



Visit of the Polish Electric Power Industry Association

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7 June 2024

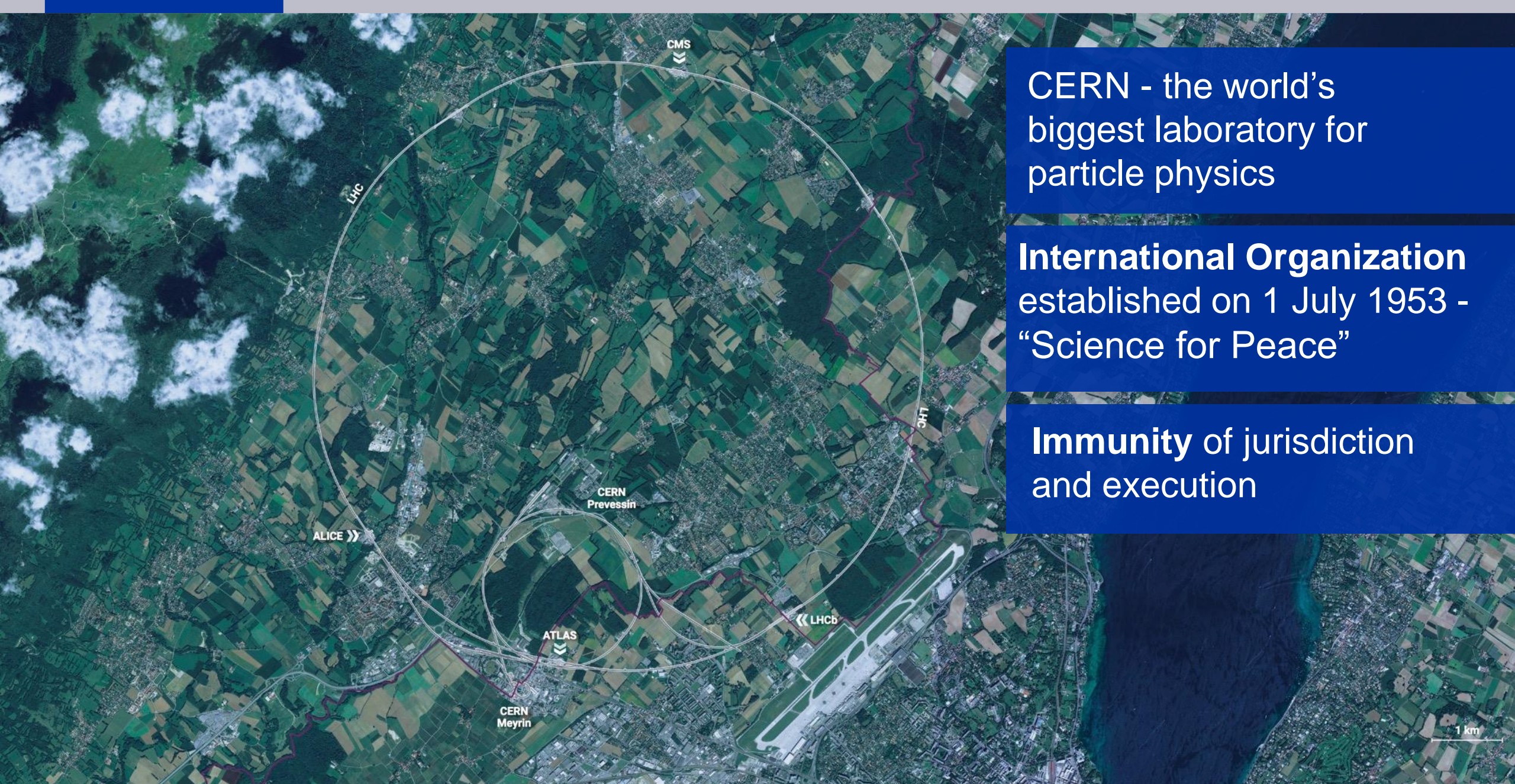


AGENDA

- 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

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



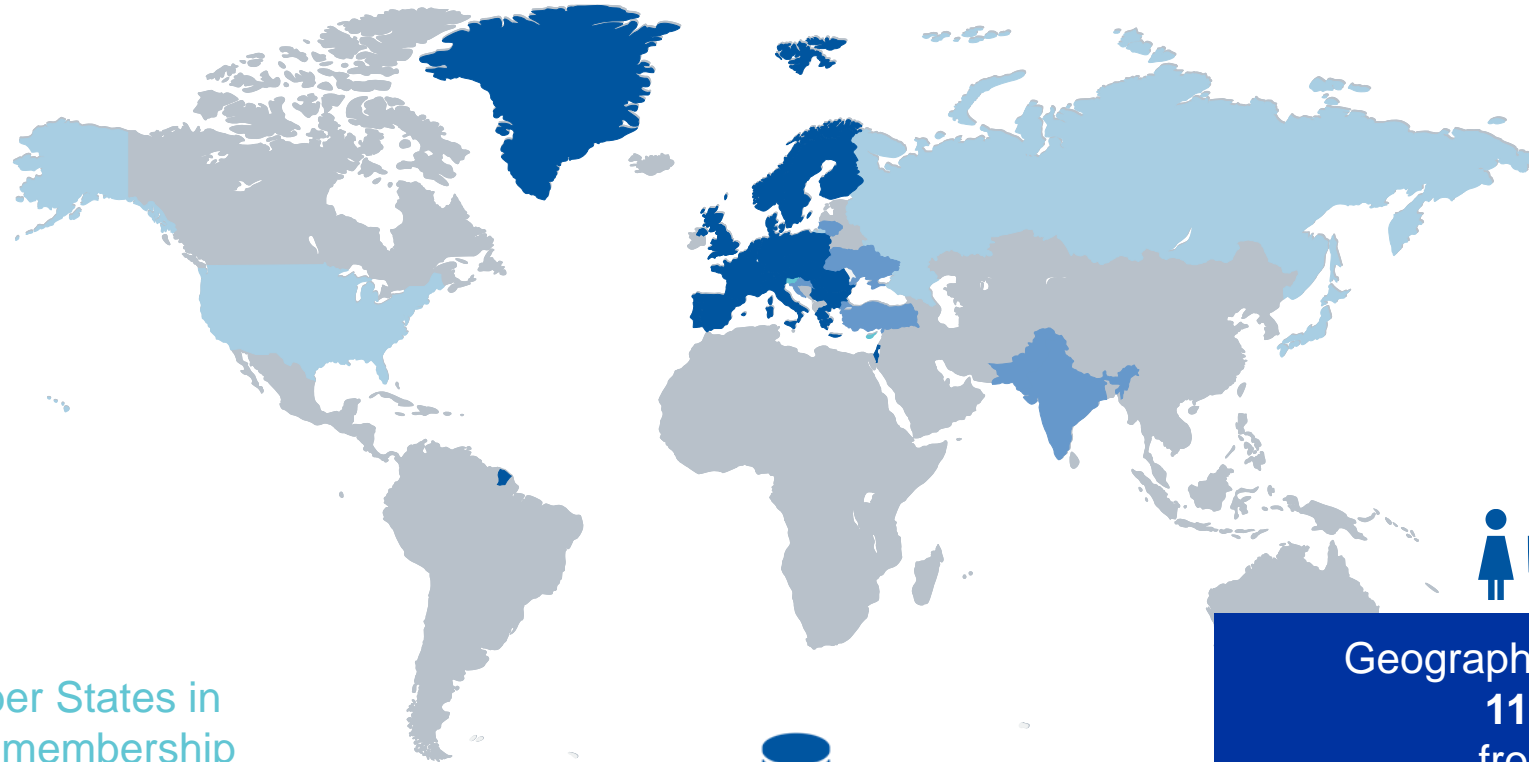
Procurement Rules

Safety Rules

Staff Regulation of its own personnel

In 1954 CERN had 12 Member States

The first contacts between Poland and CERN were established in 1959 when several scholarships were awarded to young Polish physicists from Krakow and Warsaw. This soon developed into a wider collaboration between CERN and Polish institutes. In 1963 Poland became an Observer state at CERN, the only country from Eastern Europe to accede to this status. In 1991, Poland became the 16th member of CERN, and thus the first Member State from the former Eastern block.



Today, CERN has:

23 Member States

3 Associate Member States in the pre-stage to membership

8 Associate Member States

6 Observers



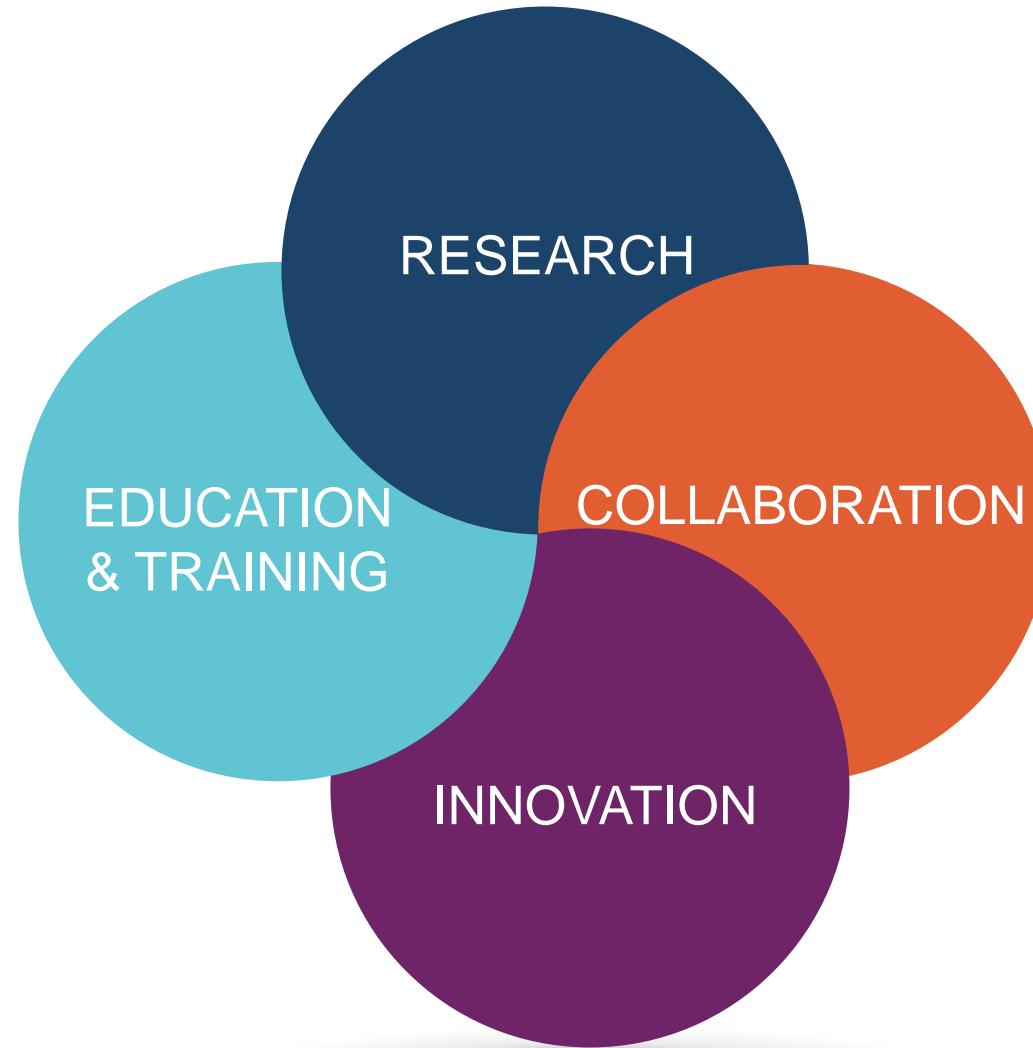
Geographical & cultural diversity
110 nationalities,
from 77 countries




































