



# Doing Business with CERN

## Portugal@CERN

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4 September 2019



# AGENDA

- **Introduction**
  - What do we buy?
- **Statistics**

# CERN is entitled to establish its own internal rules necessary for its proper functioning, including:



Procurement Rules

Safety Rules

Staff Regulation of its own  
personnel

# The Procurement Service

## Mission

**The Procurement Service procures all supplies and services for CERN**

Meeting the specified and contractual technical, delivery and performance requirements

At the lowest possible overall cost

While achieving balanced industrial return for CERN Member States

Respecting CERN Procurement Rules



# What do we buy?

- **Civil engineering:**
  - Construction
  - Renovation of buildings
  - Metallic structures
  - Earthworks
  - Roads
- **Cooling and ventilation equipment**



# What do we buy?

- **Electrical engineering and magnets**
  - Transformers
  - Switchboards and switchgear
  - Cables
  - Automation
  - Power supplies
  - Magnets



# What do we buy:

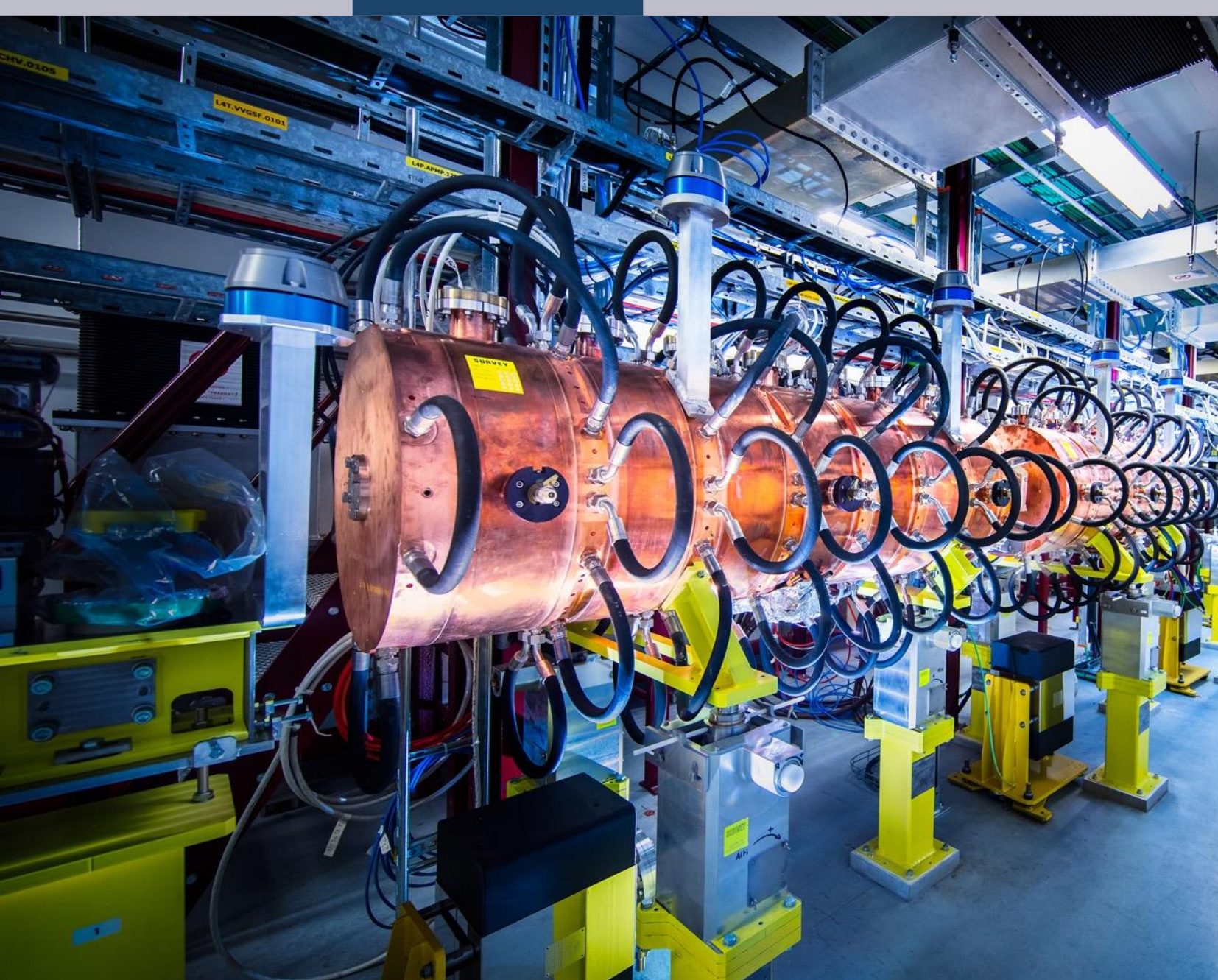
- **Information Technology**
  - Computing systems
  - Servers
  - Software
  - Network equipment
  - Personal computer equipment



