



# Doing Business with CERN

## Denmark@CERN

Anders Unnervik

2 June 2021





# 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

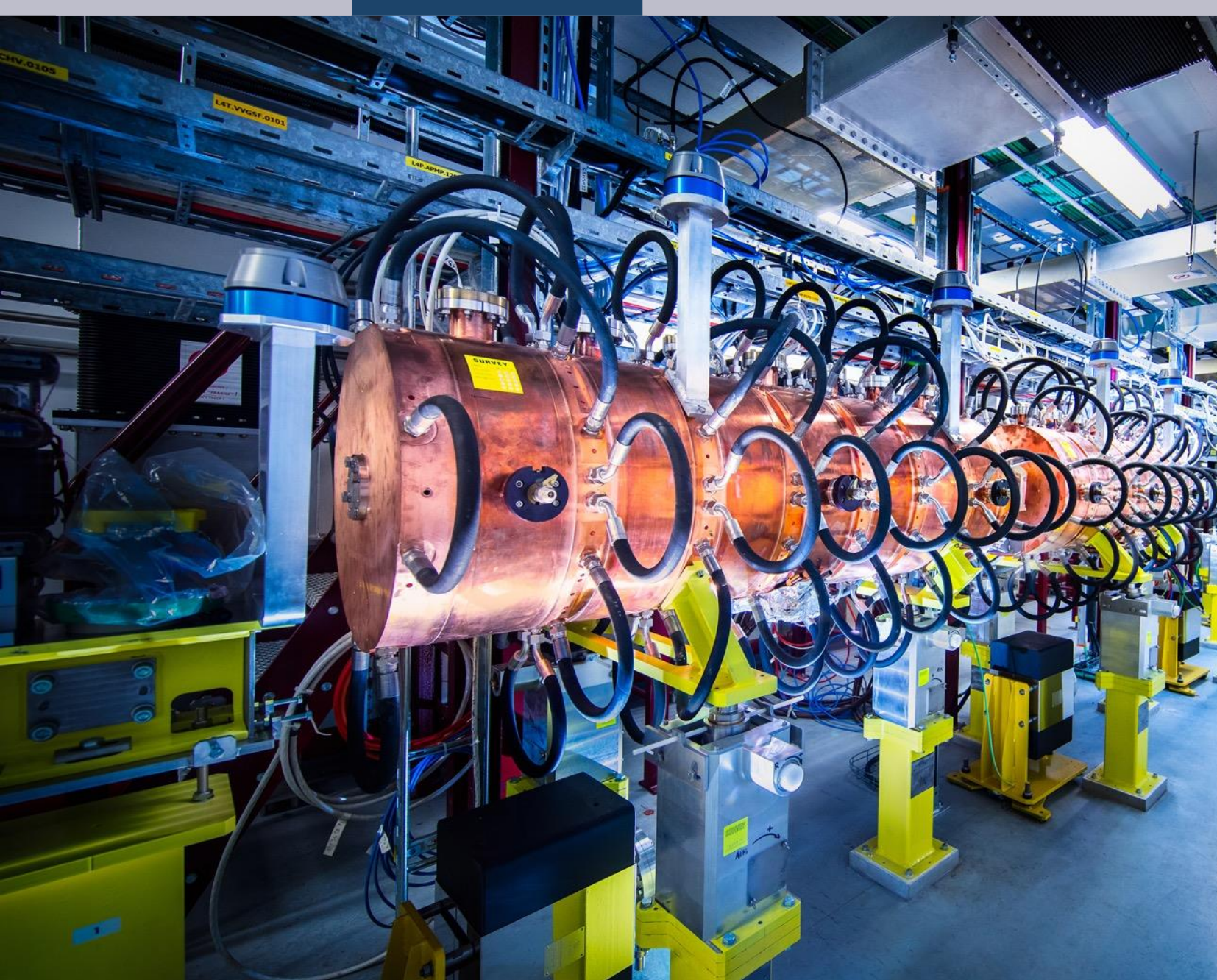




# What do we buy?

- **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

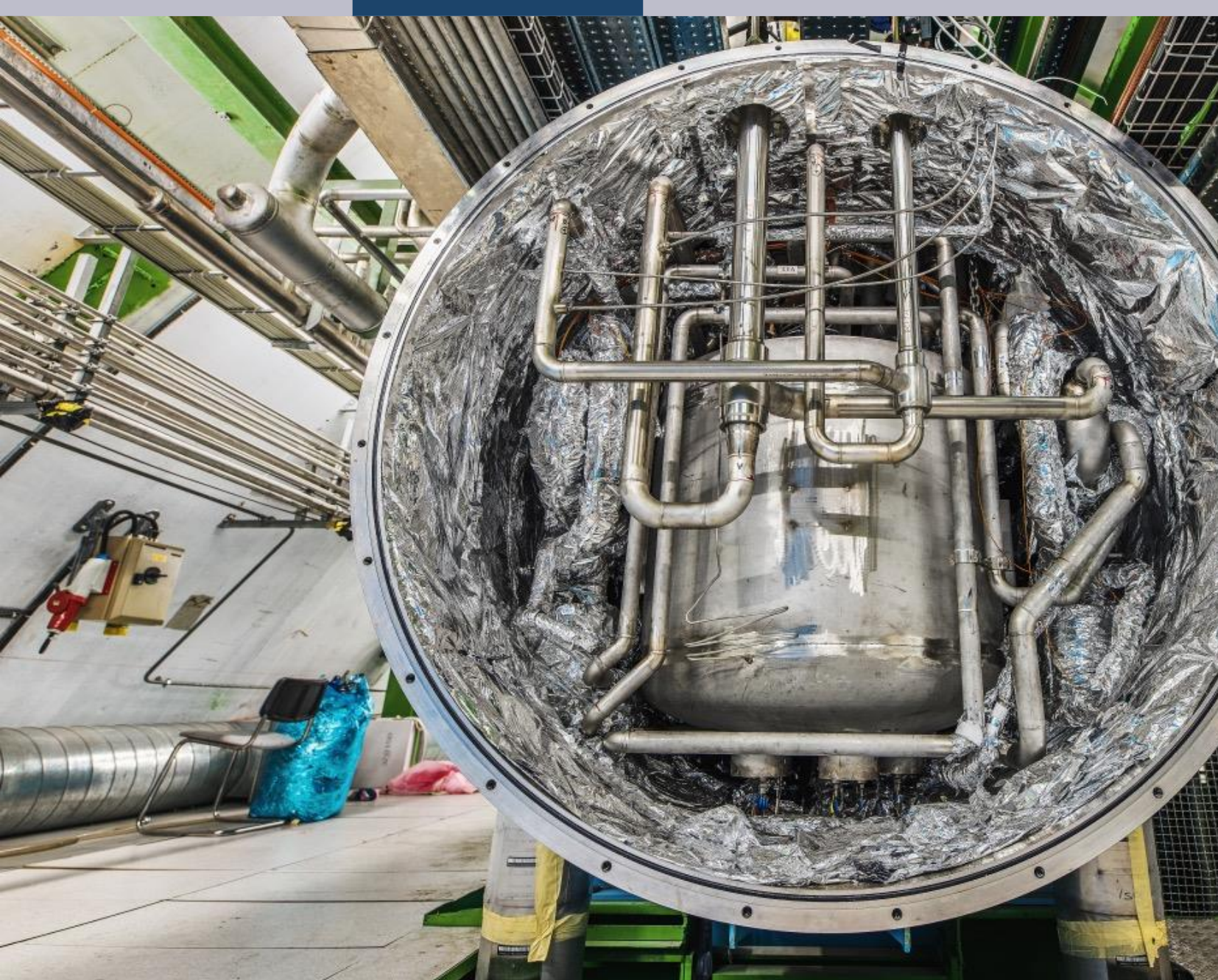




# What do we buy?

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



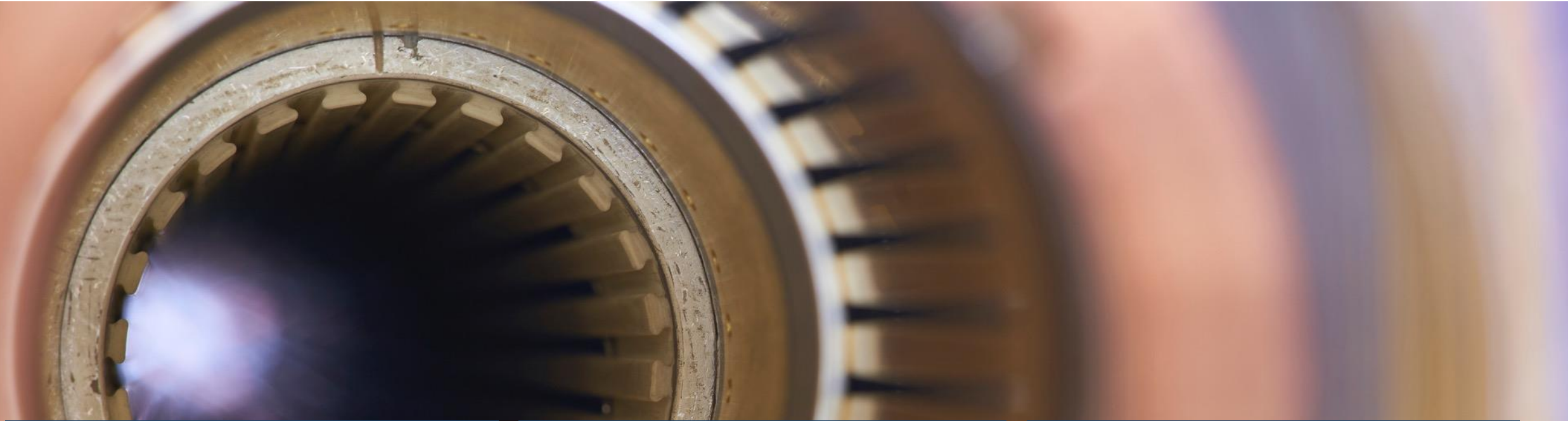


