

Doing business with CERN

Anders Unnervik 6 April 2017



Agenda



CONTRIBUTIONS FOR 2017 (CHF)

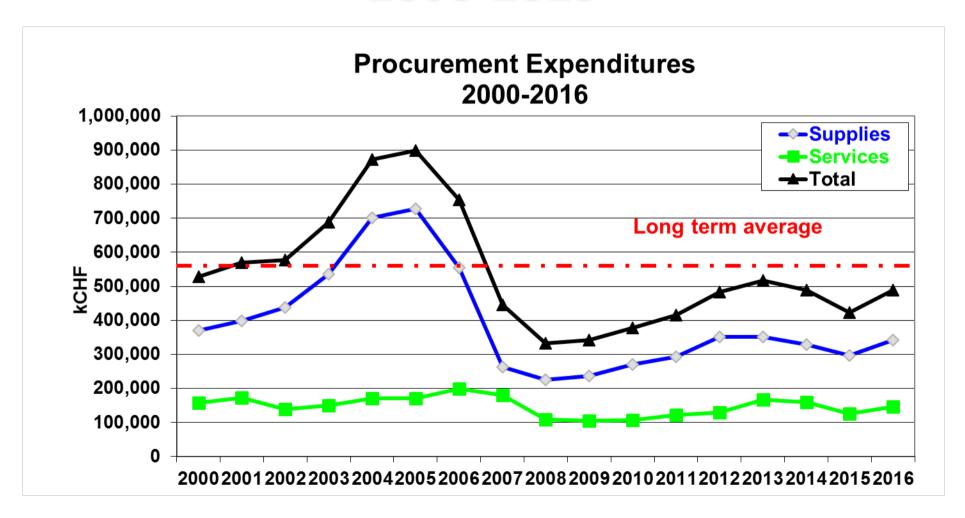
Contributions Overview (for 2017)

	Country	Percentage of Total	Amount (CHF)		Country	Percentage of Total	Amount (CHF)
	Germany	20.05%	228 895 300	+	Finland	1.32%	15 084 950
N N	United Kingdom	14.81%	169 060 550	E	Greece	1 18%	13 454 050
	France	14.05%	160 369 150	③	Portugal	1.09%	12 473 650
	Italy	10.42%	118 976 300	(©)	India*	1.02%	11 589 100
	Spain	7.08%	80 811 550		Romania	0.97%	11 124 850
	Netherlands	4.68%	53 437 050		Czech Republic	0.92%	10 495 350
+	Switzerland	3.84%	43 859 000		Hungary	0.59%	6 747 400
#	Norway	2.84%	32 440 600	•	Slovakia	0.47%	5 416 050
	Poland	2.77%	31 593 150	C.	Turkey*	0.42%	4 769 750
	Belgium	2.71%	30 964 100		Bulgaria	0.29%	3 283 900
	Sweden	2.68%	30 619 650	Ŷ	Serbia**	0.17%	1 935 850
	Austria	2.12%	24 250 100	C	Pakistan*	0.13%	1 477 950
	Denmark	1.74%	19 844 650		Ukraine*	0.09%	1 006 750
❖	Israel	1.46%	16 698 700	**	Cyprus**	0.09%	1 000 000
						Total	1 141 679 450

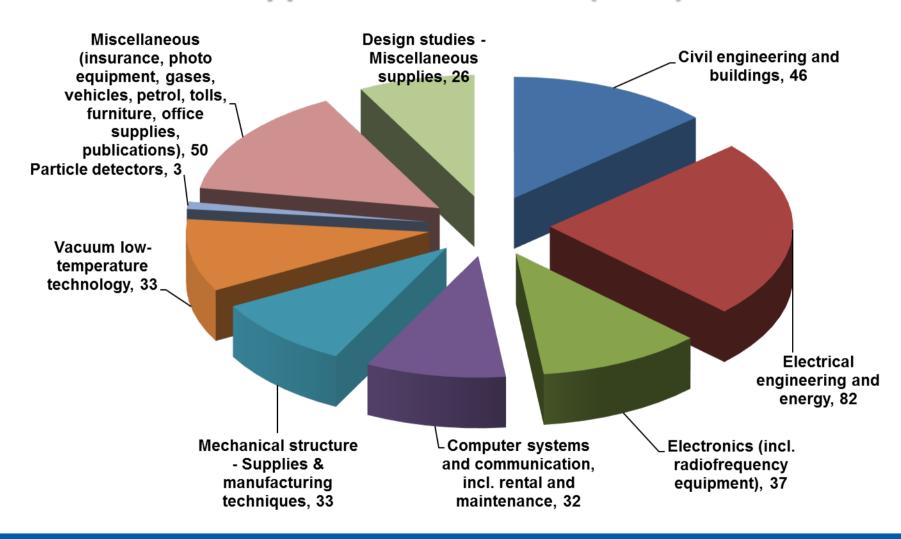
^{*} Associate Member State ** Pre-stage Associate Member State