# What do we buy?

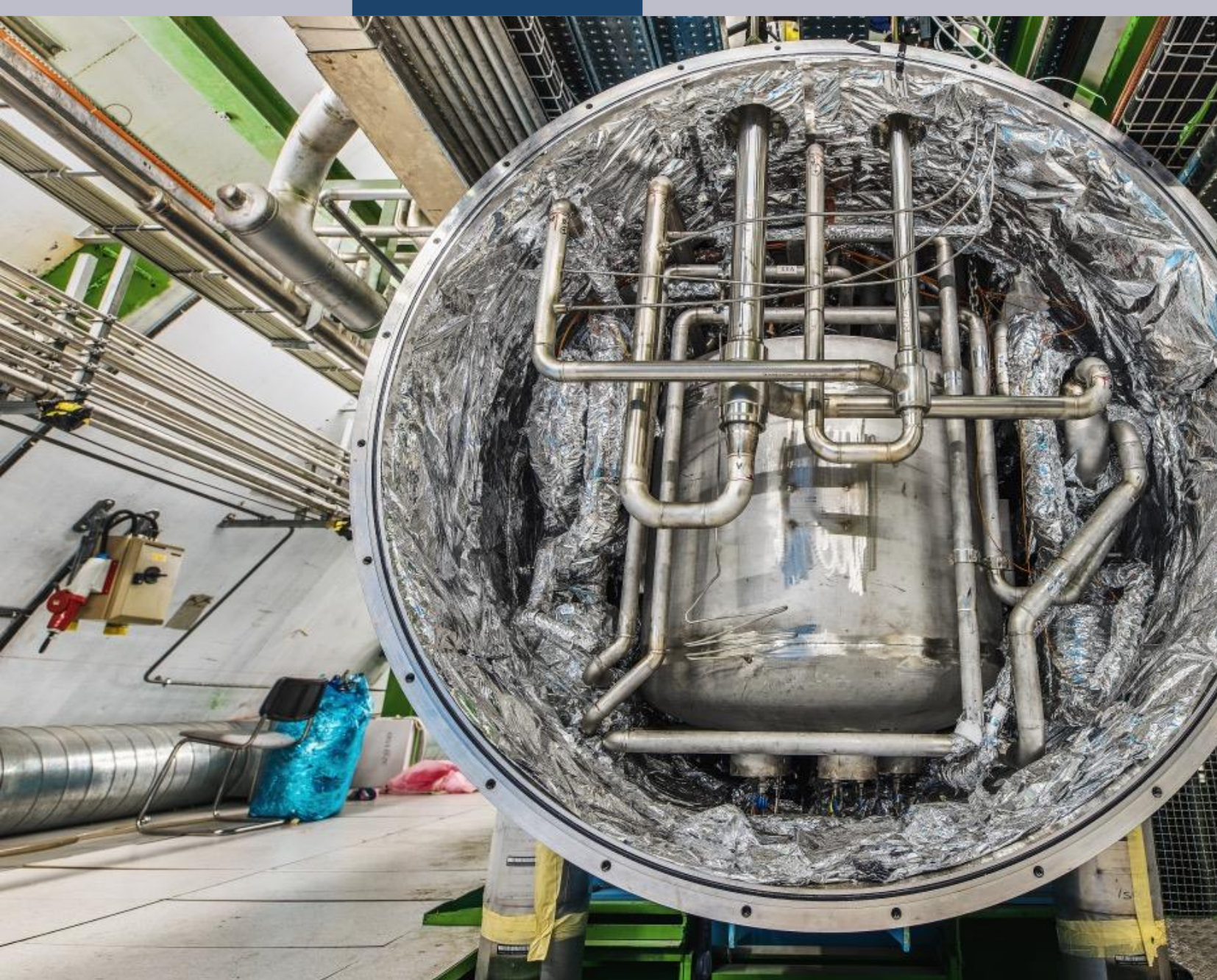
- **Mechanical engineering and raw materials:**
  - Machining
  - Sheet metal work and arc welding
  - Special fabrication techniques
  - Raw materials, finished and semi-finished products (plates, pipes, etc.)
  - Offsite engineering and testing





# What do we buy?

- **Electronics and radiofrequency:**
  - Electronic components (active, passive)
  - PCBs and assembled boards
  - LV and HV power supplies
  - Radiofrequency plants
  - Amplifiers



# What do we buy?

- **As well as:**
  - Cryogenic and vacuum equipment
  - Optics and photonics
  - Particle and photon detectors
  - Health and safety equipment,
  - Transport and handling equipment
  - Office supply, furniture
  - Industrial services on the CERN site

# Current project - upgrade of the LHC to High Luminosity



Hi-Lumi will provide greater precision and discovery potential

Hi-Lumi will start operating in 2026, and run until 2035

CERN is already looking beyond 2035, with several projects in R&D or study stages

