumi LHC**
- the approved budget of the project is of the order of **1 BChF**
- a non negligible part of this budget will be spent for **civil works**, that will be described in detail today, and by new installations of important **civil and industrial systems** that will follow
 - contracts are envisaged to be much larger than the ones usually signed for renovation work or construction of new buildings on the CERN site
- we wanted therefore to **organize this meeting** to illustrate the new opportunities to a set of companies that could afford to take on the kind of commitments that were expected to originate from the HiLumi project and we asked the collaboration of Confindustria to help us in contacting possible candidates

enlarging the scope

- in addition, the Italian Chamber of Commerce in Switzerland informed us that also the United Nations Office in Geneva (UNOG) had just approved **an even bigger project for renovating and expanding their historical complex** (Strategic Heritage Plan, SHP)
- we decided then to include also the **UNOG civil works in the program of this meeting**
- later we learnt that other International Organization in Geneva have also develop similar plans
 - it was not possible to invite their representatives here today but we are in contact with the Permanent Mission of Italy to the International Organizations in Geneva so that information on these possibilities is disseminated in the future too



The screenshot shows the header of the Tribune de Genève website. The logo 'Tribune de Genève' is at the top left. To its right are social media icons for Facebook, Twitter, and others. Below the logo is a horizontal menu bar with links: Genève, Suisse, Monde, Économie, Culture, Sports, Auto, High-Tech, People, Savoir, Vivre, and Plus. Underneath the menu, there's a sub-menu for 'Actu genevoise' with links to Faits divers, Grand Genève, Genève internationale, Signé Genève, Herrmann, and Images.

Berne vote un gros crédit pour Genève

Genève internationale La Confédération va prêter 54,4 millions à la Fédération de la Croix-Rouge. Après le National, les Etats ont accepté hier ce crédit.

Acknowledgements

This meeting would not have been possible without:

- the collaboration of Confindustria that has kindly offered to host the meeting and to contact interested companies
- the contacts of the Italian Commerce Chamber in Switzerland with UNOG that triggered the subsequent fruitful interactions
- last but not least, all the speakers from CERN and UNOG that are here today for us

THANK YOU !

The program of the day (I)

10:00 - 10:30	Welcome 30' Speakers: Andrea Bairati (Direttore Area Innovazione ed Education di Confindustria), Andrea Bianchi (Direttore Area Politiche Industriali di Confindustria)
10:30 - 10:50	L'incontro odierno nel quadro delle attività ILO (15'+5') 20' Speaker: Mauro Morandin (Industrial Liaison Officer for Italy)
10:50 - 11:10	Mercato svizzero: export, appalti, opportunità di business (15'+5') 20' Speaker: Marianna Valle (Vice segretario Generale CCIS)
11:10 - 11:55	Procurement procedures at the UN (40'+5') 45' Speaker: Boi-Lan Lemoine (United Nations Office at Geneva, UNOG, SHP Procurement Officer)
11:55 - 12:40	Procurement procedures at CERN (40'+5') 45' Speaker: Adam Horridge (CERN) Material: Slides 
12:40 - 13:00	L'esperienza diretta di interventi nel settore dell'edilizia presso le Org. Intern. di Ginevra (15'+5') 20' Speaker: Francesco Canepa (Dimensione SpA)

The program of the day (II)

- 14:00 - 16:55 I progetti e la attività nel settore dell'edilizia al CERN a alla sede ONU di Ginevra
- 14:00 **The SHP project at the UN Geneva site (50'+10') 1h0'**
Speaker: Catherine Dobbelstein (United Nations Office at Geneva, UNOG, SHP Project Manager, Architect)
Material: [Slides](#)  
- 15:00 **Introduction to the Hi-Lumi LHC project at CERN and to its technical infrastructure (20'+5') 25'**
Speaker: Laurent Jean Tavian (CERN)
- 15:25 **Civil works for Hi-Lumi LHC (20'+5') 25'**
Speaker: Pieter Alexander Mattelaer (CERN)
Material: [Slides](#)  
- 15:50 **Opportunità nell'ingegneria civile at CERN (20'+5') 25'**
Speaker: Dr. Luigi Scibile (CERN)
Material: [Slides](#)  
- 16:15 **Opportunità nei settore gli impianti elettrici e meccanici al CERN (35'+5') 40'**
Speaker: Michele Battistin (CERN)
- 17:00 - 17:30 Discussione finale e chiusura dei lavori 30'

CERN: una delle prime organizzazioni europee

CERN 1954



Il CERN è stata una delle prime organizzazioni Europee costituite nel dopoguerra (1954)

