



Business opportunities at CERN

Upcoming Tenders

ILO Forum

Jérôme Pierlot

22 September 2020

MS-4552/EN

Supply and Installation of Cooling Systems on the CERN Sites and Specific Cooling Systems for the HL-LHC Project

Procurement Code: 01.03.03.00

Cost Range : B

Planning: MS : Sent / IT: Q4 2020, Q1-Q2-Q3 2021

Description and Specific Condition :

HL-LHC : 2 Contracts for Cooling systems LHC1 & LHC5

2 Blanket Contracts for CERN sites

Contact: Michele.Battistin@cern.ch

Contact: Bjorn.Jenssen@cern.ch



MS-4563/EN

Supply and Installation of Ventilation Systems on the CERN Sites and Specific Ventilation Systems for the HL-LHC Project

Procurement Code: 01.03.02.01

Cost Range : B

Planning: MS : Sent / IT: Q4 2020, Q1-Q2-Q3-Q4 2021

Description and Specific Condition :

HL-LHC : 2 Contracts for Ventilation systems
LHC1 & LHC5

2 Blanket Contracts for CERN sites

Contact: Michele.Battistin@cern.ch

Contact: Bjorn.Jenssen@cern.ch



Electrical Substation LHC P5 (CMS)

Procurement Code: 02.01.00.00; 02.02.00.00;
02.70.00.00

Cost Range : A, C

Planning: 2021 - 2022

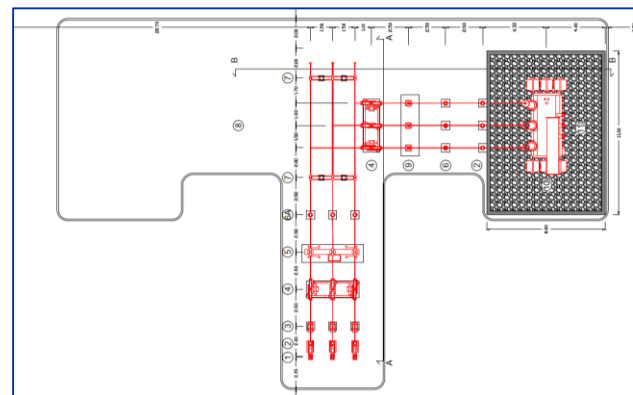
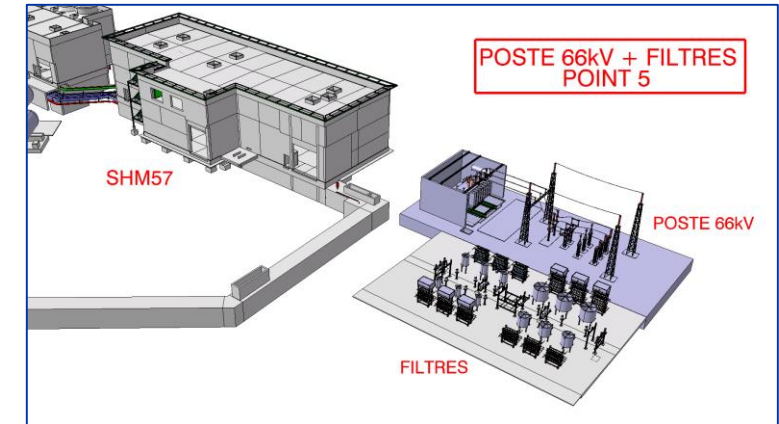
Description and Specific Condition :

66/18 kV substation - 38 MVA transformer

Modification of LHC P6 electrical

DO : Design + Components specification + Worksite supervision

MS + IT : Turnkey contract for the supply, installation, testing and commissioning of the new electrical substation located on the French part of the CERN site.



Equipment for the new HL-LHC Electrical Buildings

Various DO / Cost Range A / 2021 - 2022

Power Transformers

Cubicles

Power Cables (fire and radiation resistance)

LV Switchboards and electrical protections



Supply of 5 Helium Vessels for the new Cold Diode Modules of the Inner Triplet Magnets

Procurement Code: 09.01.05.00

Contact: Yann.Leclercq@cern.ch

Cost Range : A

Planning: MS: Q1 2021 / IT : Q2 2021

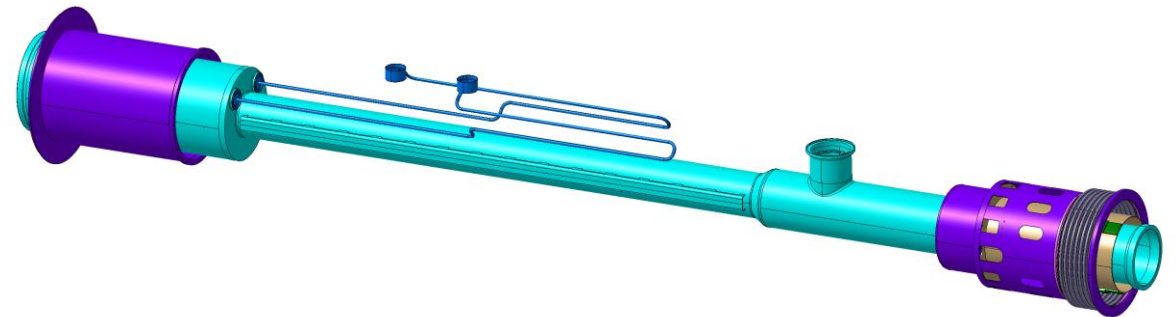
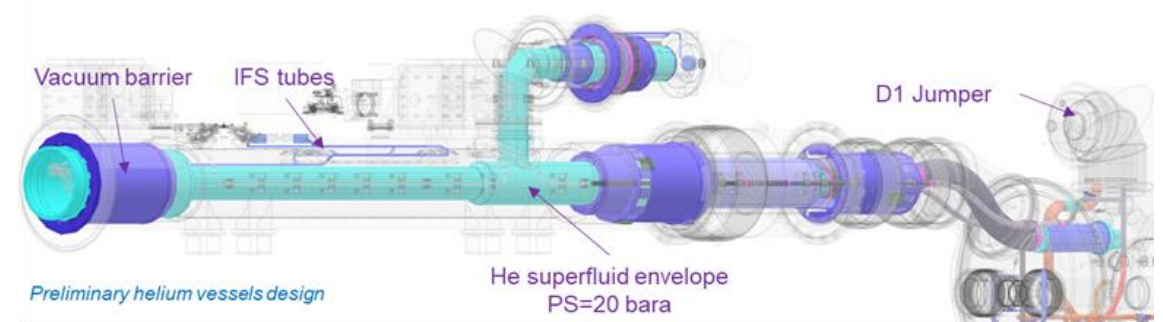
Description and Specific Condition :