^{*} Associate Member States

Procurement Expenditures 2000-2015



What do we buy? Supplies for 342 MCHF (2016)





What do we buy? Recurrent supplies and services

- **Civil engineering** Buildings, roadworks
- Utilities

Cooling & ventilation

Power distribution, cables, overhead cranes

Infrastructure & services

Metal structures
Mechanical engineering
Radiation shielding
Transport & handling
Safety & access control





- Installation, operation & maintenance
- Data acquisition, computing & networking
- Various supplies

Furniture, tooling, gases, etc.











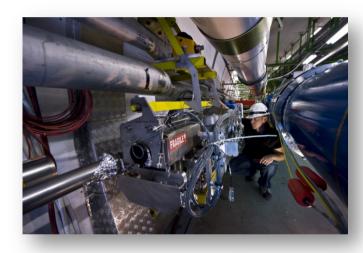


What do we buy?

Accelerator technologies required for consolidation projects and new developments

- Industrial controls & field buses
- Timing & "fast" real-time controls
- Beam collimation
- Beam injection, ejection & dump
- Radio-frequency equipment
- Power converters
- Beam instrumentation & diagnostics
- Permanent and electro-magnets
- Cryogenic equipment
- Vacuum equipment



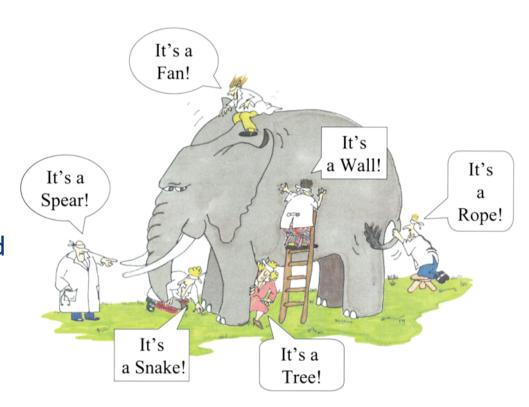






What do we buy? Standard or Non-Standard?

- Off-the-shelf or non-standard products which can be produced with existing manufacturing techniques and/or technologies
 => functional specification
- Non-standard products where industry has neither the required know-how nor the immediate interest to develop and design the products for its existing markets => built to print
- Prototypes and/or pre-series needed?



CERN "Shopping list"



Print Vie

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 nossible under the 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 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 Market

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.