# What do we buy?

- **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



# Possible projects for the future of particle physics



## Compact Linear Collider (CLIC)

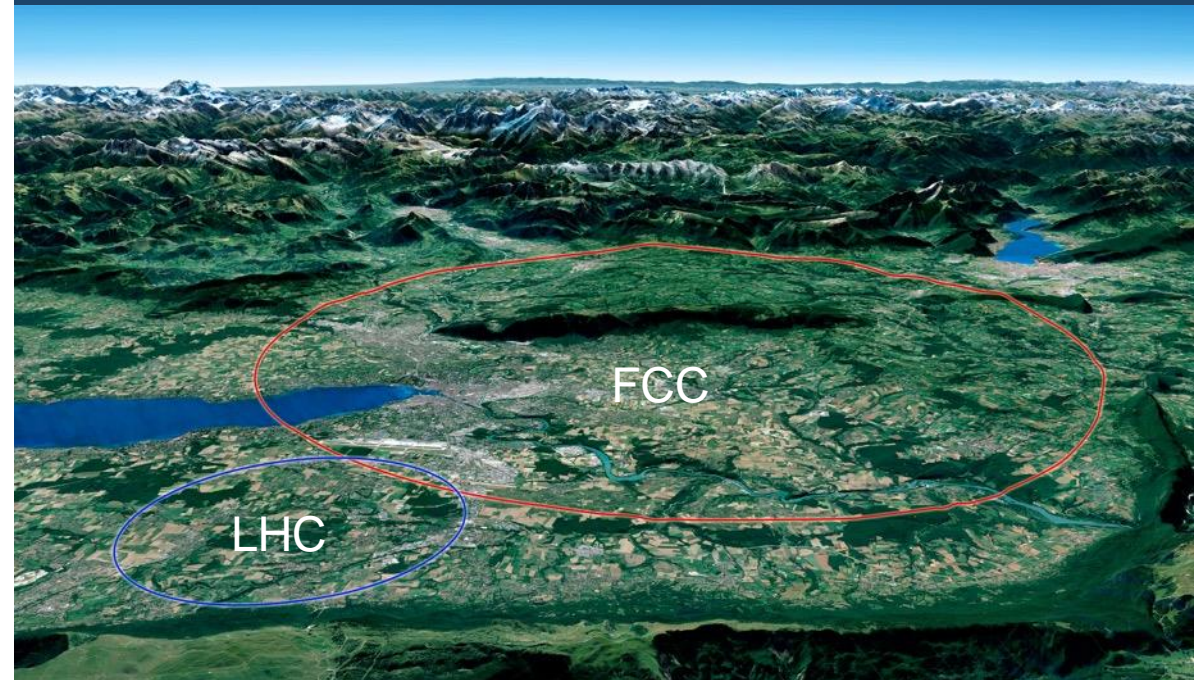


- Linear  $e^+e^-$  collider  $\sqrt{s}$  up to 3 TeV

## Future Circular Collider (FCC)

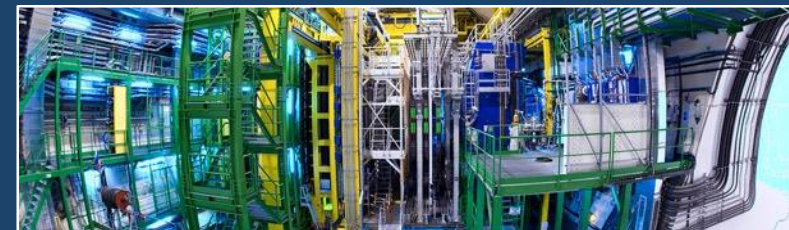
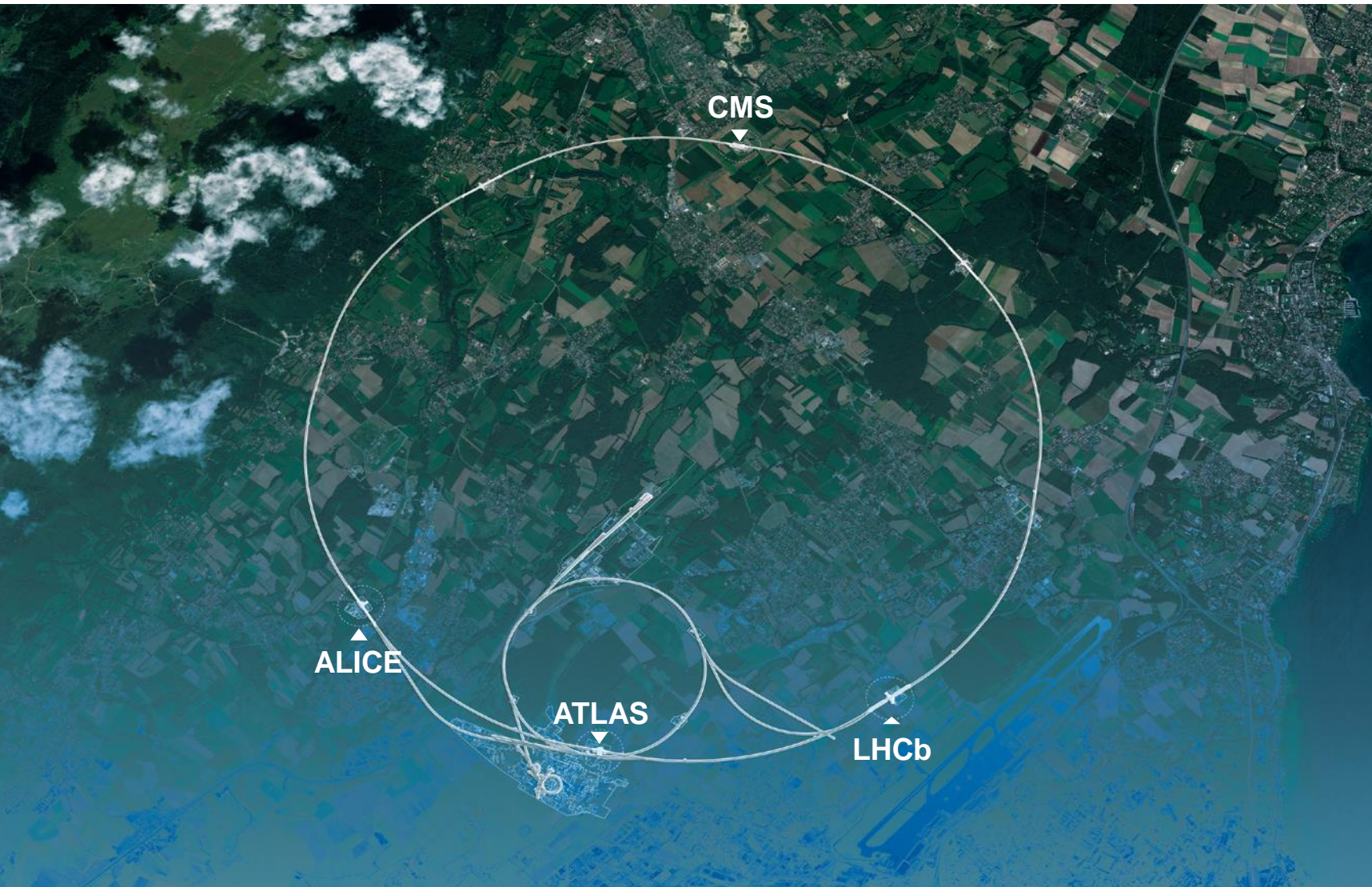


