

Doing Business with CERN: ILO Report



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EAS
Enterprise Estonia

Four pillars underpin CERN's mission

EDUCATION
& TRAINING



TECHNOLOGY
& INNOVATION



RESEARCH



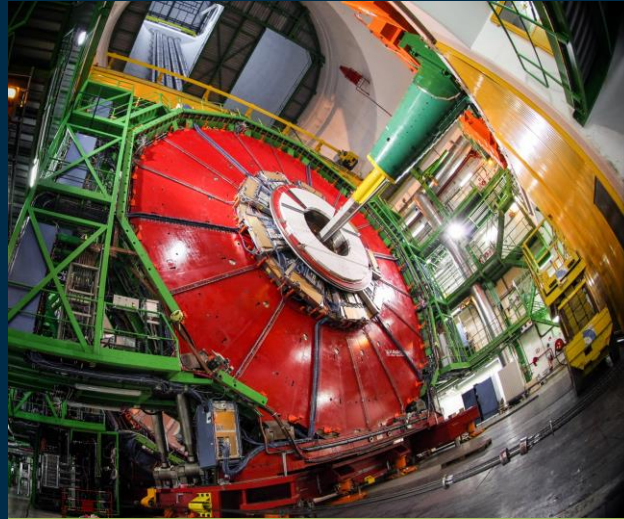
COLLABORATION



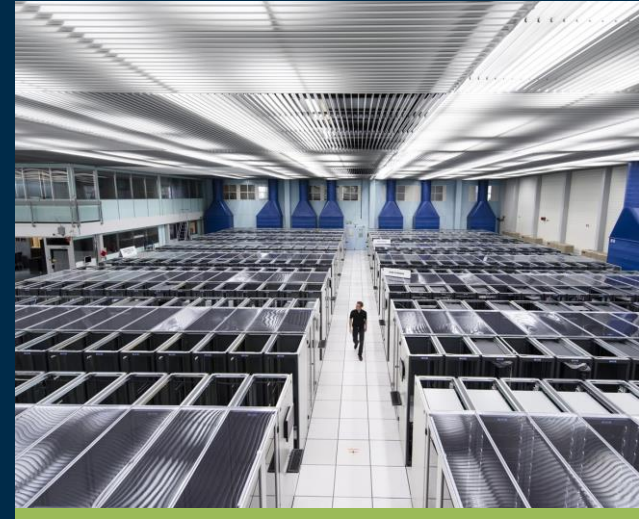
CERN technologies in three key areas



ACCELERATORS



DETECTORS



COMPUTING

CERN's technological innovations have applications in many fields

CERN is the birthplace of the World Wide Web

And there are many more examples

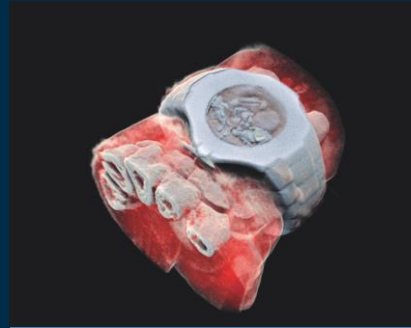
Medical imaging, cancer therapy, material science, cultural heritage, aerospace, automotive, environment, health & safety, industrial processes.

CERN's technological innovations have important applications in medicine and healthcare

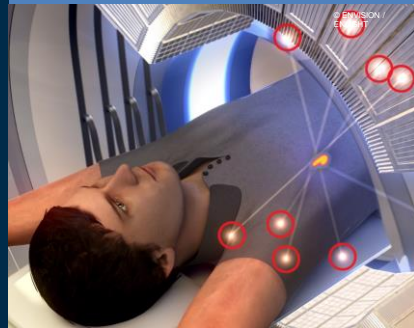


Technologies at CERN are also used in PET, for medical imaging and diagnostics.

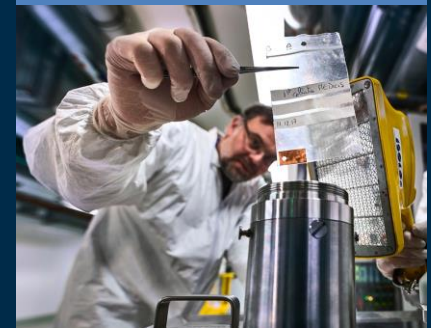
CERN produces innovative radioisotopes for nuclear medicine research.