# Two studies for the future of particle physics



## Compact Linear Collider (CLIC)

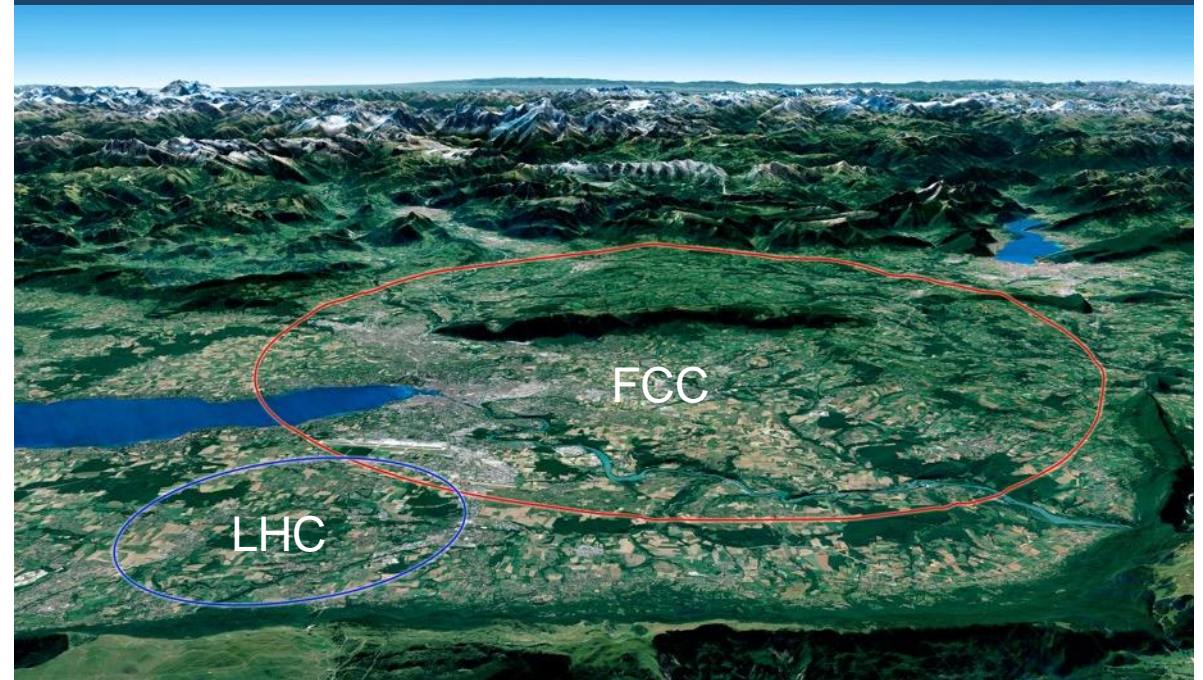


- Linear  $e^+e^-$  collider  $\sqrt{s}$  up to 3 TeV

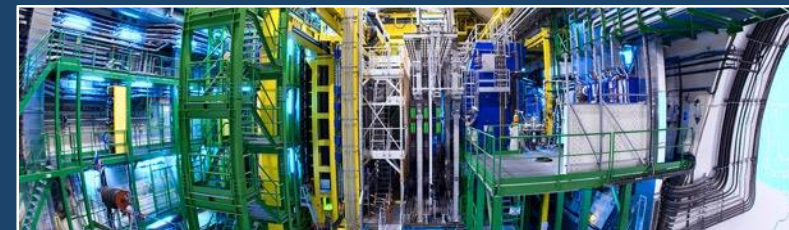
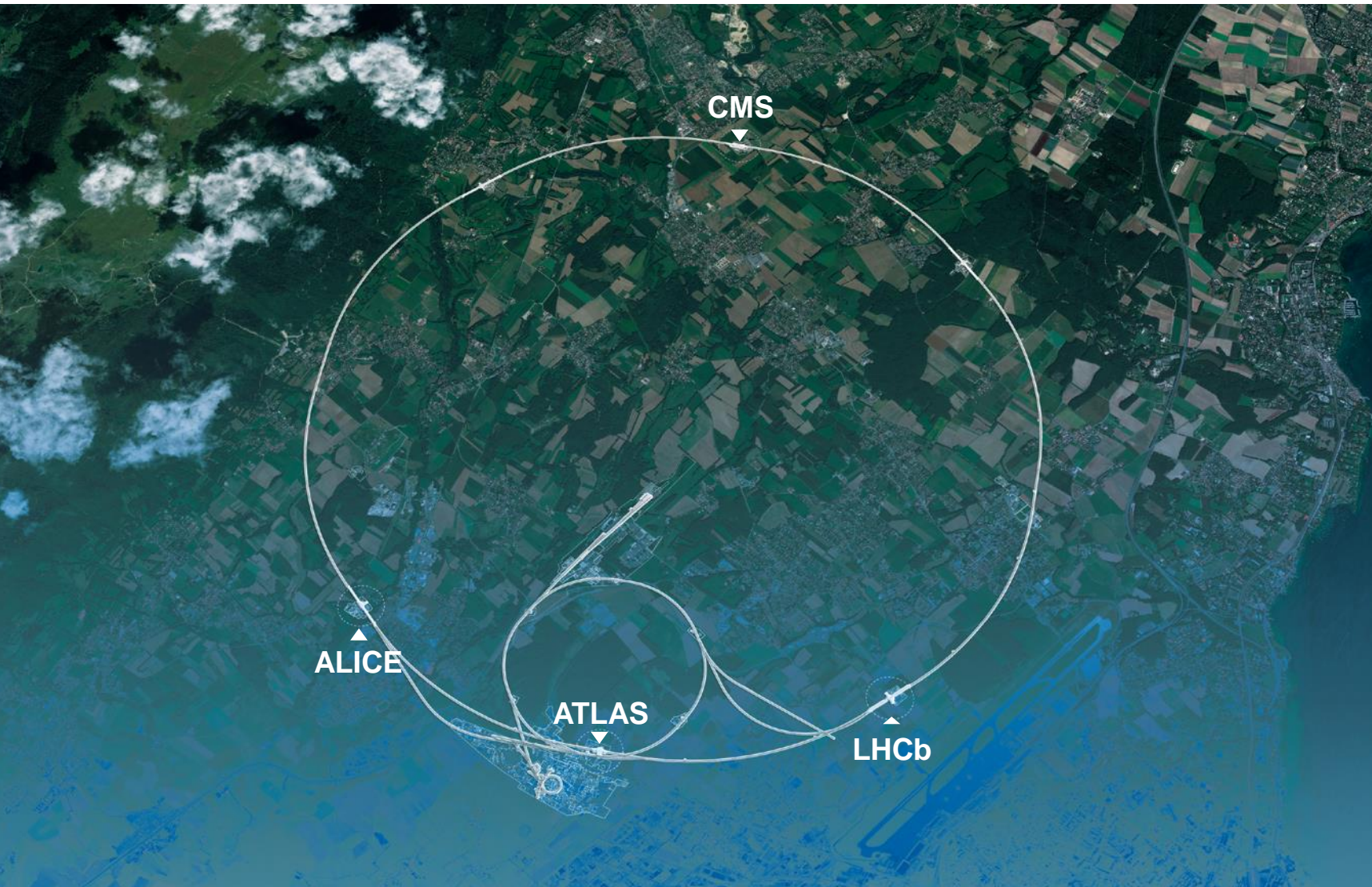
## Future Circular Collider (FCC)



- New technology magnets  $\rightarrow$  100 TeV pp collisions in 100km ring
- $e^+e^-$  collider (FCC-ee) as 1<sup>st</sup> step?