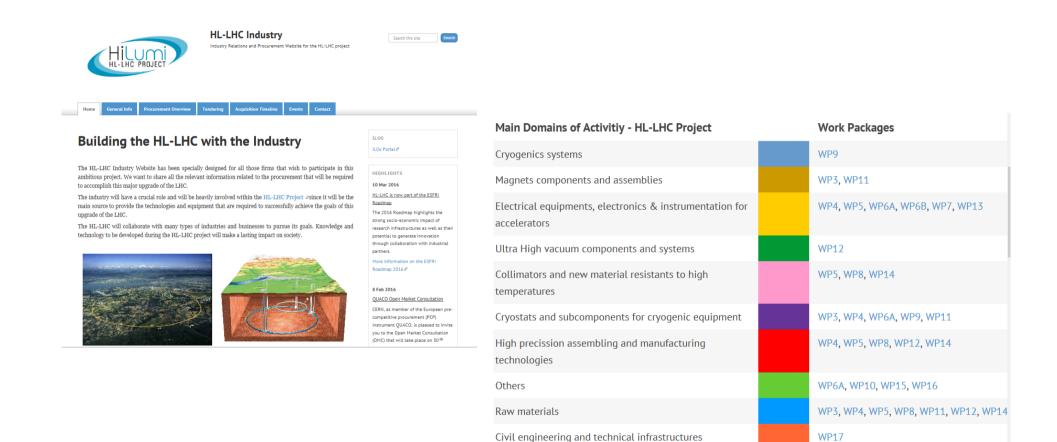


Publication Date	Type of Contract	Reference	Requirement (Activity Code)	Description/Specific Condition	Cost Range	Market Survey scheduled for dispatch	Contacts and Interest in being contacted / Market Survey Documents	Invitation to Tender scheduled to dispatch
02-03-2017	Supply	New MS- 4309/EN/HL-LHC	Supply of Nb (Niobium) and NbTi (Niobium Titanium) for HL-LHC Crab Cavities. (05010100)	CERN intends to place a contract for the supply of approximately Interested firms shall have all inhouse competence, facilities and experience with	В	First quarter 2017	To express an interest please send an e-mail to procurement.service@cern.ch Technically: <u>C. Zanoni</u> Commercially: <u>J. Pierlot</u>	Second quarter 2017
02-03-2017	Supply	New MS- 4308/EN/HL-LHC	Supply of DQW Dressed Cavities. (05040407)	CERN intends to place a contract for the supply of Interested firms shall have all inhouse facilities, competence and experience with	В	First quarter 2017	To express an interest please send an e-mail to procurement.service@cern.ch Technically: C. Zanoni Commercially: <u>J. Pierlot</u>	Second quarter 2017
02-03-2017	Supply	New MS- 4307/EN/HL/LHC	Supply of Cold Magnetic Shields. (05040407)	CERN intends to place a contract for the supply of Interested firms shall have all inhouse facilities, competence and experience with	А	Second quarter 2017	To express an interest please send an e-mail to procurement.service@cern.ch Technically: C. Zanoni Commercially: J. Pierlot of origin	First quarter 2018 \times
01-03-2017 https://www.cern	Supply .ch/fp-dep	New MS- 4306/EN/HL/LHC	Supply of HOM couplers and pickups (05040407)	CERN intend to place a contract for the supply 31 Interested firms shall have all inhouse facilities, competence and	В	First quarter 2017	To express an interest please send an e-mail to procurement.service@cern.ch Technically: <u>C. Zanoni</u> Commercially: <u>1. Pierlot</u>	m same justifications that Second quarter 2017

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



HL-LHC "Shopping list"



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





Legal framework

- CERN, an Intergovernmental Organization, was established in July 1953, by the "Convention for the establishment of a European Organization for Nuclear Research".
- As an Intergovernmental Organization, CERN is not a legal entity under national law but governed by public international law.
- CERN benefits from immunity from national jurisdiction and execution. Thus, legal disputes between CERN and its suppliers and contractors are not submitted to national courts but solved via international arbitration.
- CERN is thus entitled to establish its own internal rules necessary for its proper functioning, such as the rules under which it purchases equipment and services.

Mission of Procurement and Industrial Services

The mission of the Procurement and Industrial Services group is to:

- procure all supplies and services for CERN;
- meeting all requirements;
- at the lowest possible overall cost, while;
- achieving balanced industrial return for the CERN Member States, and;
- respecting the CERN Procurement Rules.

Procurement Principles

- CERN purchases supplies and services and awards contracts in compliance with the principles of transparency and impartiality
- Limited to firms established in the Member States.
- Invitation to tender documents are drafted in an objective way so as to guarantee fair competition



- As a rule, CERN's tendering procedure is selective and does not take the form of open invitations to tender or price enquiries
- The opening, negotiation and evaluation processes of the bids are strictly confidential
- Is either the lowest; or
- Represents the best value for money.

Procedures for obtaining offers

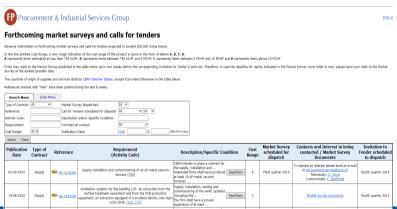
Requirements < 10'000 CHF

Users may issue enquiries directly provided CERN procurement rules are followed



- Requirements > 10'000 CHF and < 200'000 CHF
 - Price Enquiries issued by Procurement Service
- Requirements > 200'000 CHF

Announcement, Market Surveys & Calls for Tenders



Country of origin

Supply contract: country(ies) in which the goods are manufactured or where the last major modification will take place.

Service contract: country(ies) in which the bidder is established.