- oggi conta **21 stati membri**
- un candidato per l'inclusione e altri 3 associati
- sette osservatori, fra cui: US, Russia e Giappone

CERN 2016

- continua ad essere un esempio di **solida e feconda** collaborazione internazionale
- l'Italia contribuisce a circa **11% del budget** del CERN ma spesso ne ricava un ritorno relativamente più elevato
 - **ritorno industriale** (commesse + innovazione tecnologica)
 - **formazione** di giovani tecnici, ingegneri, fisici, ecc.
 - **rilevanza del ruolo** assunto dai ricercatori italiani

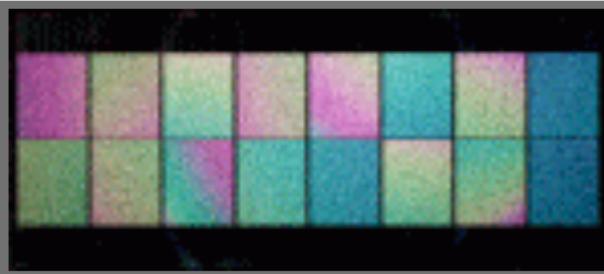
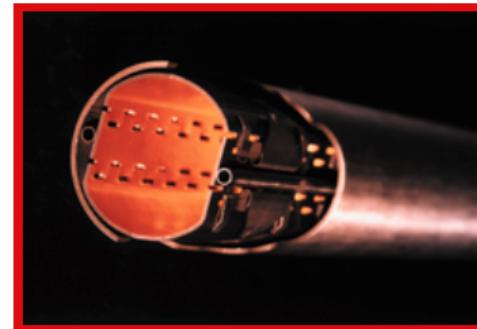


Attraverso le forniture le aziende acquistano competenze tecnologiche in vari settori

Super-conductivity
(13kA,
7MJoules)



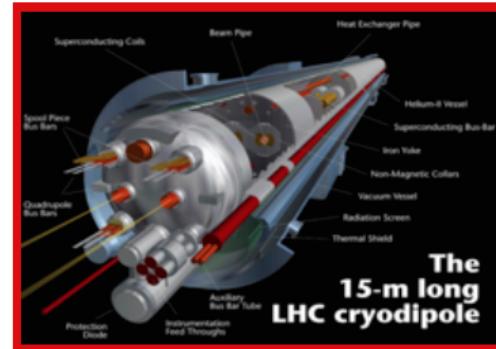
Vacuum
(10^{-12}
Torr)



Very high performance detectors and electronics



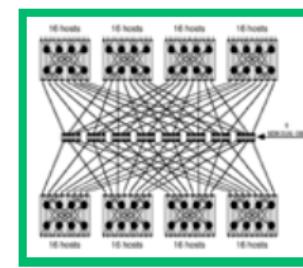
Cryogenics (1.9 K)



Magnets
(10 T)