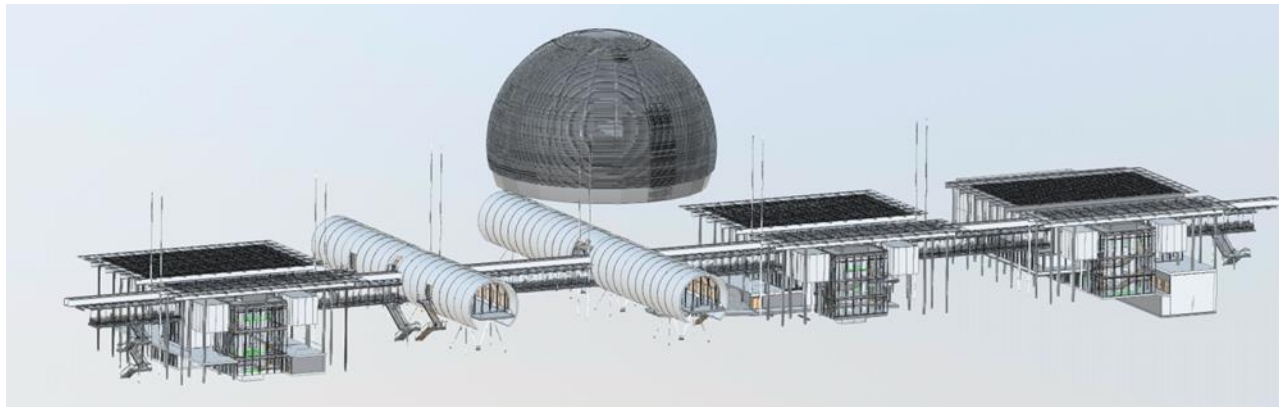


# We also buy for the LHC experiments



# Science Gateway: future visitor and education centre

- *Design by Renzo Piano (RPBW, Paris)*
- *3 pavilions and 2 tubes connected by a glass and steel bridge floating at 6 meters high*
- *exhibition spaces, educational laboratories, a 900-seat auditorium, a restaurant, a reception and offices*
- *total floor surface in excess of 7000sqm*



***MS for construction :  
September 2019  
General Contractor***

# Preveessin Computer Center

Delivery of an Energy efficient Data Centre on the CERN Prévessin (France)

- Turnkey contract for the design, build, maintenance and operation of the building and all of the functional infrastructure for a period of 10 years
- All necessary technical infrastructure
  - cooling and ventilation systems
  - electrical distribution system,
  - building management system
  - and safety related systems.



- 4 MW with a stepwise future increase to 12 MW over a period of 8 years
- Max. surface area: 2500m<sup>2</sup> , Max height : 20.5m from ground level

***MS to be launched:  
october 2019***

# CERN Shopping List

<https://found.cern.ch/java-ext/found/CFTSearch.do>

**IPT** Procurement and Industrial Services Group
[Print View](#)

## Forthcoming market surveys and calls for tenders

Advance information on forthcoming market surveys and calls for tenders expected to exceed 200,000 Swiss francs.

In the line entitled Cost Range, a very rough indication of the cost range of the product is given in the form of letters **A, B, C, D**.  
**A** represents items estimated at less than 750 kCHF, **B** represents items between 750 kCHF and 5 MCHF, **C** represents items between 5 MCHF and 10 MCHF and **D** represents items above 10 MCHF.

Firms may reply to the Market Survey published in the table below up to two weeks before the corresponding Invitation to Tender is sent out. Therefore, in case the deadline for replies indicated in the Market Survey cover letter is over, please send your reply to the Market Survey at the earliest possible date.

The countries of origin of supplies and services shall be [CERN Member States](#), except if provided otherwise in the table below.

References marked with "New" have been posted during the last 8 weeks.

Search Menu
Links Menu

Type of Contract: <input type="text" value="All"/>	Market Survey dispatched: <input type="text" value="All"/>
Reference: <input type="text"/>	Call for Tenders scheduled for dispatch: <input type="text" value="All"/> <input type="text" value="All"/>
Activity Code: <input type="text"/>	Description and/or Specific Condition: <input type="text"/>
Requirement: <input type="text"/>	Commercial contact: <input type="text" value="All"/>
Cost Range: <input type="text" value="All"/>	Publication Date: From <input type="text"/> To <input type="text"/> dd-mm-yyyy

