



# Doing Business with CERN Presentation for Polish Industry

Joshua Davison, CERN Procurement Service

29 November 2023

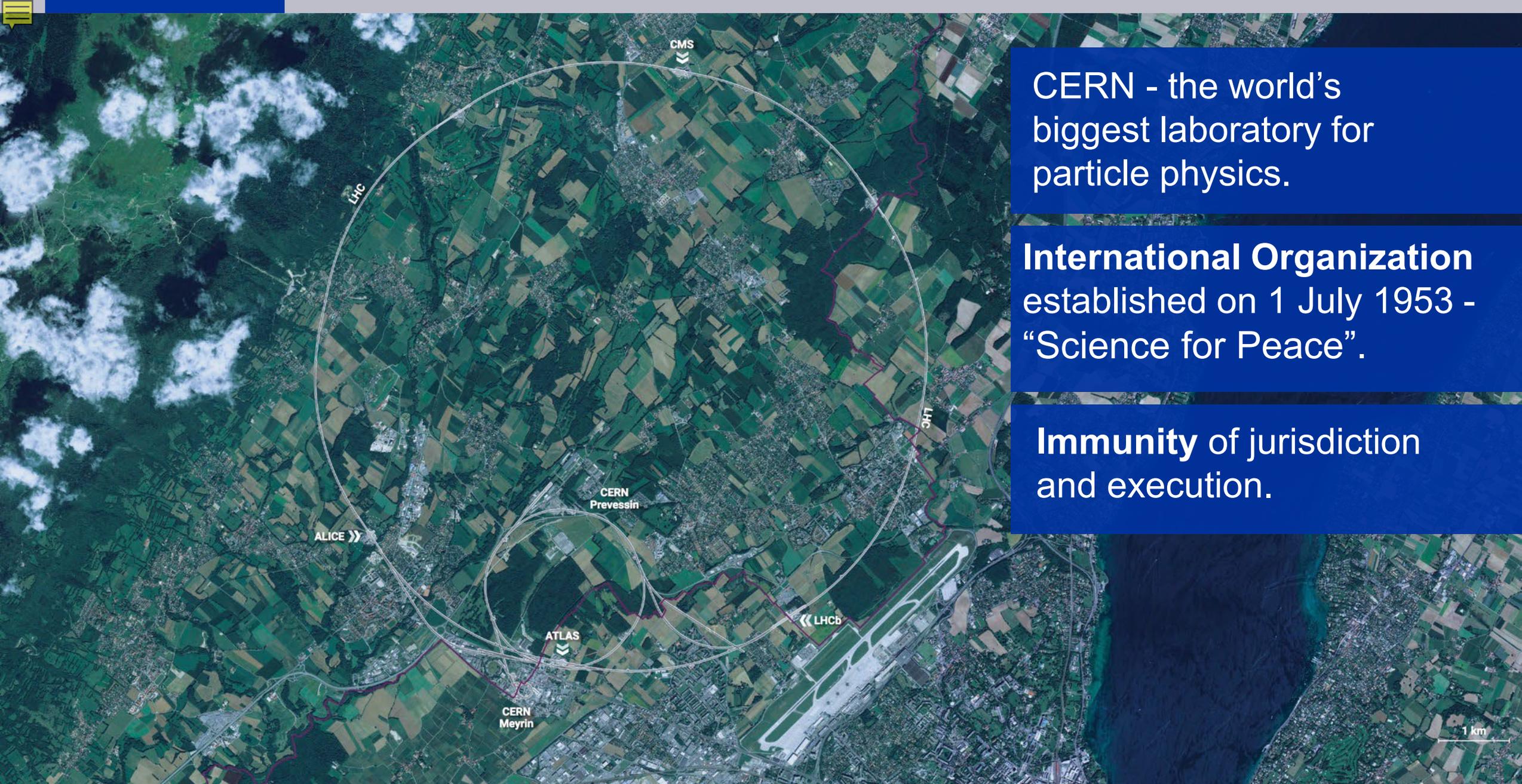


# AGENDA

- Introduction
- Statistics
- Procurement @ CERN - the rules
- Impact of Doing business with CERN
- Procurement website



# INTRODUCTION

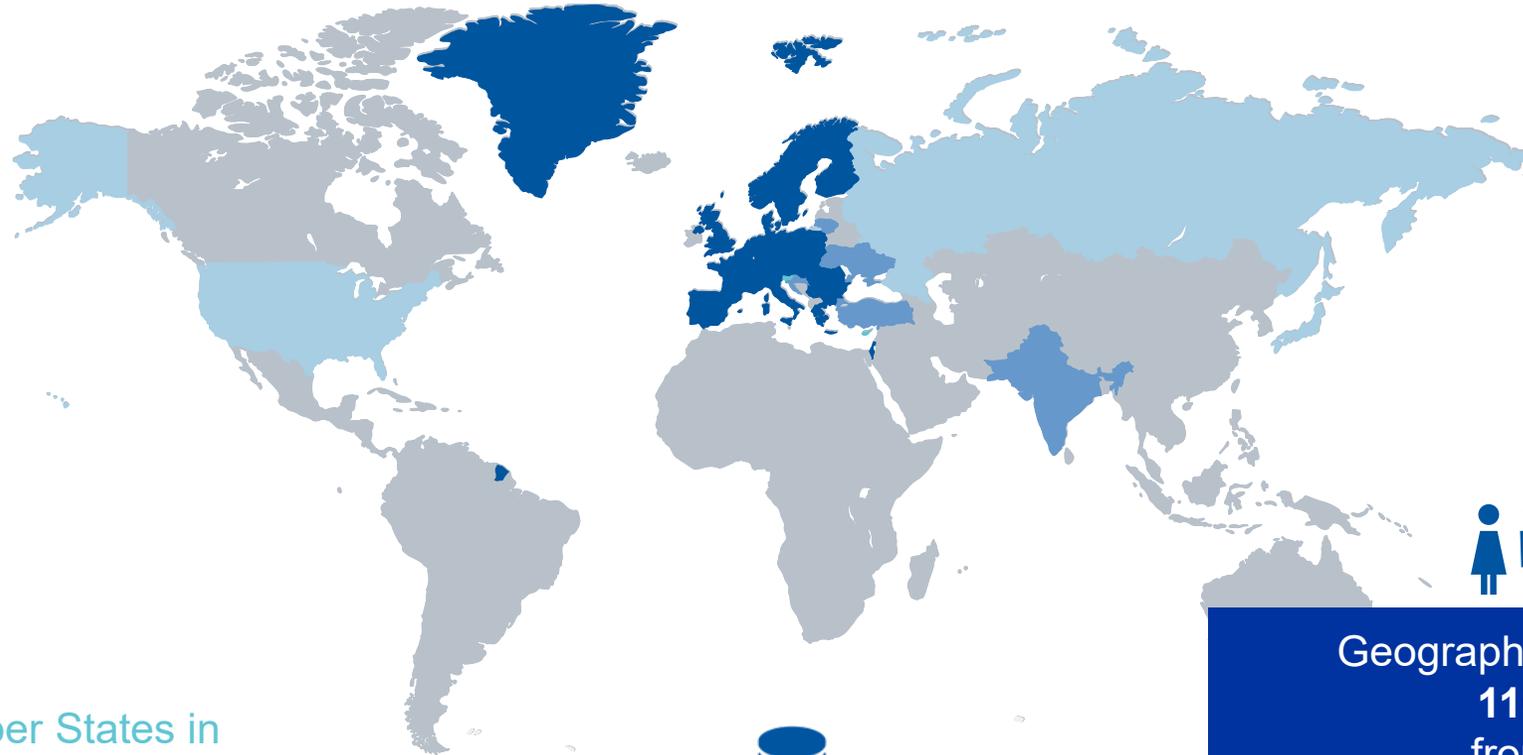


CERN - the world's biggest laboratory for particle physics.