- New technology magnets  $\rightarrow$  100 TeV pp collisions in 100km ring
- $e^+e^-$  collider (FCC-ee) as 1<sup>st</sup> step?





# We also buy for the LHC experiments

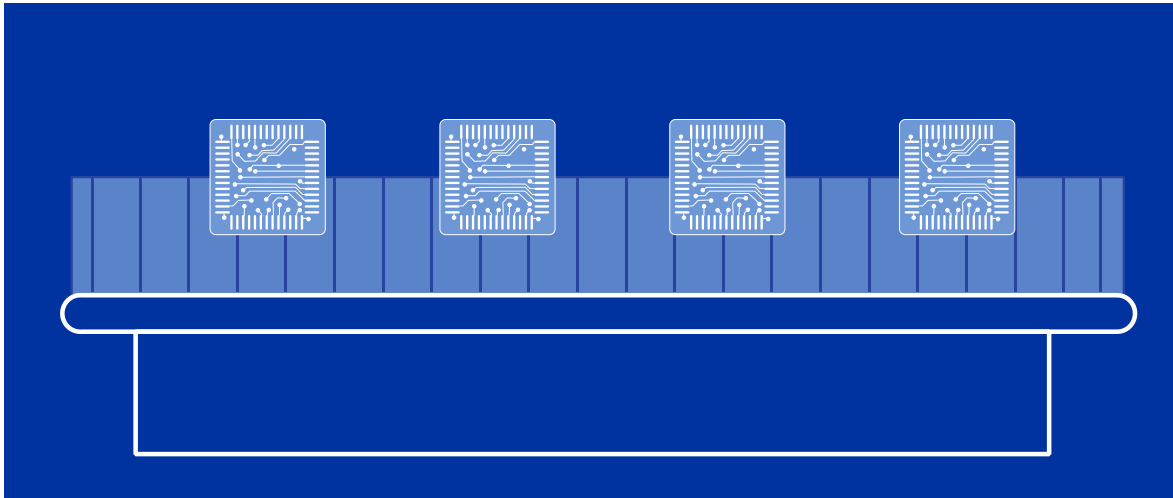




# What do we buy?

**Off-the shelf or non-standard products which can be produced with existing manufacturing techniques or technologies:**

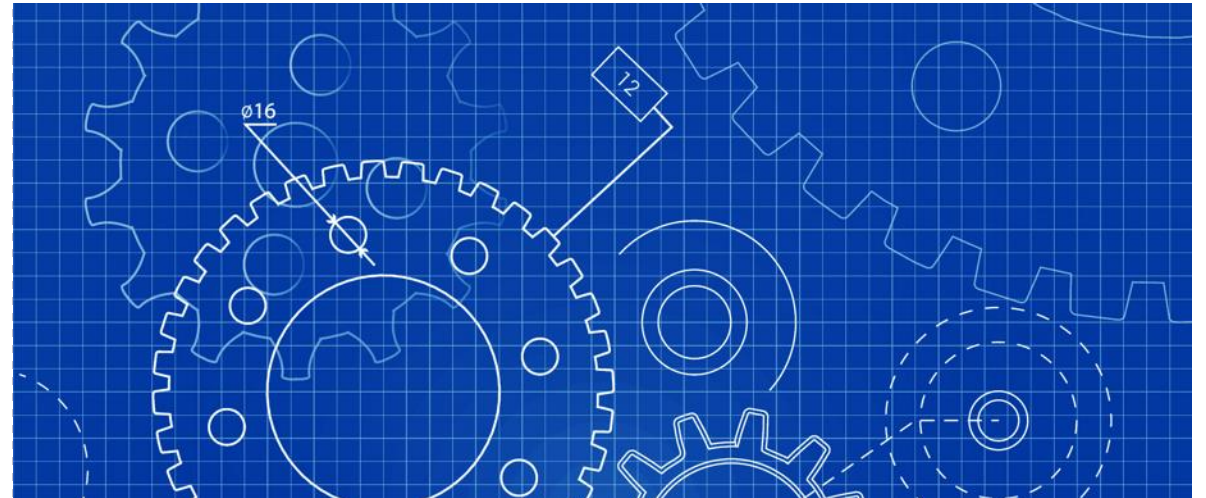
- **Functional specification**



**Non-standard products where industry has neither the required know-how nor the interest to develop and design the products:**

- **Build-to-Print specification**

Prototypes and or Pre-series might be required.





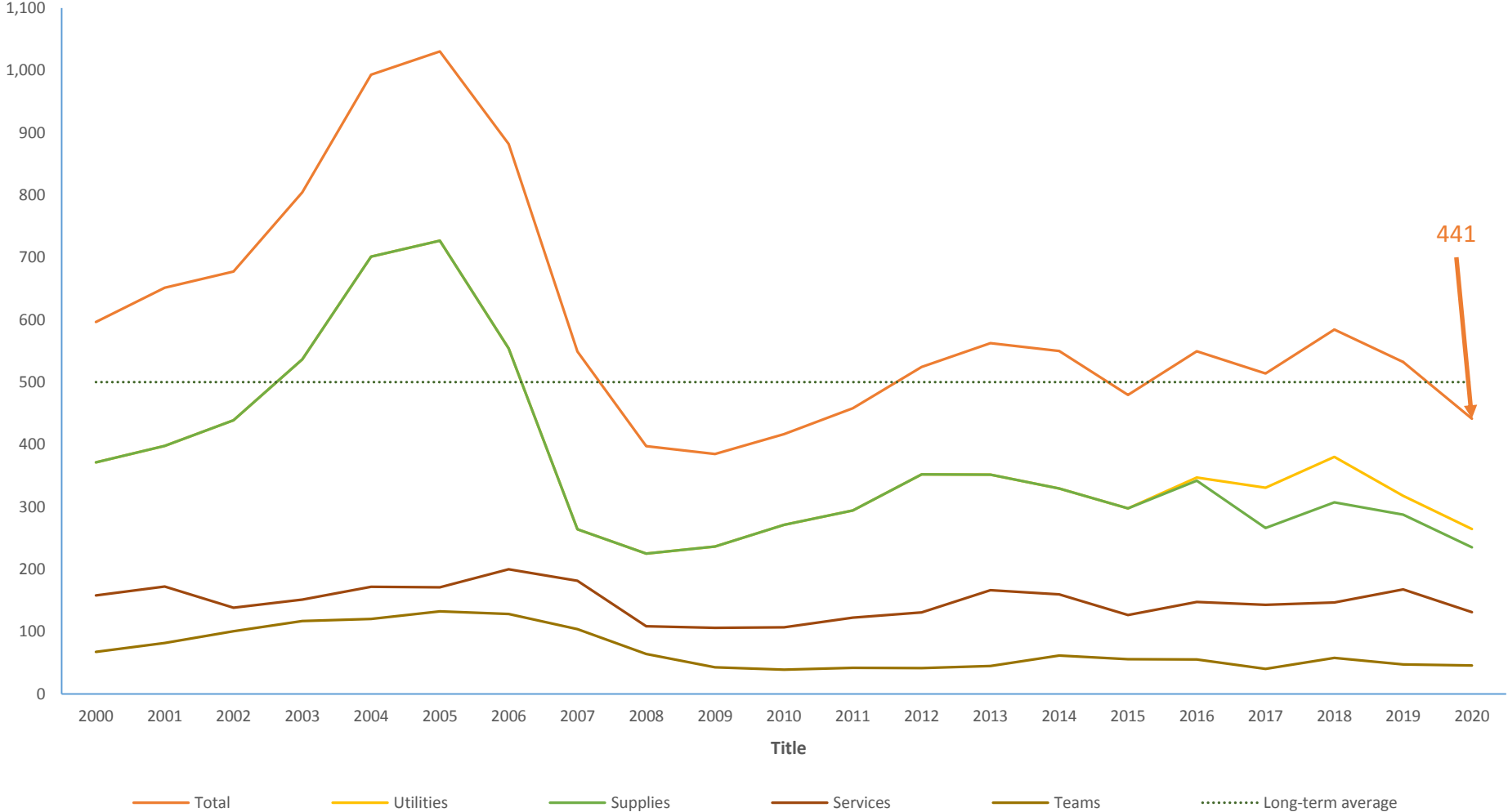
# Yearly Budget (contributions 2021)