Yearly budget ~ 1255 MCHF

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

Four pillars underpin CERN's mission



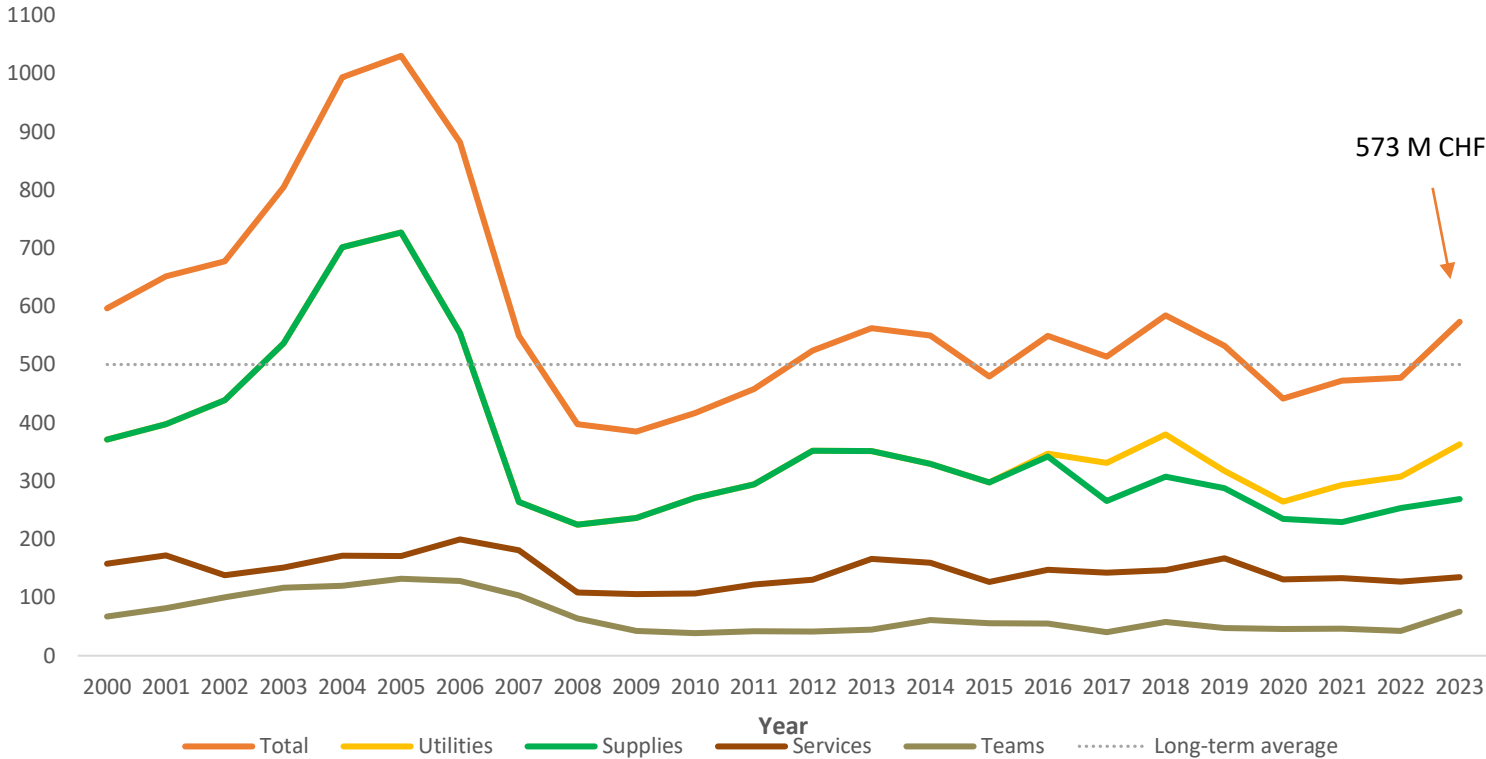
Yearly Budget (contributions 2024)*

Country	Percentage of Total	Amount (CHF)	Country	Percentage of Total	Amount (CHF)
 Germany	20.57%	258 247 250	 Czech Republic	1.15%	14 469 200
 United Kingdom	14.69%	184 447 050	 Portugal	1.08%	13 515 450
 France	13.08%	164 153 900	 Greece	0.97%	12 181 000
 Italy	9.61%	120 700 800	 Hungary	0.73%	9 128 950
 Spain	6.83%	85 696 800	 Slovakia	0.52%	6 553 550
 Netherlands	4.56%	57 293 700	 Republic of türkiye*	0.38%	4 770 750
 Switzerland	3.65%	45 845 900	 Bulgaria	0.36%	4 580 000
 Poland	3.04%	38 196 850	 Serbia	0.27%	3 444 800
 Belgium	2.71%	34 052 750	 Slovenia**	0.19%	2 325 100
 Sweden	2.60%	32 589 450	 Pakistan*	0.16%	2 018 650
 Austria	2.18%	27 376 050	 Estonia**	0.12%	1 462 050
 Israel	2.17%	27 209 350	 Cyprus**	0.09%	1 116 000
 Norway	2.14%	26 820 150	 Latvia*	0.08%	1 066 250
 Denmark	1.81%	22 730 650	 Ukraine*	0.08%	1 045 600
 India*	1.41%	17 709 200	 Croatia*	0.08%	1 000 000
 Finland	1.32%	16 541 250	 Lithuania*	0.08%	1 000 000
 Romania	1.29%	16 172 600			
			Total	100%	1 255 461 050

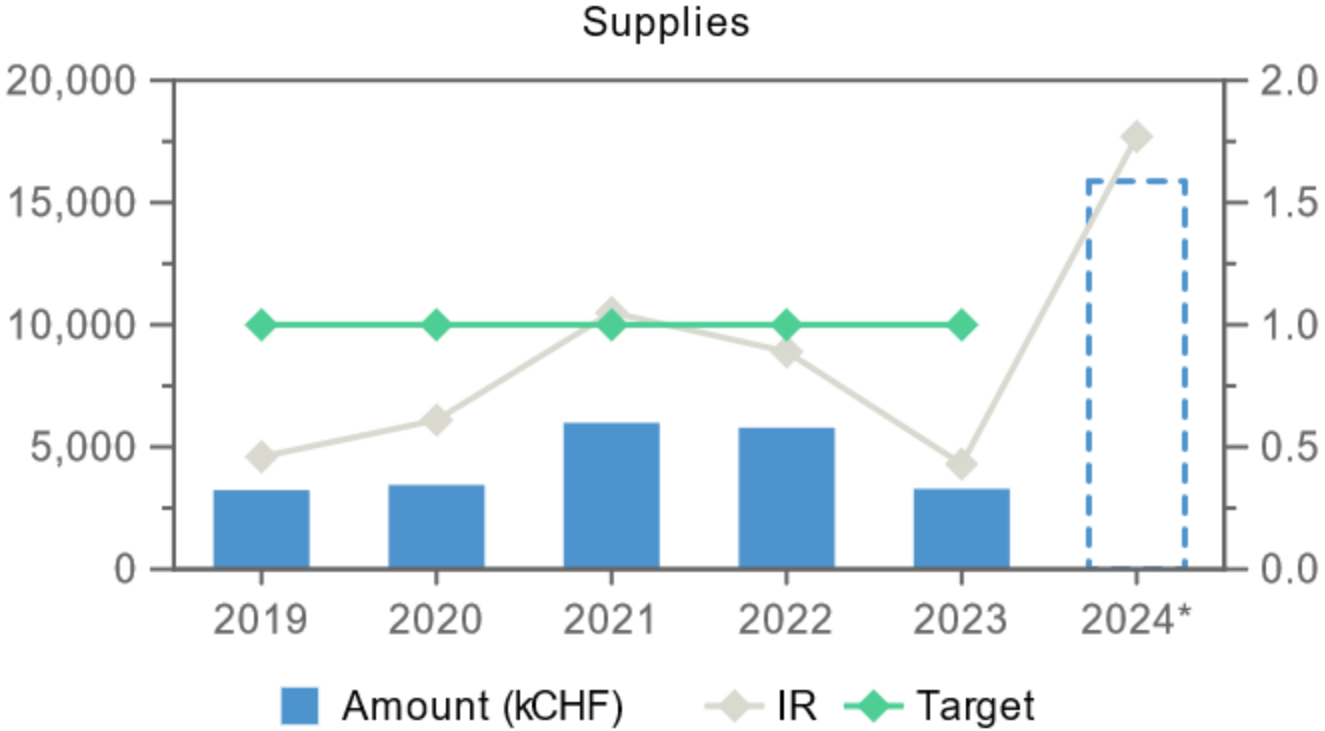
*Brazil joined as an Associate Member State on 13 March 2024

STATISTICS

Procurement Expenditure

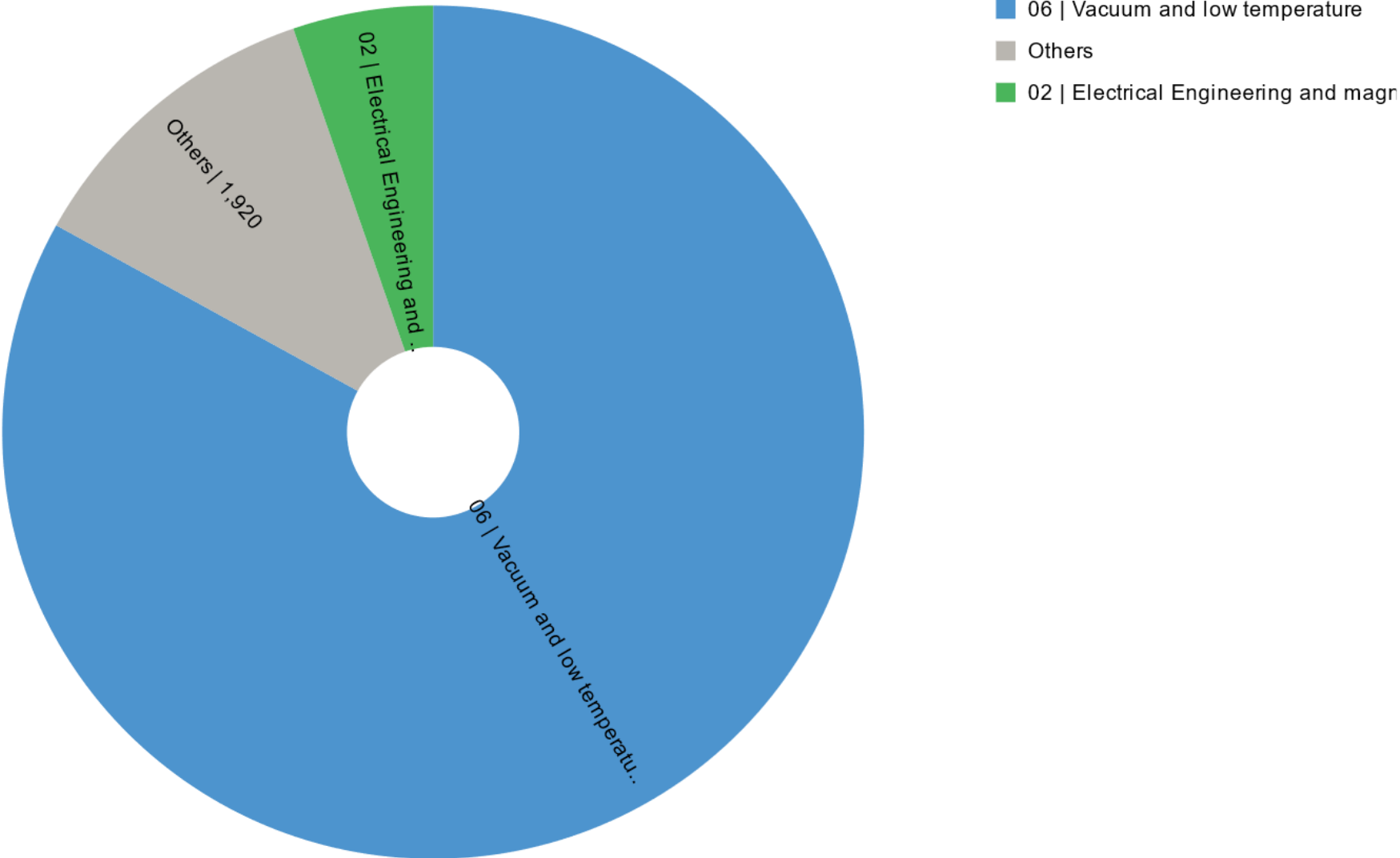


Industrial Return for Poland (supplies)