5 Vacuum Vessels with a diameter of 0.3 m

Metal sheet work and welding

PED requirements (Pressure Equipment Directive)

Final assembly performed at CERN



Supply of 5 Vacuum Vessels for the new Cold Diode Modules of the Inner Triplet Magnets

Procurement Code: 06.02.02.03

Cost Range : A

Planning: MS: Q1 2021 / IT : Q2 2021

Description and Specific Condition :

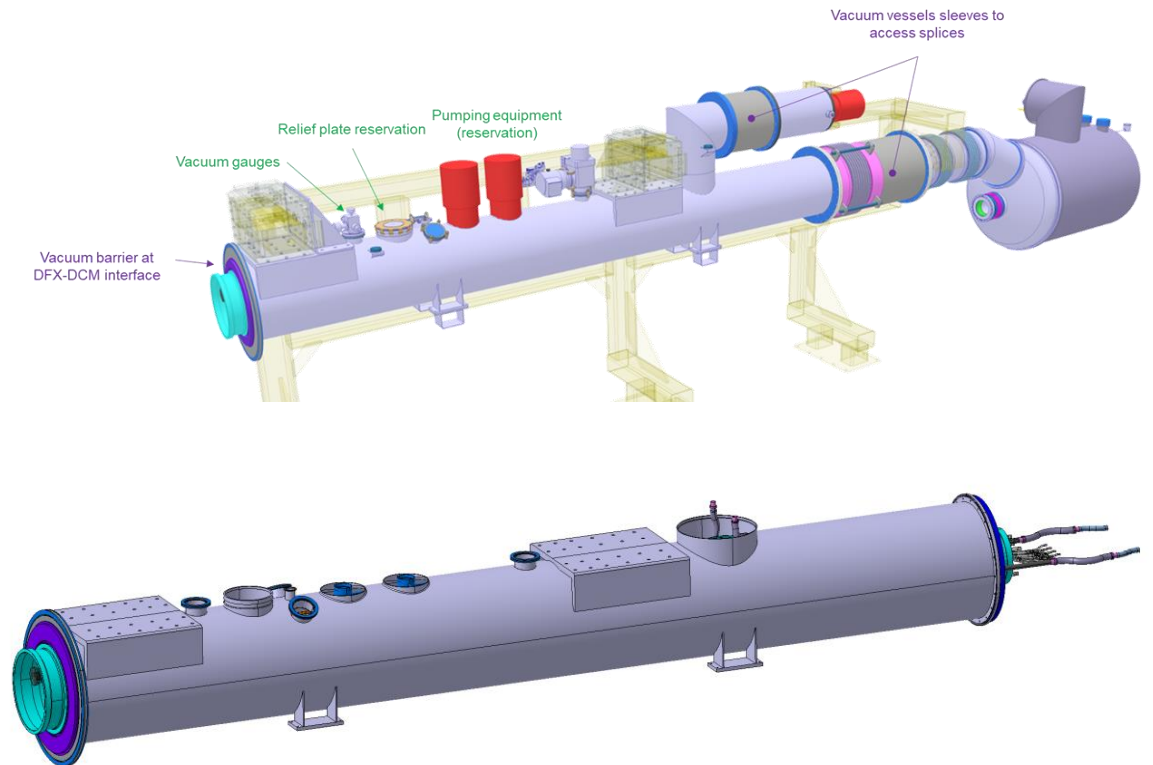
5 Vacuum Vessels with a diameter of 0.5 m

Metal sheet work and welding

Vacuum as thermal insulation

Final assembly performed at CERN

Contact: Yann.Leclercq@cern.ch



Supply of Power Converters for HL-LHC Project

Procurement Code: 02.10.00.00

Contact: Michele.Martino@cern.ch

Cost Range : A, B

Planning: MS: Q4 2021 / IT: Q3 2022

Description and Specific Condition :