| Country        | In CHF, 2021 prices | %           |
|----------------|---------------------|-------------|
| Germany        | 243,978,500         | 20.4%       |
| United Kingdom | 173,742,400         | 14.5%       |
| France         | 162,651,400         | 13.6%       |
| Italy          | 122,471,350         | 10.2%       |
| Spain          | 86,327,950          | 7.2%        |
| Netherlands    | 54,493,050          | 4.5%        |
| Switzerland    | 45,973,250          | 3.8%        |
| Poland         | 33,135,900          | 2.8%        |
| Belgium        | 32,398,200          | 2.7%        |
| Sweden         | 30,272,750          | 2.5%        |
| Norway         | 26,893,400          | 2.2%        |
| Austria        | 25,773,200          | 2.1%        |
| Israel         | 22,390,950          | 1.9%        |
| <b>Denmark</b> | <b>21,020,250</b>   | <b>1.8%</b> |
| India*         | 16,211,900          | 1.4%        |
| Finland        | 15,669,300          | 1.3%        |
| Romania        | 13,586,400          | 1.1%        |

| Country        | In CHF, 2021 prices  | %             |
|----------------|----------------------|---------------|
| Portugal       | 12,942,750           | 1.1%          |
| Czech Republic | 12,274,400           | 1.0%          |
| Greece         | 12,232,750           | 1.0%          |
| Hungary        | 8,029,550            | 0.7%          |
| Slovakia       | 6,010,500            | 0.5%          |
| Turkey*        | 5,349,000            | 0.4%          |
| Bulgaria       | 3,788,250            | 0.3%          |
| Serbia         | 2,865,800            | 0.2%          |
| Pakistan*      | 1,898,100            | 0.2%          |
| Slovenia*      | 1,410,200            | 0.1%          |
| Estonia*       | 1,020,000            | 0.1%          |
| Cyprus*        | 1,000,000            | 0.1%          |
| Croatia*       | 1,000,000            | 0.1%          |
| Lithuania*     | 1,000,000            | 0.1%          |
| Ukraine*       | 1,000,000            | 0.1%          |
| <b>TOTAL</b>   | <b>1,198,811,450</b> | <b>100.0%</b> |