**International Organization** established on 1 July 1953 - "Science for Peace".

**Immunity of jurisdiction and execution.**

# In 1954 CERN had 12 Member States Today CERN has 23 Member States



**23** Member States

**3** Associate Member States in the pre-stage to membership

**7** Associate Member States

**6** Observers



**Yearly budget ~ 1347 MCHF**



**Geographical & cultural diversity**  
**110** nationalities,  
from **77** countries

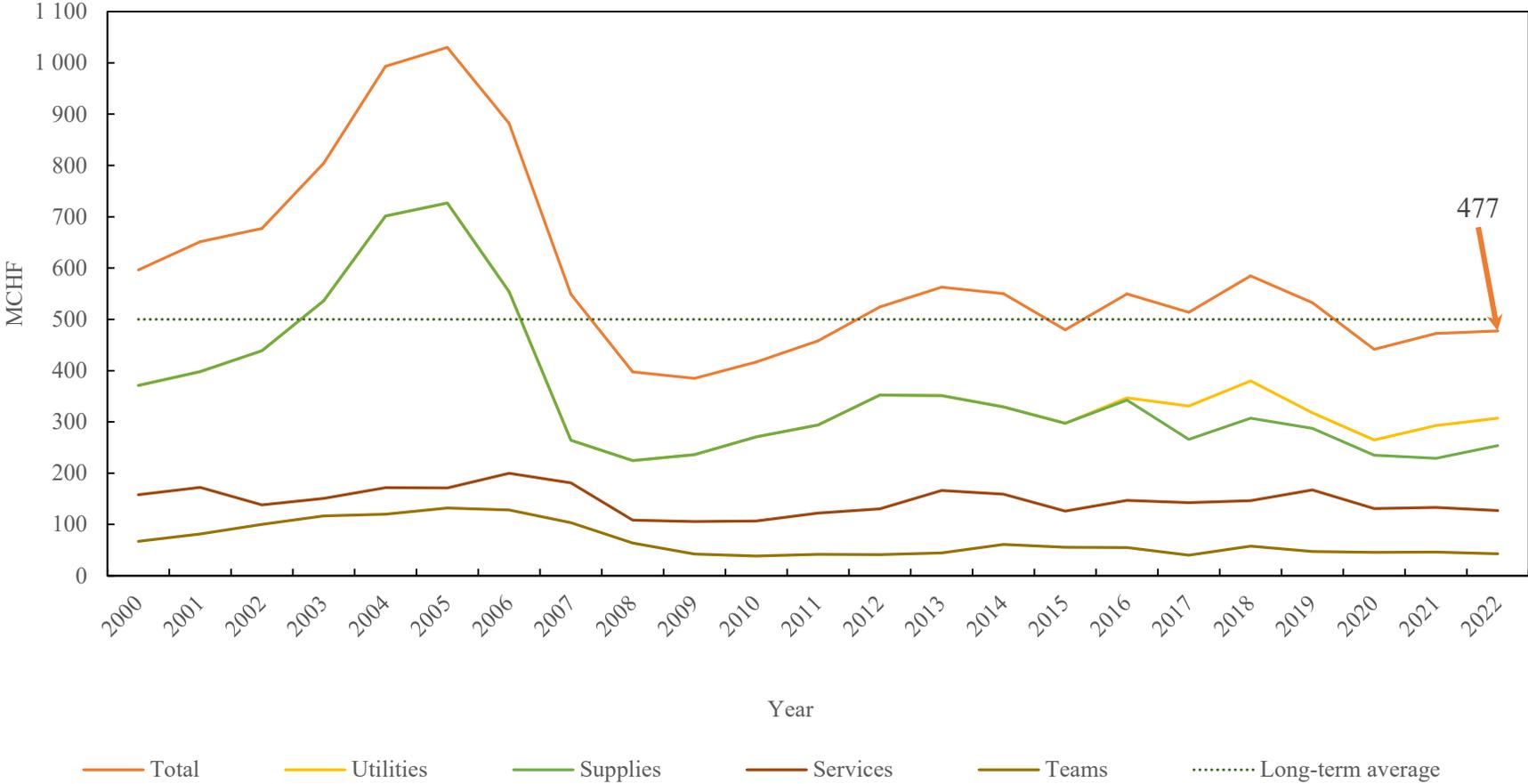
~ **2676** Staff members  
~ **2000** contractors' employees  
~ **13000** physicists /users

# Four pillars underpin CERN's mission

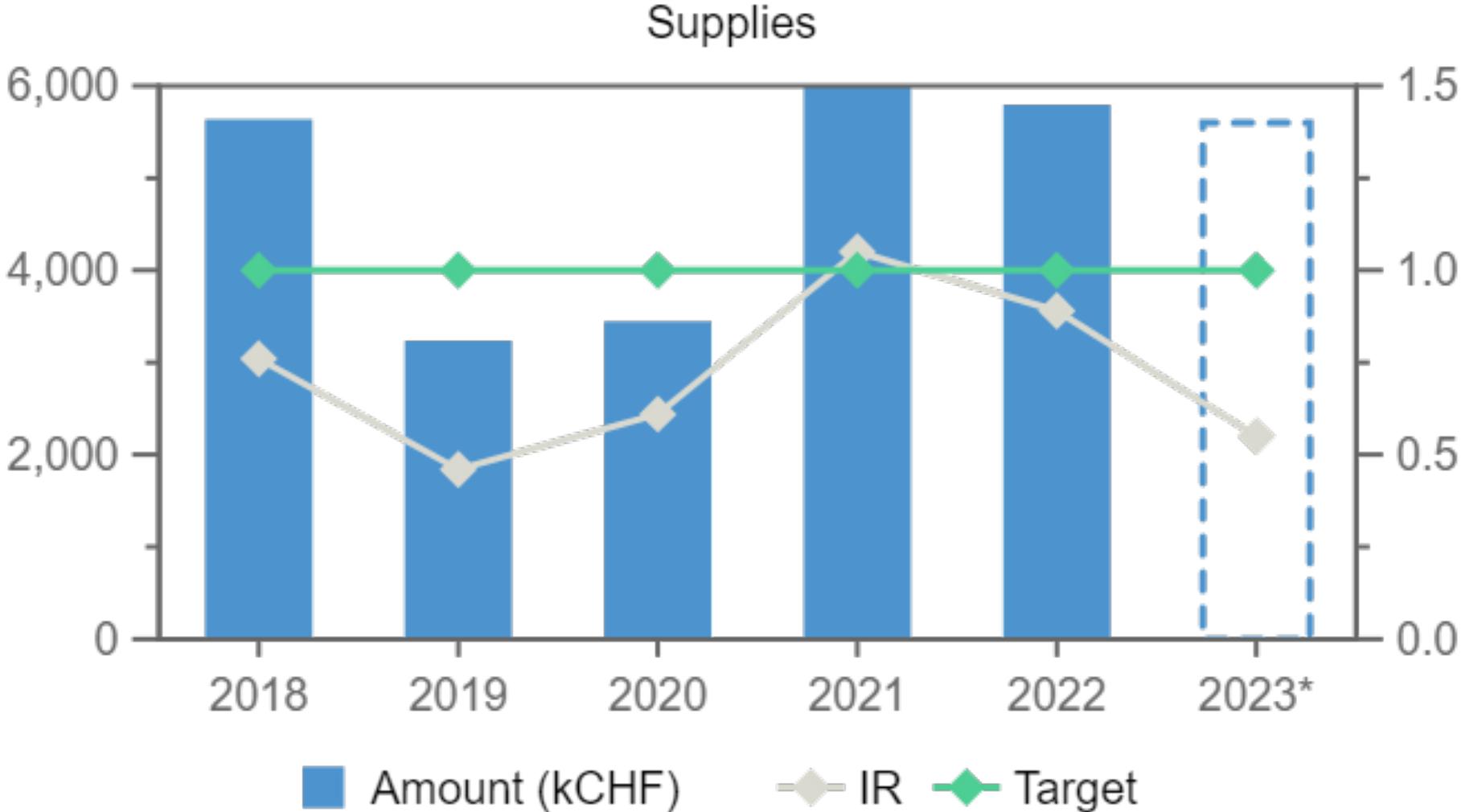


# STATISTICS

# Procurement Expenditure



# Industrial Return (supplies)



\* provisoire



# 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



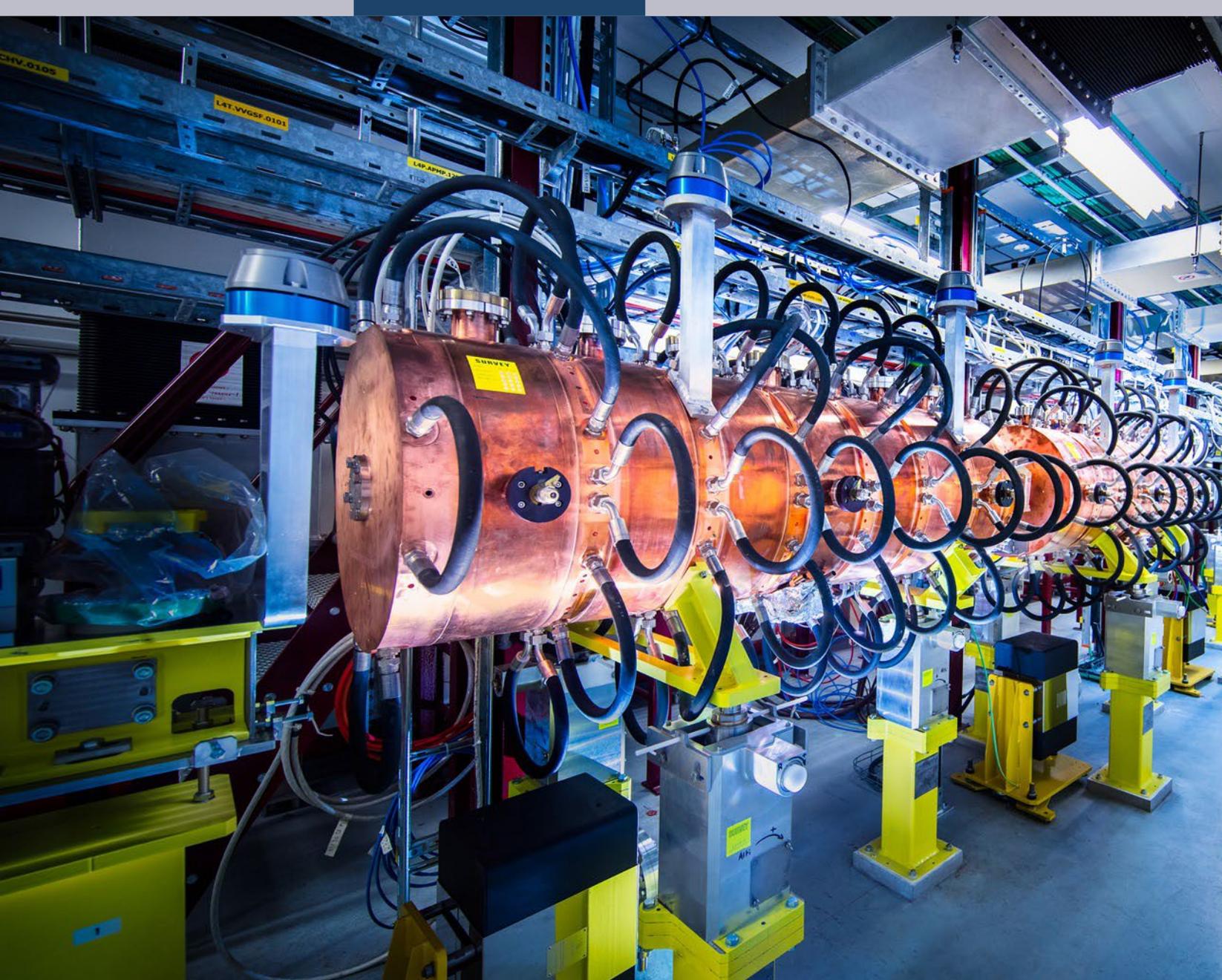
# What do we buy:

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



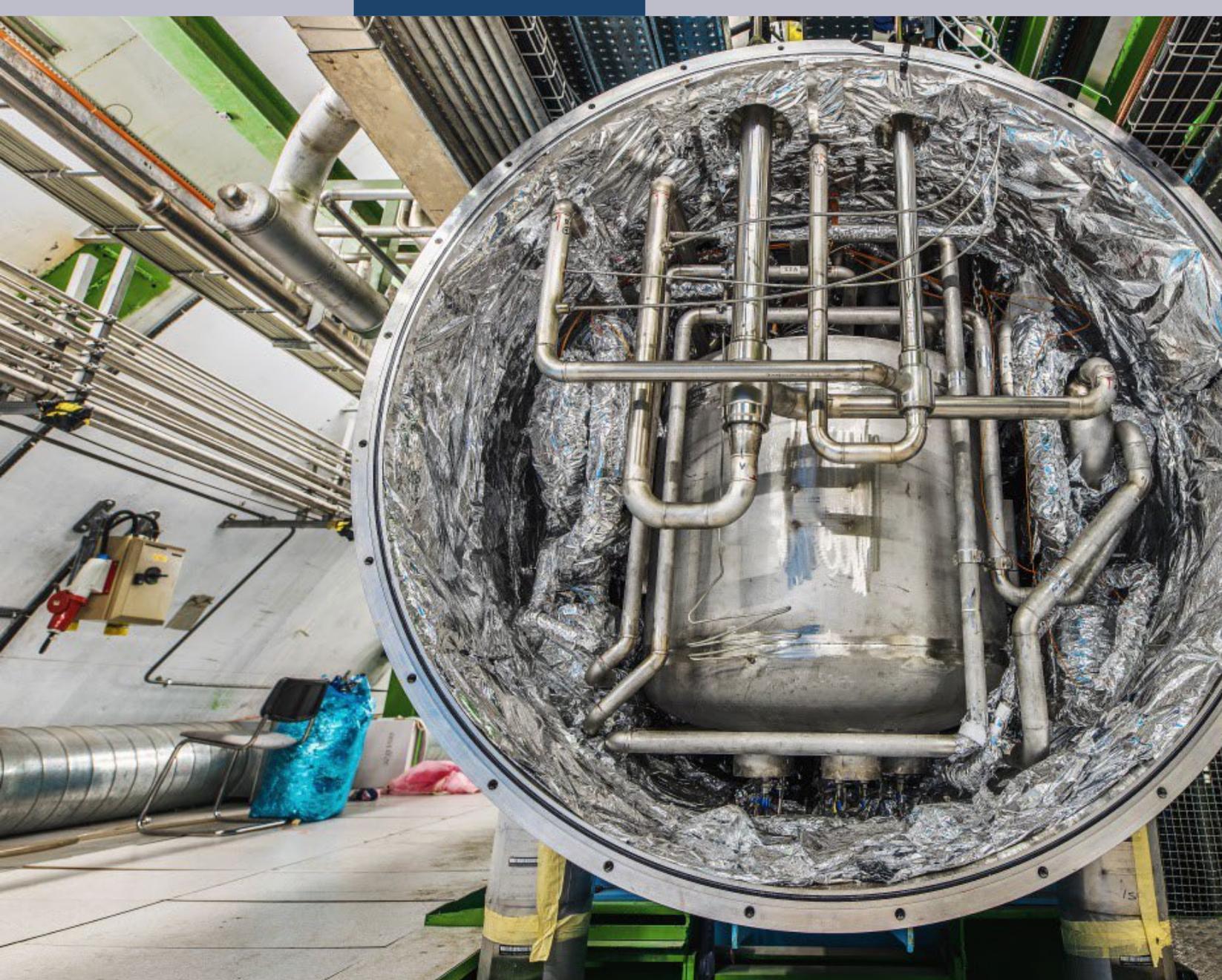
# What do we buy?

- **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?

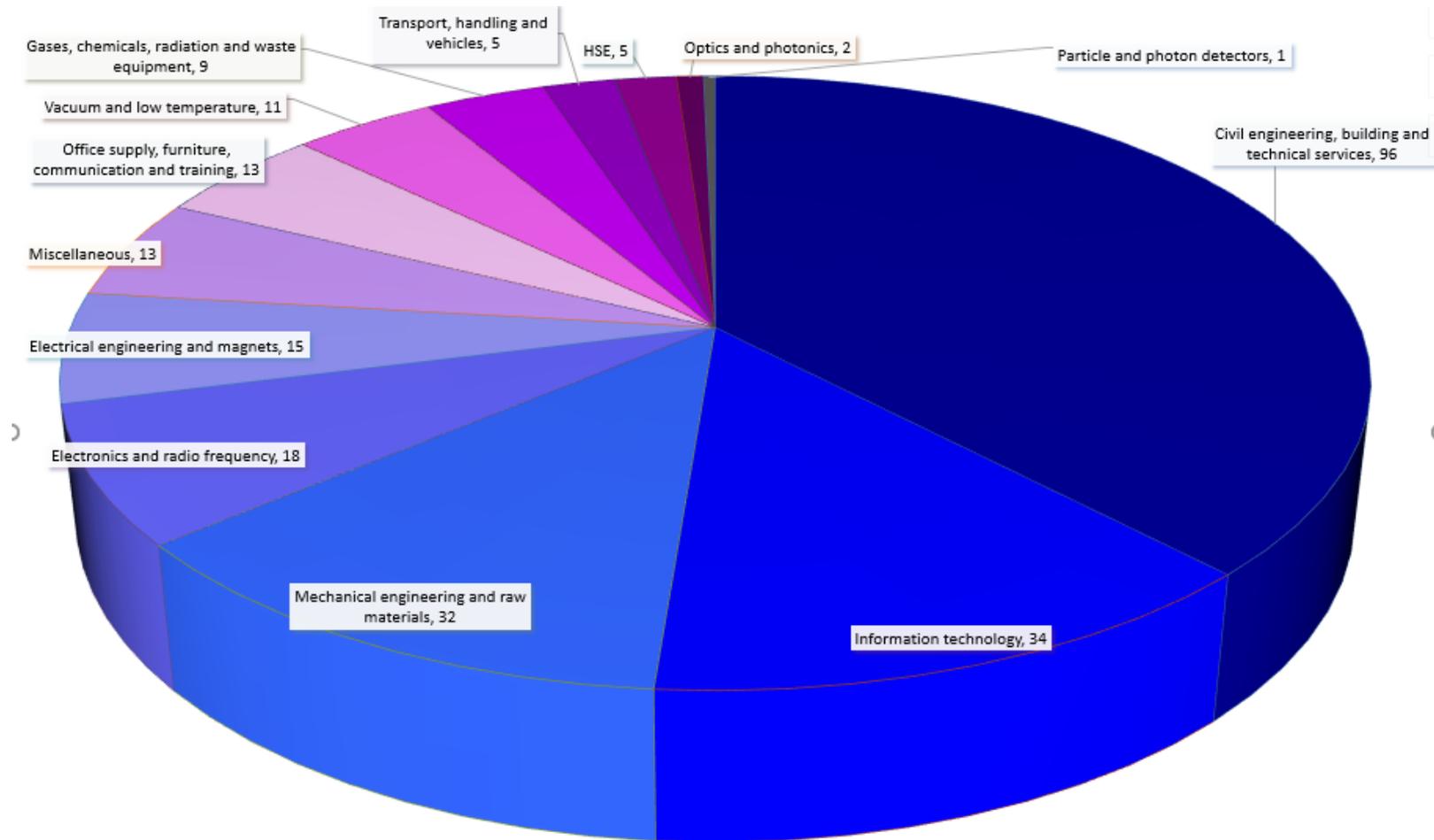
- **Electronics and radiofrequency:**
  - Electronic components (active, passive)
  - PCBs and assembled boards
  - LV and HV power supplies
  - Radiofrequency plants
  - Amplifiers