The alignment rule



- For supply contracts to be awarded on the lowest compliant bid basis and exceeding 100'000 CHF in value
- A bidder offering goods originating from poorly balanced Member States is offered to align his price, under certain conditions, to that of the lowest bidder and thereby be awarded the contract

The following countries are considered to be well-balanced in the period 01.03.2017 until 28.02.2018 for Supply contracts:

Bulgaria, Czech Republic, France, Hungary, Italy, Switzerland

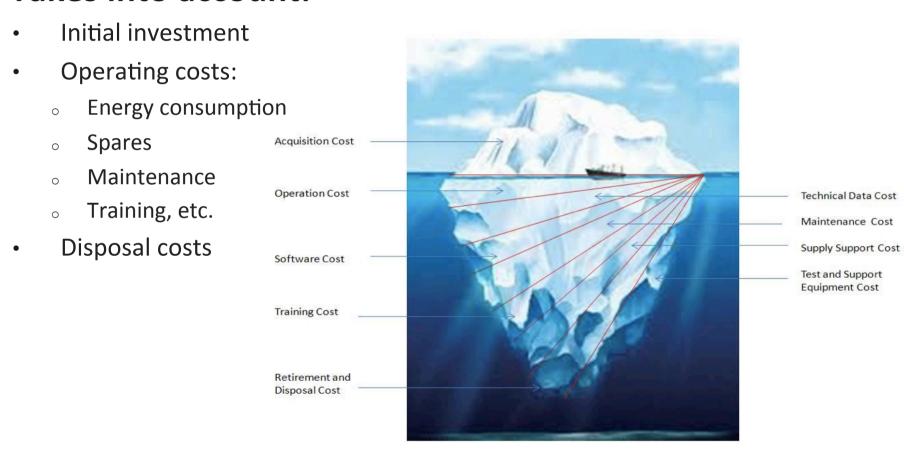
Basis of Award – Supply contracts

Supply contracts shall be awarded on FCA price, «Lowest compliant bid » basis....



Lowest cost?

Takes into account:



Basis of Award – Service contracts

Service contracts are awarded on a «Best Value for Money» basis to the bidder submitting the most economically advantageous bid





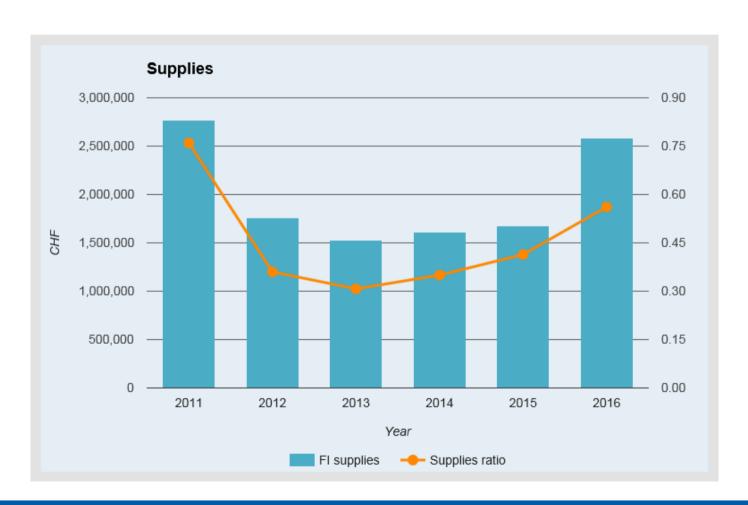
Best Value For Money

The following criteria and weights will be applied by CERN to evaluate the bids for Service contracts:

Criterion	Weight
Price (inc. all relevant costs)	XX
 Quality Experience of the key personnel Stability of the personnel External references Technical know-how Technical training Quality of the bid Tests Etc. 	XX
TOTAL	100