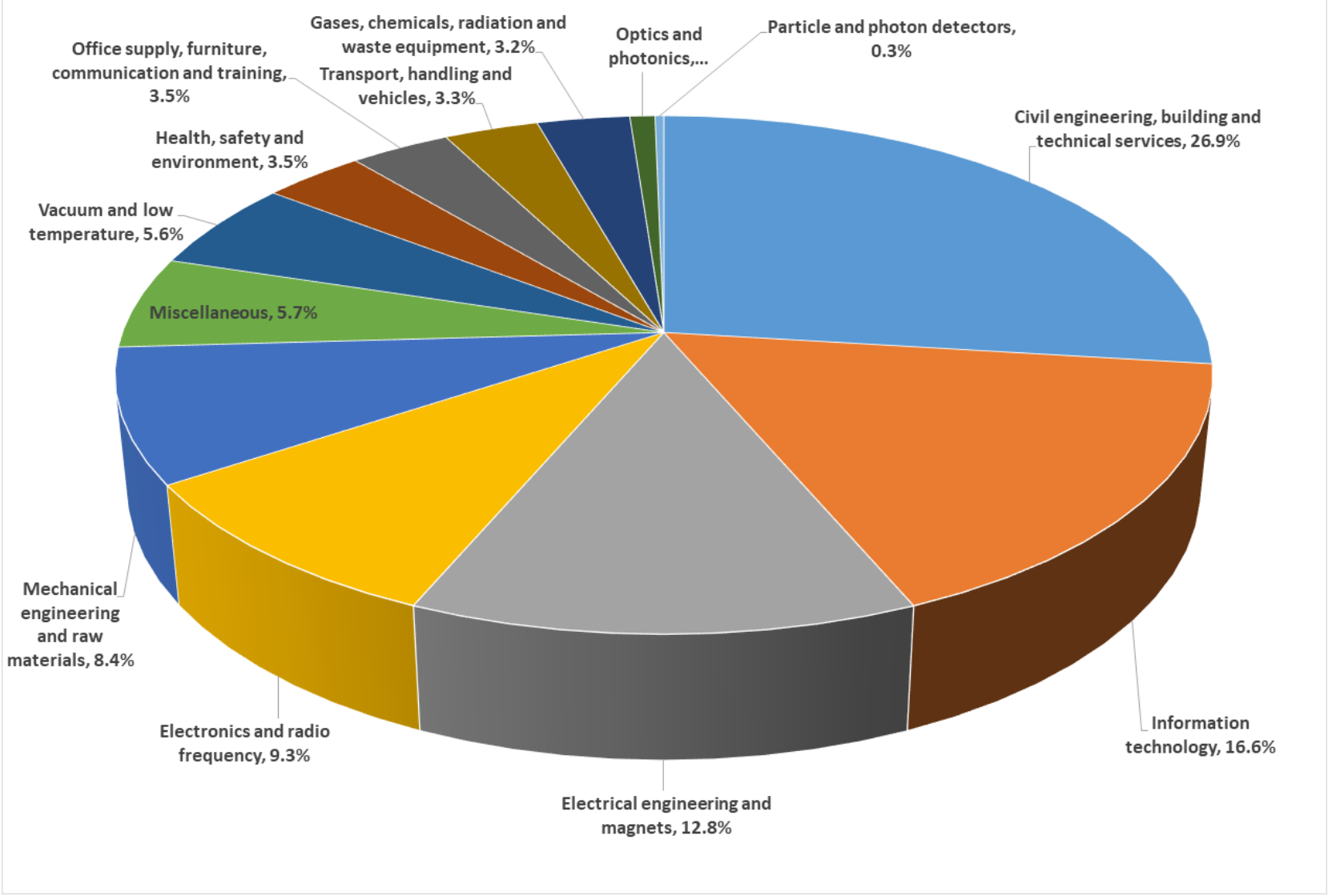


# Procurement Expenditure





# Supplies (235MCHF spent in 2020 – CERN budget only)





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

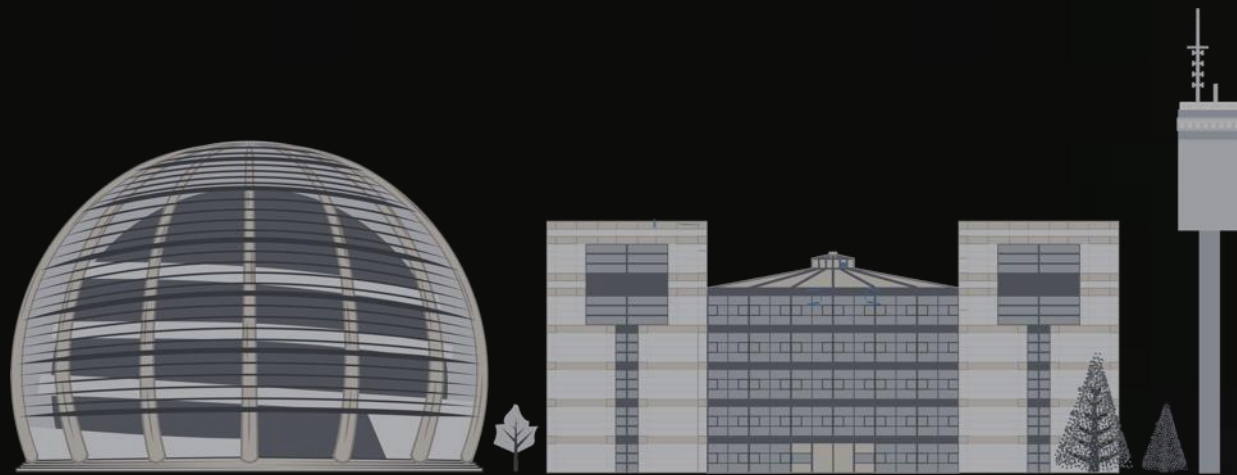


Procurement Rules

Safety Rules

Staff Regulation of its own personnel





# PROCUREMENT @CERN the rules



# The Procurement Service

## Mission

**The Procurement Service (PS) 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



# Principles of the Procurement Rules (1/4)

1

**Transparency and Impartiality**

2

**Tenders open to Member States only**

3

**Objectivity and equal treatment:** tendering packages are objective and impartial



# Principles of the Procurement Rules (2/4)

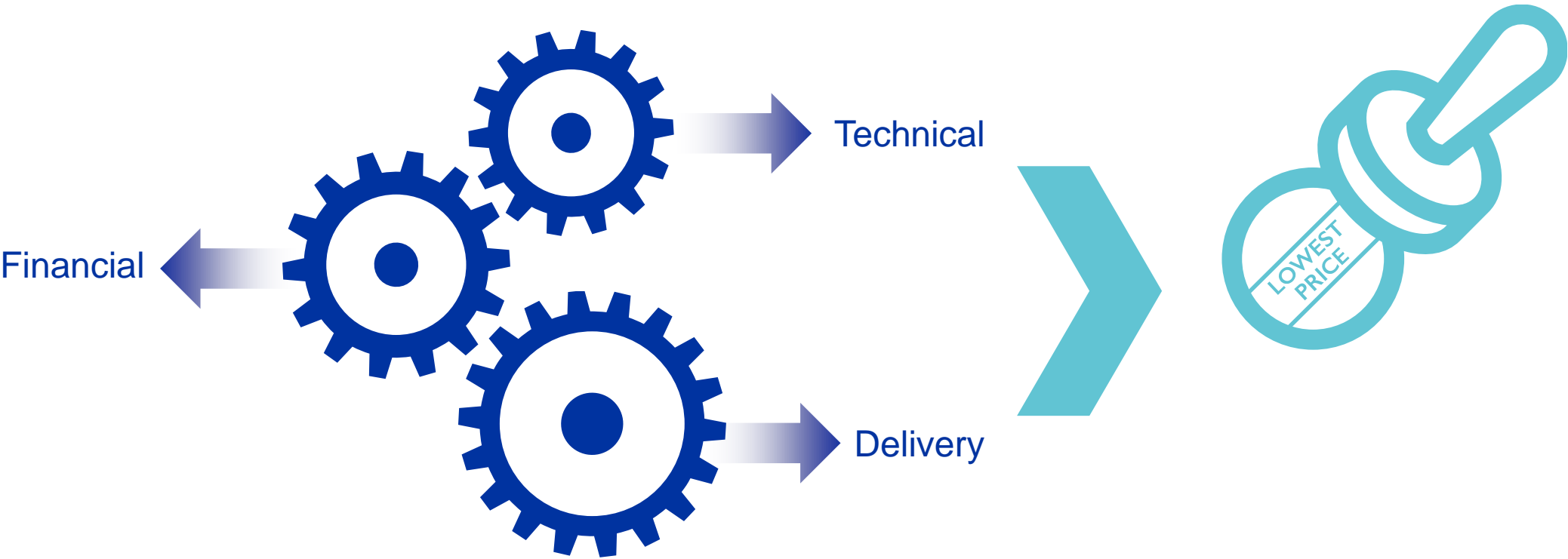
**Selective tendering procedures:**  
CERN's tendering procedures are not open to all interested firms

**Confidentiality:** Opening and evaluation of bids as well as negotiations are not public



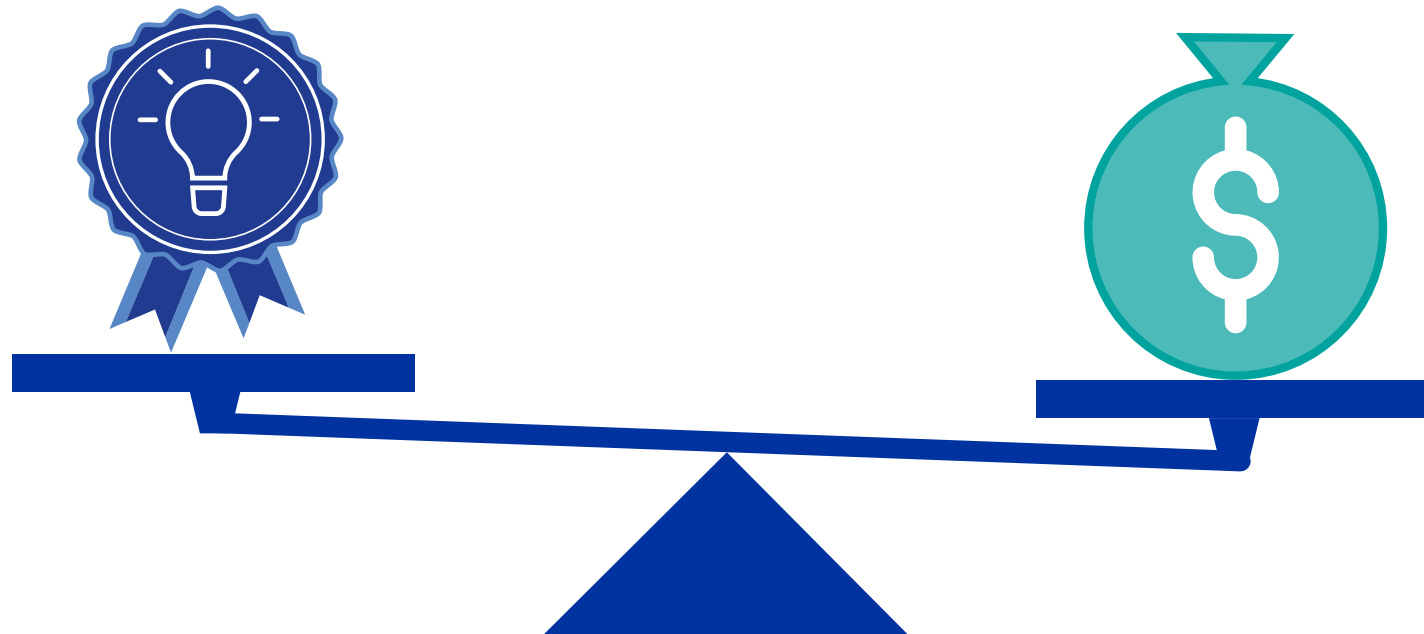
# Principles of the Procurement Rules (3/4)