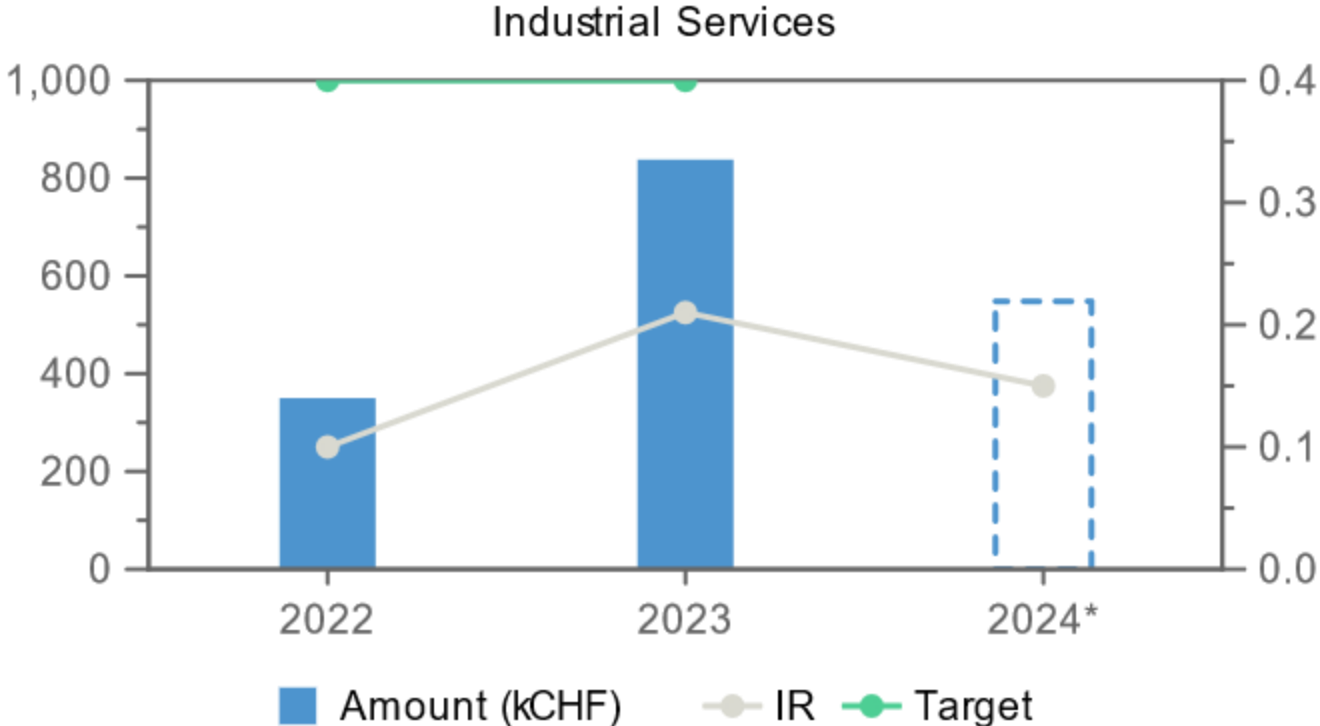
* provisoire

Industrial Return for Poland (supplies)



* provisoire

Industrial Return for Poland (services)



* provisoire



What does CERN buy?

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



What does CERN buy?

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



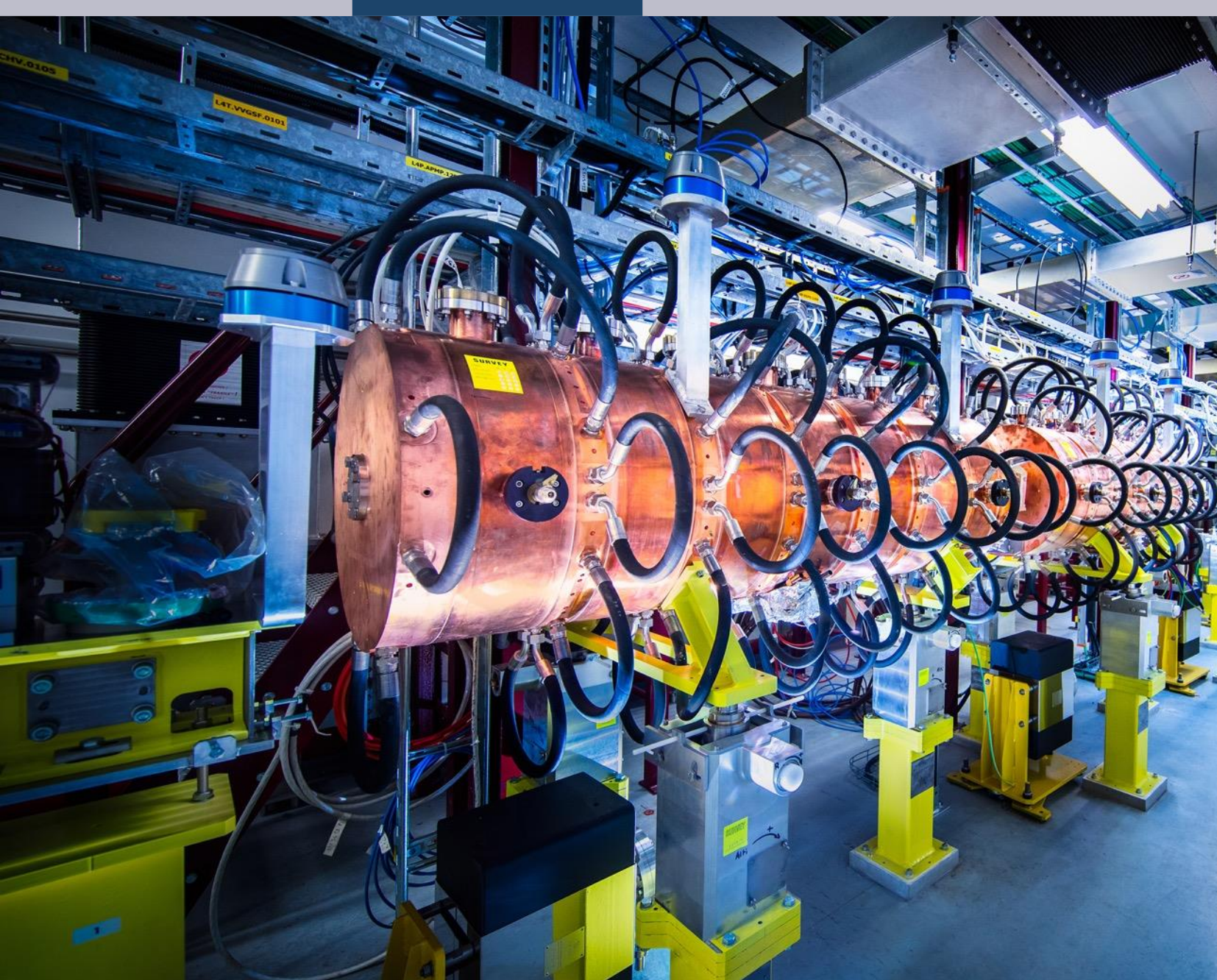
What does CERN buy:

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



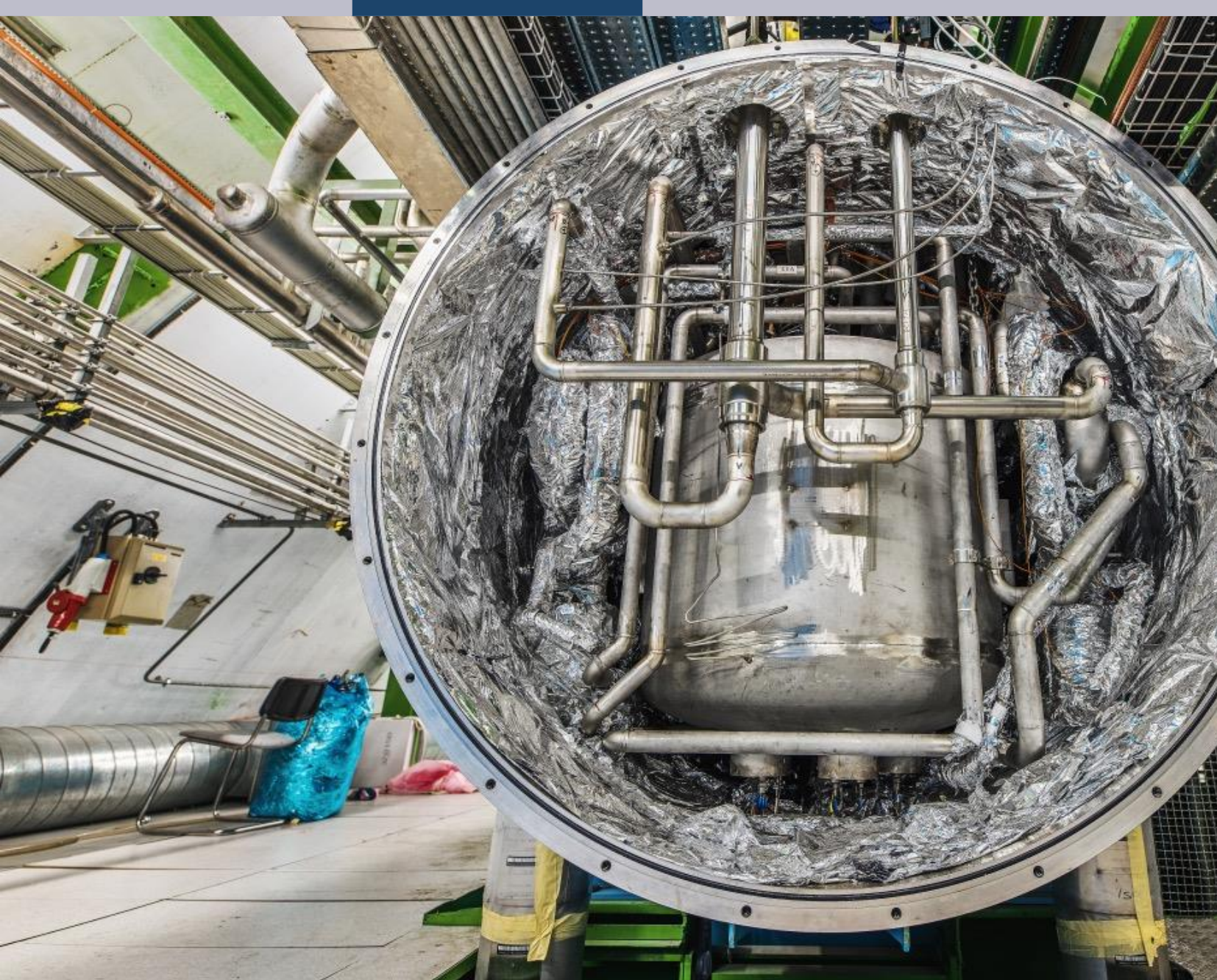
What does CERN buy?

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



What does CERN buy?