Accelerator technologies are applied in cancer radiotherapy with protons, ions and electrons.



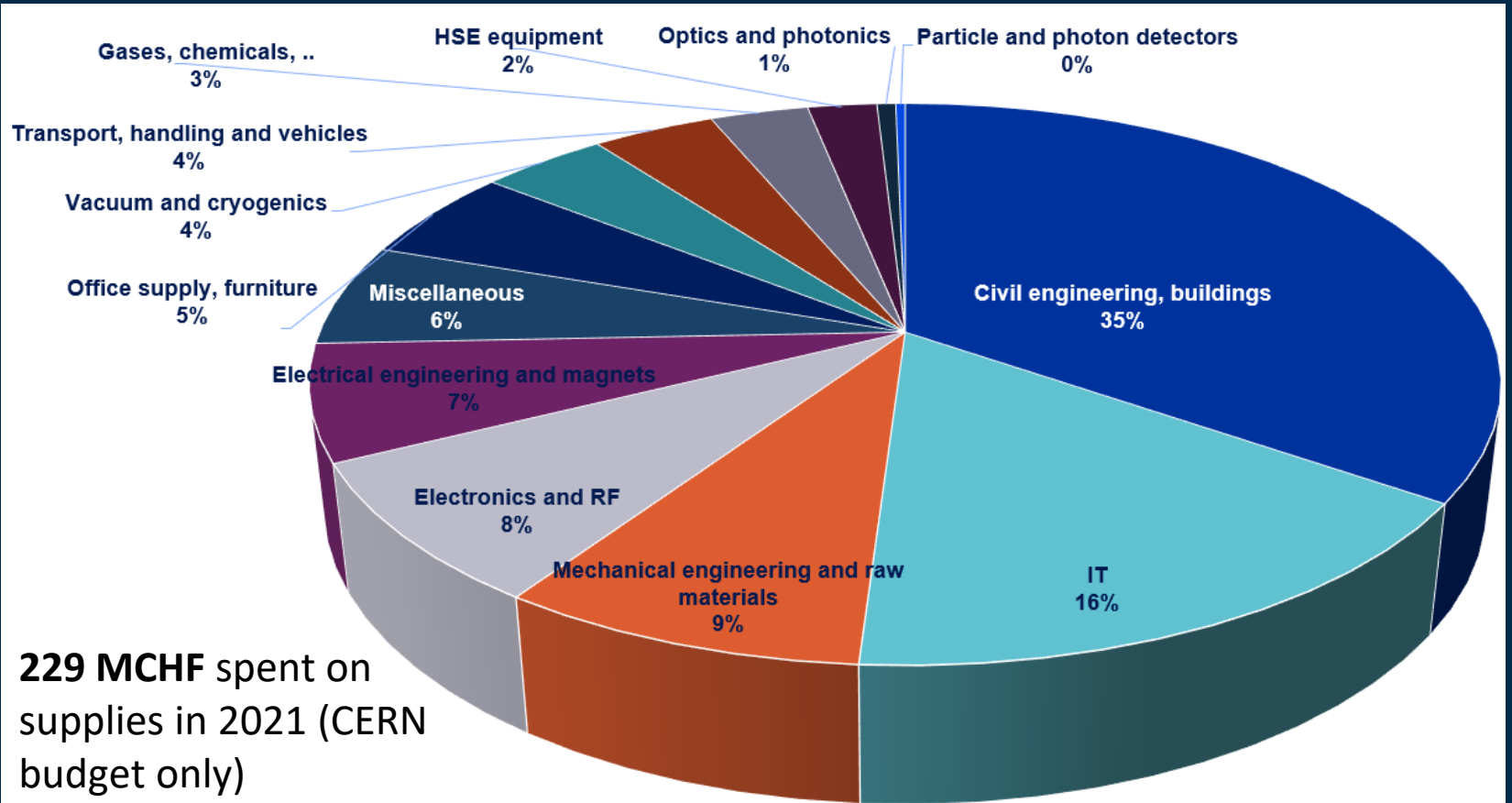
Pixel detector technologies are used for high resolution 3D colour X-ray imaging.



