Opportunities from large facilities for UK industry

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The Science and Technology Facilities Council was formed in 2007 and is one of seven national research councils in the UK. STFC:

- funds the best research in astronomy, nuclear and particle physics.
- enables the research community to have access to the best facilities in the world.
- increases the UK technology capability, engagement with industry and knowledge transfer.

www.stfc.ac.uk
The international facilities funded by STFC on behalf of the UK include:
• I act as the industry liaison to CERN, ESRF, ILL, ESS and FAIR.

• CERN, ESRF and ILL are intergovernmental organization and has unique rules for procurement. They seek bids from suppliers in funding countries.

• I am asked to find and recommend UK manufacturers or service providers to respond to tenders.

• I can provide help and advice to companies who want to work with these large facilities.
Use neutrons (ILL) and X-rays (ESRF) to do materials research
Based in Grenoble, France (2 hours drive from CERN)
Both are funded by a number of European countries including the UK
European Extremely Large Telescope (E-ELT) to be built in Chile
Increase our understanding of the Universe, dark matter and energy and planets outside of the solar system
Construction expected to be completed in 2023

“UK invests £88 million in world's largest ever optical telescope” - 3rd March 2013

European Southern Observatory (ESO)
FAIR will be a new, unique international accelerator facility for research with antiprotons and ions. It will be based in Germany near an existing facility, GSI.

ESS will be an international neutron spallation source for materials research. It will be built in Sweden.
Situated on the border of Switzerland and France
Founded in 1954 (60 years old this year)
21 Member States and 6 observer states
Annual budget: ~1 billion CHF
Procurement budget of over £300M annually
What does CERN do?

- World’s largest particle physics laboratory.
- Hosts the Large Hadron Collider (LHC) in a 27 km tunnel 100m underground crossing the border of France and Switzerland.
- Collides beams of high-energy protons or ions at close to the speed of light and allows scientists to reproduce the conditions that existed within a billionth of a second after the Big Bang.
- Provides scientists from all around the world with tools to study the building blocks of matter and the forces that hold them together.
- CERN employs today ~2500 staff and hosts some 9000 visiting scientists.
CERN’s requirements can be divided into three categories:

1) Standard industrial products (off-the-shelf)

2) Non-standard products which can be produced with existing manufacturing techniques and/or technologies, but industry has no experience of manufacturing the products

3) New high-tech products requiring a conceptual design phase. The manufacturing methodology has to be developed.
Expenditure in CERN member states in 2013 for Supplies

- Electrical engineering and energy: 24%
- Civil engineering and buildings: 20%
- Electronics (including radiofrequency equipment): 10%
- Computer systems and communication, including rental and maintenance: 9%
- Mechanical structures - Supplies & manufacturing techniques: 6%
- Vacuum and low-temperature technology: 6%
- Particle detectors: >1%
- Miscellaneous: 17%
- Design studies: 7%
Recent requirements from CERN

- Supply and maintenance of passenger and light utility vehicles
- Supply of 2000m of high voltage coaxial cables for pulsed power application
- Manufacture and supply of Printed Circuit Boards
- Design, supply and installation of piping and accessories.
- Design and production services to develop CERN's digital portfolio
- 150 km of MgB2 wire for the Superconducting Link Project
- Supply of one 14 tonnes diesel forklift truck
- Market Survey and Invitation to tender for the provision of services in the area of language testing and training
CERN has a huge range of requirements!
Procedure for CERN tenders

200k CHF and above (approx £120k)
- Market surveys (to define eligibility) followed later by the call(s) for tender.

10k CHF – 200k CHF (approx £6k - £120k)
- Price enquiries – not publicly released

Below 10k CHF (approx £6k)
- CERN purchasers / staff directly contact companies for supplies

Above 50K CHF (approx £30k)
- Calls are passed to the ILO (STFC) to circulate and recommend companies.

Below 50K CHF (approx £30k)
- CERN finds companies from its procurement database and contacts. The ILOs may be asked for specialist purchases.
• Companies can be put forward for tenders by:
  • CERN technical buyer (for any value)
  • CERN procurement (for tenders over 10K CHF)
  • ILOs (for tenders above 50K CHF, although may not be accepted if there are already a large number of companies put forward)

• It is important than companies develop a relationship with the key technical staff.
  • More likely to be put forward for tenders
  • Can access lower value tenders
  • Learn about projects in advance of the launch of the tender
Adjudication for contracts less than 200K CHF:

- Lowest offer which complies with the technical, financial and delivery requirements.