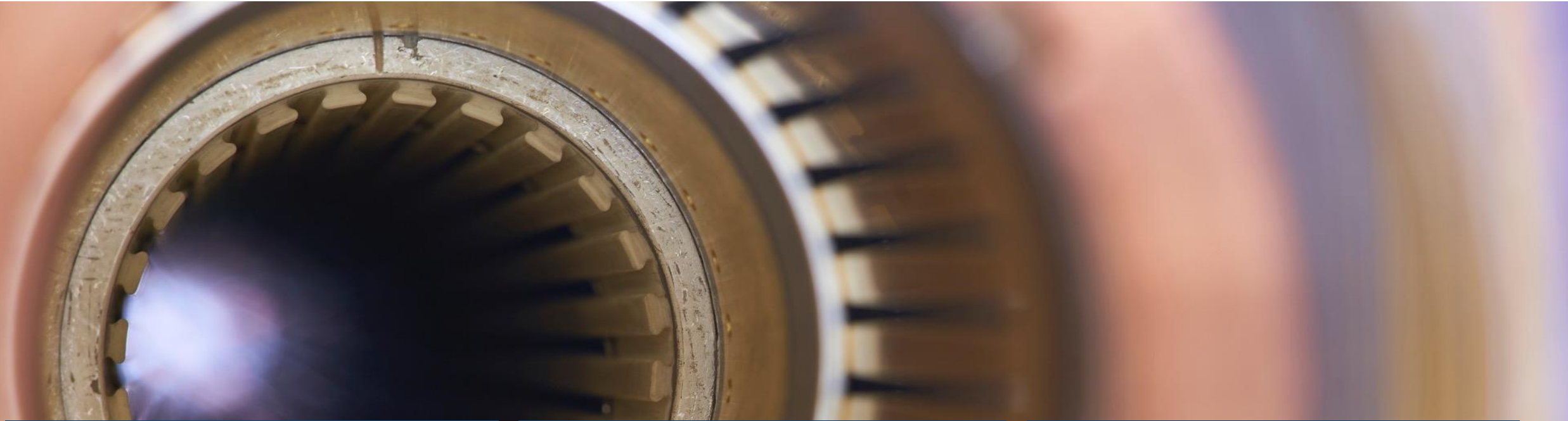
- **Electronics and radio frequency:**
 - Electronic components (active, passive)
 - PCBs and assembled boards
 - LV and HV power supplies
 - Radio frequency plants
 - Amplifiers



What does CERN 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 LHC



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 biggest projects for future of particle physics at CERN



Compact Linear Collider (CLIC)

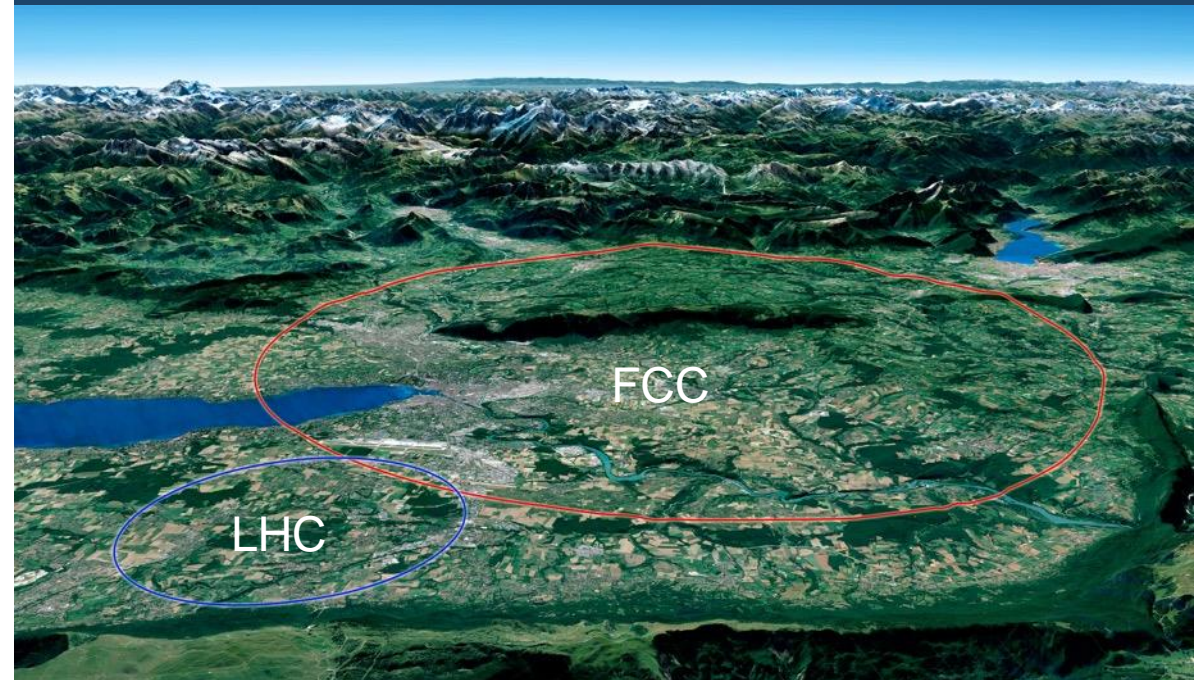
- Linear e^+e^- collider \sqrt{s} up to 3 TeV



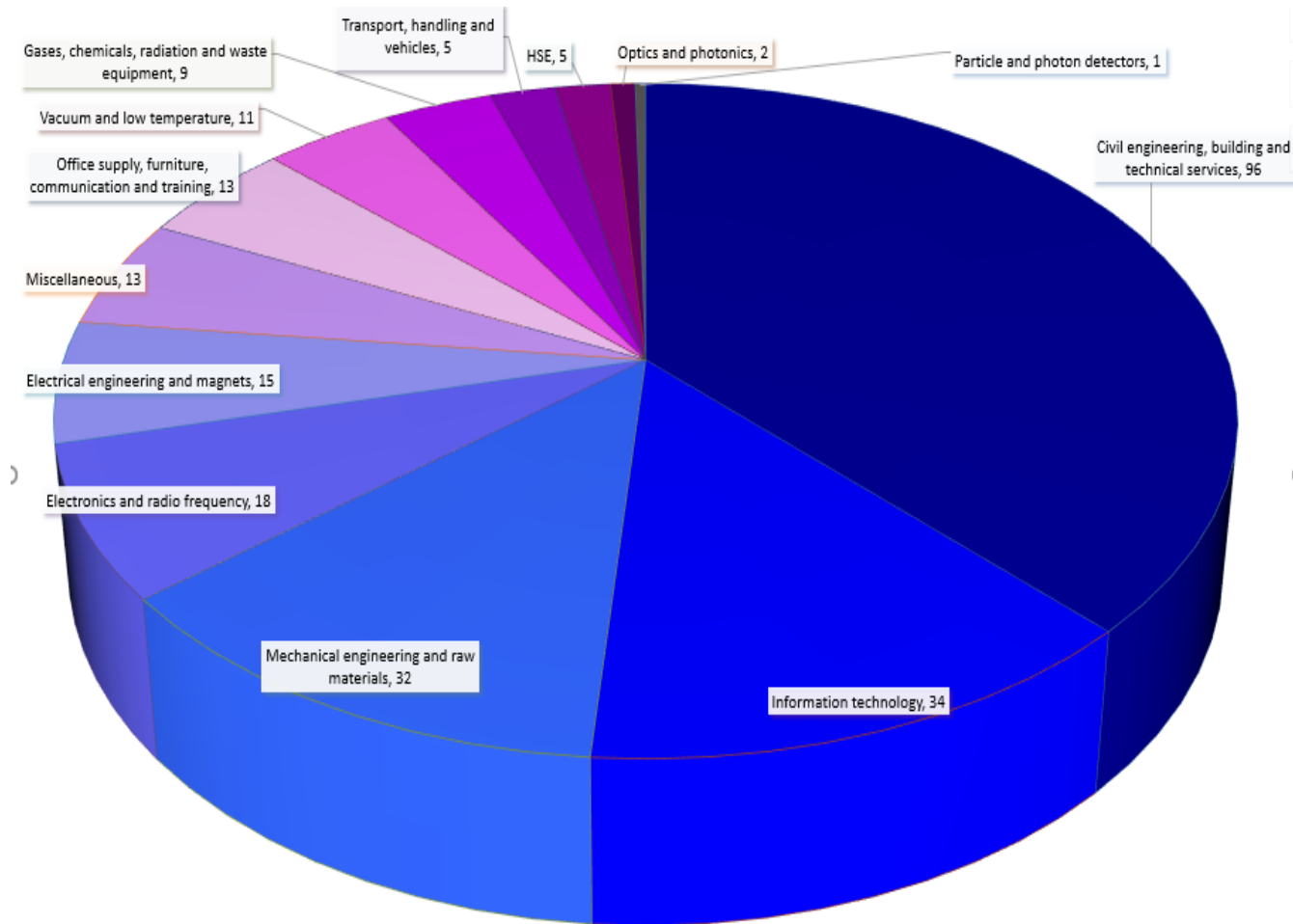
Future Circular Collider (FCC)



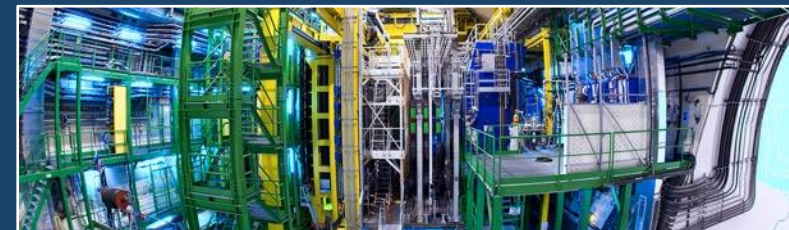
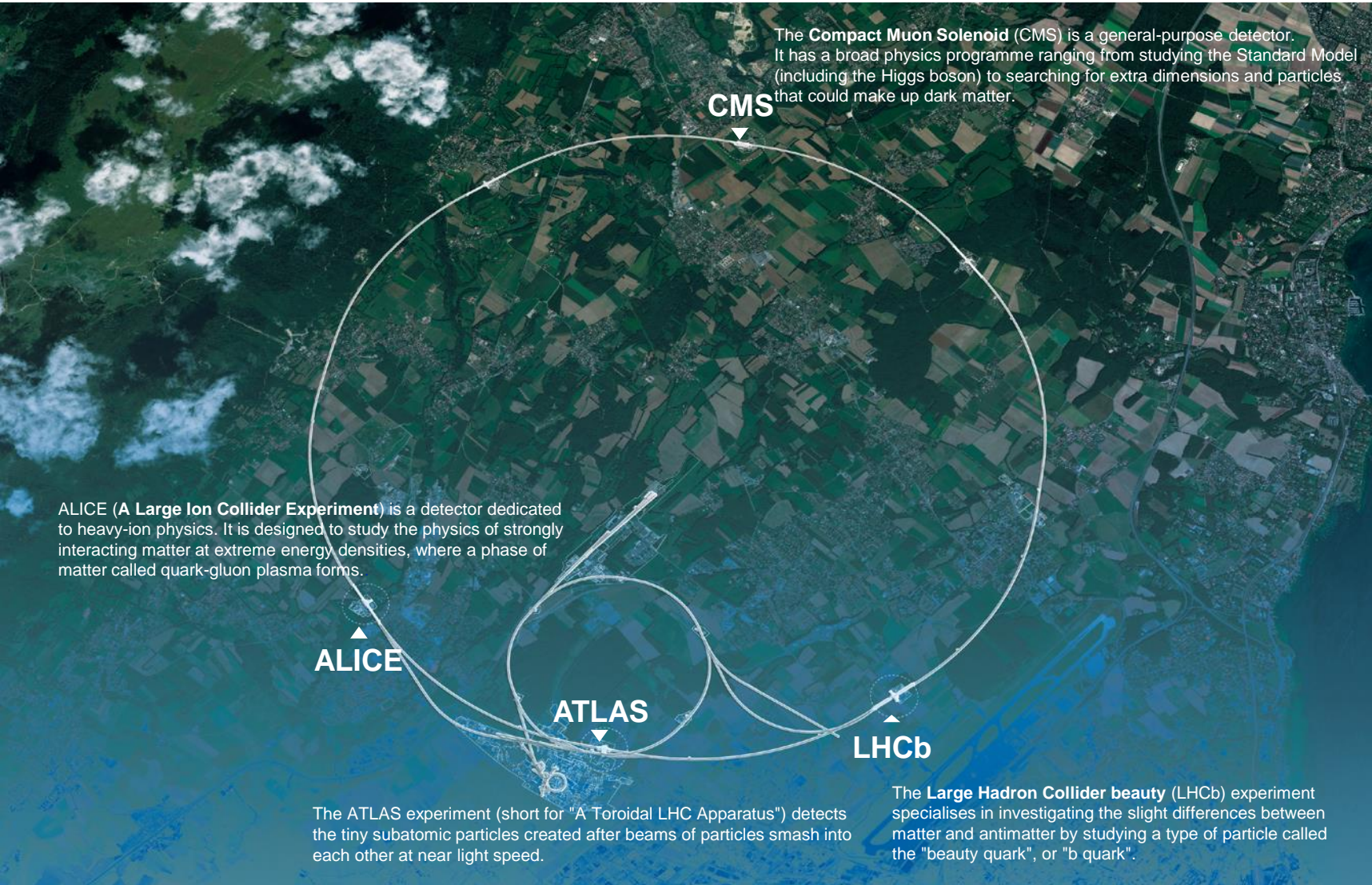
- New technology magnets \rightarrow 100 TeV pp collisions in 100km ring
- e^+e^- collider (FCC-ee) as 1st step



Supplies (254 M CHF spent in 2022 – CERN budget only)



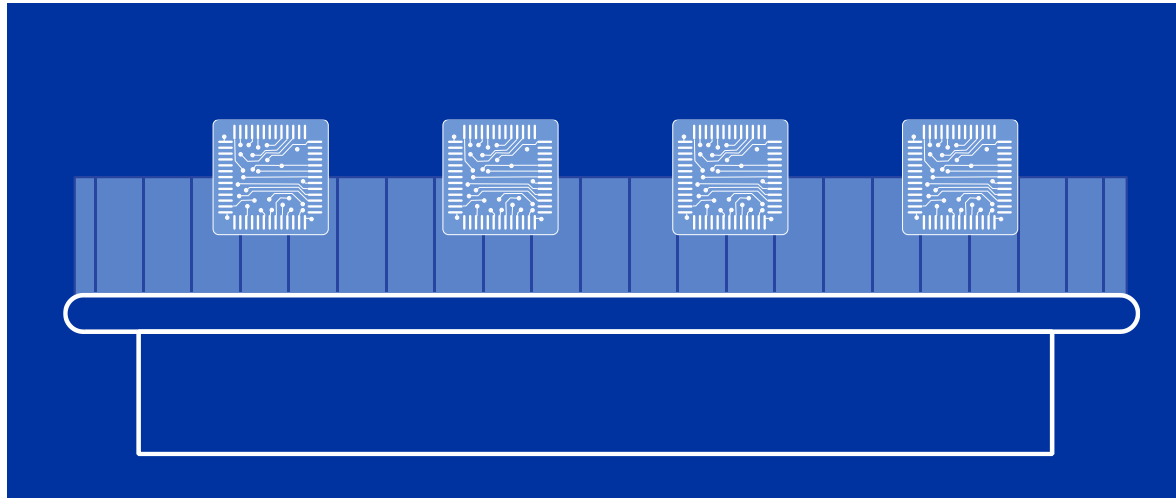
CERN also buys for the LHC experiments



How does CERN buy?