Low Voltage Power : 657 Power Converters

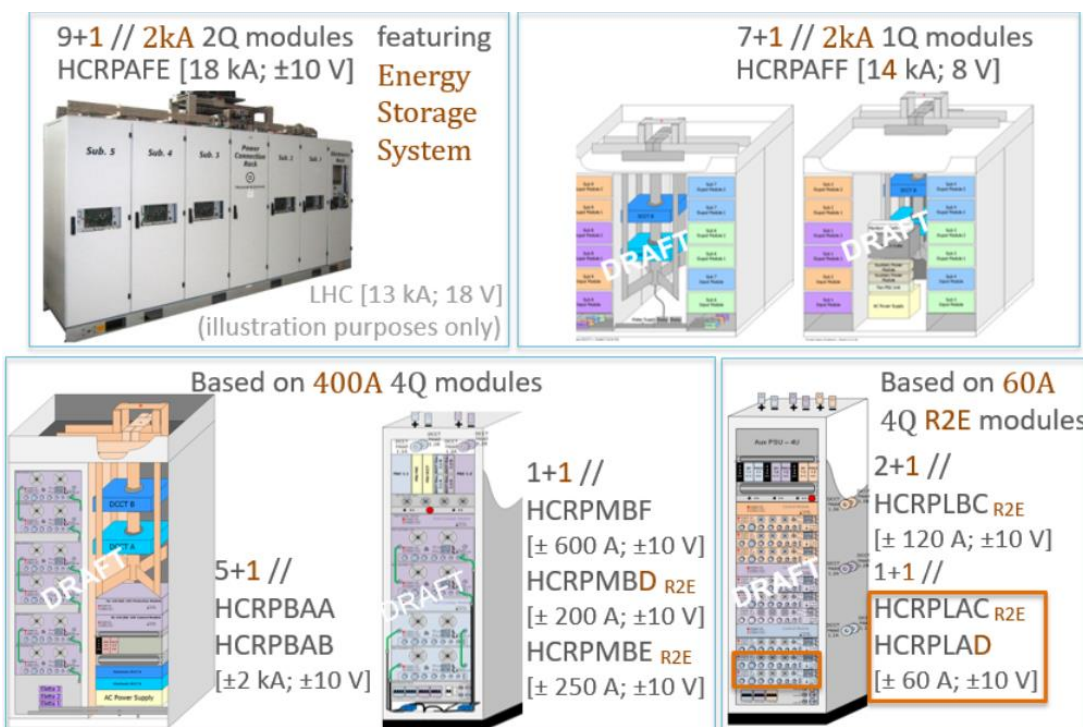
Designed by CERN => Built to print

Very high current: HL-LHC18kA-10V : 6 units + HL-LHC14kA-08V : 10 units

High current: HL-LHC2kA-10V : 37 units

Medium current: HL-LHC600A-10V : 26 units

Low current: R2E-HL-LHC120A-10V : 136 units + R2E-HL-LHC60A-10V : 442 units



Supply of Circuit Disconnecter Boxes

Procurement Code: 02.10.05.00; 02.10.07.00

Cost Range : A

Planning: First DO: Q4 2020 / MS: Q4 2020/ IT: Q12021

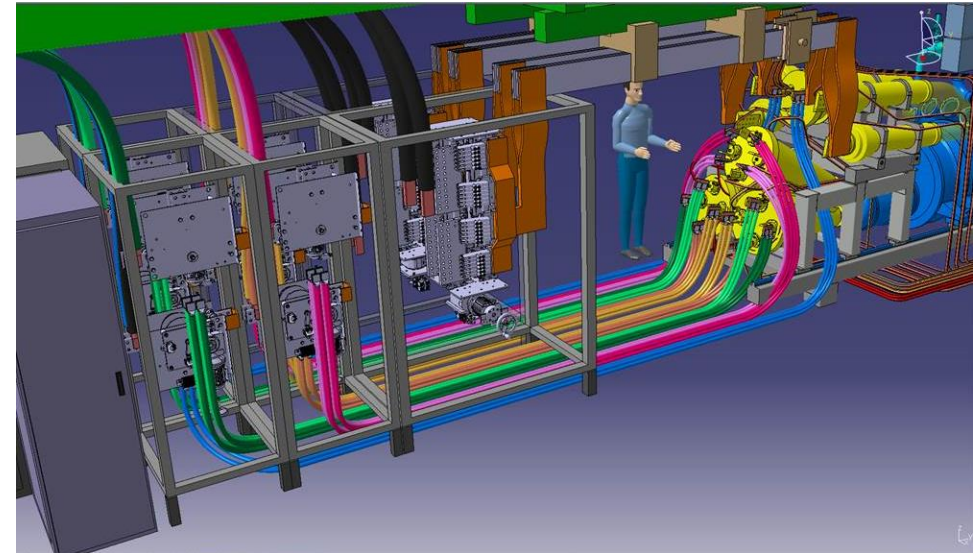
Description and Specific Condition :

- 3 DO :
- 13 CDB for 18 kA and 12 kA Power Converters
 - 34 CDB for 2 kA Power Converters
 - 26 CBD for 600 A , 100 A and 60 A Power Converters

MS/ IT for 146 earthing System

MS/IT for system integration (B2Print)

Contact: Samer.Yammine@cern.ch



MS-4569/TE/HL-LHC

Supply of 32 Coupling-Loss Induced Quench (CLIQ) units

Procurement Code: 02.02.06.00

Cost Range : B

Planning: MS: Sent / IT: Q4 2020

Description and Specific Condition :

32 units Protection of superconducting magnets after a quench

Assembly of racks with electrical & electronics components

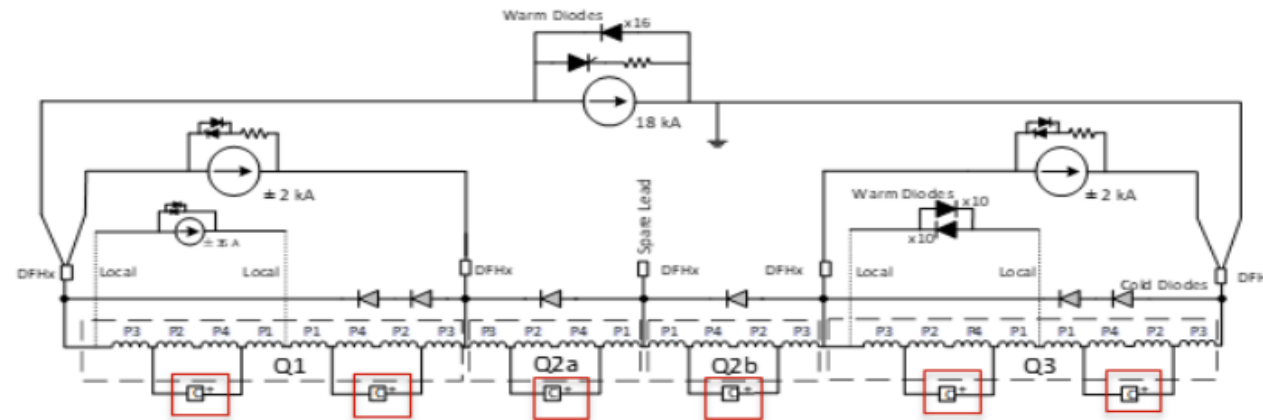
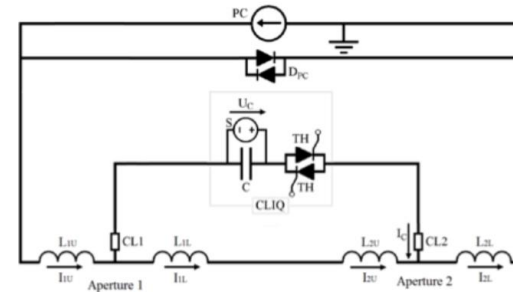
Material to be acquired by the manufacturer (long lead time)

Integration and testing of critical electronics & electrical equipment
(1000 VDC, 40 mF, 10 kA)

Handling metallized film capacitors in the parameter range of this application

Storage energy systems discharge into loads (resistive & inductive)