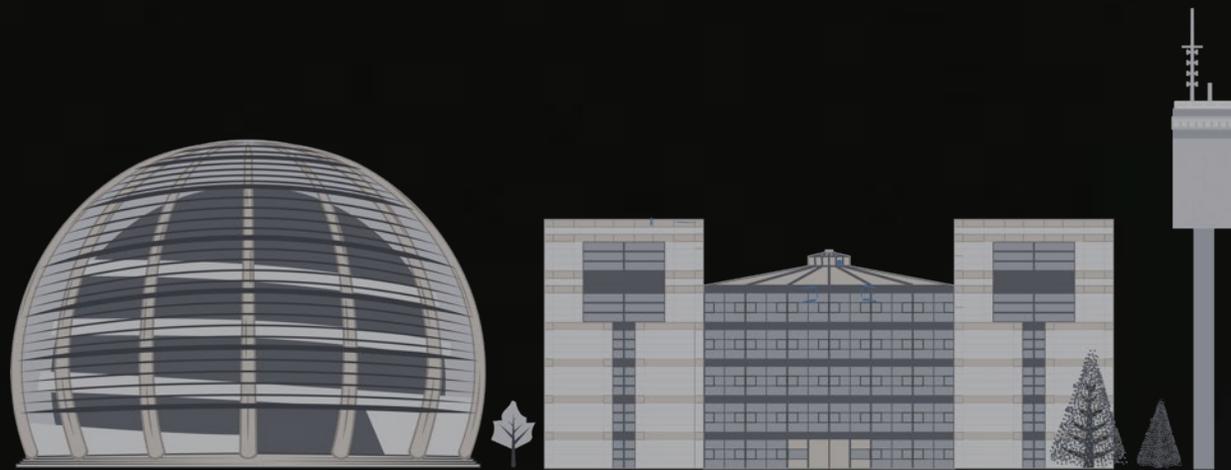


# What do we buy?

- **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

# Supplies (254MCHF spent in 2022 – CERN budget only)





# PROCUREMENT @CERN the rules

# Principles of the Procurement Rules

1

**Transparency and Impartiality**

2

**Tenders open to Member States only**

3

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

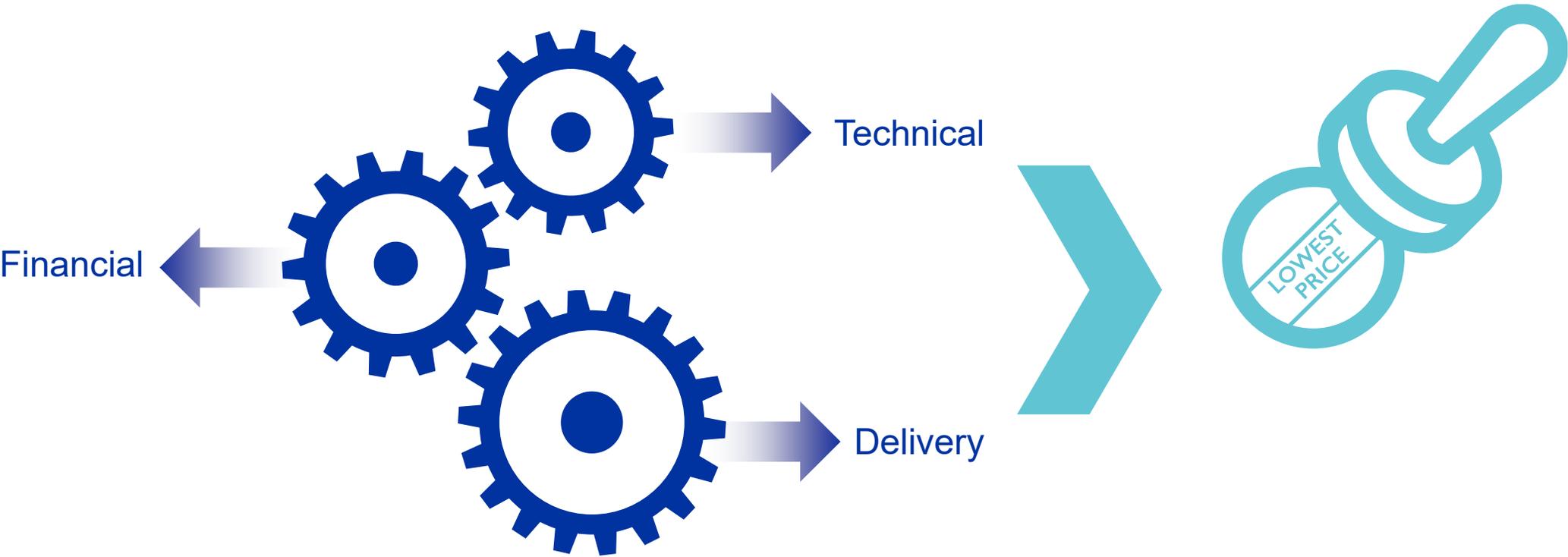
# Principles of the Procurement Rules

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

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

# Principles of the Procurement Rules

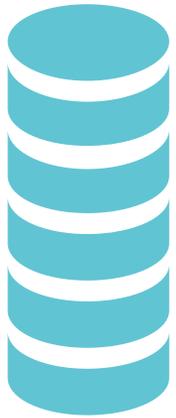
Award for supplies (and services, exceptionally) based on:  
Lowest compliant bid



# Enquiries between 10'000 and 200'000 CHF

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

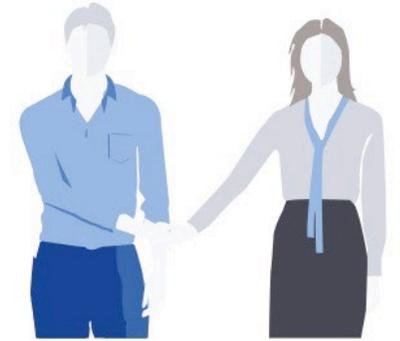
- **Submission deadline: 4 weeks from date of dispatch;**
- **All price enquiries above 50'000 CHF are also sent to the Industrial Liaison Officers (ILOs) for information;**
- **Price enquiries consist of:**
  - Technical specification and annexes;
  - Tender form (and a technical annex - optional);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



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

## “Market Survey” (MS)

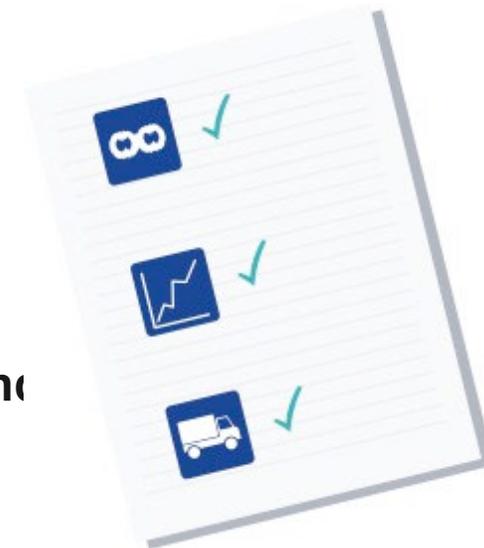
- **Prior announcement in CERN’s procurement website, see “Business Opportunities”**
  - At this stage, interested firms are encouraged to contact CERN in order to have a clear understanding of the requirement, allowing them to begin their organization ahead of the tendering process.
- **Market surveys 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 shall 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.



# Alignment rule

## Applicable for:

1

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

2

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

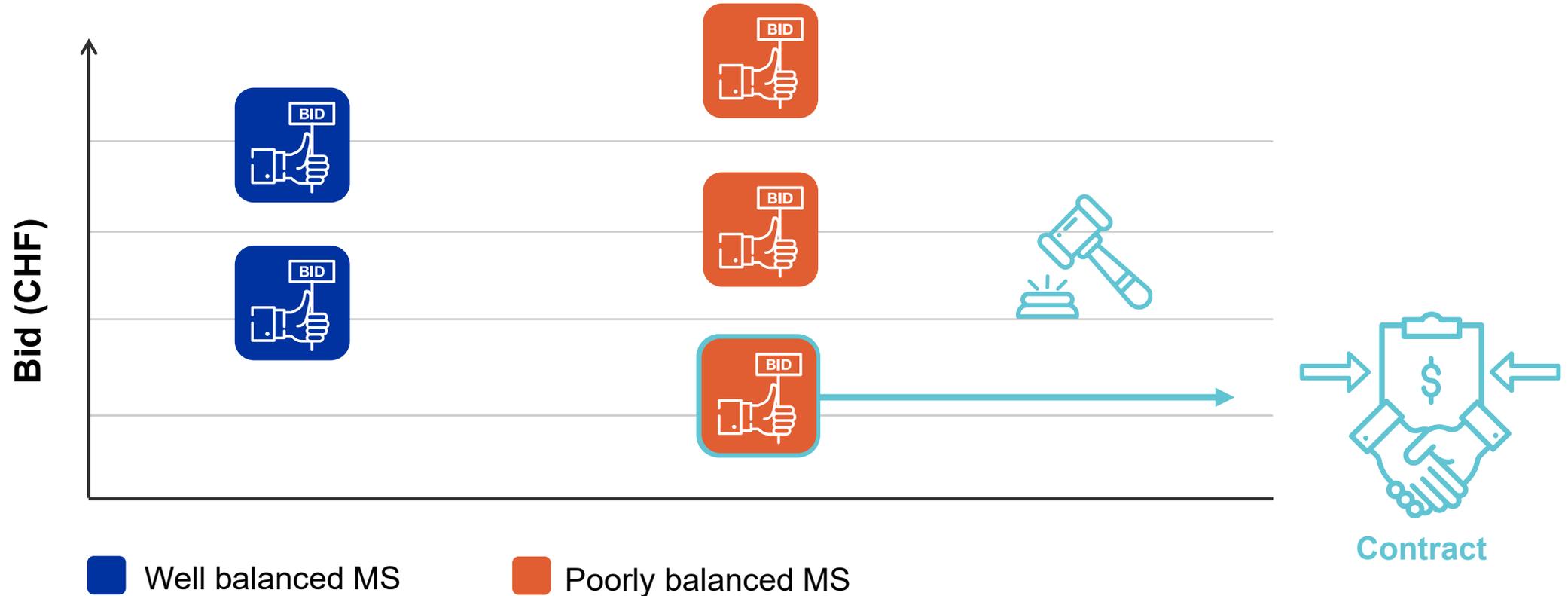
## RULE

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.