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

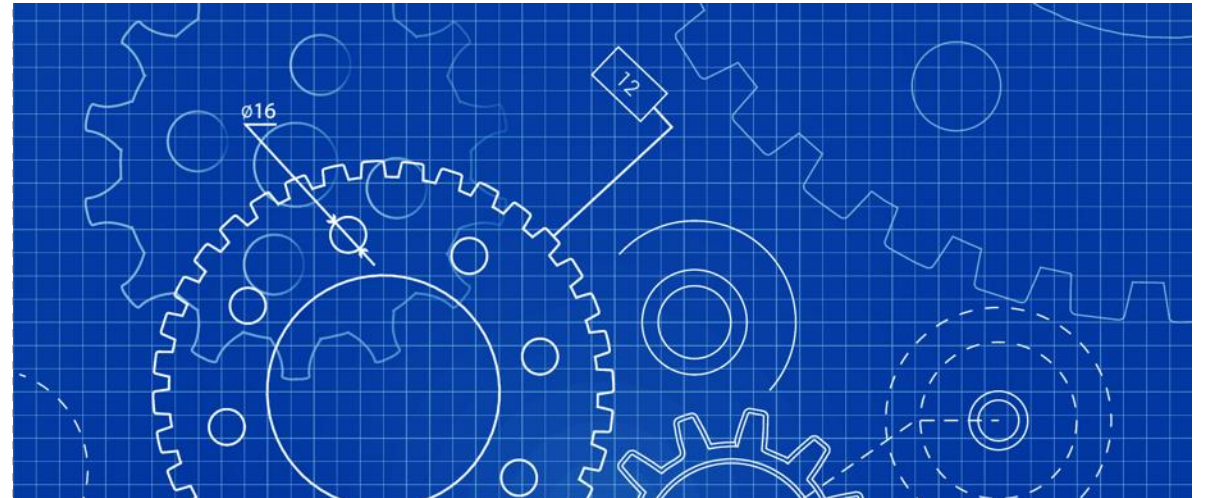
- **Functional specification**

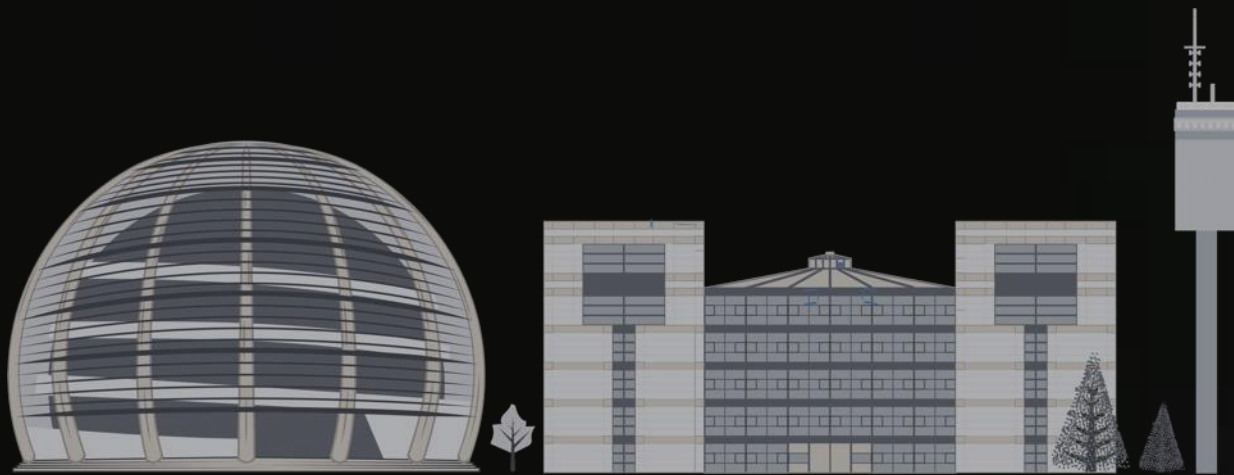


Non-standard products where industry has neither the required know-how nor the interest to develop and design the products:

- **Build-to-Print specification**

Prototypes and or pre-series might be required





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

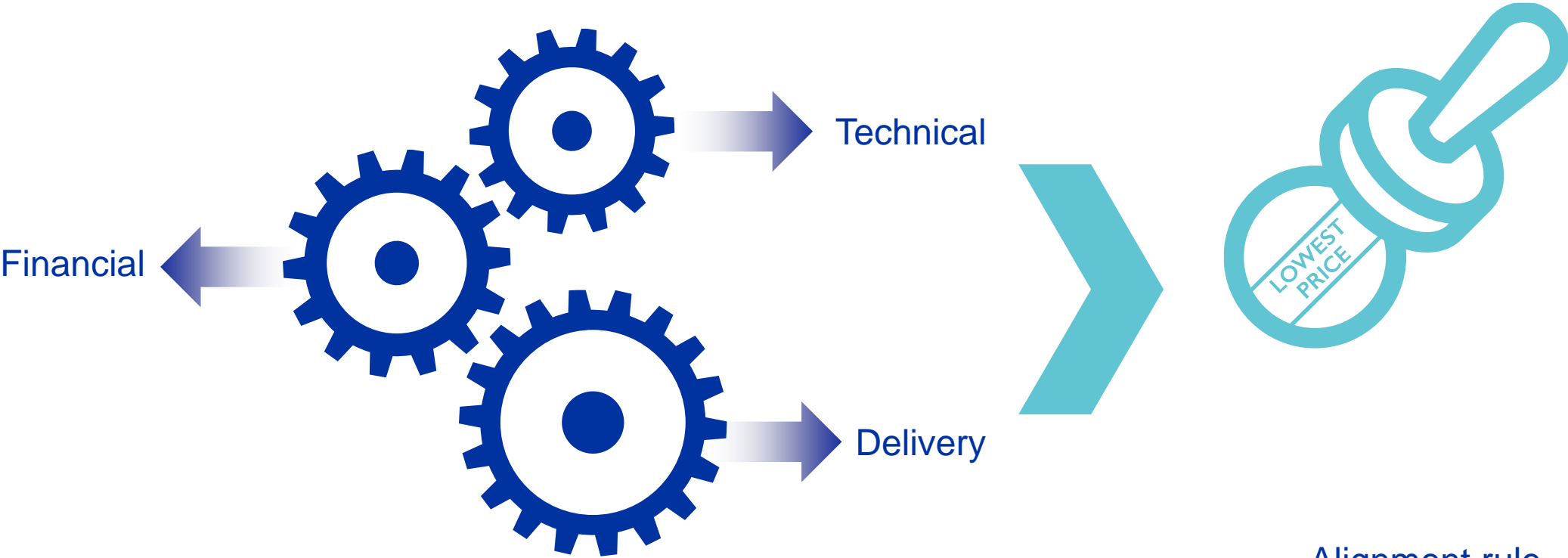
Principles of the Procurement Rules (2/4)

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

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

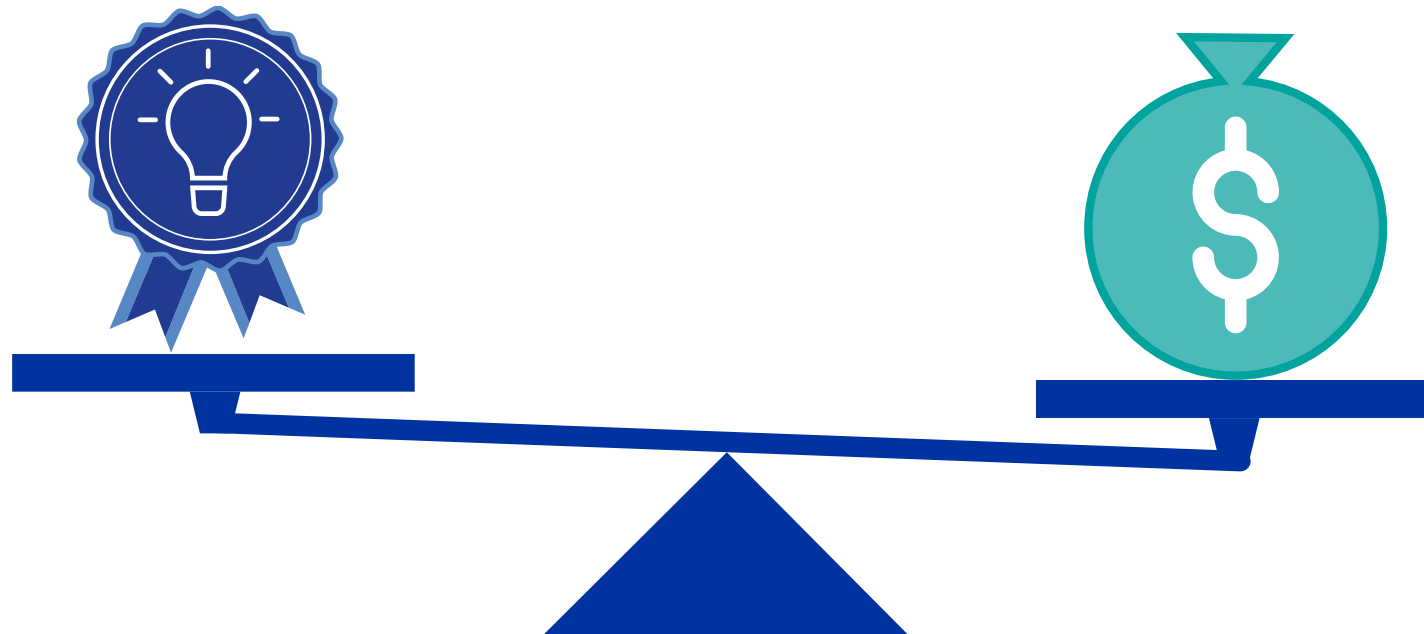
Principles of the Procurement Rules (3/4)

Awards for supplies (and exceptionally for services,) 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)

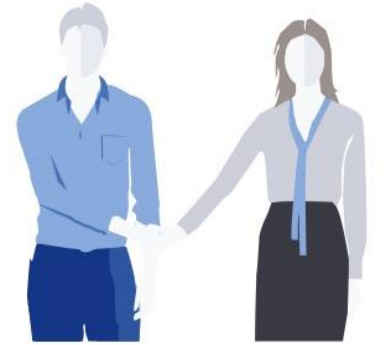
- **Submission deadline: 4 weeks from date of dispatch**
- **All price enquiries above 50'000 CHF are also sent to the Industrial Liaison Officers (ILOs) for information**
- **Price enquiries consist of:**
 - Technical specification and annexes
 - Tender form
 - Technical questionnaire (optional)
 -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