Search
Reset

Publication Date	Type of Contract	Reference	Requirement (Activity Code)	Description/Specific Condition	Cost Range	Market Survey scheduled for dispatch	Contacts and Interest in being contacted / Market Survey Documents	Invitation to Tender scheduled to dispatch
03-10-2018	Supply	<span style="color: yellow;">New</span> <a href="#">MS-4489/SMB</a>	Civil-engineering works for the design and construction of new Building 937 situated on CERN's Preveessin site in France. <a href="#">(01020101, 01020102)</a>	CERN intends to place a contract for the design and construction ... Interested firms shall have a proven experience and competence in design ... <a href="#">Read More</a>	B	Fourth quarter 2018	To express an interest please send an e-mail to <a href="mailto:procurement.service@cern.ch">procurement.service@cern.ch</a> Technically: <a href="#">S. Cahuet</a> Commercially: <a href="#">A. Horridge</a>	First quarter 2019
26-09-2018	Supply	<span style="color: yellow;">New</span> <a href="#">MS-4486/TE/HL-LHC</a>	Supply of 600 bellow expansion joints of 10 different types for HL-LHC <a href="#">(06010100)</a>	CERN intends to place a contract for the supply of ... Interested firms shall have a proven experience and competence in the ... <a href="#">Read More</a>	A	Fourth quarter 2018	To express an interest please send an e-mail to <a href="mailto:procurement.service@cern.ch">procurement.service@cern.ch</a> Technically: <a href="#">Y. Lecerq</a> Commercially: <a href="#">J. Pierlot</a>	First quarter 2019
17-09-2018	Supply	<span style="color: yellow;">New</span> <a href="#">MS-4470/IT</a>	Framework Market Survey concerning the supply of Desktop PC, Mini-PC and Laptop (portable) PC office computers <a href="#">(04010500, 04010700)</a>	CERN intends to place several contracts for the supply of PCs, ... Interested firms shall have a proven experience and competence in Intel ... <a href="#">Read More</a>	B	Third quarter 2018	To express an interest please send an e-mail to <a href="mailto:procurement.service@cern.ch">procurement.service@cern.ch</a> Technically: <a href="#">G. Metral</a> Commercially: <a href="#">H. Gerster</a>	Fourth quarter 2018
10-09-2018	Supply	<span style="color: yellow;">New</span> <a href="#">MS-4469/EN</a>	Supply of system interconnections and industrial wiring. <a href="#">(02070300, 03030100, 03030200, 13030500)</a>	CERN intends to place a three years blanket contract for the ... Interested firms or group of firms shall have proven competence, experience ... <a href="#">Read More</a>	A	Third quarter 2018	To express an interest please send an e-mail to <a href="mailto:procurement.service@cern.ch">procurement.service@cern.ch</a> Technically: <a href="#">G. Canale</a> Commercially: <a href="#">N. Azizi</a>	Third quarter 2018



# HL-LHC Shopping list

<http://project-hl-lhc-industry.web.cern.ch/content/main-procurement-needs-hl-lhc>

The screenshot shows the 'HL-LHC Industry' website. The header includes the CERN logo, the 'HiLumi HL-LHC PROJECT' logo, and the text 'HL-LHC Industry Industry Relations and Procurement Website for the HL-LHC project'. A search bar is located in the top right. A navigation menu includes 'Home', 'General Info', 'Procurement Overview', 'Tendering', 'Acquisition Timeline', 'Events', and 'Contact'. The main content area is titled 'Main Procurement needs for HL-LHC'. It contains a paragraph explaining the need for a major upgrade to the LHC in the 2020s to increase luminosity. Below this is a table mapping 'Main Domains of Activity - HL-LHC Project' to 'Work Packages'. A sidebar on the left lists 18 work packages from WP1 to WP18.

**WORK PACKAGES & PROCUREMENT INFO**

- WP1 - Project Management & Technical Coordination
- WP2 - Accelerator Physics and Performance
- WP3 - Insertion Regions Magnets
- WP4 - Crab Cavities & RF
- WP5 - Collimation
- WP6A - Cold Powering
- WP6B - Warm Powering
- WP7 - Machine Protection
- WP8 - Collider-Experiment Interface
- WP9 - Cryogenics
- WP10 - Energy Deposition & Absorber Coordination
- WP11 - 11T Dipole
- WP12 - Vacuum
- WP13 - Beam Diagnostics
- WP14 - Beam Transfer & Kickers
- WP15 - Integration & (De-)Installation
- WP16 - Hardware Commissioning
- WP17 - Infrastructure, Logistics and Civil Engineering
- WP18 - Controls Technologies































**Main Procurement needs for HL-LHC**

The Large Hadron Collider (LHC) is one of the largest scientific instruments ever built. To sustain and extend its discovery potential, the LHC will need a major upgrade in the 2020s. This will increase its luminosity (rate of collisions) by a factor of five beyond the original design value and the integrated luminosity (total collisions created) by a factor ten. The LHC is already a highly complex and exquisitely optimised machine so this upgrade must be carefully conceived and will require about ten years to implement. The new configuration, known as High Luminosity LHC (HL-LHC), will rely on a number of key innovations that push accelerator technology beyond its present limits.

Main Domains of Activity - HL-LHC Project	Work Packages
Cryogenics systems	WP9
Magnets components and assemblies	WP3, WP11
Electrical equipment, electronics & instrumentation	WP4, WP5, WP6A, WP6B, WP7, WP13, WP18
Ultra High vacuum components and systems	WP12
Collimators and new material resistant to high temperatures	WP5, WP8, WP14
Cryostats and subcomponents for cryogenic equipment	WP3, WP4, WP6A, WP9, WP11
High precision assembling and manufacturing technologies	WP4, WP5, WP8, WP12, WP14
Others	WP6A, WP10, WP15, WP16
Raw materials	WP3, WP4, WP5, WP8, WP11, WP12, WP14
Civil engineering and technical infrastructures	WP17

