Doing business with CERN

Anders Unnervik
6 April 2017
Agenda

- Procurement budget
- What does CERN buy?
- How? Procedures and Rules
- Some figures
- Results of contracts with CERN
- How to become a successful supplier
- Contacts
## CONTRIBUTIONS FOR 2017 (CHF)

### Contributions Overview (for 2017)

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage of Total</th>
<th>Amount (CHF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>20.05%</td>
<td>228,895,300</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>14.81%</td>
<td>169,060,550</td>
</tr>
<tr>
<td>France</td>
<td>14.05%</td>
<td>160,369,150</td>
</tr>
<tr>
<td>Italy</td>
<td>10.42%</td>
<td>118,976,300</td>
</tr>
<tr>
<td>Spain</td>
<td>7.08%</td>
<td>80,811,550</td>
</tr>
<tr>
<td>Netherlands</td>
<td>4.68%</td>
<td>53,437,050</td>
</tr>
<tr>
<td>Switzerland</td>
<td>3.84%</td>
<td>43,859,000</td>
</tr>
<tr>
<td>Norway</td>
<td>2.84%</td>
<td>32,440,600</td>
</tr>
<tr>
<td>Poland</td>
<td>2.77%</td>
<td>31,593,150</td>
</tr>
<tr>
<td>Belgium</td>
<td>2.71%</td>
<td>30,964,100</td>
</tr>
<tr>
<td>Sweden</td>
<td>2.68%</td>
<td>30,619,650</td>
</tr>
<tr>
<td>Austria</td>
<td>2.12%</td>
<td>24,250,100</td>
</tr>
<tr>
<td>Denmark</td>
<td>1.74%</td>
<td>19,844,650</td>
</tr>
<tr>
<td>Israel</td>
<td>1.46%</td>
<td>16,698,700</td>
</tr>
</tbody>
</table>

**Finland**
- Percentage of Total: 1.32%
- Amount (CHF): 15,084,950

**Greece**
- Percentage of Total: 1.18%
- Amount (CHF): 15,454,050

**Portugal**
- Percentage of Total: 1.09%
- Amount (CHF): 12,473,650

**India**
- Percentage of Total: 1.02%
- Amount (CHF): 11,589,100

**Romania**
- Percentage of Total: 0.97%
- Amount (CHF): 11,124,850

**Czech Republic**
- Percentage of Total: 0.92%
- Amount (CHF): 10,495,350

**Hungary**
- Percentage of Total: 0.59%
- Amount (CHF): 6,747,400

**Slovakia**
- Percentage of Total: 0.47%
- Amount (CHF): 5,416,050

**Turkey**
- Percentage of Total: 0.42%
- Amount (CHF): 4,769,750

**Bulgaria**
- Percentage of Total: 0.29%
- Amount (CHF): 3,283,900

**Serbia**
- Percentage of Total: 0.17%
- Amount (CHF): 1,935,850

**Pakistan**
- Percentage of Total: 0.13%
- Amount (CHF): 1,477,950

**Ukraine**
- Percentage of Total: 0.09%
- Amount (CHF): 1,006,750

**Cyprus**
- Percentage of Total: 0.09%
- Amount (CHF): 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)

- Civil engineering and buildings, 46%
- Electrical engineering and energy, 82%
- Electronics (incl. radiofrequency equipment), 37%
- Computer systems and communication, incl. rental and maintenance, 32%
- Mechanical structure - Supplies & manufacturing techniques, 33%
- Vacuum low-temperature technology, 33%
- Particle detectors, 3%
- Miscellaneous (insurance, photo equipment, gases, vehicles, petrol, tolls, furniture, office supplies, publications), 50%
- Design studies - Miscellaneous supplies, 26%
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?
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 list 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 70 CHF, B represents items between 70 CHF and 500 CHF, C represents items between 500 CHF and 1000 CHF, D represents items above 1000 CHF.

Firms may reply to the Market Survey published in this 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.

<table>
<thead>
<tr>
<th>Publication Date</th>
<th>Type of Contract</th>
<th>Requirement (Activity Code)</th>
<th>Description/Specific Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-03-2017</td>
<td>Supply</td>
<td>830497.1110.11-HL-LHC</td>
<td>CERN intends to place a contract...</td>
</tr>
<tr>
<td>02-03-2017</td>
<td>Supply</td>
<td>830497.1110.11-HL-LHC</td>
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https://found.cern.ch/java-ext/found/CFTSearch.do
HL-LHC “Shopping list”
• 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
Supply contracts shall be awarded on FCA price, «Lowest compliant bid » basis....
Lowest cost ......?