Enquiries exceeding 200'000 CHF (1/2)

“Market Survey” (MS)

- **Prior announcement on 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 organisation ahead of the tendering process
- **Market surveys consist of:**
 - Technical Description
 - 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 selected firms only
- Submission deadline: 4 weeks from date of dispatch (with a longer period for more complex requirements)
- Firms are strongly encouraged to ask all 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 (tender form) shall exclusively be submitted via CERN's e-tendering interface



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

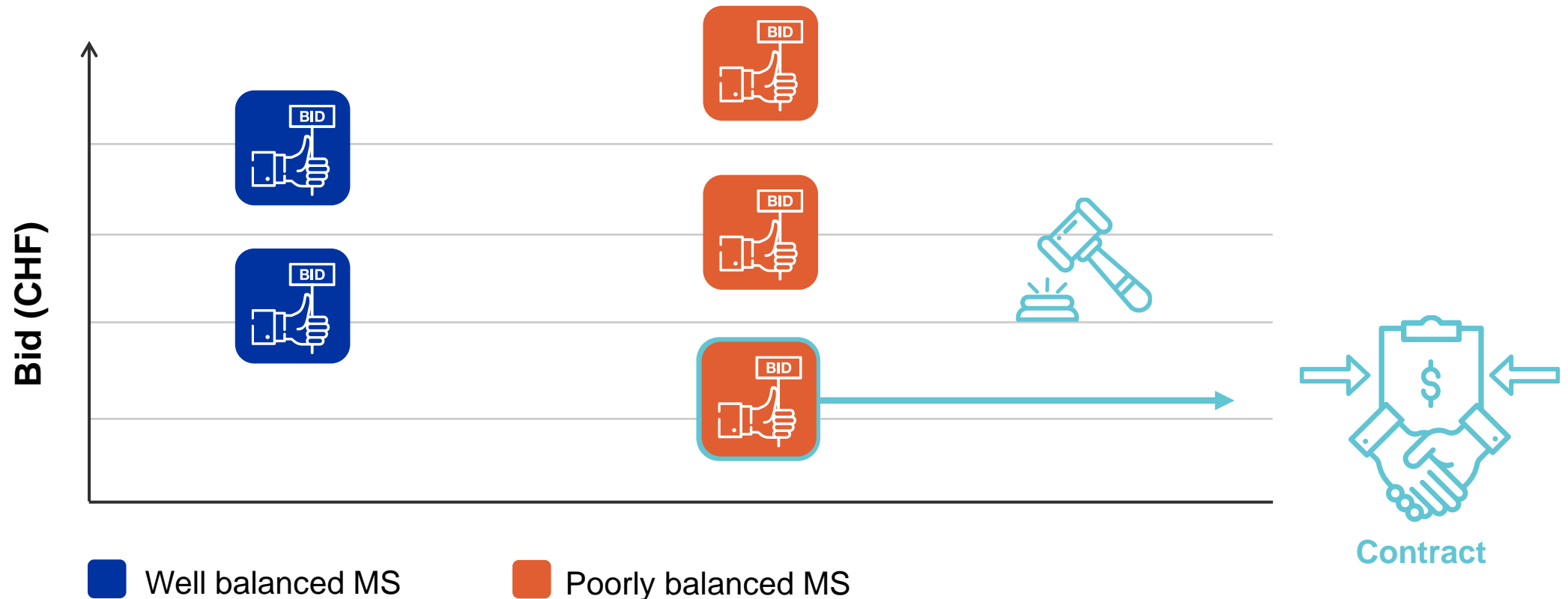
RULE

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

Alignment rule (Scenario 1)

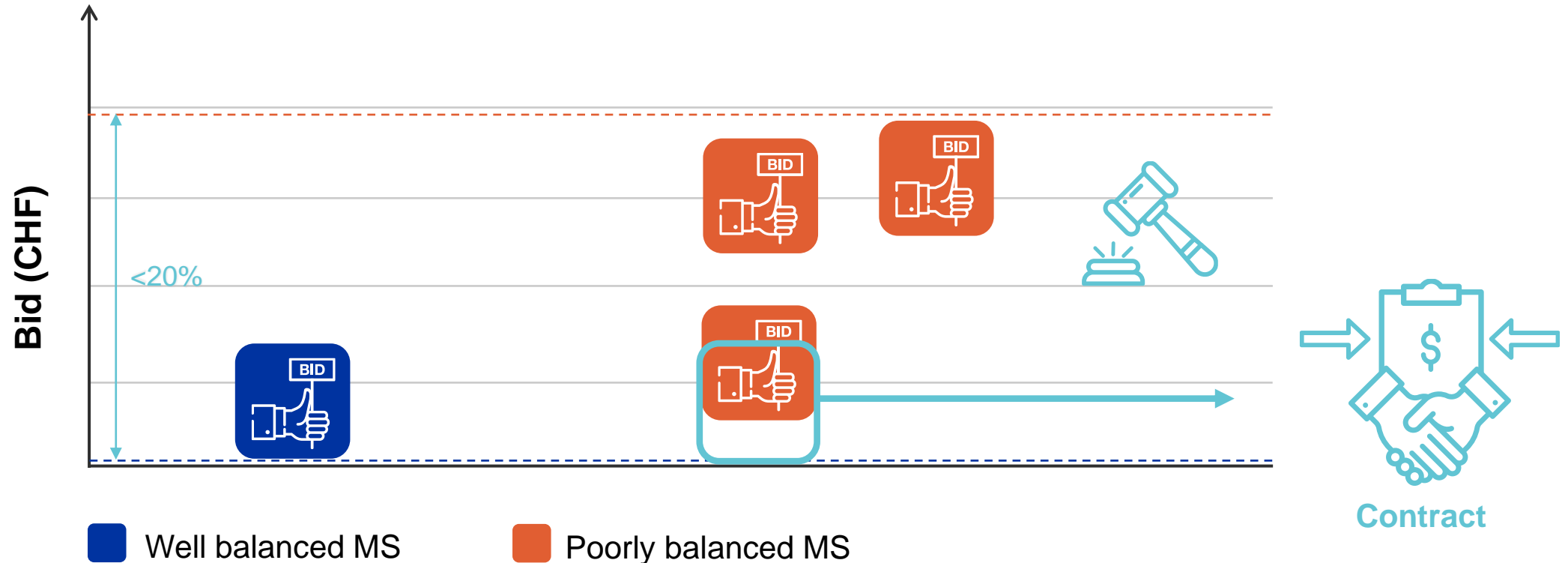
Lowest compliant bid from a Poorly-Balanced Member State



Alignment rule (Scenario 2)

Lowest compliant bid from a Well-Balanced Member State

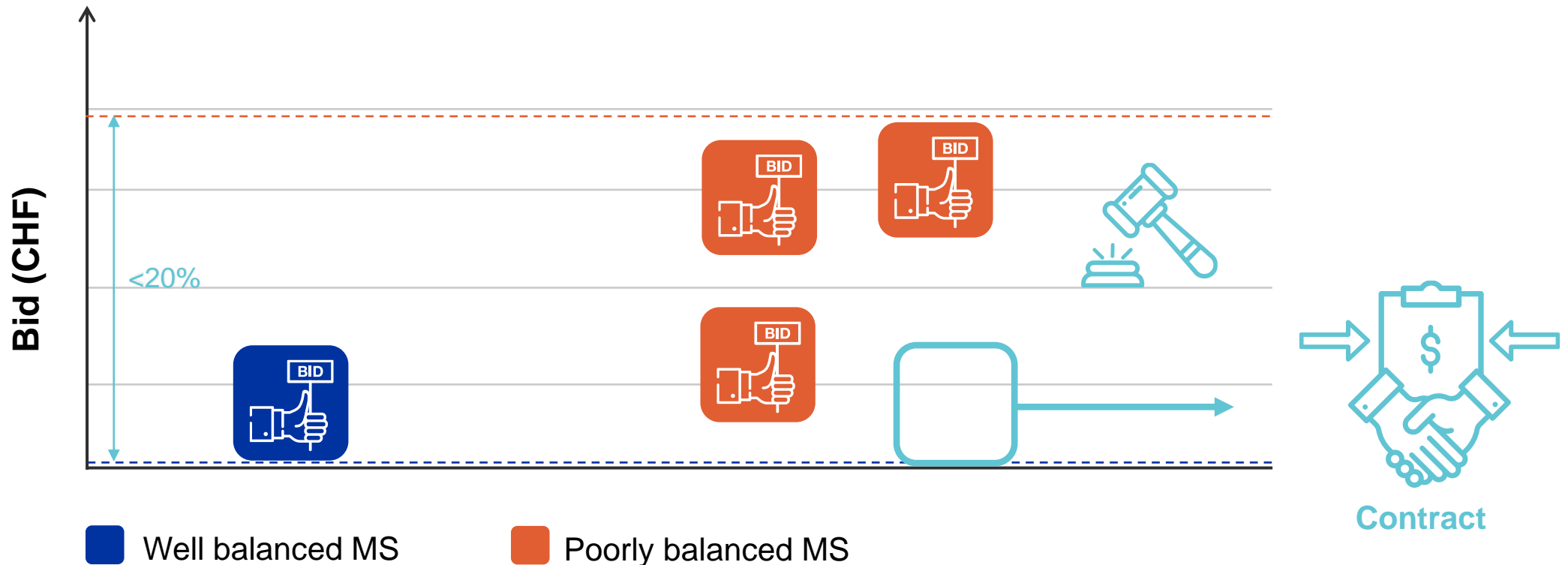
(a) 1st bidder from PB MS (+ max 20%) accepts to align its price



Alignment rule (Scenario 2)

Lowest bid from a Well-Balanced Member State

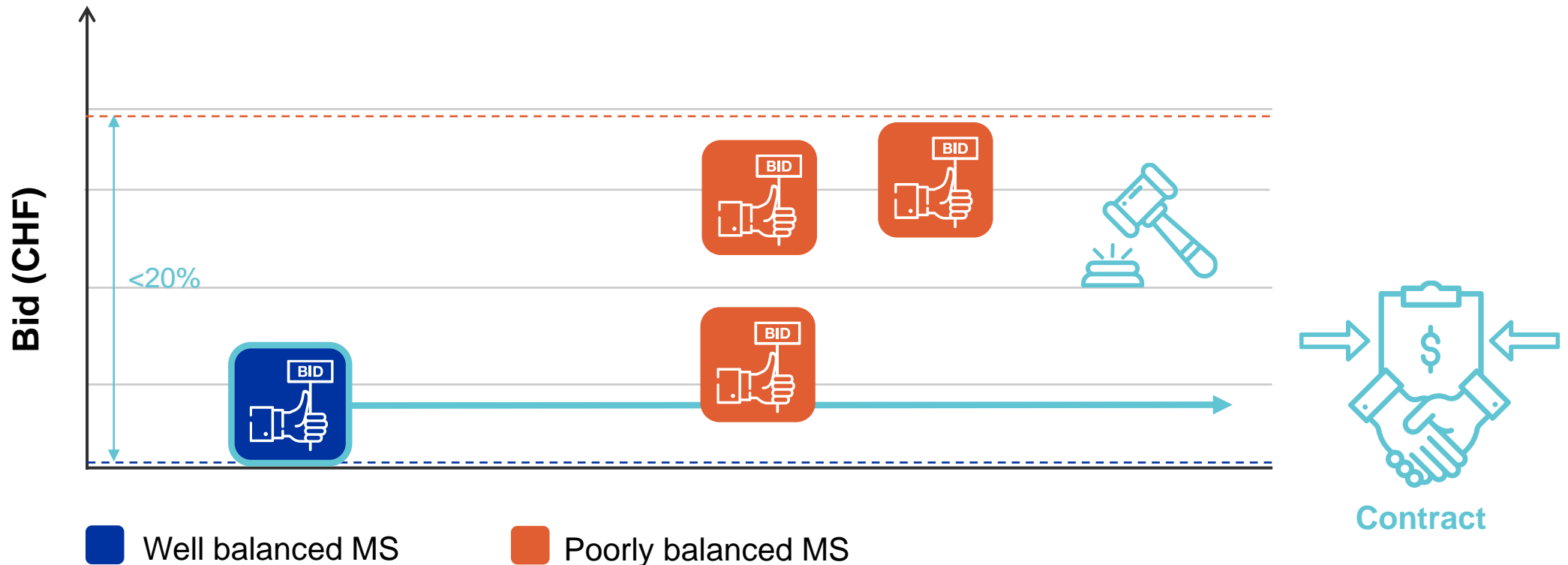
(b) if not, 2nd lowest bidder from PB MS (+ max 20%) accepts to align its price