# Alignment rule (Scenario 1)

## Lowest bid from a PB MS

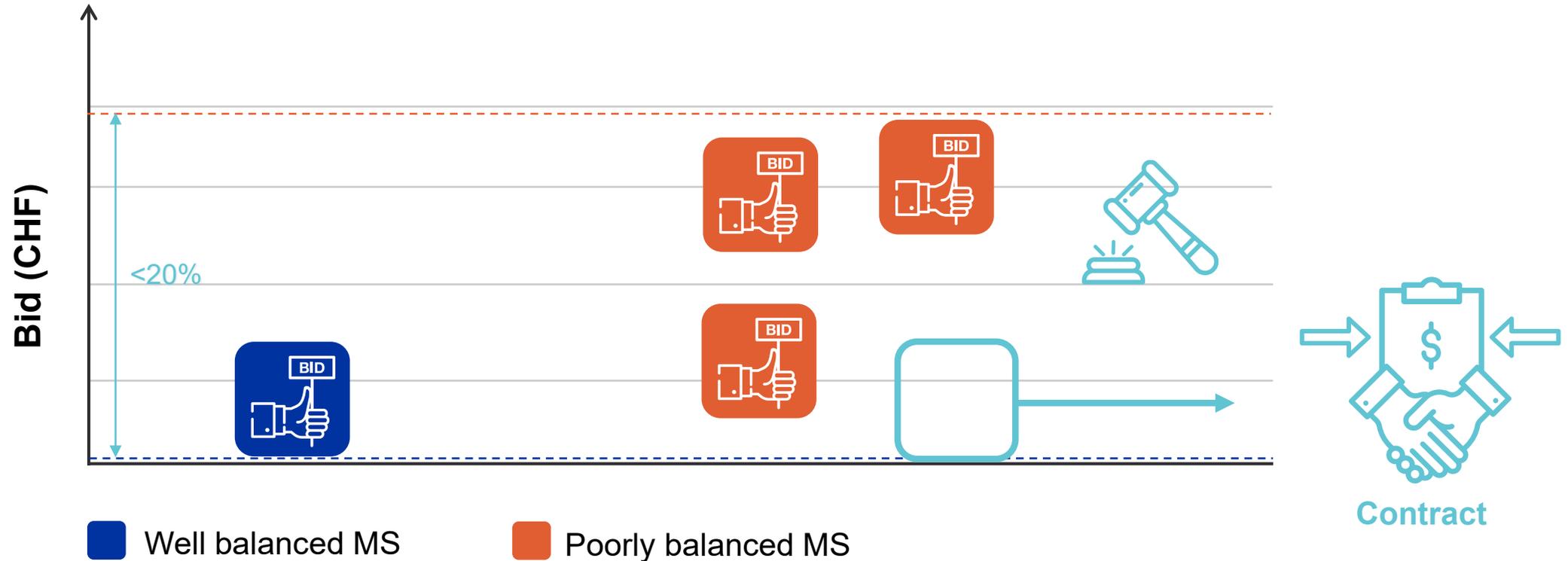




# Alignment rule (Scenario 2)

Lowest bid from a WB MS

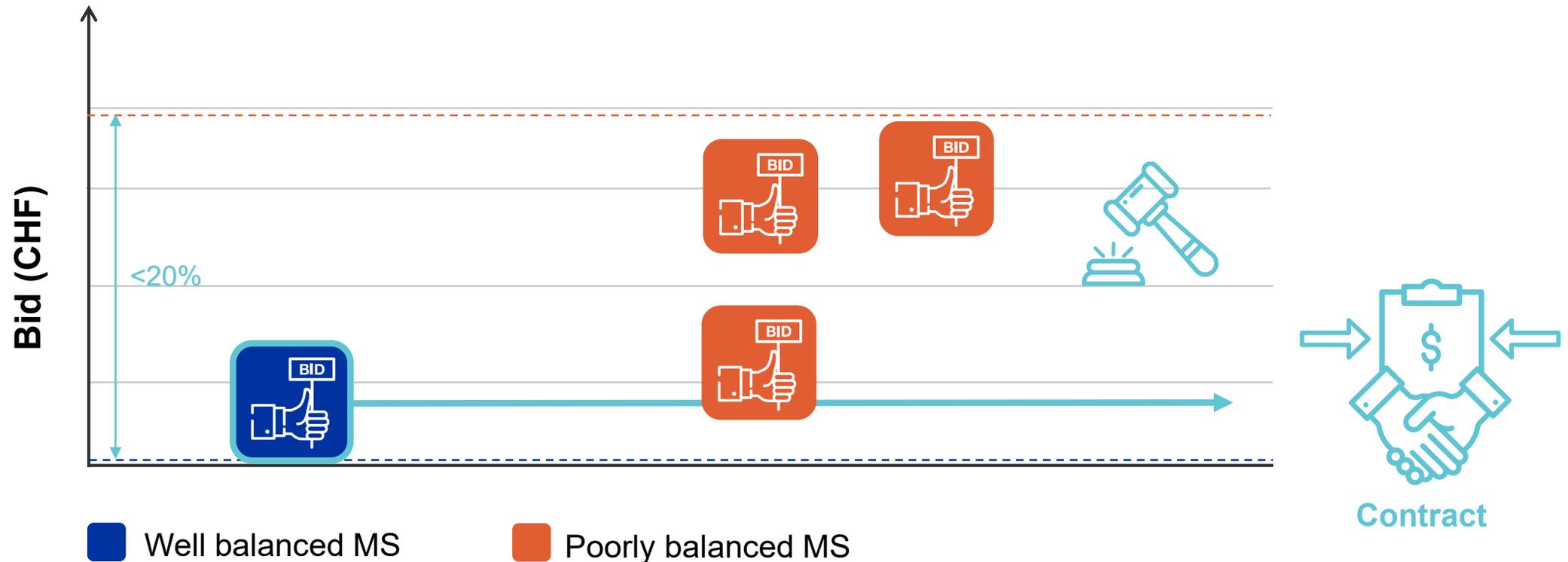
(b) if not, 2nd lowest bidder from PB MS aligns



# Alignment rule (Scenario 2)

## Lowest bid from a WB MS

(c) if no alignment of second two bids, contract placed with lowest bidder from WB MS



# Poorly balanced Member States (Supplies)

(1st March 2023 – 29 February 2024, based on the previous 4 calendar years):



Well Balanced ( $\geq 1$ )	Poorly Balanced ( $0.40 \geq x < 1$ )	Very Poorly Balanced ( $< 0.40$ )
Austria Estonia* France Hungary Italy Lithuania* Switzerland Türkiye	Belgium Croatia* Cyprus* Czech Republic Finland Germany Greece Netherlands Pakistan* Poland Portugal Romania Slovenia* Spain Sweden Ukraine* Latvia* Norway Serbia* United Kingdom	Bulgaria Denmark India* Israel Ukraine*

\*Associate Member States



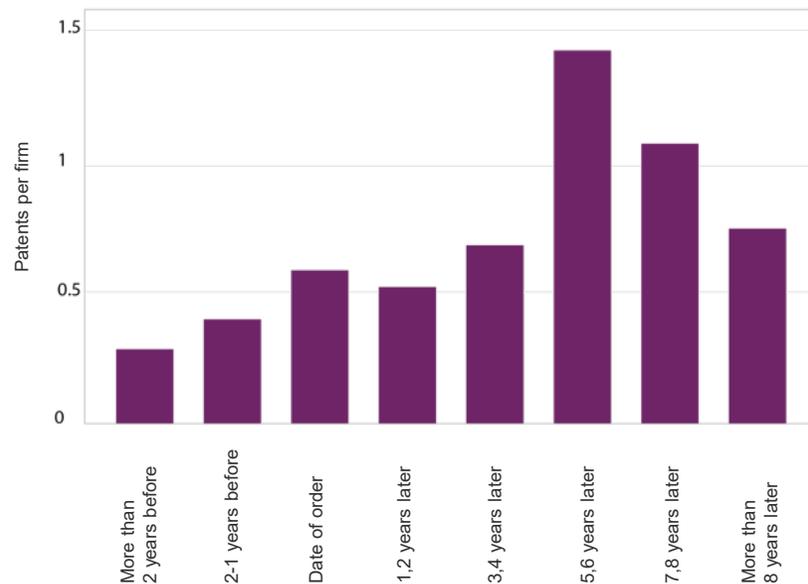
# Impact of Doing business with CERN

# 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%

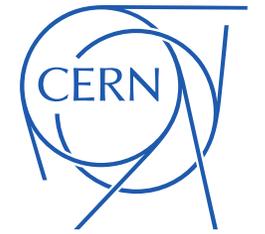
found or opened a new market to  
address

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...