Award for supplies (and services, exceptionally) based on:  
Lowest compliant bid



# Principles of the Procurement Rules (4/4)

Award for industrial services based on:  
Best Value For Money



! No alignment rule



# Enquiries between 10'000 and 200'000 CHF

## “Price enquiry” (Demande d’Offre - DO)

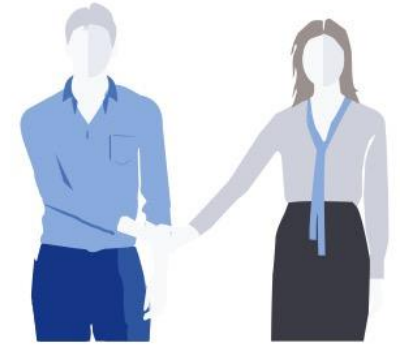
- **Submission deadline: 4 weeks from date of dispatch;**
- **All price enquiries above 50'000 CHF are also sent to the Industrial Liaison Officers (ILOs) for information;**
- **Price enquiries consist of:**
  - Technical specification and annexes;
  - Tender form (and a technical annex - optional);
  - CERN’s General Conditions (contracts, invitations to tender, safety, etc.)



# Enquiries exceeding 200'000 CHF (1/2)

## “Market Survey” (MS)

- **Prior announcement in CERN’s procurement website, see “Business Opportunities”**
  - At this stage, interested firms are encouraged to contact CERN in order to have a clear understanding of the requirement, allowing them to begin their organization ahead of the tendering process.
- **Market surveys consist of:**
  - “Technical Description” and;
  - “Qualification Questionnaire” (financial and technical).
- **Submission deadline: 4 weeks, or more if the MS is still online.**





# Enquiries exceeding 200'000 CHF (2/2)

## “Invitation to tender” (IT)

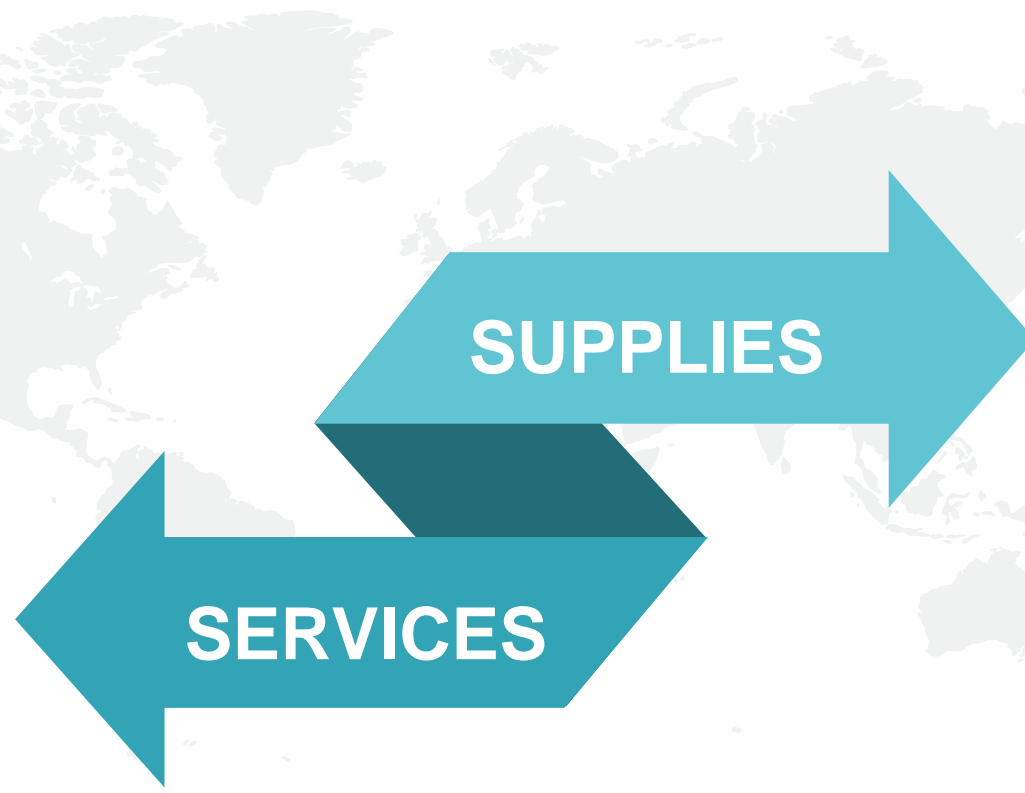
- **Sent to qualified and selected firms only;**
- **Submission deadline: 4 weeks from date of dispatch (with a longer period for more complex requirements);**
- **Firms may ask all necessary questions in writing to understand all requirements and prepare a bid that best matches CERN’s needs;**
- **All invitations to tender are sent to the Industrial Liaison Officers (ILOs) for information;**
- **Bids shall be submitted via CERN’s e-tendering application.**



# Country of origin

*“Country(ies) in which the bidder is established.”*

If at least **40%** of the total amount of the bid comes from a poorly balanced MS, then the **whole bid** will be treated as that from a bidder in a poorly balanced MS.



*“Country(ies) where the **supplies** (including their components and sub-assemblies) are manufactured or undergo the last major transformation by the contractor or its sub-contractor”*

If at least **60%** of the total amount of the bid comes from a poorly balanced MS, then the **whole bid** will be treated as that from a bidder in a poorly balanced MS.



# Alignment rule

## Applicable for:

1

**Contracts awarded on the lowest compliant basis (mainly supply contracts)**

2

**With a total amount exceeding 100'000 CHF.**

## RULE

Under certain conditions as defined in CERN Procurement Rules, a bidder offering goods originating\* in poorly balanced Member States is allowed to align his price to that of the lowest bidder and thereby be awarded the contract.

\* At least 60% for supply contracts or; at least 40% for service contracts awarded on the lowest compliant basis.

# Industrial return coefficient

## Industrial return coefficient

For Supply contracts and for a 12-month period starting on 1<sup>st</sup> March, defined as:

*“The ratio between a Member State's percentage share of the value of all Supply contracts and that Member State's percentage contribution to the CERN Budget over the same period”.*



Over a 4-year period:  
Very poorly balanced :  $< 0.40$   
Poorly balanced (PB) :  $0.40 \geq x < 1$   
Well balanced (WB):  $\geq 1$