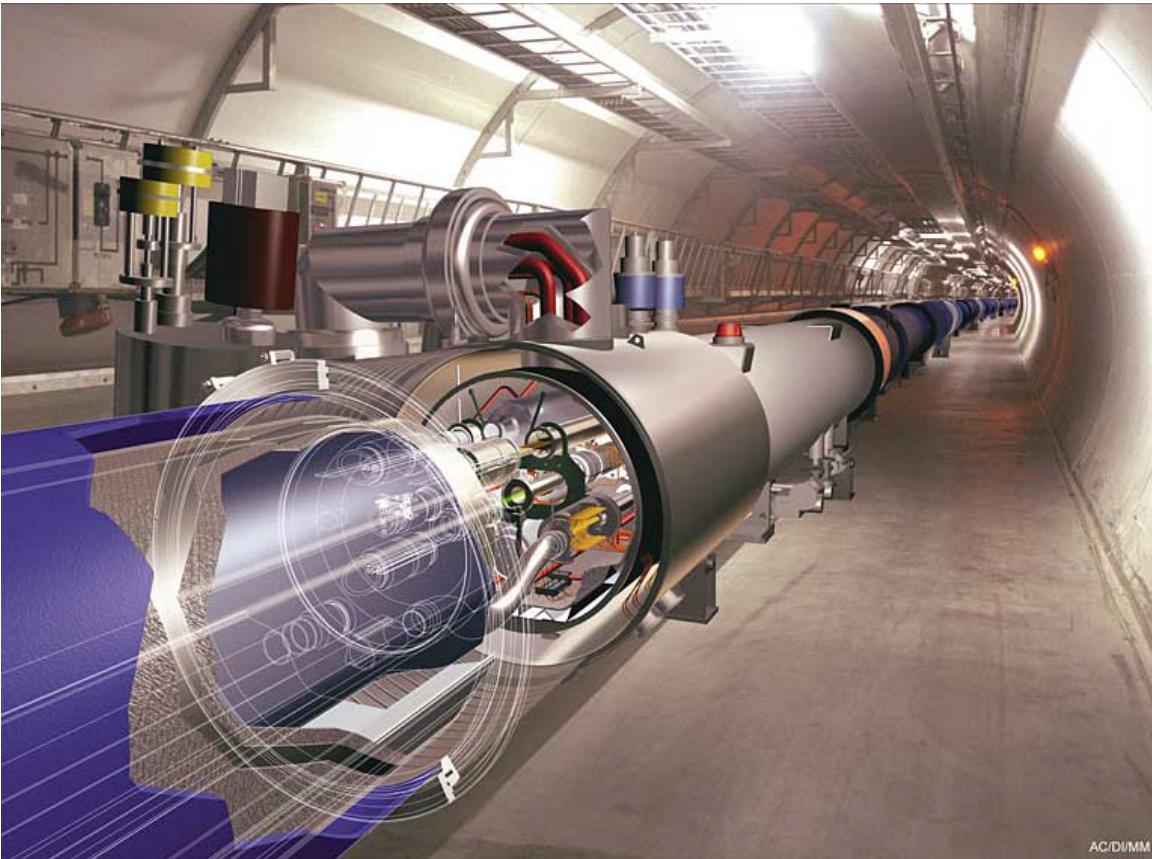


Data processing



LHC

- Il Large Hadron Collider (LHC) è il **più grande strumento scientifico** del mondo per investigare le proprietà della materia



- vi circolano ad un'**energia prima mai raggiunta** protoni o ioni pesanti
- tunnel di **26.7km**, di cui oltre 24 km di **magneti superconduttori** operanti a 8.3 T e ad una temperatura molto vicina allo zero assoluto (più fredda del freddo siderale)
 - senza magneti superconduttori LHC sarebbe 4 volte più grande e consumerebbe **900 GW** invece di **120 MW**

LHC: origini e sviluppo molto italiane

- LHC, con i suoi rivelatori, è stato il frutto di uno **sviluppo tecnologico durato vent'anni**
- l'Italia ha contribuito in modo essenziale
- 1232 grandi dipoli hanno rappresentato il 54% del budget di costruzione di LHC (~ 6 miliardi di €)
- Tre contratti di fabbricazione di serie firmati nel Marzo 2002 di cui uno assegnato ad una ditta italiana



Coefficiente di ritorno al CERN

- Il CERN calcola ogni anno per tutti i paesi membri un coefficiente di ritorno industriale (CR)
- Il CR è il rapporto fra le percentuali di ordini acquisiti dalle aziende i un paese sulla percentuale di contributo del paese al budget del CERN