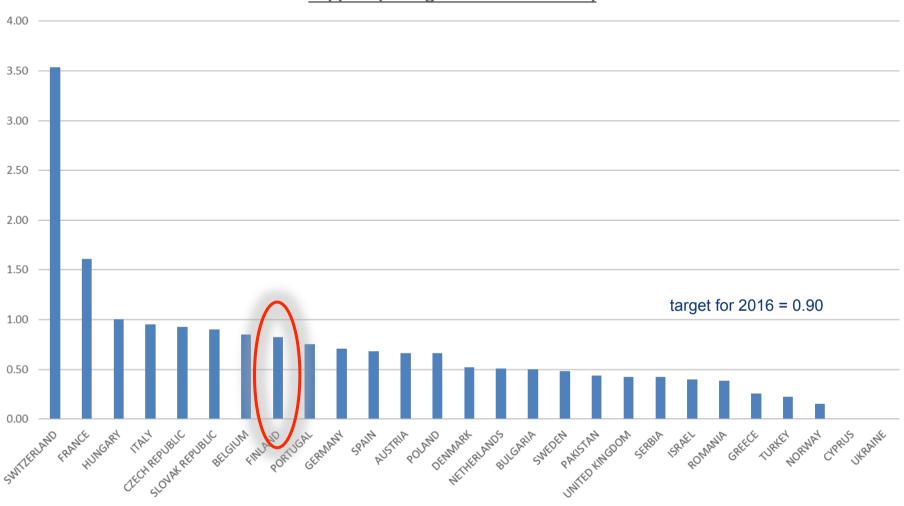
Collaboration with Finland

Industrial return for supplies, target for 2016 = 0.90



Collaboration with Finland

Supplies (average from 1996 to 2016)



Collaboration with Finland

Some recent suppliers in Finland

Supplier name	City
MIRION TECHNOLOGIES (FINLAND)	TURKU
ELEKMERK	KEURUU
SEE UNIV57 **HELSINKI UNIVERSITY OF TECHNOLOGY	HELSINKI
LUVATA (FINLAND)	PORI
AP-TELA	KOKKOLA
ADVACAM	ESPOO
TOOLMAN OY	ОUТОКИМРИ
LAPIN AMK	KEMI
MANSNER OY HIENOMEKANIIKKA	KARKKILA
METLAB OY	TAMPERE
ETS LINDGREN	EURA
VAISALA OY	HELSINKI
KALLIOSUUNNITTELU OY ROCKPLAN LTD	HELSINKI
GEORGE ATANASSOV PHOTOGRAPHY	ESPOO
UNIVERSITY OF HELSINKI	HELSINKI
RAMENTOR OY	TAMPERE
AALTO-UNIVERSITY - DESIGN FACTORY	AALTO
THE QT COMPANY	ESPOO
MARIMILS OY	VANTAA
SKS SENSORS	VANTAA

Reports and studies



TIF-UNIMI-2015-9

Cost-Benefit Analysis of the Large Hadron Collider to 2025 and beyond

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20 Jul 2015

Abstract

Social cost-benefit analysis (CBA) of projects has been successfully applied in different fields such as transport, energy, health, education, and environment, including climate change. It is often argued that it is impossible to extend the CBA approach to the evaluation of the social impact of research infrastructures, because the final benefit to society of scientific discovery is generally unpredictable. Here, we propose a quantitative approach to this problem, we use it to design an empirically testable CBA model, and we apply it to the the Large Hadron Collider (LHC), the highest-energy accelerator in the world, currently operating at CERN, We show that the evaluation of benefits can be made quantitative by determining their value to users (scientists, early-stage researchers, firms, visitors) and non-users (the general public). Four classes of contributions to users are identified: knowledge output, human capital development technological spillovers, and cultural effects. Benefits for non-users can be estimated, in analogy to public goods with no practical use (such as environment preservation), using willingness to pay. We determine the probability distribution of cost and benefits for the LHC since 1993 until planned decommissioning in 2025, and we find there is a 92% probability that benefits exceed its costs, with an expected net present value (NPV) of about 3 billion €, not including the unpredictable economic value of discovery of any new physics. We argue that the evaluation approach proposed here can be replicated for any large-scale research infrastructure, thus helping the decision-making on competing projects, with a socio-economic appraisal complementary to other evaluation criteria.

Results of contracts with CERN

- 38% had developed new products
- 42% increased international exposure
- 44% improved technological learning
- 52% would have had poorer sales performance without CERN
- 17% opened a new market
- 60% acquired new customers
- all firms had derived great value from CERN as a marketing reference







Successful bidders and contractors

- Often small medium sized and flexible firms.
- Ensure full understanding of specifications exceeded specifications may be too expensive (adjudication to lowest compliant bid for supplies)
- Communicate with CERN (problems, issues, alternatives, etc.)
- Take into account test requirements and documentation
- Make best offer directly
- Ensure good working relationship with partners and subcontractors

Contacts with CERN

Procurement web page

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

Industrial liaison Officer (ILO)



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Doing business with CERN