Contact: David.Carrillo@cern.ch



MS-4562/TE/HL-LHC

Supply of Capacitors for CLIQ for superconducting magnet protection

Contact: David.Carrillo@cern.ch

Procurement Code: 02.10.03.00

Cost Range : A

Planning: MS: Sent / IT: Q2 2021

Description and Specific Condition :

Long life (>20 years at 25 C), Energy will be stored and released a maximum of 5 times per day and 200 times per year, usually into an inductive load of ~ 4 mH with a peak current of ~ 3 kA

Capacitance of ~ 40 mF

Withstand a surge current up to 100 kA



Supply of 600 A & 2 kA Energy Extraction Switches for the String

Contact: Bozhidar.Panev@cern.ch

Procurement Code: 02.03.05.00

Cost Range : A

Planning: MS: Q4 2020 / IT: Q2 2022

Description and Specific Condition :

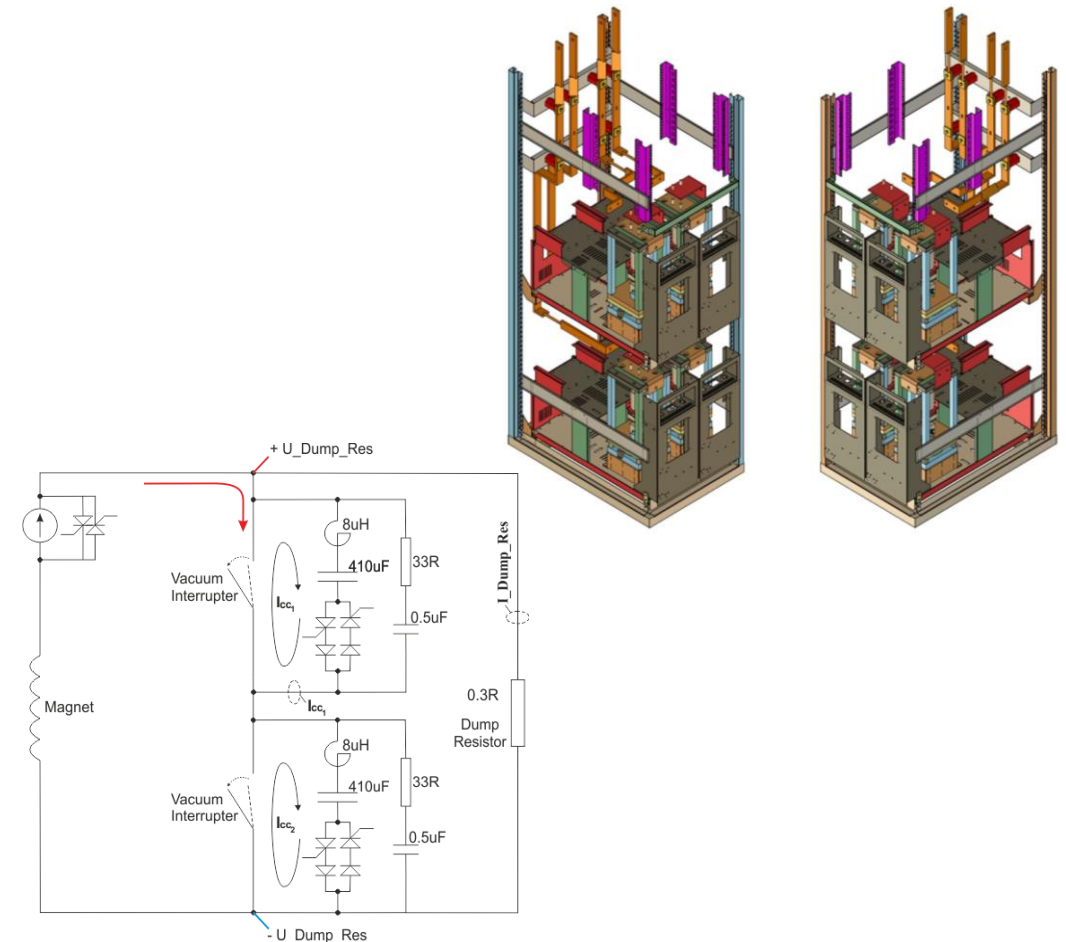
7 units in total : Design, manufacturing and testing of 2 kA and 600 A switches

In-vacuum switches

Energy absorption (150 & 250 kJ)

2 ms whole commutation time

Integrated control system



MS-4589/TE/HL-LHC

Supply of 64 carbon fiber half-shells for the structure of a magnetic measurement shaft

Procurement Code: 05.04.05.02

Contact: Lucio.Fiscarelli@cern.ch

Cost Range : A

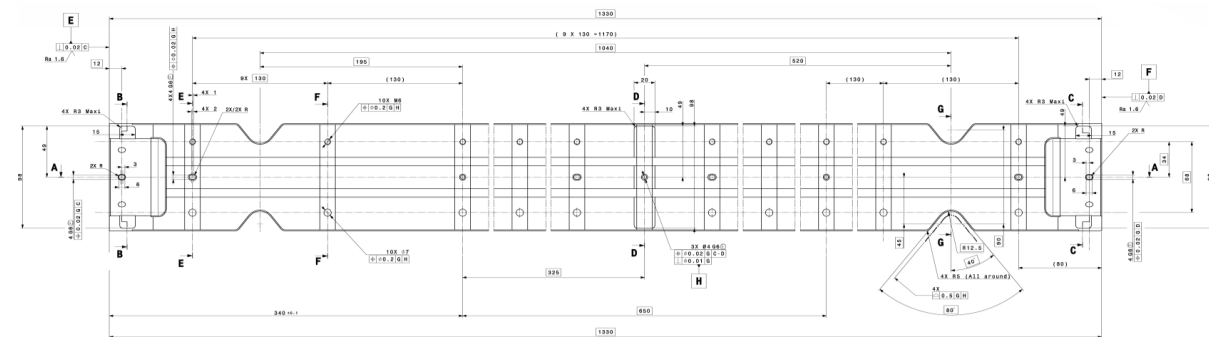
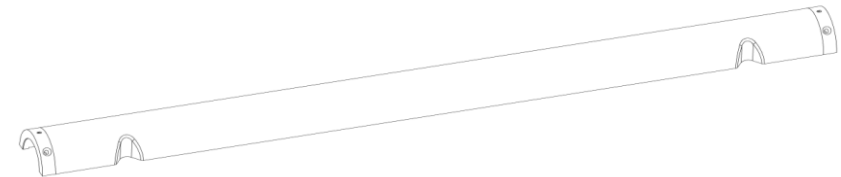
Planning: MS: Sent / IT : S2 2020

Description and Specific Condition :

The half-shells have a D-shape cross-section, a length of about 1.3 m and a diameter of about 100 mm.