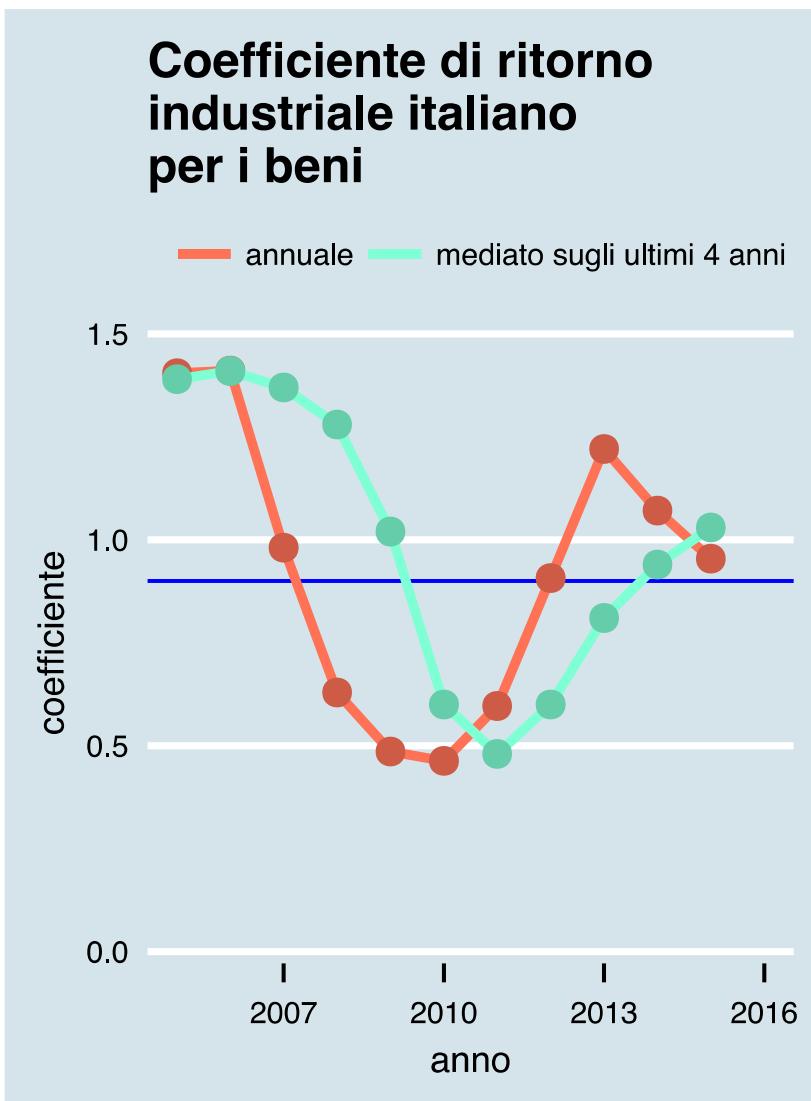
$$CR = \frac{\text{quota percentuale di ordini acquisiti}}{\text{quota percentuale di contributo al budget del CERN}}$$

- Un Paese è dichiarato non bilanciato se il suo CR mediato sugli ultimi 4 anni è meno di :
 - < 0,90 per i contratti di forniture
 - < 0,40 per i contratti di servizi industriali
- nelle procedure di acquisto si seguono alcune regole che tendono a favorire le aziende dei paesi non bilanciati (riallineamento)

Bilanciamento 2015



Ritorno industriale italiano al CERN



last but not least



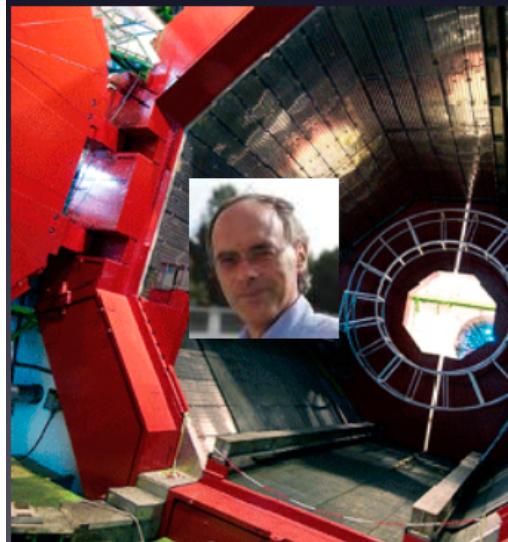
From 2016:

**CERN
Director General**

quarto DG italiano
dopo Amaldi, Rubbia,
Maiani



ATLAS
F. Gianotti



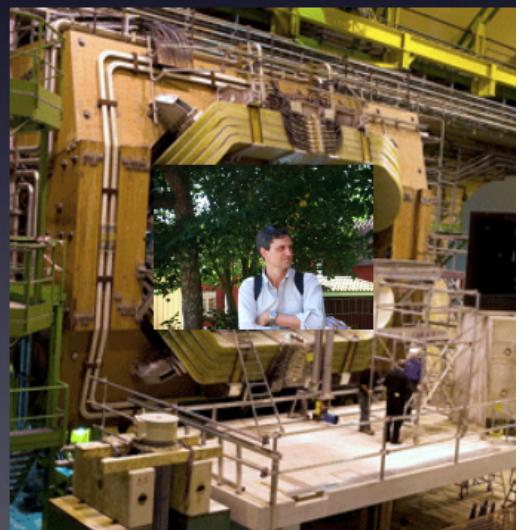
ALICE
P. Giubellino

Poker

LHCb
P. Campana



CMS
G. Tonelli



M. Morandin - CERN ILO

Riferimenti ILO CERN

- le aziende interessate ad essere registrare nel DB dell'ILO possono utilizzare i seguenti riferimenti:
- indirizzo:
 - Ufficio ILO
Sezione di Padova dell'INFN
via Marzolo, 8
35131 Padova
- sito web: www.pd.infn.it/ilo
- email: ilo@pd.infn.it
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Grazie per l'attenzione !