Requirements exceeding 200K CHF:

- Announcement of the call online on CERN’s public website
- Market survey
- Selection of the firms to be invited for tender
- Issue of the call for tender. The final list of firms to be invited to tender shall not exceed:
  - 10 firms for contracts between 200 000 and 750 000 CHF;
  - 15 firms for contracts exceeding 750 000 CHF.
CERN: PROCUREMENT AND INDUSTRIAL SERVICES GROUP

Procurement and Industrial Services Group

Welcome

Doing Business with CERN

- How to do Business with CERN
- Procurement Strategy and Policy
- Code of Professional Ethics Extract
- Market Surveys and Calls for Tender
- Who to contact at CERN
- Who to contact in your Country
- Register for our Suppliers Database
- Law applicable to contractors' personnel
- Key Reference Documents

The mission of the Procurement and Industrial Services (PI) group is to procure 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 the CERN Member States and respecting the CERN Procurement Rules.

http://procurement.web.cern.ch
Final selection of firms:

- Likelihood that the selected firm will submit a bid
- CERN’s previous experience with particular firms
- The number of firms selected from each Member State takes into account the Member State’s contribution and its industrial return coefficient.

It is important that you respond if CERN contacts you with a invitation to tender or market survey, even if it is to say you are not interested.
CERN’s industrial return is a ratio of the percentage a member state funds CERN to the percentage of contracts won by that member state.

The industrial return from CERN has been (on average) improving for UK industry.

* 2014 provision to June 2014 (CERN financial year is a calendar year)
A selection of recent successes at CERN

- **HV Wooding**
  Precision engineered components for superconducting magnet assemblies.

- **Arcade**
  Multiple contracts in heating and ventilation systems

- **Cryogenic**
  Numerous contracts including low temperature systems and superconducting magnets

- **MG Sanders**
  Tungsten absorber plates

- **Viglen**
  Servers and IT equipment

- **TM Specialist Engineers**
  Manufactured equipment for the CMS (contract through STFC RAL)
• **Tenders are not released publicly**
  Make links with the technical staff at the facilities and make contacts with STFC tender opportunities.

• **Companies assume just ‘high tech’ equipment needed**
  There are a range of products and services needed at large facilities

• **International market – companies may feel they need to be familiar with the country**
  We can help explain any local requirements and UKTI can offer support to companies wishing to export.

• **Will there be a language barrier?**
  English is an official language for many of the research infrastructures.

• **Competing with companies across Europe**
  Price is key to win contracts
Advantages to suppliers of RIs

A review of CERN’s suppliers found that companies:

- Developed new products.
- Acquired new customers (other than CERN).
- Started new R&D teams as a direct outcome of the CERN project.
- Opened a new market.
- Increased their international exposure.
- Indicated technological and market learning.
- Had improved employment growth.

CERN–2003–005

*Technology transfer and technological learning through CERN's procurement activity*

[http://cds.cern.ch/record/680242](http://cds.cern.ch/record/680242)

The report analysed benefits derived from CERN's procurement activity during the period 1997-2001. 629 companies out of 6806 companies during the same period, representing 1197 MCHF in procurement.
Register with us!

www.stfc.ac.uk/tenderopportunities

For the CERN supplier list:

http://fp-procurement.web.cern.ch/fp-procurement/supplier/supplier_coderequestform.htm
STFC tender opportunities

- Advance warning of upcoming tenders from facilities
- Tenders for CERN, ESO, ESRF, ILL amongst others
- Targeted events to link industries with procurement specialists from the facilities
- Targeted events to promote collaborations and share information between academics and industry.

www.stfc.ac.uk/tenderopportunities
Thank you!

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Alignment rule for contracts over 200K CHF

If the lowest bidder is from a poorly balanced member state:

- Contract is placed.

If the lowest bidder is from a well balanced member state:

Negotiation, if the price difference is <20%

- If the first bidder from a poorly balanced member state aligns their price to the lowest bidder, the contract is placed.
- If not, the second bidder from a poorly balanced member state is approached. If they chose to align their price, the contract is placed.
- If both refuse, the contract is placed with the original lowest bidder.