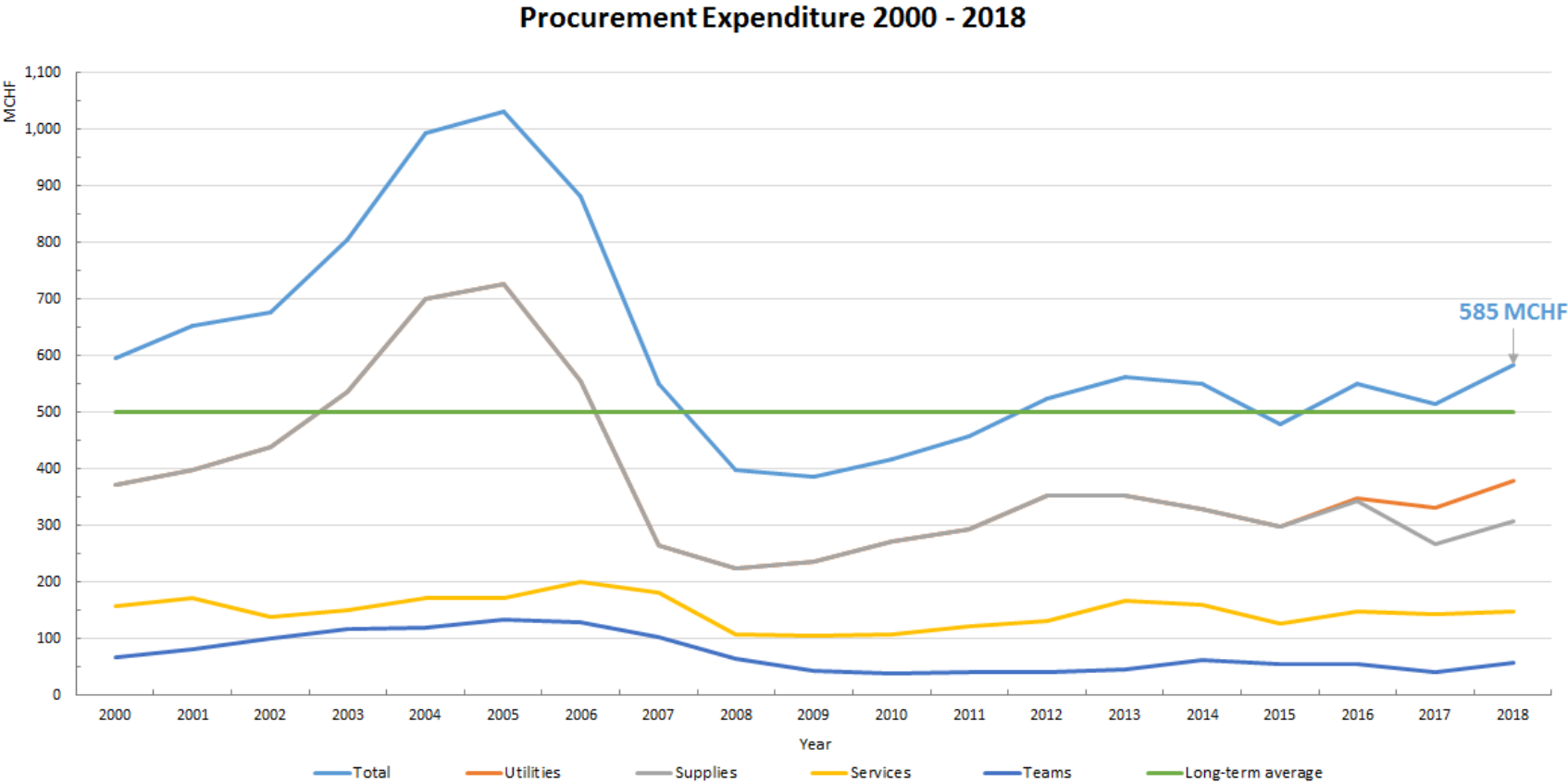
# STATISTICS

# Yearly Budget (contributions 2019)

Country	Percentage of Total	Amount (CHF)	Country	Percentage of Total	Amount (CHF)
 Germany	20.15%	236 015 150	 India*	1.18%	13 811 650
 United Kingdom	15.71%	183 975 700	 Portugal	1.07%	12 488 450
 France	13.69%	160 344 550	 Greece	1.06%	12 453 650
 Italy	10.11%	118 409 050	 Romania	1.02%	11 960 150
 Spain	6.89%	80 685 300	 Czech Republic	0.93%	10 860 850
 Netherlands	4.43%	51 842 200	 Hungary	0.59%	6 965 950
 Switzerland	4.02%	47 115 300	 Turkey*	0.49%	5 692 000
 Poland	2.72%	31 870 000	 Slovakia	0.48%	5 605 900
 Belgium	2.62%	30 692 550	 Bulgaria	0.29%	3 390 550
 Sweden	2.60%	30 459 300	 Serbia	0.22%	2 529 000
 Norway	2.42%	28 343 950	 Pakistan*	0.14%	1 664 200
 Austria	2.11%	24 676 150	 Cyprus**	0.09%	1 000 000
 Denmark	1.75%	20 453 800	 Lithuania*	0.09%	1 000 000
 Israel	1.69%	19 735 200	 Slovenia**	0.09%	1 000 000
 Finland	1.29%	15 129 550	 Ukraine*	0.09%	1 000 000
			<b>Total</b>	<b>100%</b>	<b>1 171 170 100</b>

\* Associate Member State \*\* Associate Member State in the pre-stage to membership