Alignment rule (Scenario 2)

Lowest bid from a WB MS

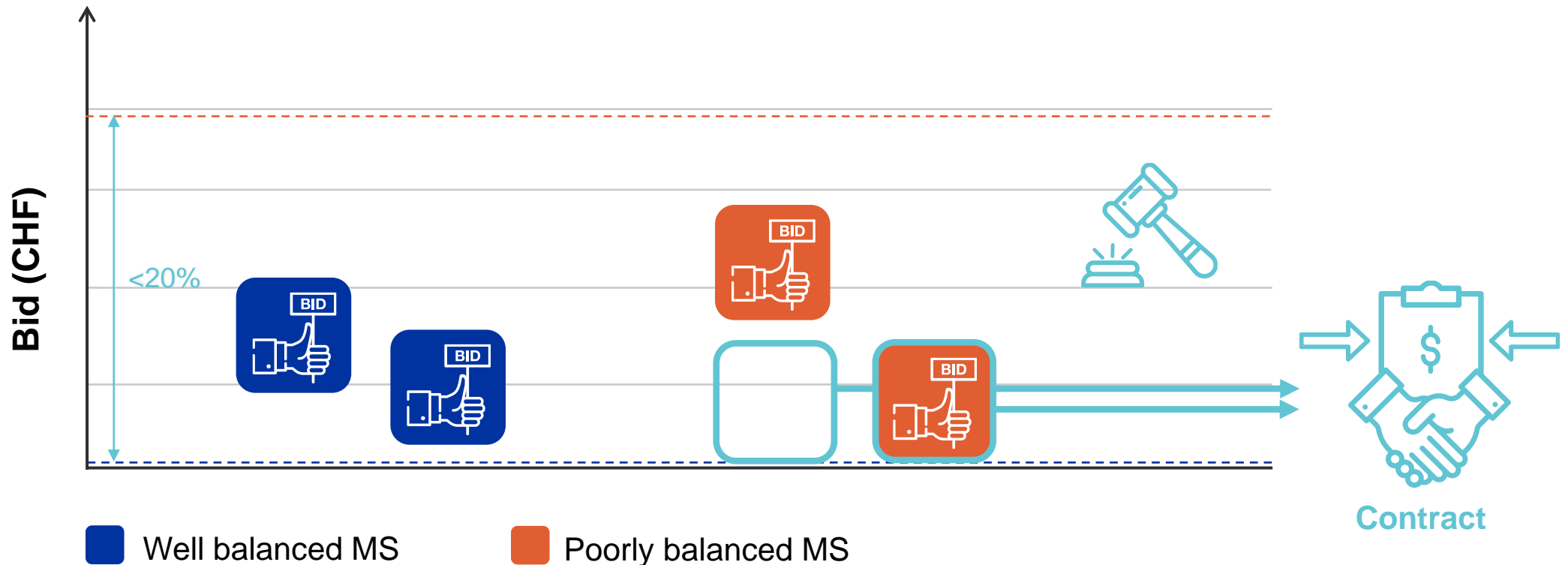
(c) if no alignment of next two PB MS bidders, contract placed with lowest bidder from WB MS



Alignment rule with splitting (Scenario 3)

Lowest bid from a PB MS, another bid from a PB MS falls within 20% of the lowest

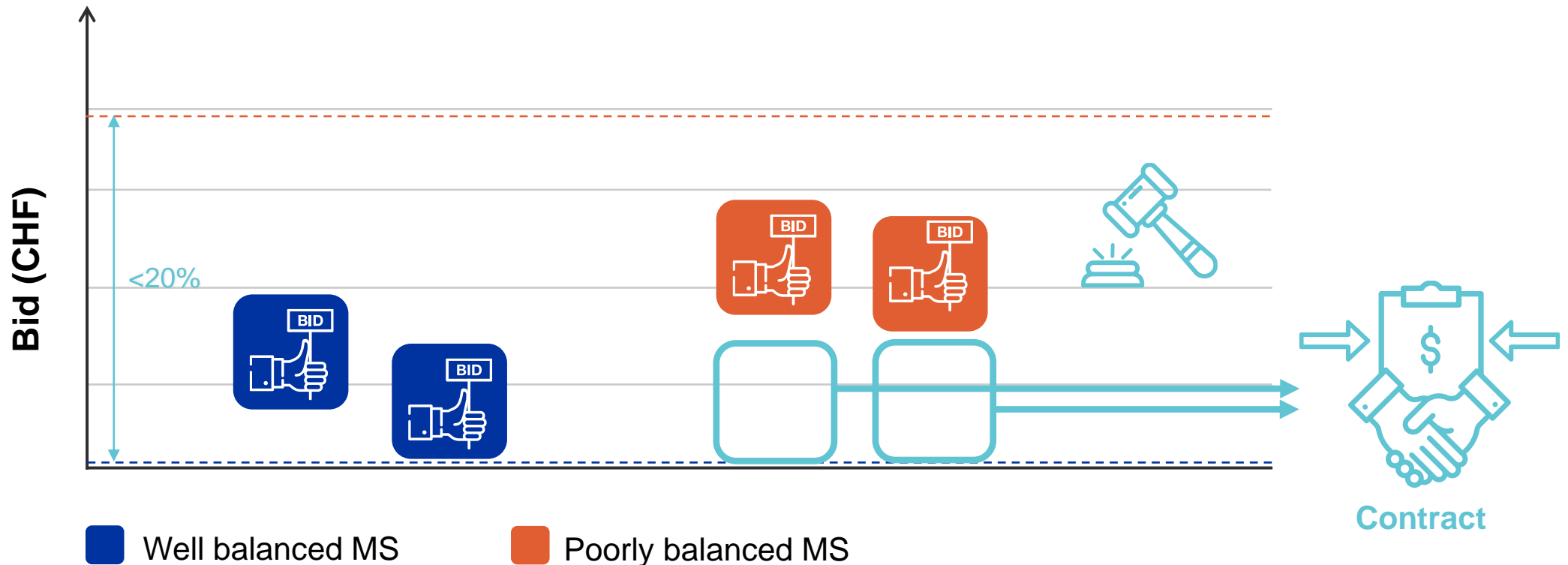
Bidder from PB MS aligns \longrightarrow contracts placed with the 2 lowest bidders from PB MS



Alignment rule with splitting (Scenario 4)

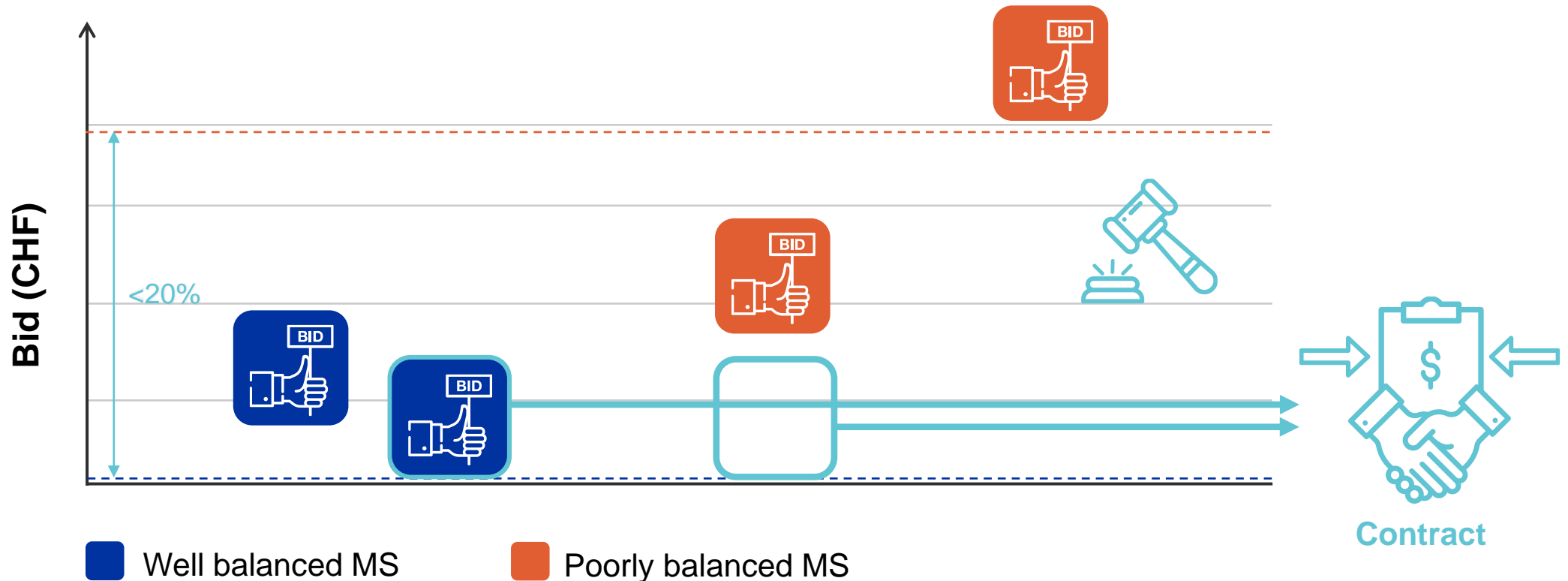
Lowest bid from a WB MS and two bids from PB MS fall within 20% of the lowest

Both bidders from PB MS align \longrightarrow contracts placed with bidders from PB MS



Alignment rule with splitting (Scenario 5)

Lowest bid from a WB MS and a bid from PB MS falls within 20% of the lowest
Lowest bidder from PB MS align \longrightarrow contracts placed with the lowest bidder (from WB MS) and the bidder from PB MS



Industrial return coefficient

Industrial return coefficient

For Supply contracts and for a 12-month period starting on 1st 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): ≥ 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 2024 – 28 February 2025, based on the previous 4 calendar years):



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

*Associate Member States

** Brazil joined as an Associate Member State on 13 March 2024

Limited tendering

« *Limited tendering is foreseen by the CERN Procurement Rules to improve the industrial return of very poorly balanced Member States.* »

Conditions

Firms established in very poorly balanced Member States only (industrial return <0.4)

Used in case where there is sufficient competition

ILO can ask to add firms, provided they are established in very poorly Member States



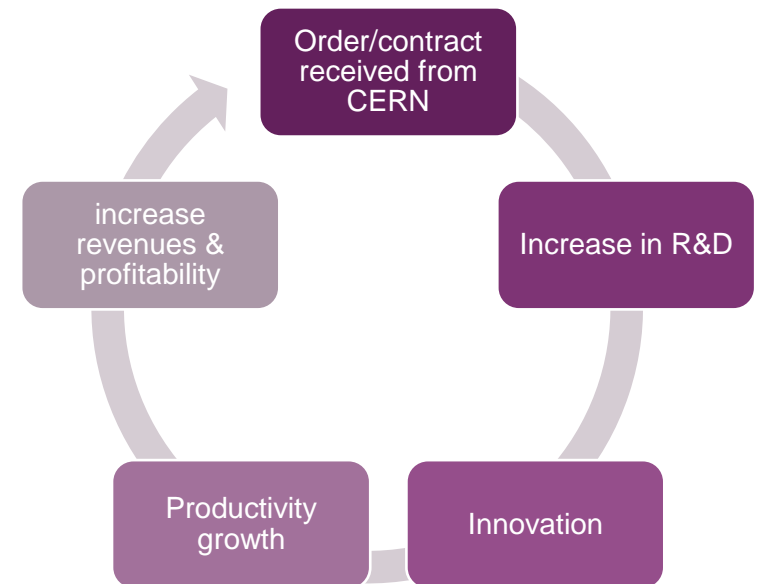
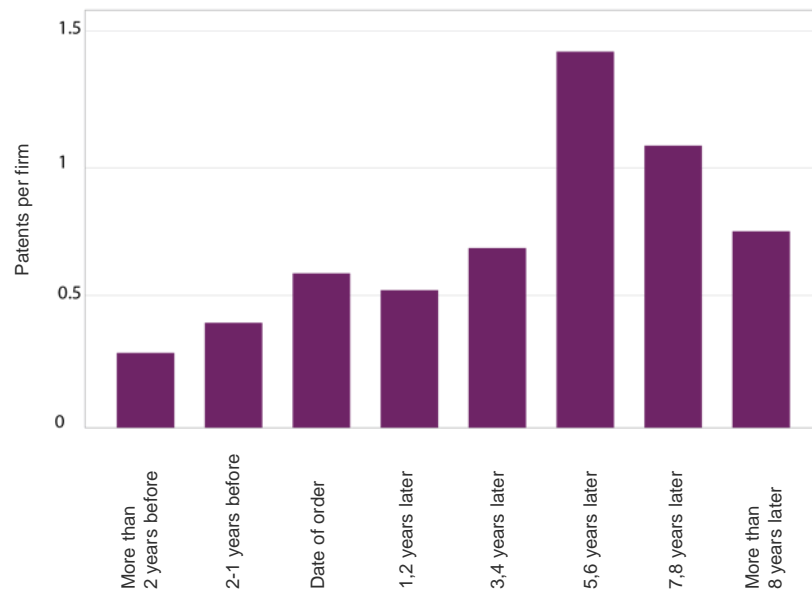
Impact of Doing business with CERN