Tight tolerances are required for the concentricity (<0.05 mm), the parallelism (<0.05 mm) and the position of some holes (<0.05 mm). Magnetic or conductive materials are not allowed.

Interested firms shall have a proven experience and competence in the design and manufacturing of composite materials with tight tolerances.



Supply of Cryogenic Cables for Beam Position Monitors

Contact: Michal.Krupa@cern.ch

Procurement Code: 02.05.05.00

Cost Range : A

Planning: MS: Q4 2020 / IT: Q2 2021

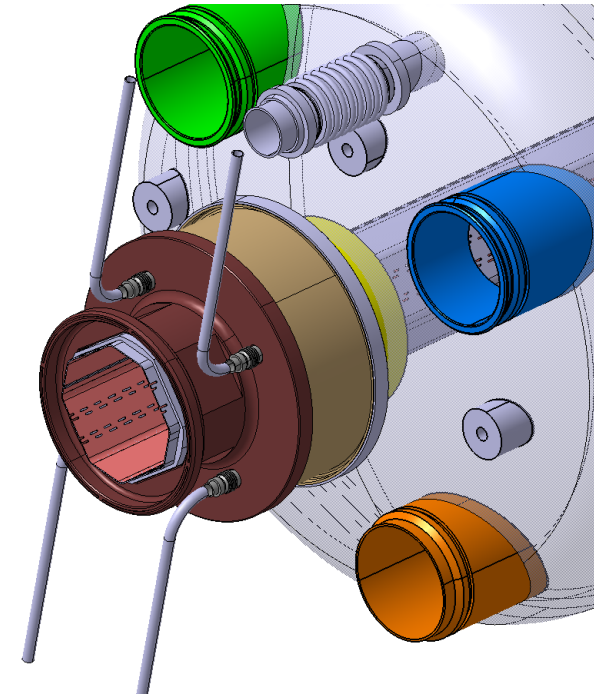
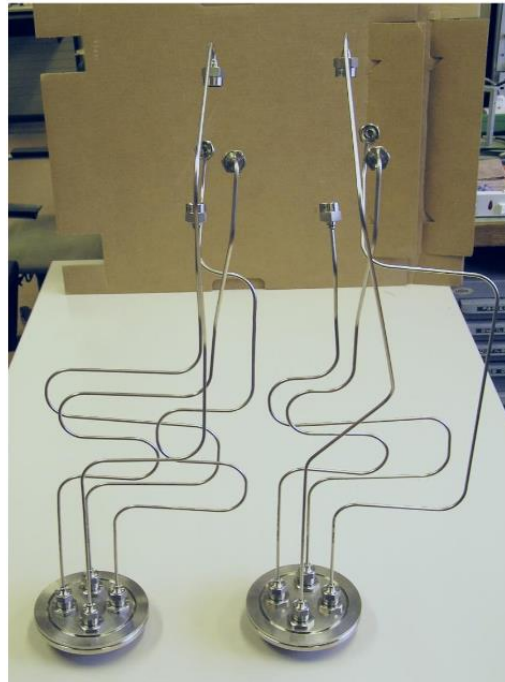
Description and Specific Condition :

300 cables needed (proto, series, spares)

Cables to withstand cryogenic temperatures (~ 5K)

SiO₂ Coaxial RF Cables

Laser Welding Cable-Connector challenging. Micro-cracks can't be present



MS-4579/EN

Supply of two sets of Custom-Built transport and handling vehicles

Procurement Code: 11 04 06 00

Cost Range : B

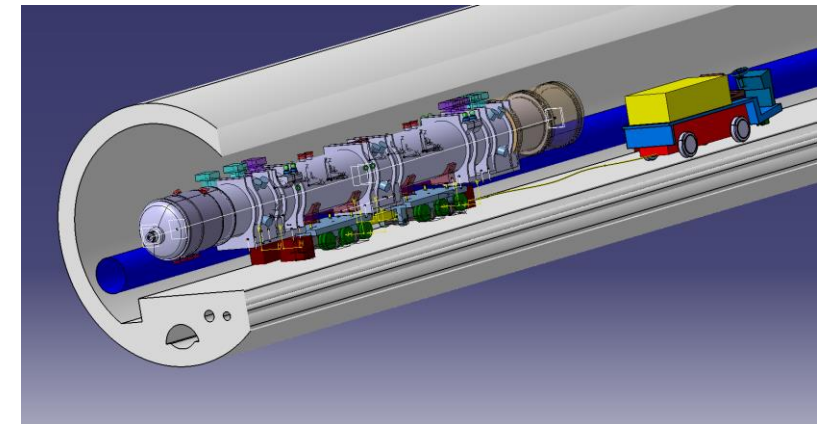
Planning: MS: Sent / IT: Q1 2021

Description and Specific Condition :

Supply of two custom-built transport and handling vehicles, each composed of two special self-propelled bogies and an auxiliary vehicle to be used for the underground installation of magnets up to 35 t and 15.5 m length requiring careful handling. These vehicles shall have compact overall dimensions to permit the installation of magnets in the restricted space available in the LHC tunnel.

Interested firms shall have a proven competence and relevant experience in designing custom built vehicles.

Contact: Diego.Zambelli@cern.ch



MS-4633/EN

Revamping of two LHC cryomagnet convoys

Procurement Code: 11 04 01 00

Cost Range : B

Planning: MS: Q4 2020 / IT : Q2 2021

Description and Specific Condition :

Revamping of two LHC cryomagnet convoys with the following characteristics: transport of loads with a weight up to 35t (CMU 35t), fully reversible transport direction, hydraulic powered, compatible with the confined transport area and magnet design resulting in severe transport constraints in terms of acceleration and vibrations, equipped with an optical guiding system, equipped with an anti-collision system.

Interested firms shall demonstrate a proven competence and experience in design, construction, revamping of custom built vehicles (mine/tunnel construction, warehouse logistics..) and shall have revamped or built a minimum of five special vehicles of different types in the past five years.