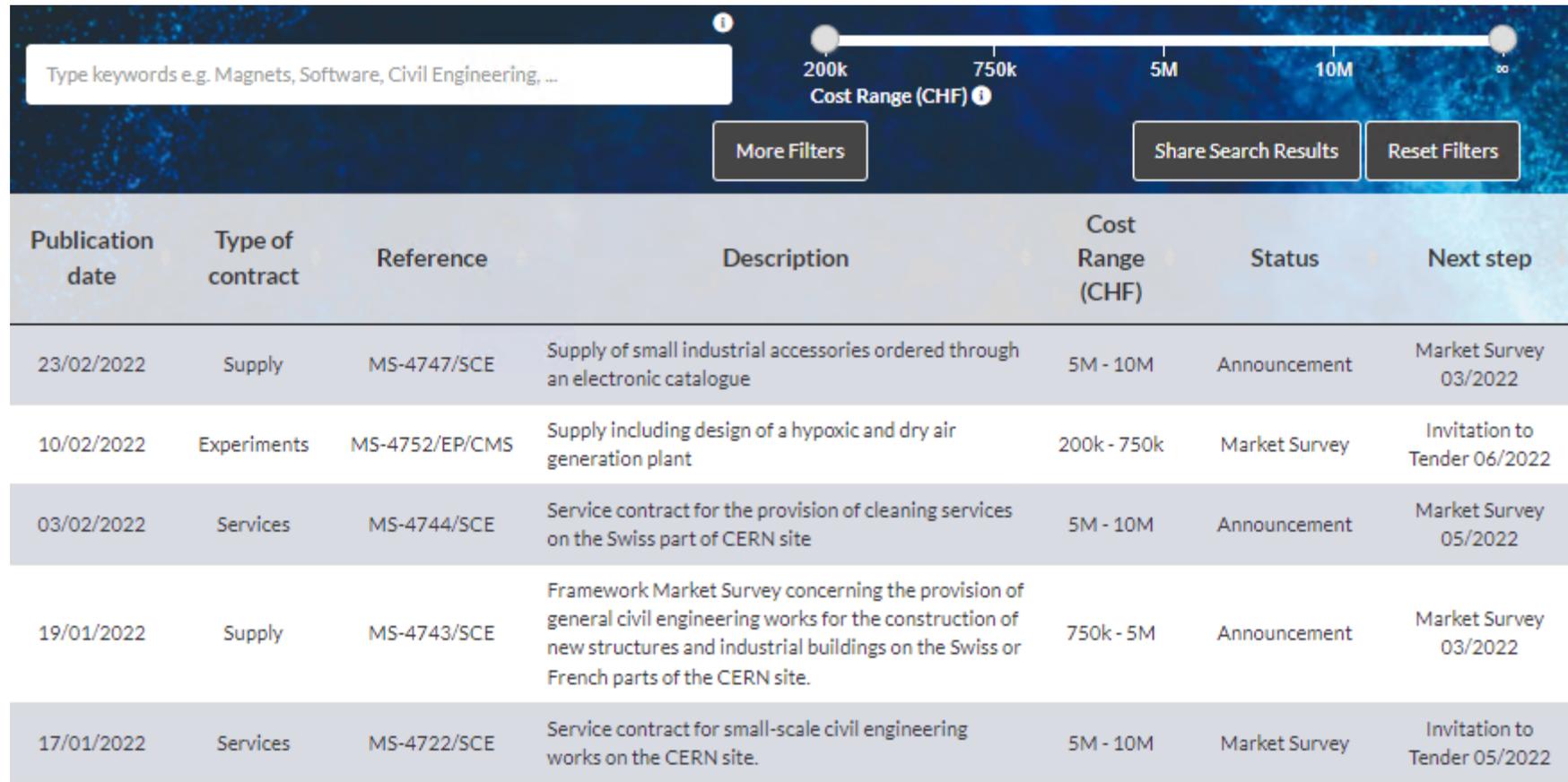


## › Procurement strategy and policy



# CERN Shopping List

<https://forthcoming-ms.app.cern.ch/#/>



Publication date	Type of contract	Reference	Description	Cost Range (CHF)	Status	Next step
23/02/2022	Supply	MS-4747/SCE	Supply of small industrial accessories ordered through an electronic catalogue	5M - 10M	Announcement	Market Survey 03/2022
10/02/2022	Experiments	MS-4752/EP/CMS	Supply including design of a hypoxic and dry air generation plant	200k - 750k	Market Survey	Invitation to Tender 06/2022
03/02/2022	Services	MS-4744/SCE	Service contract for the provision of cleaning services on the Swiss part of CERN site	5M - 10M	Announcement	Market Survey 05/2022
19/01/2022	Supply	MS-4743/SCE	Framework Market Survey concerning the provision of general civil engineering works for the construction of new structures and industrial buildings on the Swiss or French parts of the CERN site.	750k - 5M	Announcement	Market Survey 03/2022
17/01/2022	Services	MS-4722/SCE	Service contract for small-scale civil engineering works on the CERN site.	5M - 10M	Market Survey	Invitation to Tender 05/2022

# 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>

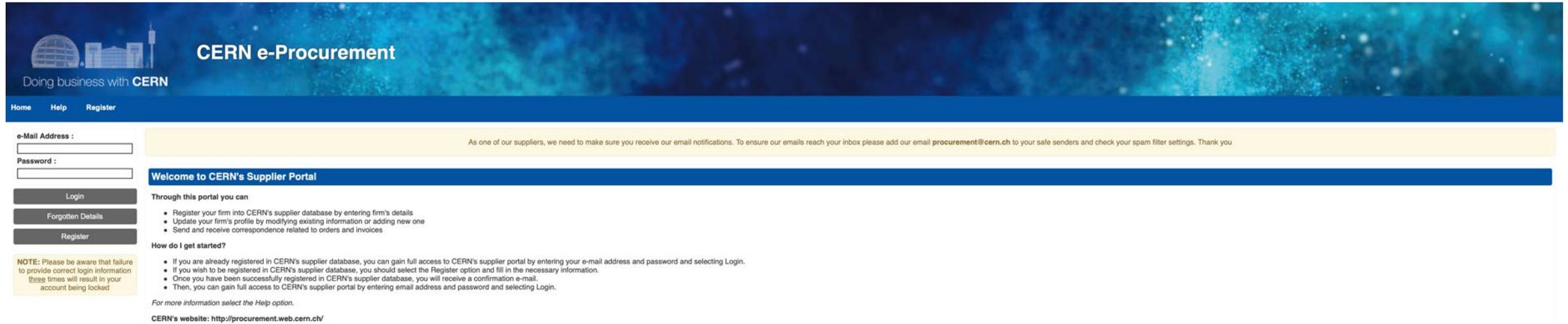
Using this platform, you will be able to receive orders, manage the delivery of supplies and send invoices for processing.

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 header with the CERN logo and the text "CERN e-Procurement" and "Doing business with CERN". Below the header is a navigation bar with "Home", "Help", and "Register" links. The main content area is divided into several sections:

- Left sidebar:** Contains input fields for "e-Mail Address" and "Password", and buttons for "Login", "Forgotten Details", and "Register".
- Top right:** A yellow banner with 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".
- Center:** A blue banner with the text "Welcome to CERN's Supplier Portal".
- Below the banner:** A section titled "Through this portal you can" with a bulleted list:
  - 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
  - Send and receive correspondence related to orders and invoices
- Below that:** A section titled "How do I get started?" with a bulleted list:
  - 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.
  - Then, you can gain full access to CERN's supplier portal by entering email address and password and selecting Login.
- Bottom left:** A yellow box with a note: "NOTE: Please be aware that failure to provide correct login information three times will result in your account being locked".
- Bottom center:** A link for "For more information select the Help option." and the text "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.



# Upcoming Tenders at CERN

# 60-wire planetary cabling machine

**Procurement Code:** 02 25 05 03

**Cost Range :** 750 kCHF ↔ 5 MCHF

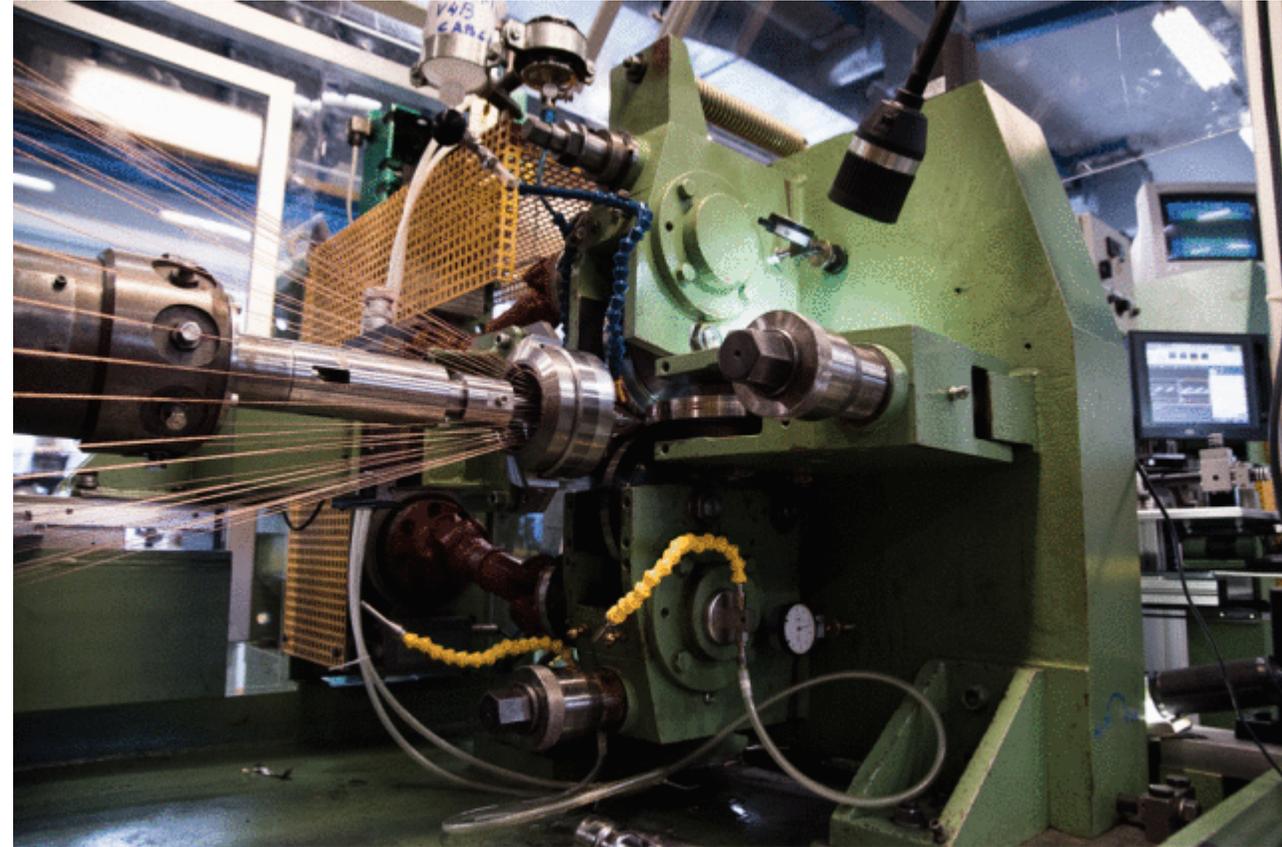
**Planning:** MS: sent (MS-4905)