What CERN buys

- Civil engineering
- Cooling and ventilation
- Electrical engineering and magnets
- Information Technology
- Mechanical engineering and raw materials
- Electronics and radiofrequency
- Cryogenic and vacuum equipment
- Health and safety equipment,
- Transport and handling equipment
- Office supply, furniture
- Industrial services on the CERN site

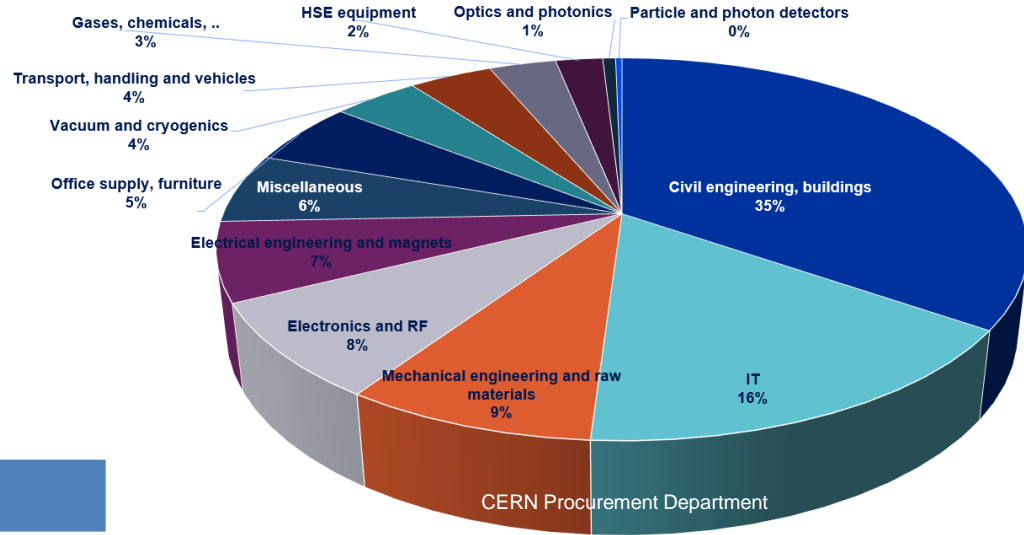
Yearly Procurements breakdown by sector in 2021



Procurements

Procurements comprise of a set of procedures that govern how CERN buys something, while ensuring:

1. Effective allocation of funds
2. Fair competition between bidders
3. Equitable industrial return for member states
4. Other policy targets



Several ways to classify procurements

Procedural division by contract size	<ul style="list-style-type: none"> •Small (up to 50 kCHF) •Medium (50-200 kCHF) •Large (200+ kCHF) •Very large (750+ kCHF)
Type of bid evaluation	<ul style="list-style-type: none"> •Lowest compliant •Best value for money •Total cost of ownership
Type of competition	<ul style="list-style-type: none"> •Competitive tendering •Limited competition
Type of supply:	<ul style="list-style-type: none"> •Build to print •„shelf-product“

- **229 MCHF** spent on supplies in 2021 (CERN budget only)
- Does not include services, utilities, experiments
- Yearly procurements totalling approximately **500 MCHF** on average every year (supplies, services, utilities)

Key facts:

- Annual total budget (approx): 1.4 BCHF
- Members of personnel: 3500
- Associated members of personnel and users: 13 000
- Member states: 33

Yearly Member State Contributions 2022

Country	Percentage of Total	Amount (CHF)	Country	Percentage of Total	Amount (CHF)
 Germany	20.32%	245 017 700	 Czech Republic	1.10%	13 220 000
 United Kingdom	14.20%	171 219 200	 Portugal	1.09%	13 148 350
 France	13.42%	161 894 900	 Greece	0.99%	11 894 950
 Italy	10.10%	121 766 050	 Hungary	0.71%	8 580 300
 Spain	7.25%	87 403 500	 Slovakia	0.51%	6 151 800
 Netherlands	4.63%	55 847 250	 Turkey*	0.41%	4 961 450
 Switzerland	3.84%	46 281 900	 Bulgaria	0.33%	3 977 800
 Poland	2.88%	34 787 950	 Serbia	0.25%	3 002 950
 Belgium	2.71%	32 668 100	 Pakistan*	0.15%	1 843 950
 Sweden	2.49%	30 045 050	 Slovenia**	0.12%	1 484 800
 Norway	2.21%	26 636 300	 Estonia**	0.11%	1 310 850
 Austria	2.15%	25 937 750	 Cyprus**	0.09%	1 025 350
 Israel	1.95%	23 501 450	 Latvia*	0.09%	1 024 850
 Denmark	1.77%	21 381 600	 Croatia*	0.08%	1 000 000
 India*	1.40%	16 838 200	 Lithuania*	0.08%	1 000 000
 Finland	1.30%	15 708 050	 Ukraine*	0.08%	1 000 000
 Romania	1.20%	14 424 700	Total	100%	1 205 987 050