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%

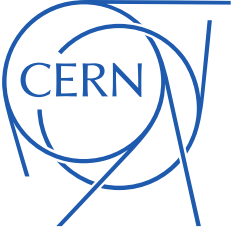
found or opened a new market to
address

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 improves Suppliers' reputation

supplier

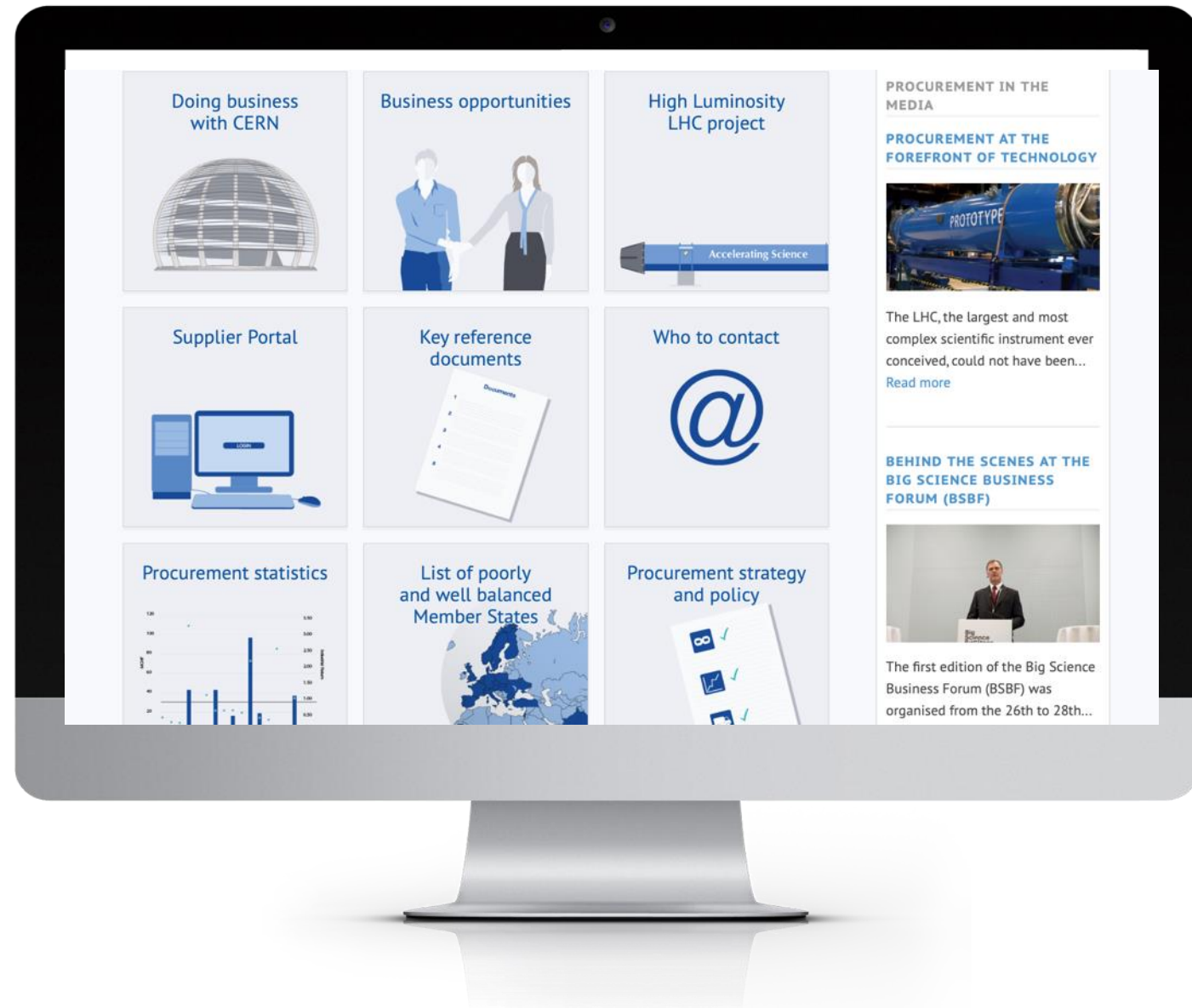




Social Cost-Benefit Analysis (CBA) calculated by the University of Milan

“Each CHF invested in HL-LHC project pays back approximately 1.8 CHF on societal benefits, including scientific, economic and cultural value (development of innovative technologies, industrial spillovers, skills acquired by students, etc.).”

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...

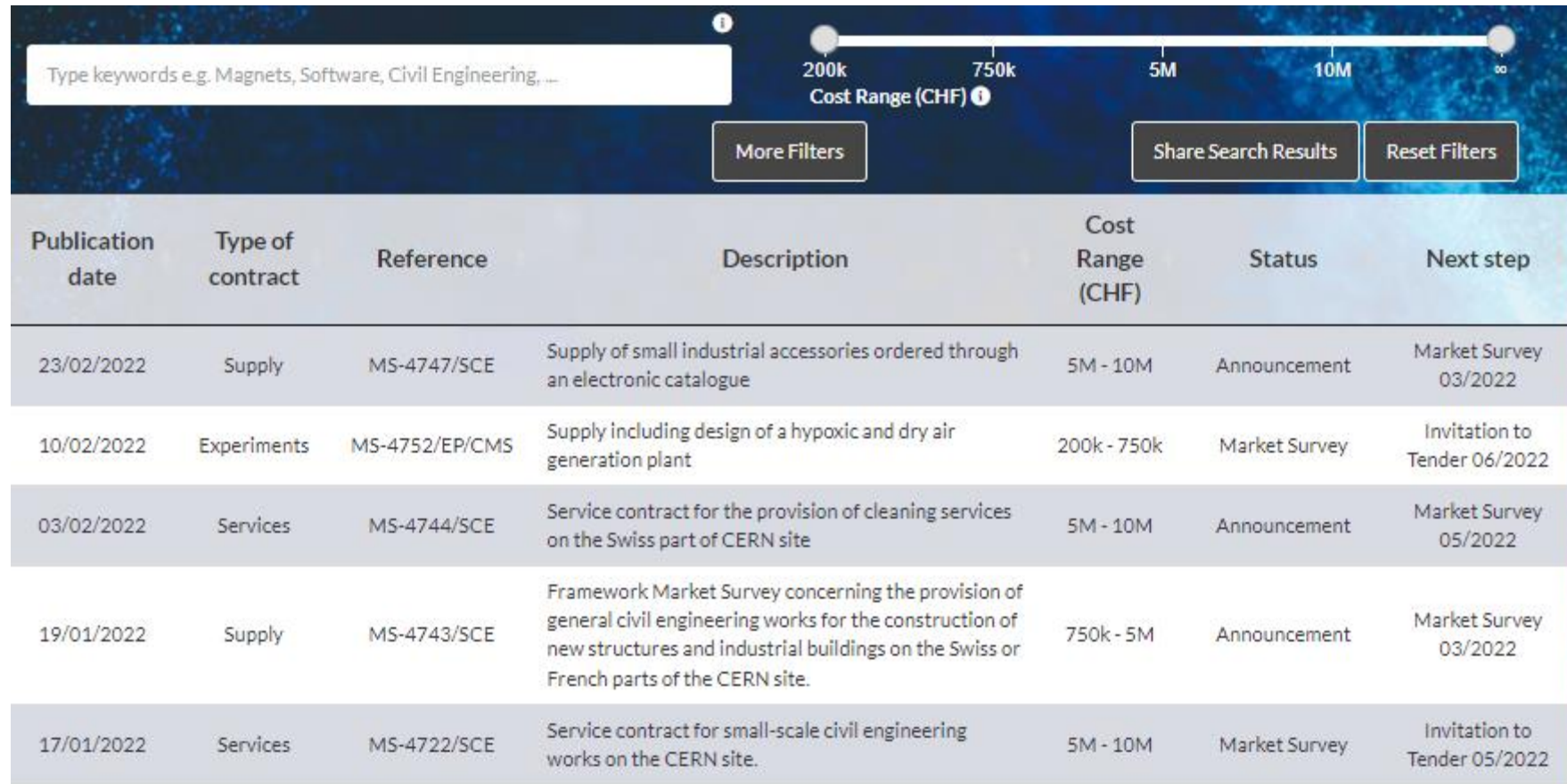


› Procurement strategy and policy



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

HL-LHC Shopping list

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

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

Project activities

- [Procurement Overview](#)
- [WP1: Project Management](#)
- [WP2: Accelerator Physics & 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: 11 T Dipole](#)
- [WP12: Vacuum](#)
- [WP13: Beam Diagnostics](#)
- [WP14: Beam Transfer & Kickers](#)
- [WP15: Integration & \(De-\) Installation](#)
- [WP16: Hardware Commissioning](#)
- [WP17: Infrastructure, Logistics & Civil Engineering](#)
- [WP18: Controls Technologies](#)

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>

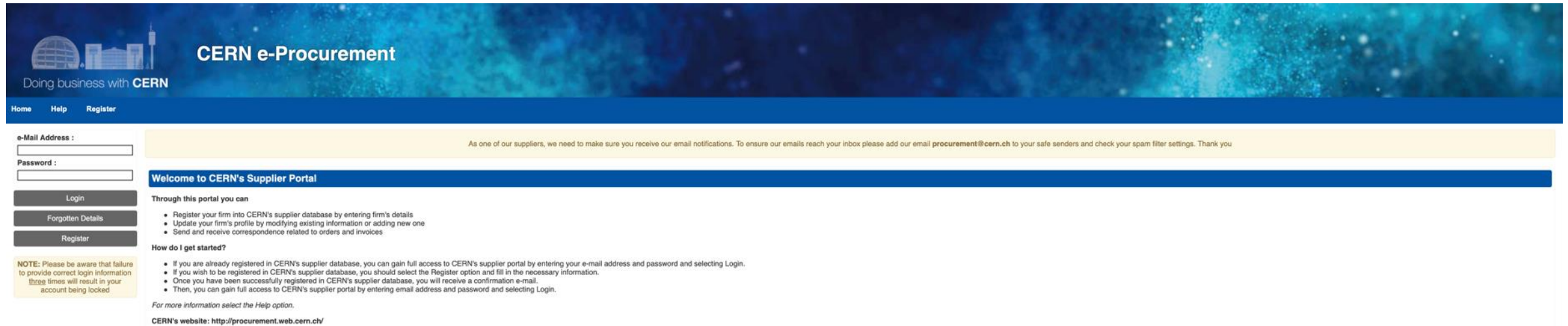
Using this platform, you will be able to receive orders, manage the delivery of supplies and send invoices for processing.

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.

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, there is a navigation bar with "Home", "Help", and "Register" links. 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 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".
- 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 to your safe senders and check your spam filter settings. Thank you".
- Main content:** A blue banner reads "Welcome to CERN's Supplier Portal". Below it, a section titled "Through this portal you can" lists:
 - 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 invoicesA section titled "How do I get started?" lists:
 - 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.At the bottom, it says "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 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.



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Thank you



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