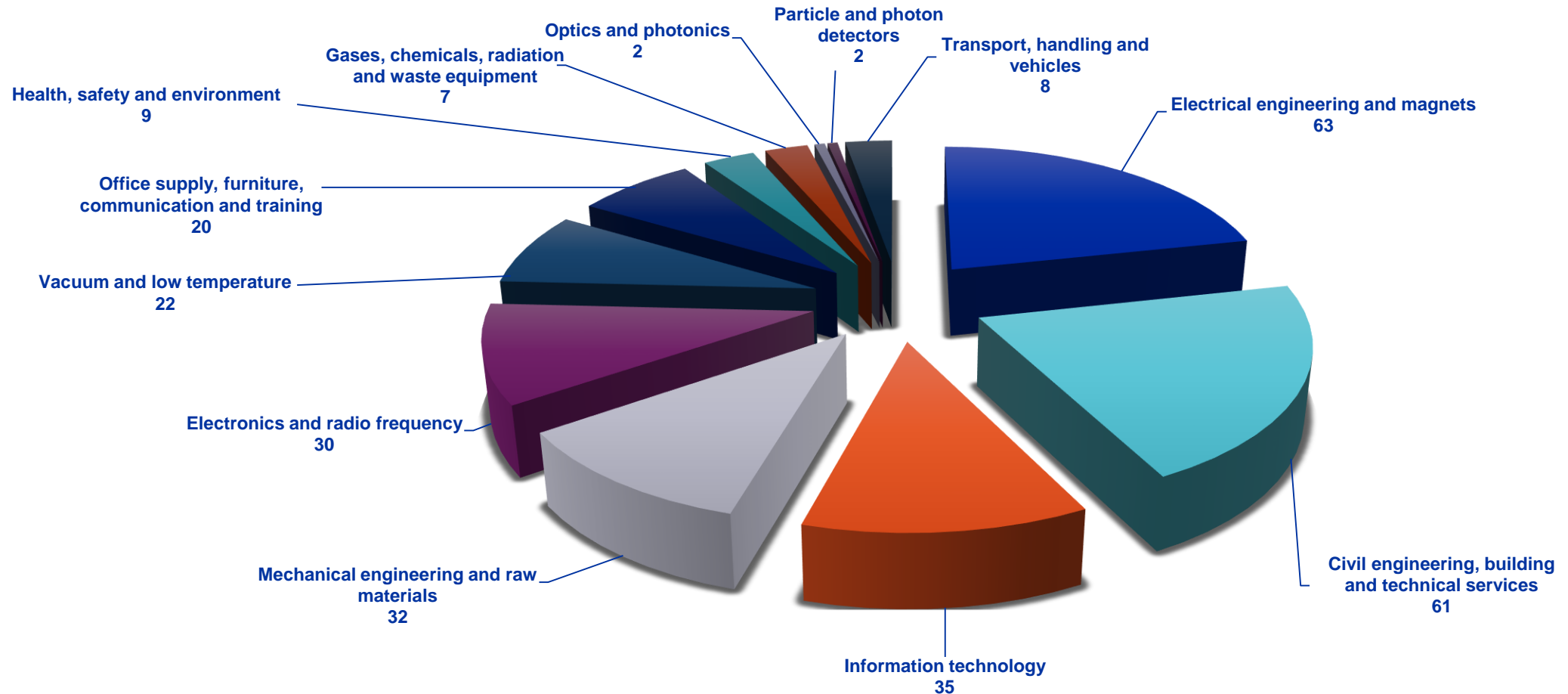
# Procurement Expenditure



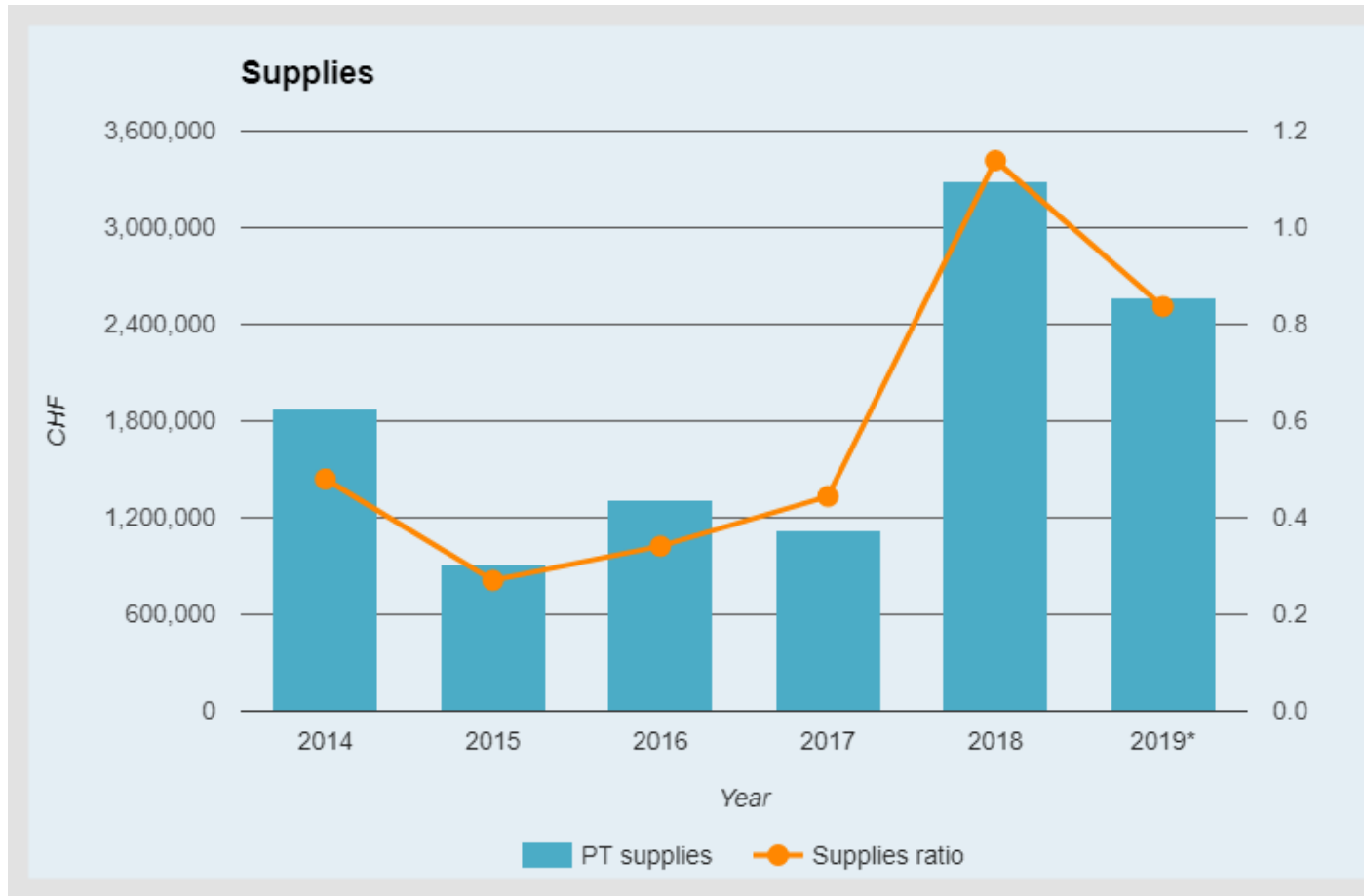
# Supplies

## (307MCHF spent in 2018 – CERN budget only)

2018 Expenditure of all Member States by Procurement Code Family (MCHF)

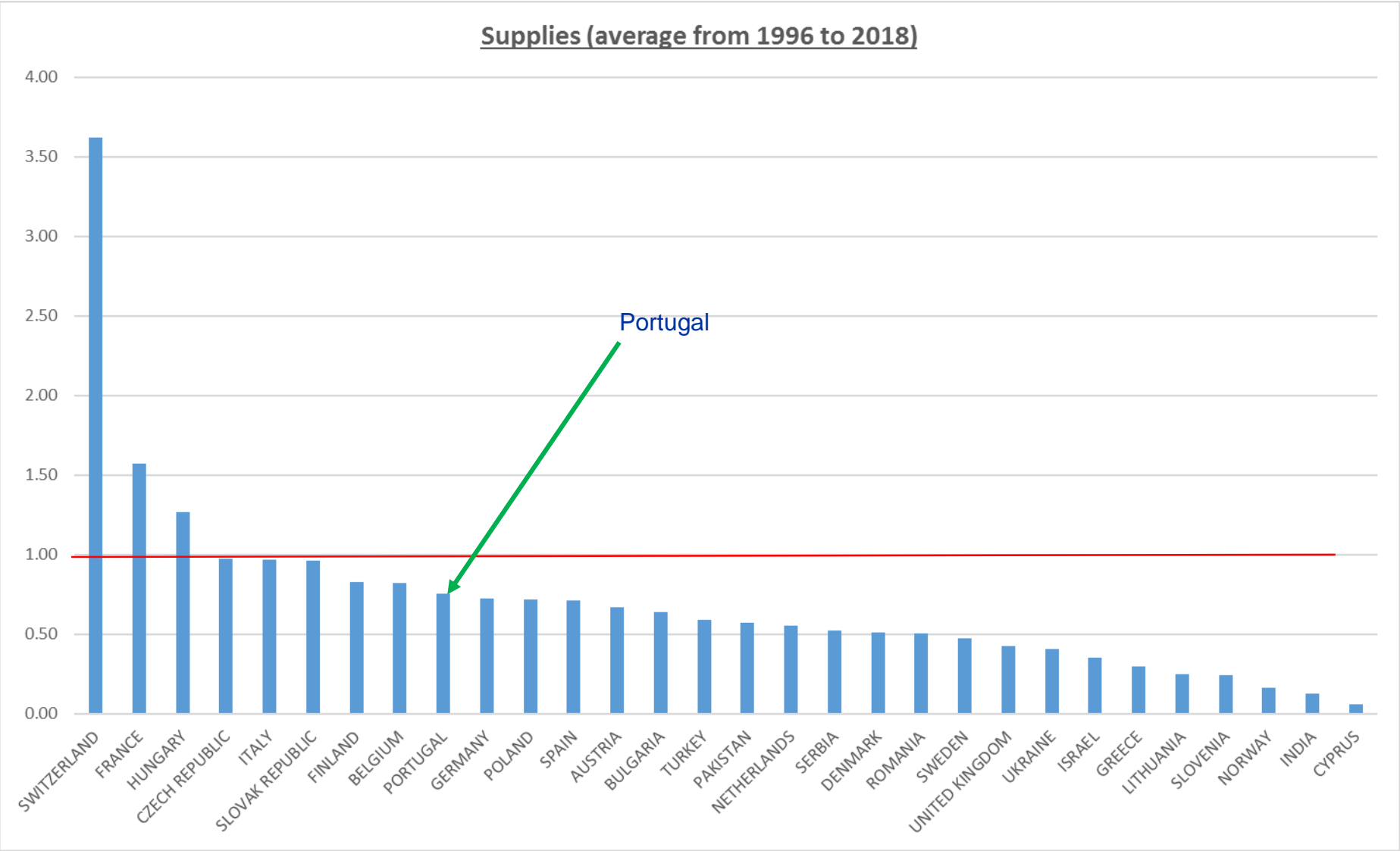


# Industrial Return (supplies)



\* 30 August 2019

# Industrial Return (supplies)



\* provisoire

# Poorly balanced Member States (Supplies)

(1st March 2019 – 29 February 2020, based on the previous 4 calendar years):





# Contact in your country

## ILO: Industrial Liaison Officer

- **Who to contact in your Country**

Industrial Liaison Officers (ILO's) are appointed by CERN's Member States to facilitate the flow of communication between CERN and its suppliers. ILO's can provide advice on the opportunities available for doing business with CERN and the support available to firms in their local regions.

**Portugal**



**Mr José ANTÃO**  
Agencia Nacional de Inovação (ANI)  
Campus do Lumiar  
Ed. O - 1e  
Estrada do Paço do Lumiar  
1649-038 Lisboa  
Portugal

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Thank you



[home.cern](http://home.cern)