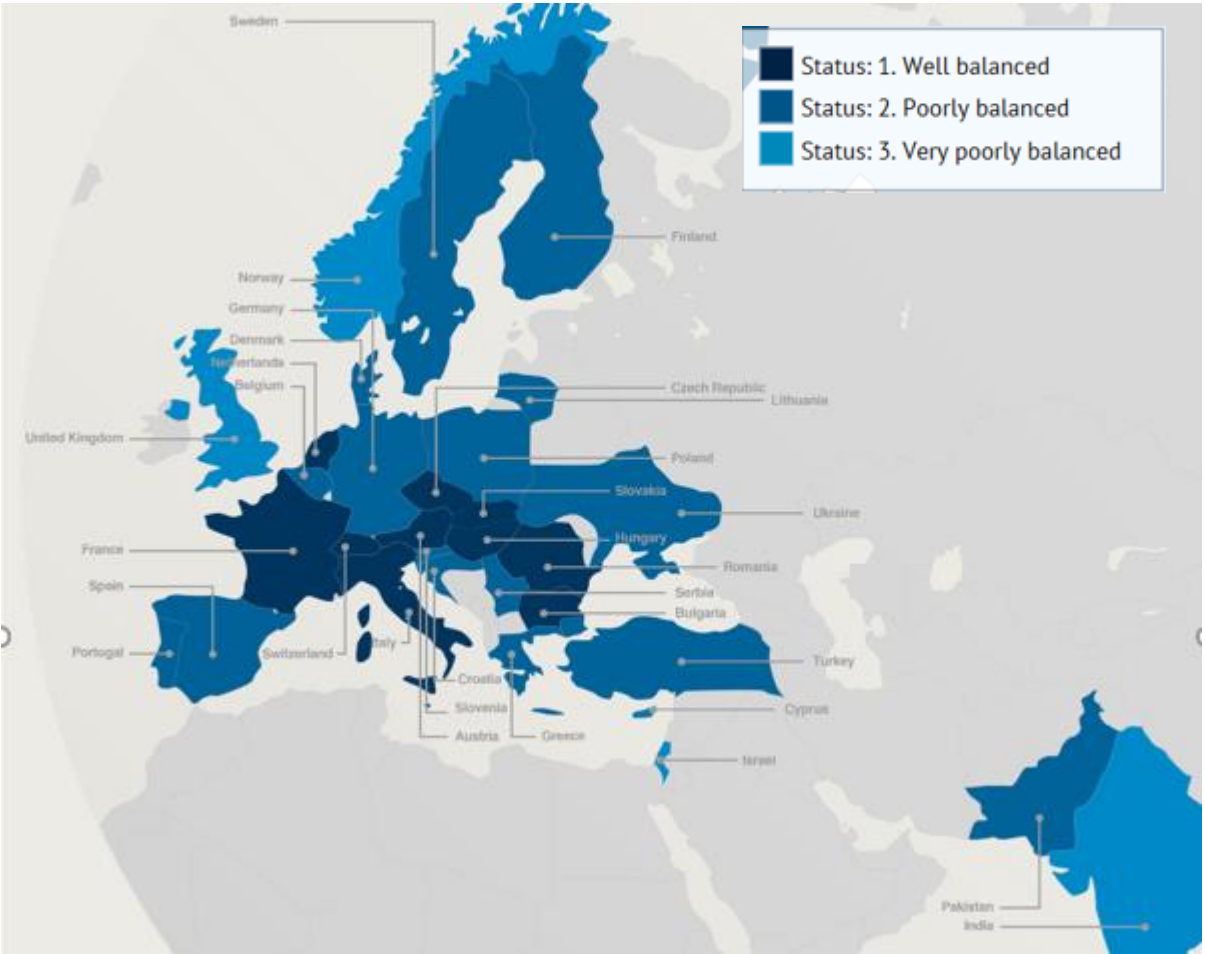
## Status definition

$$\text{Return Coef.} = \frac{\% \text{ expenditure in the MS}}{\% \text{ contribution to CERN budget for this MS}}$$



# Poorly balanced Member States (Supplies)

(1st March 2021 – 28 February 2022, based on the previous 4 calendar years):



| Well Balanced  | Poorly Balanced  | Very Poorly Balanced                                     |
|--|--|--|
| Austria<br>Bulgaria<br>Czech Republic<br>France<br>Hungary<br>Italy<br>Netherlands<br>Romania<br>Slovakia<br>Switzerland | Belgium<br>Croatia*<br>Cyprus*<br>Denmark<br>Finland<br>Germany<br>Greece<br>Lithuania*<br>Pakistan*<br>Poland<br>Portugal<br>Serbia*<br>Slovenia*<br>Spain<br>Sweden<br>Turkey*<br>Ukraine* | Estonia*<br>India*<br>Israel<br>Norway<br>United Kingdom |

\*Associate Member States

# Industrial Return for Denmark (supplies)



\* provisoire



# Industrial Return for Denmark (services)



\* provisoire

# Some Danish suppliers 2020-2021

| SUPPLIER  | TOWN          |
|---|---------------|
| B & S INTERNATIONAL                                       |               |
| DANOTHERM ELECTRIC A/S                                    | Rodovre       |
| VINK PLAST APS  | Randers       |
| WEISSENBORN A/S   | Vejle         |
| PRODAN A/S  | Randers Sv    |
| AARHUS UNIVERSITY   | Aarhus C      |
| BLUNICO A/S   | Horsens       |
| TRANSELECTRO APS  | Hadsund       |
| HORSENS SPAN TEKNIK                                       | Loesning      |
| JJ XRAY AS  | Hoersholm     |
| DANISH TECHNOLOGICAL INSTITUTE                            | Aarhus C      |
| DANFYSIK A/S  | Taastrup      |
| POLYTEKNIK AS   | Oestervraa    |
| CNC TEAM A/S  | Horsens       |
| BJORNTOFT MASKINFABRIK A/S                                | Skovlunde     |
| GRADUATELAND APS  | Copenhagen S  |
| NECAS A/S   | Stoevring     |
| ATOP CORPORATION A/S                                      | Aalborg       |
| CTS CERAMICS DENMARK A/S                                  | Kvistgaard    |
| PROSHOP EUROPE SALES A/S                                  | Aarhus N      |
| BB ELECTRONICS A/S  | Horsens       |
| METALWO A/S   | Hasselager    |
| TRIPLECUT A/S   | Vejle         |
| ROTTGER'S VAERKTOJ A/S                                    | Odense        |
| NKT PHOTONICS   | Birkerod      |
| OLSEN METALTRYKKERI A/S                                   | Rodovre       |
| TOPSIL GLOBALWAFERS                                       | Frederikssund |
| MEKOPRINT A/S   | Stoevring     |
| HB PRODUCTS A/S   | Hasselager    |
| EXTREME FASTENERS EUROPE APS                              | Hvidovre      |
| RISO DTU - NATIONALLABORATORIET FOR<br>BAEREDYGTIG ENERGI | Roskilde      |
| LEGO SYSTEM   | Billund       |
| INFRASTRUCTURE SERVICES FOR OPEN ACCESS                   | Kastrup       |
| DALUX APS   | Copenhagen    |
| L-J UDSTILLINGER  | Arslev        |
| SODEMANN INDUSTRIFJEDRE AS                                | Viby          |
| DANISH TECHNOLOGY INSTITUTE                               | Taastrup      |
| PER BENNICH PB METROLOGY CONSULTING                       | Vaerloese     |





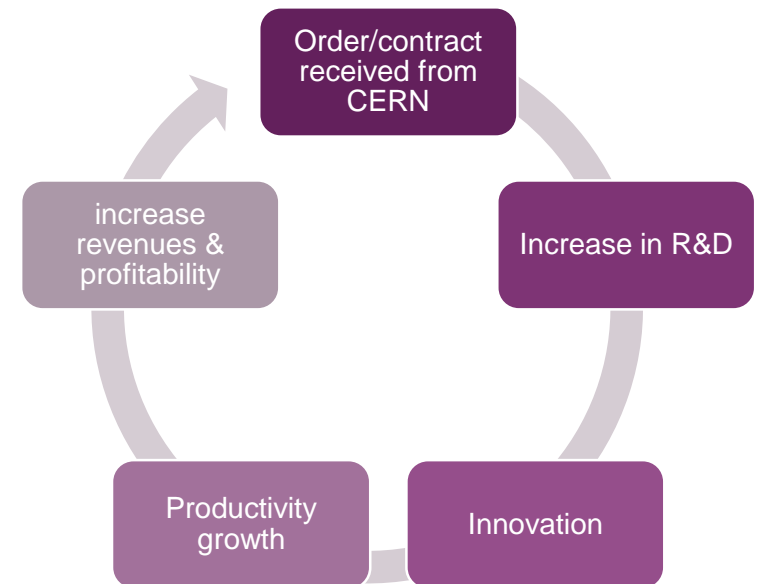
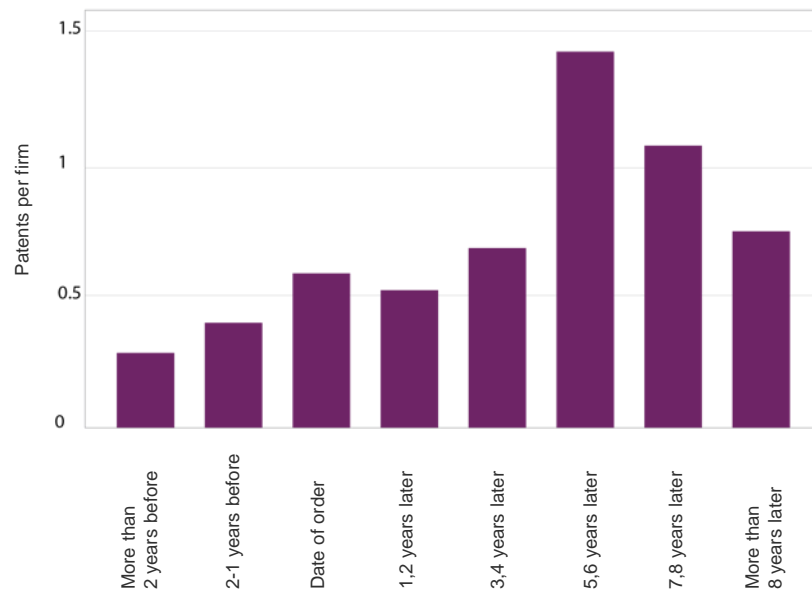
# Impact of Doing business with CERN