Contact: Jean-Louis.Grenard@cern.ch



MS-4636/EN

Design, supply, installation, testing and commissioning of a demineralised water production plant

Procurement Code: 01.03.04.01

Contact: Serge.Deval@cern.ch

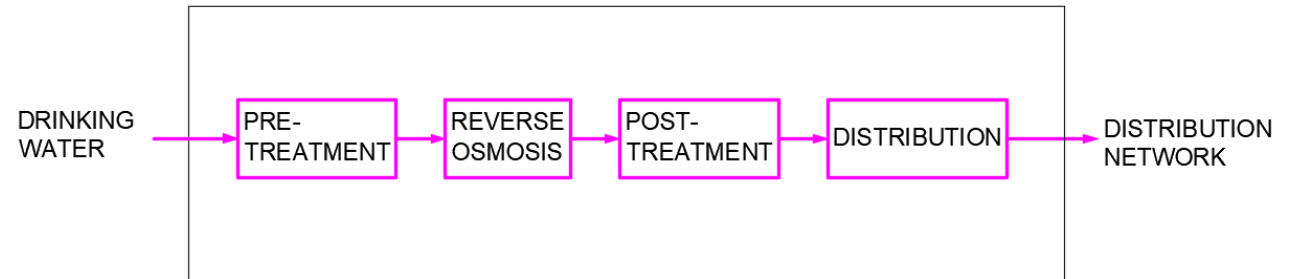
Cost Range : A

Planning: MS : Sent / IT: Q4 2020

Description and Specific Condition :

Turnkey contract for the design, supply, installation, testing and commissioning of a demineralised water production plant on the French part of the CERN site

Interested firms shall have and be able to prove experience and competence in the design, installation, testing and commissioning of reverse osmosis systems.



MS-4643/EN

Supply of water cooled cables

Contact: davide.de.luca@cern.ch

Procurement Code: 02.05.05.00

Cost Range : B

Planning: MS : Q4 2020 / IT: Q1 2021

Description and Specific Condition :

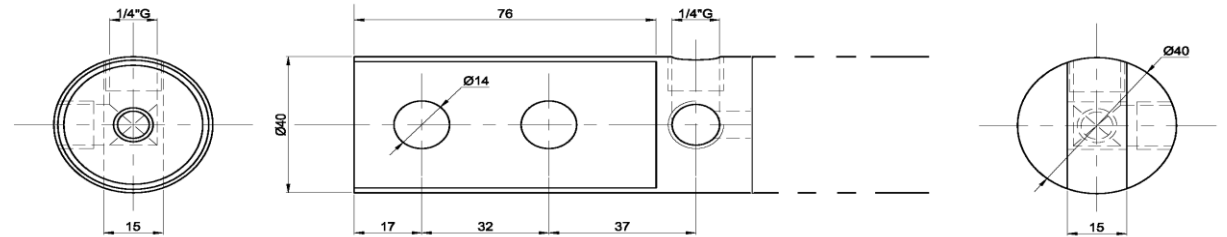
Flexible water cooled cables of section 500, 800, 1000, 1300 and 2000mm², with rad hard hoses according to IS23

Required for current and future CERN projects : FRESCA 2, SM18 Cluster F and IT STRING TEST, HL-LHC

Terminals included in the supply shall be mounted

Complete link shall be tested under water pressure by the supplier.

Interested firms shall have a proven experience and competence in the design and manufacturing of supply of cables with special rad hard hoses.



500 mm² Lug – water entrance 1/4" gas



MS-4628/EN

Supply of CERN standard pre-fabricated concrete blocks and beams

Procurement Code: 01.01.03.03

Contact: Michael.Lazzaroni@cern.ch

Cost Range : A

Planning: MS : Sent / IT: Q4 2020

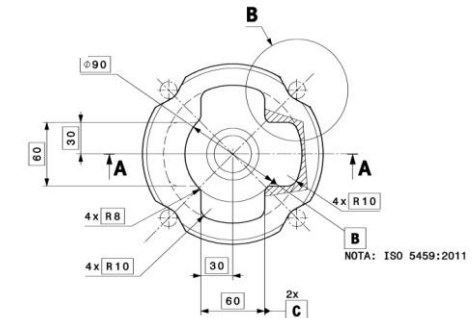
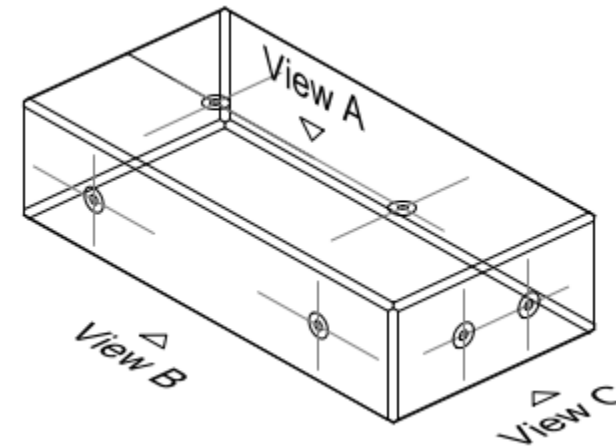
Description and Specific Condition :

Five-year blanket purchase contract for shielding blocks.

Ten types of blocks with cylinder shape : 20kg; 160 kg; 325 kg; 630 kg; 1250 kg; 1250 kg; 2500 kg; 7200 kg; 7500 kg)

Eight type of blocks with parallelepiped shape: 2500 kg; 3150 kg; 3750 kg; 5000 kg; 6300 kg; 7500 kg

Interested firms shall have a proven experience and competence in the field of pre-fabricated concrete blocks



MS-4509/BE

Supply of SUSI (Site SUPERvision) : Access control and video surveillance systems

Procurement Code: 04.09.03.00

Contact: Rui.Nunes@cern.ch

Cost Range : B

Planning: MS : Q1 2021 / IT : Q2 2021

Description and Specific Condition :

B Contract renewal (Existing B1371)

Supply and installation of Site Surveillance physical access control and video surveillance systems, and their associated computing infrastructure and cabling

The supplier must have a previous experience, and have appropriate certification in supplying, installing and servicing access control and in video surveillance systems.