Takes into account:

• Initial investment
• Operating costs:
  o Energy consumption
  o Spares
  o Maintenance
  o Training, etc.
• Disposal costs
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.
The following criteria and weights will be applied by CERN to evaluate the bids for Service contracts:

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Price</strong> (inc. all relevant costs)</td>
<td>XX</td>
</tr>
<tr>
<td><strong>Quality</strong></td>
<td>XX</td>
</tr>
<tr>
<td>▪ Experience of the key personnel</td>
<td></td>
</tr>
<tr>
<td>▪ Stability of the personnel</td>
<td></td>
</tr>
<tr>
<td>▪ External references</td>
<td></td>
</tr>
<tr>
<td>▪ Technical know-how</td>
<td></td>
</tr>
<tr>
<td>▪ Technical training</td>
<td></td>
</tr>
<tr>
<td>▪ Quality of the bid</td>
<td></td>
</tr>
<tr>
<td>▪ Tests</td>
<td></td>
</tr>
<tr>
<td>▪ Etc.</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>100</td>
</tr>
</tbody>
</table>
Collaboration with Finland

- Industrial return for supplies, target for 2016 = 0.90
Collaboration with Finland

Supplies (average from 1996 to 2016)

target for 2016 = 0.90
# Collaboration with Finland

## Some recent suppliers in Finland

<table>
<thead>
<tr>
<th>Supplier name</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRION TECHNOLOGIES (FINLAND)</td>
<td>TURKU</td>
</tr>
<tr>
<td>ELEKTRON</td>
<td>KEURU</td>
</tr>
<tr>
<td>SEE UNIVERSITY OF TECHNOLOGY</td>
<td>HELSINKI</td>
</tr>
<tr>
<td>LUVATA (FINLAND)</td>
<td>PORI</td>
</tr>
<tr>
<td>APITELA</td>
<td>KORKOLA</td>
</tr>
<tr>
<td>ADIVACAM</td>
<td>ESPOO</td>
</tr>
<tr>
<td>TOULIMAN OY</td>
<td>OUTOKUMPU</td>
</tr>
<tr>
<td>LAPIN AMK</td>
<td>KEMI</td>
</tr>
<tr>
<td>MAANSNIER OY HENOMEKANIKKA</td>
<td>KORKOLA</td>
</tr>
<tr>
<td>METLAB OY</td>
<td>TAMPERE</td>
</tr>
<tr>
<td>ETS LINDEGREN</td>
<td>EURA</td>
</tr>
<tr>
<td>VAISALA OY</td>
<td>HELSINKI</td>
</tr>
<tr>
<td>KALLOS UUNIITTELU OY ROCKPLAN LTD</td>
<td>HELSINKI</td>
</tr>
<tr>
<td>GEORGE ATANASIOV PHOTOGRAPHY</td>
<td>ESPOO</td>
</tr>
<tr>
<td>UNIVERSITY OF HELSINKI</td>
<td>HELSINKI</td>
</tr>
<tr>
<td>RAMECTOR OY</td>
<td>TAMPERE</td>
</tr>
<tr>
<td>AALTO-UNIVERSITY - DESIGN FACTORY</td>
<td>AALTO</td>
</tr>
<tr>
<td>THE DT COMPANY</td>
<td>ESPOO</td>
</tr>
<tr>
<td>MARIMUUS OY</td>
<td>VANTAA</td>
</tr>
<tr>
<td>SKS SENSORS</td>
<td>VANTAA</td>
</tr>
</tbody>
</table>
Reports and studies

Science in Business Interaction
A Study of the Collaboration between CERN and Swedish Companies

Susanne Åberg

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

Abstract
Social cost-benefit analysis (CBA) of projects has been successfully applied in different fields such as transport, energy, health, education, and environment, to evaluate the economic and social impacts. For CERN, the economic analysis of research organisations is particularly challenging. This paper presents a methodological approach to conducting the CBA of the LHC. The analysis is performed using the social returns to investment (SRI) method, which is a multi-step approach that includes an initial screening of potential projects, followed by a detailed analysis of the expected economic and social benefits, and finally a comparison of these benefits against the costs of the projects. The results show that the LHC has the potential to bring significant economic and social benefits, including the generation of new technologies and the enhancement of research capabilities. The CBA also highlights the importance of considering the broader impacts of the LHC, such as its role in education and training, as well as its contribution to the development of new industries and the creation of new jobs.
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 sub-contractors
Contacts with CERN

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

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Thank you.