IT: Q4 2023

## **Description & Specific Condition :**

Planetary cabling machine for manufacture of cables of up to 60 superconducting or copper wires and round cables

**Contact:** [Thierry.Boutboul@cern.ch](mailto:Thierry.Boutboul@cern.ch)



# Metal precision cleaning machine for Ultra-High Vacuum (UHV) and particle physics applications

**Procurement Code:** 09 02 02 00

**Cost Range :** ≤ 750 k CHF

**Planning:** MS : Q4 2023

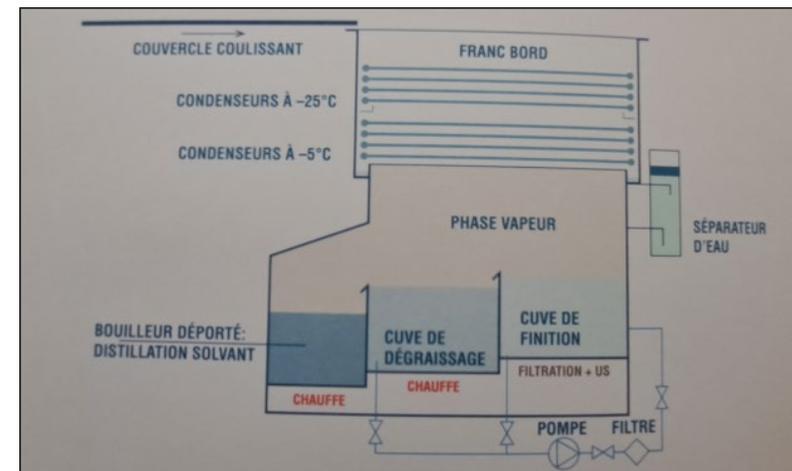
IT: Q1 2024

## **Description & Specific Condition :**

Cleanliness level compatible with UHV both with hydrocarbon and silicon-based contaminants, useful cleaning capacity of 550 mm x 300 mm x 300 mm, used on a variety of metals.

Seeking firms with a similar machine pre-existing in its catalogue

**Contact:** Leonel.Ferreira@cern.ch



# Assembly of DAQ (Data Acquisition System) Electronic Cards

## Description & Specific Condition :

Assembly and testing of PCBs of three different types with a maximum size of 322.25 mm x 280 mm, double-sided with up to 22 layers.

The contractor shall assemble a wide mix of components onto the PCBs.

The quantity will be approximately 900 units and deliveries are expected over a duration of 12 months from the date of Contract notification.

Procurement code: 03 03 01 00

Cost Range : 750 k CHF ⇔ 5 M CHF

Planning: MS: Q4-2023 - IT: Q1-2024

**Contact:** [Christoph.Schwick@cern.ch](mailto:Christoph.Schwick@cern.ch)



# Assembly of Hexaboards Electronic Cards

## Description & Specific Condition :

Assembly and testing of around 22 000 rigid PCBs for the CMS High-Granularity Calorimeter.

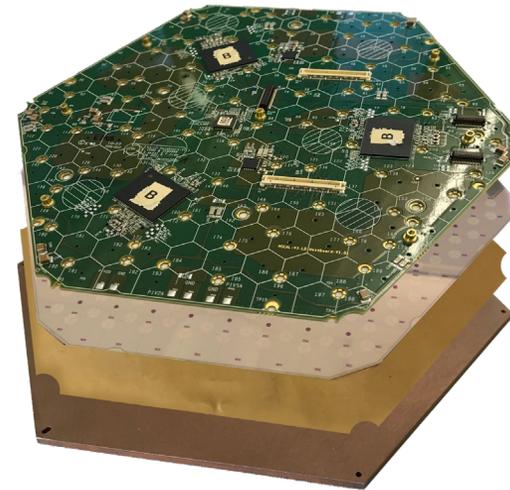
The PCBs have 8 layers, are mostly hexagonal with lateral dimensions of 20 cm × 20 cm and are approximately 1.3 mm thick.

Procurement code: 03 03 02 00

Cost Range : 750 k CHF ⇔ 5 M CHF

Planning: MS: Q4-2023 - IT: Q1-2024

**Contact: [David.Barney@cern.ch](mailto:David.Barney@cern.ch)**

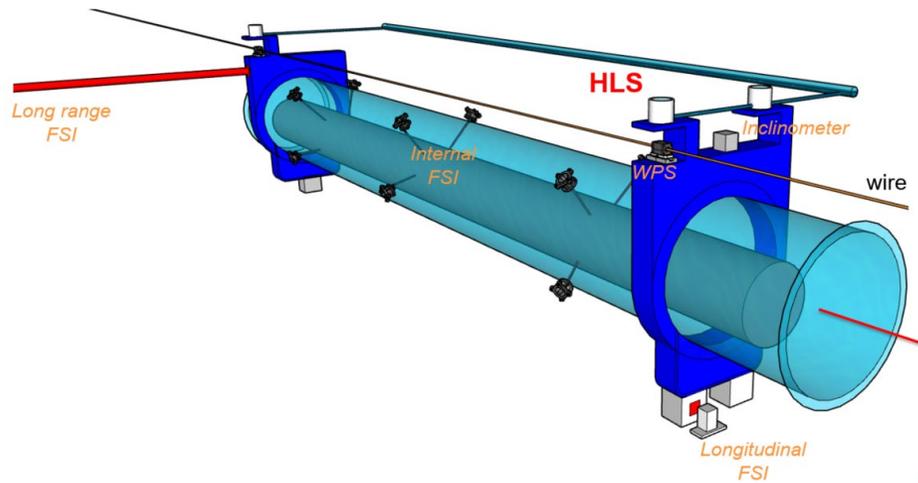


# Sensors for alignment

## Description & Specific Condition :

Alignment system includes the following sensors :

- Wire Positioning Sensors (WPS): MS Q1 2024, IT Q2 2024
- Hydrostatic Levelling Sensors (HLS): DO Q2 2024



Cost Range :            ≤ 750 k CHF

Planning:                see left

**Contact:**                [Helene.Mainaud.Durand@cern.ch](mailto:Helene.Mainaud.Durand@cern.ch)

Capacitive WPS sensor

- X-Y measurement w.r.t. stretched conductive wire
- Accuracy < 5µm, Resolution < 1µm
- Limited cable length (max. 30 .. 50 m)
- Conditioning electronics need to be RAD-TOL



# Screwed and welded aluminium support structures for ATLAS

## Description & Specific Condition :

Supply of aluminium support structures to house different chambers.

- **Screwed structures (210):** made of aluminium frames, plates and covers. The general tolerances are 0,1 mm for parts and 1 mm for the assembly
- **Welded structures (110):** made of aluminium profiles, plates and covers. The general tolerances are 0,05 mm for parts and 0,5 mm for the assembly