MS-4600/BE

Supply of Design and implementation of Safety System upgrades

Contact: Rui.Nunes@cern.ch

Procurement Code: 10.11.02.00

Cost Range : B

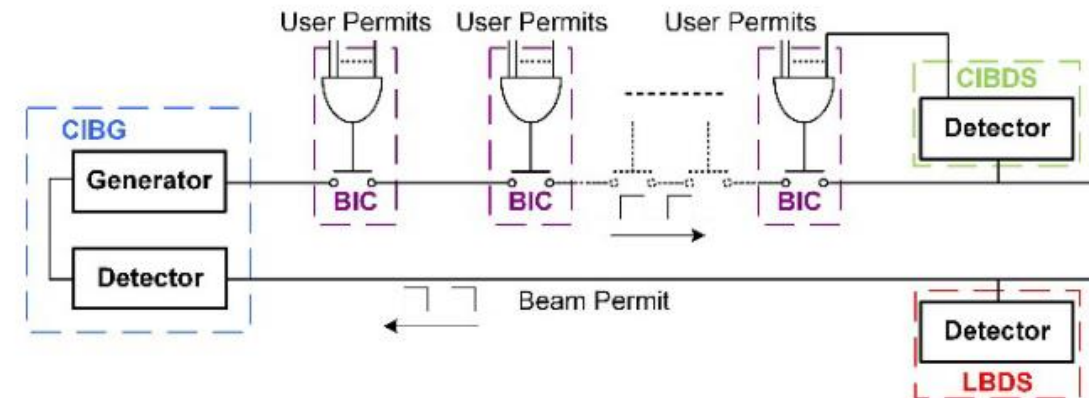
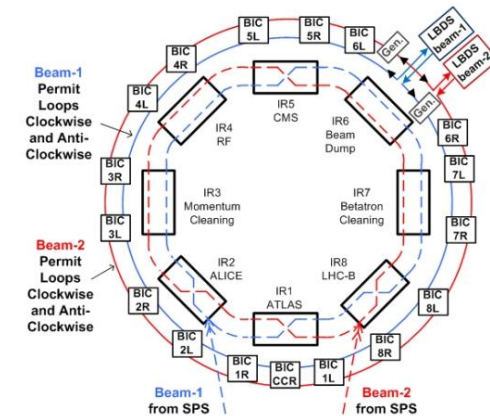
Planning: MS: Q2 2021 / IT: Q3 2021

Description and Specific Condition :

Interlocks

Design and implementation of safety system upgrades, in the field of Personnel Protection Systems in Radiation environments of CERN accelerator facilities for RUN3 and LS3.

Option: Supply of Hardware equipment necessary for implementation of the designed safety functions.



MS-4637/EN

Provision of post irradiation examination services of one beam dump

Procurement Code: 05.90.03.07; 05.90.04.02

Cost Range : A

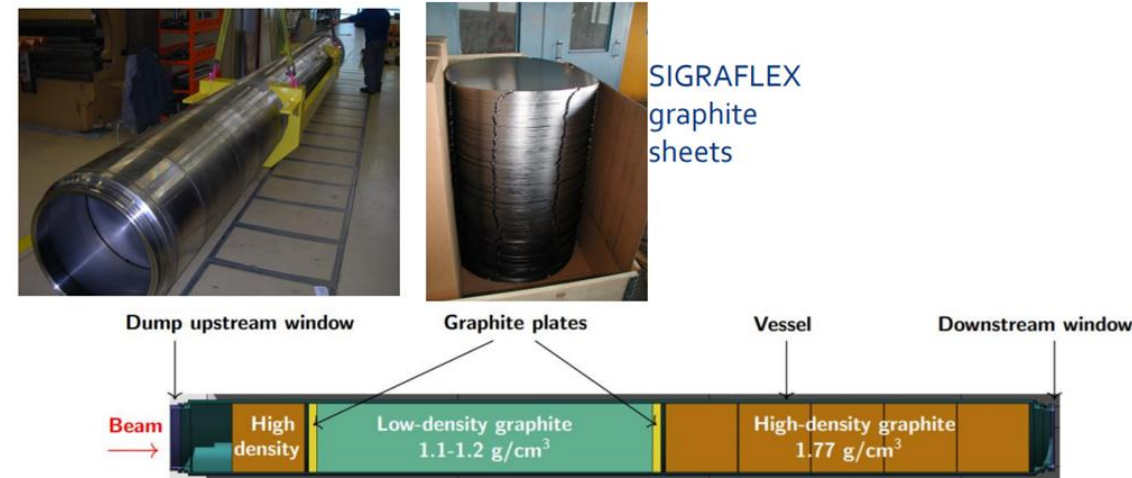
Planning: MS: Q4 2020 / IT: Q2 2021

Description and Specific Condition :

Post irradiation examination of an approx. 8.5m length beam dump. The contract will include cutting of the dump, the opening of one dump block followed by inspection of the graphite core components and the preparation of the associated reports.

Interested firms shall have a proven relevant competence and experience and be equipped with: hot-cells or an equivalent to allow manipulation of radioactive items (± 6 mSv/h at contact) with risk of contamination and instruments to execute destructive and non-destructive analyses on the graphite inner components of the dump, stainless steel and titanium alloys.