Industry Liaison Officer's work @CERN

Network

- ILO forum 2 times/year and Finance Committee meetings 4 times/ year
- Close contact with CERN's Procurment Service (PS) and Knowledge transfer (KT)
- Getting to know technical teams and scientists

Outreach

- Webinars, industry days, thematic events with CERN
- Expanding industry network at home
- Company visits and individual visits to CERN

Tools

- Suppliers database
- Procurement announcements of business opportunities
- Mapping technologies at home country

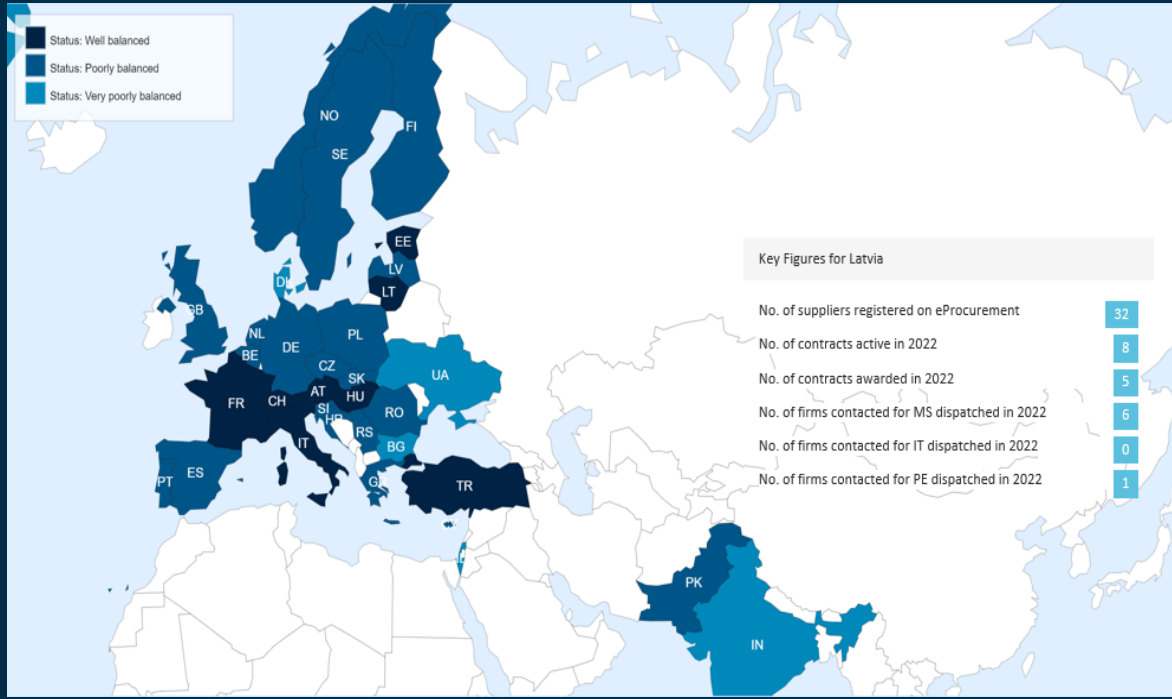
And most important of all – procedural knowledge of CERN procurement



The Latvian case

Latvia Industry Engagement from 2021 Q3 – 2023 Q2

- **32** companies in CERN Suppliers database
- **16** companies with supplier status
- **Sectors:** Mechanical engineering, IT, Electronics
- **Status:** poorly balanced country, in 2022 coefficient 0.97, in 2023* 0.63
- **1** Latvian artist Jānis Zālītis who collaborated CERN to create a graphic identity for the science project I-FAST.



The Latvian case

CERN as priority

- ILO KPI's are directly based on industry engagement
- Geneva based bridge between CERN and local industries in Latvia

Knowledge Transfer

- Technological and knowledge return to Latvia by engaging R&D capable companies
- CERN and MS/ASM cooperation on the European level (Horizon, iFAST etc.)