# The economical impact of CERN Procurement on supplier's performance (Castelnovo et al, 2018)

Empirical studies (by the analysis of financial data from 1995 to 2008 from 365 CERN suppliers for the LHC) show that after working with CERN on high-tech contracts, CERN suppliers out-perform their peers by:

Investing more in R&D and filing more patents

Higher productivity, revenue and profitability



# Doing business with CERN: the facts

supplier survey (669 suppliers in 33 countries, 2017):

48%

improved products and services

42%

developed new products

55%

improved technical knowledge  
in their field



18%

found or opened a new market to  
address

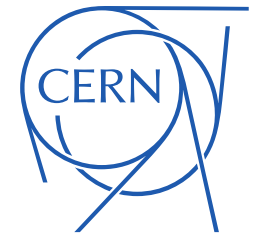
62%

used CERN as a marketing reference

Most firms experienced  
no financial loss.



# Doing business with CERN: the facts



Using CERN as a marketing reference improve the reputation as suppliers

*supplier*



# Procurement website



# Website of the Procurement Service

<http://procurement.web.cern.ch>

Procurement and Industrial Services Group

[HOME](#) - [CERN PERSONNEL](#) - [INDUSTRIAL LIAISON OFFICERS](#) - [GROUP MEMBERS](#)

## › Doing Business with CERN

- Doing Business with CERN [edit](#)
- Running a Contract with CERN [edit](#)
- Procurement Process [edit](#)
- Law applicable to contractors' personnel [edit](#)



## › Business Opportunities



## › Supplier Portal



## › Key Reference Documents



## › List of Poorly and Well Balanced Member State...



## › Procurement strategy and policy





# 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><br>Technically: <a href="#">S. Cahuet</a><br>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><br>Technically: <a href="#">Y. Lecerq</a><br>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><br>Technically: <a href="#">G. Metral</a><br>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><br>Technically: <a href="#">G. Canale</a><br>Commercially: <a href="#">N. Azizi</a>    | Third quarter 2018                         |

# Register in the Suppliers Portal

**MANDATORY**

**for all exchanges with CERN, in particular to:**

- Be visible for future opportunities (with the procurement codes you have indicated),
- Receive and follow-up orders,
- Send invoices.

## Suppliers Portal

Welcome to CERN's eProcurement platform

<https://procurement.cern.ch/asp/Home>

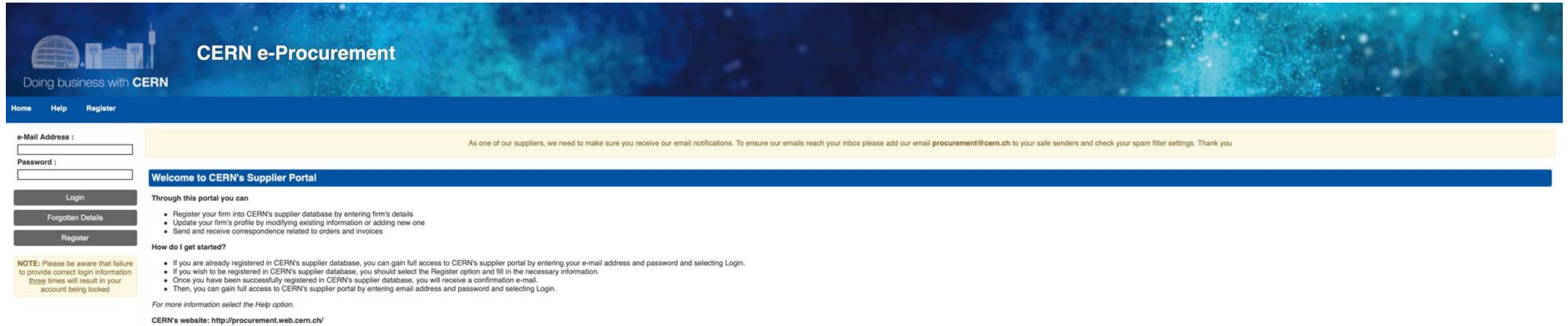
Using this platform, you will be able to receive orders, manage the delivery of supplies and send invoices for processing.

If you are having trouble registering your firm, please consult this [video tutorial](#) or the French version under [tutoriel](#).

Once you have registered your firm, you will be able to log on to the platform to manage your firm's profile and contact details.

If you have any further questions, please contact CERN's eProcurement platform support team at [Supplierdb.Support@cern.ch](mailto:Supplierdb.Support@cern.ch).

# CERN e-Procurement



The screenshot shows the CERN e-Procurement Supplier Portal. At the top, there is a blue header with the CERN logo and the text "CERN e-Procurement" and "Doing business with CERN". Below the header, there are navigation links for "Home", "Help", and "Register". The main content area is divided into several sections:

- Left sidebar:** Contains login fields for "e-Mail Address" and "Password", and buttons for "Login", "Forgotten Details", and "Register". A yellow note below these fields states: "NOTE: Please be aware that failure to provide correct login information three times will result in your account being locked".
- Yellow banner:** A yellow banner at the top of the main content area contains the text: "As one of our suppliers, we need to make sure you receive our email notifications. To ensure our emails reach your inbox please add our email [procurement@cern.ch](mailto:procurement@cern.ch) to your safe senders and check your spam filter settings. Thank you".
- Welcome to CERN's Supplier Portal:** A blue header section with the text "Welcome to CERN's Supplier Portal".
- Through this portal you can:** A section with a list of bullet points: "Register your firm into CERN's supplier database by entering firm's details", "Update your firm's profile by modifying existing information or adding new one", and "Send and receive correspondence related to orders and invoices".
- How do I get started?:** A section with a list of bullet points: "If you are already registered in CERN's supplier database, you can gain full access to CERN's supplier portal by entering your e-mail address and password and selecting Login.", "If you wish to be registered in CERN's supplier database, you should select the Register option and fill in the necessary information.", "Once you have been successfully registered in CERN's supplier database, you will receive a confirmation e-mail.", and "Then, you can gain full access to CERN's supplier portal by entering email address and password and selecting Login."
- Footer:** A small text at the bottom left of the main content area reads: "For more information select the Help option." and "CERN's website: <http://procurement.web.cern.ch/>".



To ensure our emails reach your inbox please add our email [procurement@cern.ch](mailto:procurement@cern.ch) to your safe senders and check your spam filter settings.



# Contacts at CERN (Procurement and Technical)



# 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.



Mr Nikolaj  
Zangenberg

**Role**

Director

**Organization**

Danish Technological Institute - DTI

**Address**

Big Science Center  
Kongsvang Alle 29  
8000 Aarhus C  
Denmark

**Telephone**

+ 45 7220 2494

**Email**

[nzg@teknologisk.dk](mailto:nzg@teknologisk.dk)

**Website**

<http://www.bigscience.dk>

Thank you



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