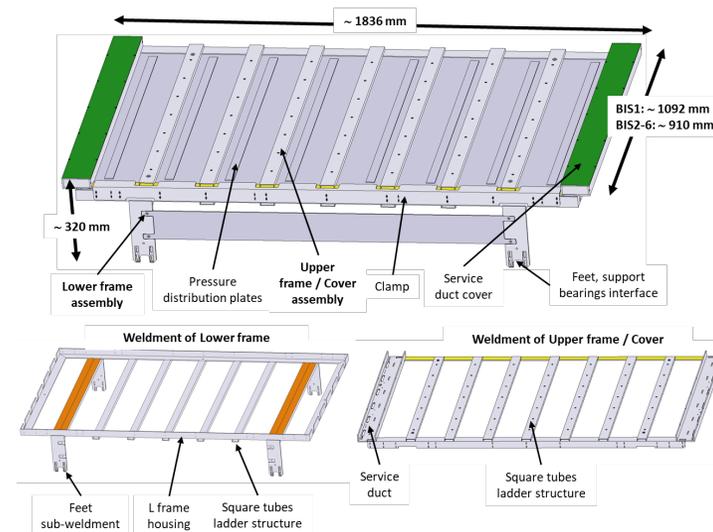
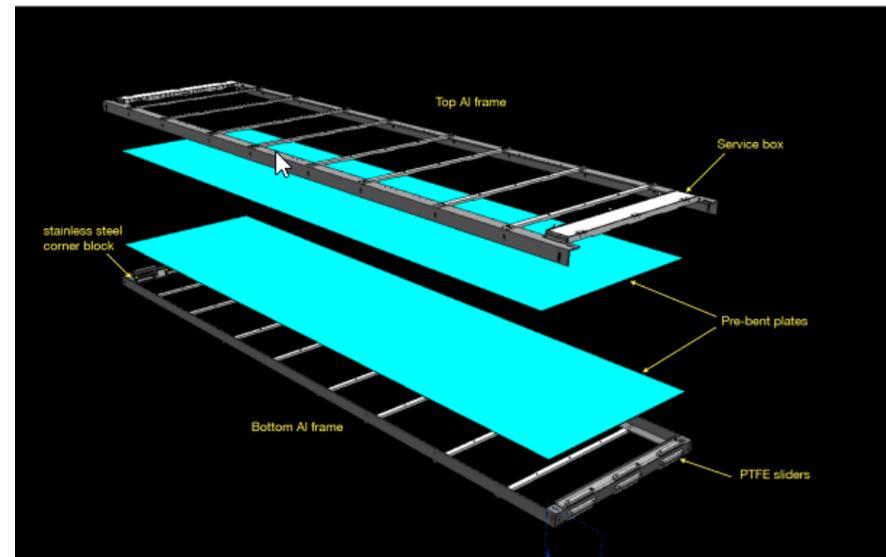
## Procurement code:

- 05010104: Aluminium, aluminium alloys
- 05040100: Machining of steels, stainless steels, aluminium alloys

**Cost Range :** 750 k CHF ↔ 5 M CHF (case B)

**Planning:** MS-4900 (sent) - IT: Q1-2024

**Contact:** [toni.baroncelli@cern.ch](mailto:toni.baroncelli@cern.ch)



# UPS 20-200 kVA

## Description & Specific Condition :

Supply of modular UPS in the range of 20 - 200 kVA, incl. design and supply

5 years Blanket contract

- 25 Units in 2025
- 15 additional Units in the next years of the Contract

Procurement Code: 02 30 40 00

Cost Range : < 750 k CHF

Planning: MS: Q2 2024, IT: Q4 2024

**Contact:** [Joel.Lahaye@cern.ch](mailto:Joel.Lahaye@cern.ch)



# Power converters of $\pm 600$ A and $\pm 10$ V

## Description & Specific Condition :

Supply of power converters of  $\pm 600$  A and  $\pm 10$  V for HL-LHC project

Build-to-print

- 21 Units



Procurement Code: 02 10 05 00

Cost Range : <750 k CHF

Planning: MS: Q1 2024 - IT Q2 2024

Contact: [Vicente.Herrero@cern.ch](mailto:Vicente.Herrero@cern.ch)

# 66 kV substation extension and upgrade

## Description & Specific Condition :

Extension and upgrade of Two existing 66/18 kV Air Insulated Electrical Substations:

- revision of CERN's preliminary design
- mechanical and electrical detailed design for execution, calculation and technical notes, and civil engineering functional design drawings
- procurement, manufacturing, installation and commissioning of all new equipment
- energization support and maintenance

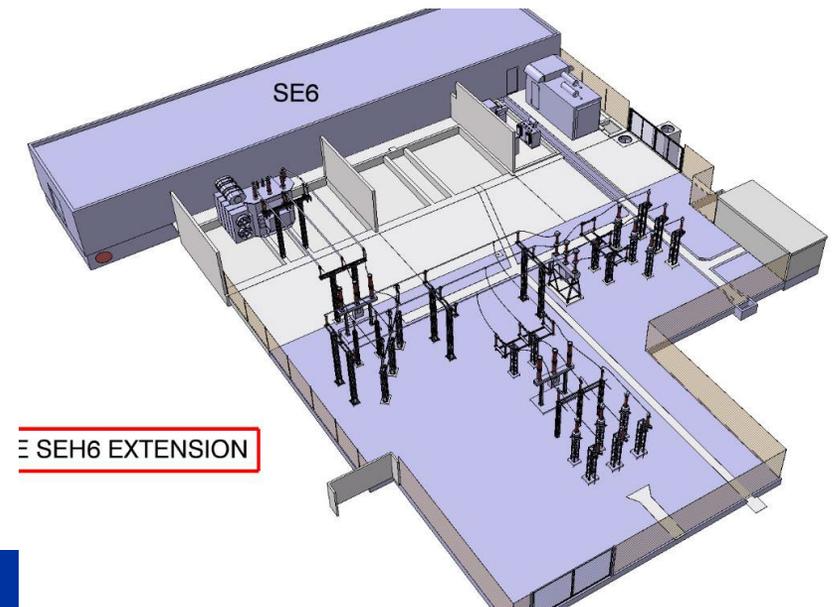
Design work during 2024-5, installation on-site during 2026.

Procurement Code: 02 02 01 00

Cost Range : 750 kCHF ↔ 5 MCHF

Planning: IT: Q2 2024

Contact: [Dimitrios.Katsanikos@cern.ch](mailto:Dimitrios.Katsanikos@cern.ch)



# OTDR-DTS Optical Interrogator Units

## Description & Specific Condition :

Optical Time Domain Reflectometer Distributed Temperature Sensors

- Single-mode OTDR (C+L telecom bands).
- Capability to do Rayleigh OTDR traces (needed for the radiation dose measurement)
- Capability to do Raman OTDR traces (needed for the temperature measurement)
- Dual wavelength (to correct radiation effects on the temperature traces)
- High repeatability of Rayleigh OTDR traces

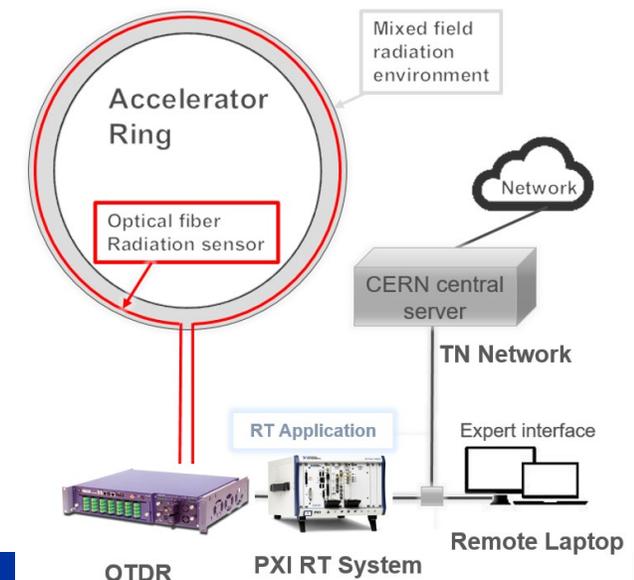
11-15 units needed during 2025-26

Procurement Code: 08 04 02 00

Cost Range : < 750 kCHF

Planning: MS: Q1 2024 IT: Q4 2024

Contact: [Diego.di.Francesca@cern.ch](mailto:Diego.di.Francesca@cern.ch)



# Major overhauling helium compressors at manufacturer's premises

**Procurement Code:** 06 02 04 00

**Cost Range :** 750 kCHF ↔ 5 MCHF

**Planning:** MS: 2025

IT: 2025

## **Description & Specific Condition :**

Specific experience in the overhaul of He compressors



**Contact:** [Steffen.juncker@cern.ch](mailto:Steffen.juncker@cern.ch)

# Non-magnetic diffusion pumps for ATLAS

## Description & Specific Condition :

Supply of 17 non-magnetic diffusion pumps.

Main characteristics:

- Operational in high-intensity magnetic fields
- Pumping speed of 1 500 l/s
- Pressure working range:  $10^{-2}$  to  $10^{-7}$  mbar
- Height: 950 mm (or less) x Width: 600 mm (or less) x Depth: 600 mm (or less)
- No soft-welding nor brazing is permitted

**Procurement code:** 06010804: Diffusion pumps

**Cost Range :** < 750 k CHF (case D)

**Planning:** MS: Q4-2023 - IT: Q1-2024

**Contact:** [xavier.pons@cern.ch](mailto:xavier.pons@cern.ch)



# Heavy lifting of CMS calorimeters

## Description & Specific Condition :

Removal of 2 existing calorimeters and installation of a new one on the CMS site in Cessy, including:

- Design and supply of tooling for heavy lifting
- Heavy lifting and transportation on site in two phases during 2026/7

The new calorimeter will weight 230+ tons, with a value ~150 MCHF

Contract adjudicated on a BVFM basis.

Procurement code: 13 11 03 00

Cost Range : 750 kCHF ⇔ 5 MCHF (case D)

Planning: MS: Q4 2023, IT: Q2 2024

Contact: [tristan.loiseau@cern.ch](mailto:tristan.loiseau@cern.ch)



# Construction of new Building 777

## Description & Specific Condition:

General contractor to construct new Building 777 on CERN's Prévessin site in France. Key characteristics include:

- Mass timber structural system
- Highly performing MEP and façade system to achieve recognised sustainability accreditation.



**Procurement code:** 01 02 01 00/ 01/ 02

**Cost Range :** > 10M CHF

**Planning:** MS Q1 2024 / IT Q3 2024

**Contact:** [Pieter.mattelaer@cern.ch](mailto:Pieter.mattelaer@cern.ch)

Thank you



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