Aims in 2024 and onwards

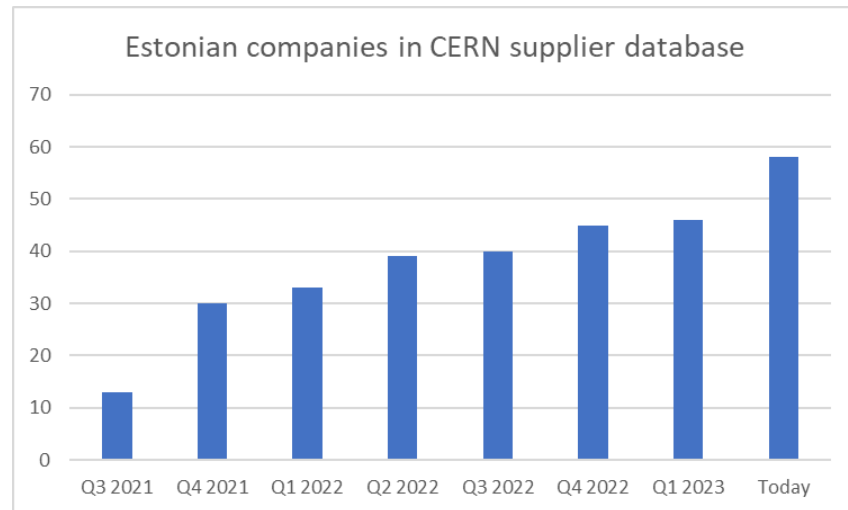
- To ensure the well-balanced industrial return for Latvia
- To provide support towards the full-membership @CERN
- To work closely with Latvian industry, scientific and engineering communities



The Estonian case

Industry engagement is accelerating:

- **58** companies in CERN supplier database, **21** with supplier status
- **3** companies seeking R&D activities in FCC; one company involved in CMS
- At least **1** company investigating licensing technology from CERN
- Very unlikely transition from *very poorly balanced* member state to *well balanced* member state in 2022 – **FOURTH in supply return coefficient**
- First 1+ MEUR volume contract placed with **Harju Elekter** in 2022 – important first milestone
- Some companies having recurrent orders, others receiving international attention



Initial growth kicked off in October 2021 by a CERN high level visit to Estonia. Sustained steady growth ever since.

The Estonian case

Industry engagement is accelerating:

- **8** industry engagement events in Estonia Q3 2021-Q1 2023
- Involved companies from various sectors:
 - Electronics
 - Power electronics
 - Materials
 - Mechanical engineering
 - IT development
 - Events
- Some capacities in Estonia are unique in Europe (NEO/Skeleton)

Good connections and experiences with the CERN Procurement Department are a great source of confidence for all involved

Event	Short description
Instrutec 2021 8. Sept 2021 Tallinn	Special B2B meeting zone for CERN and 17 companies
CERN high level visit to Estonia 11-14. Oct. 2021 Tallinn	High-level visit by 18-person CERN delegation. Meetings with 27 companies, visits to 12
FCC engagement meeting 2. March 2022 Virtual	3 research institutes/universities + 3 companies involved
FCC signing ceremony 19. April 2022 CERN	3 research institutes/universities + 3 companies involved. Protocol visit to CERN.
CERN meets Baltic Industry 25-29 April 2022 Virtual	Online B2B meetings with 17 companies, 6 from EE
CERN visit to metalworks companies 9-11. May 2022 Tallinn-Tartu	Visits to 8 metalworks/machining companies
CERN Baltic Industry Days 12-13 Sept. 2022 CERN	16 Baltic companies visiting CERN, including 8 from EE
Big Science Business Forum 3-8 Oct. 2022 Granada (ESP)	Estonian stand with 6 companies

Final thoughts



There are three types of direct value from CERN for a company:

- 1. Procurements:** what, why and how CERN buys
- 2. Knowledge Transfer:** what technology/knowledge from CERN can be adapted into a commercial use
- 3. People:** Specialists/students with particular skillsets obtained through CERN experience

Check out CERN internship opportunities and talk to your professor

Keywords: Summer Student, Technical Student, Graduate, PhD Student



Aitäh

Paldies

Ačiū

Thank you