Contact: Marco.Calviani@cern.ch



MS-4619/EN

Supply of a 2D laser cutting machine

Procurement Code: 05 03 02 00

Cost Range : A

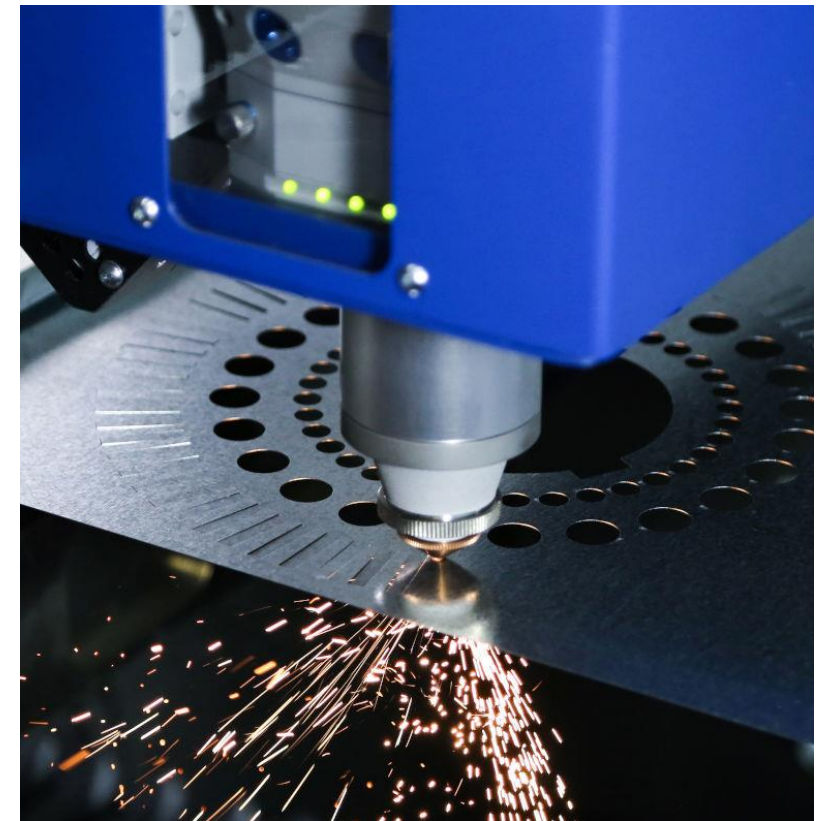
Planning: MS: Sent / IT : Q4 2020

Description and Specific Condition :

Supply, installation and commissioning of a high precision 2D laser cutting machine with a useful cutting surface of 1250 mm × 1250 mm. The machine will be used for cutting parts for the fabrication of particle accelerator components, with thicknesses ranging from 0.05 up to few millimetres in a wide range of materials (stainless steel, aluminium, copper, titanium, etc.). It shall have a high positioning accuracy with high repeatability.

Interested firms shall be specialized in laser cutting machine manufacturing.

Contact: manuel.redondas.monteserin@cern.ch



Supply of Beryllium vacuum chambers for LHC experiments

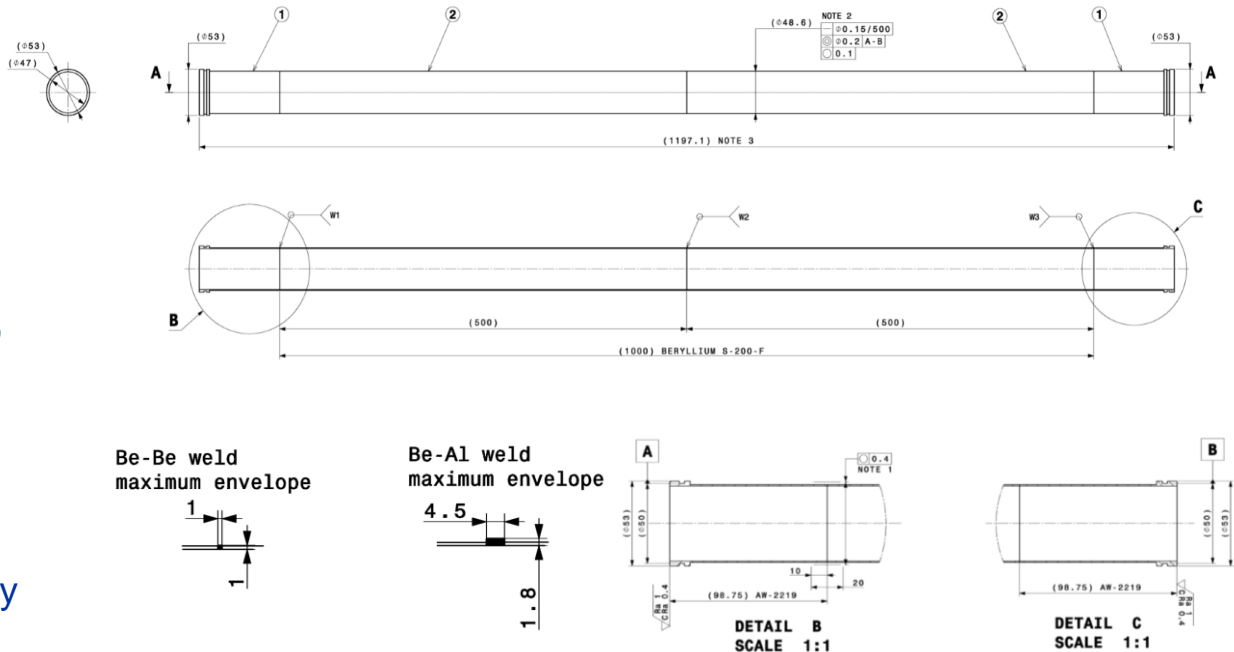
Cost Range : B

Description and Specific Condition :

The Supply shall contain straight cylindrical and conical parts joined by fusion welding. This technique shall be applicable to all material combinations (beryllium to beryllium; beryllium to aluminium; aluminium to aluminium). The chambers may be made of multiple beryllium segments. The lengths of the segments shall be optimized to respect the final tolerances of the chamber and to have a minimum number of joints.

Interested firms shall have a proven experience and competence in machining beryllium and a dedicated workshop, adhere to the strict safety regulations regarding the machining of beryllium, have experience in the welding of beryllium and a minimum of 10 years' experience in the manufacture of high precision UHV components and beryllium vacuum chambers.

Contact: Josef. Sestak@cern.ch



MS-4644/EN

Supply of numerical protection relays

Procurement Code: 02 50 01 00

Cost Range : B

Planning: MS: Q4 2020 / IT : Q2 2021

Description and Specific Condition :

CERN intends to place a contract for the supply of approx. 200 numerical protection relays for protection, measurement, control and supervision of high voltage equipment on the CERN 18 kV and 3.3 kV networks to ensure protection, control, measurement and supervision functions for Power lines, Transformers, Motors, Generators and Busbars.

Interested firms shall have produced at least 2000 numerical protection relays in the last three years and have a proven competence and experience of at least ten years in the field of manufacturing and testing of numerical protection relays.

Contact: emanuele.freddi@cern.ch



MS-4646/EN

Supply of an industrial system to perform thermal property measurements down to 1.9K

Procurement Code: 03 50 02 00

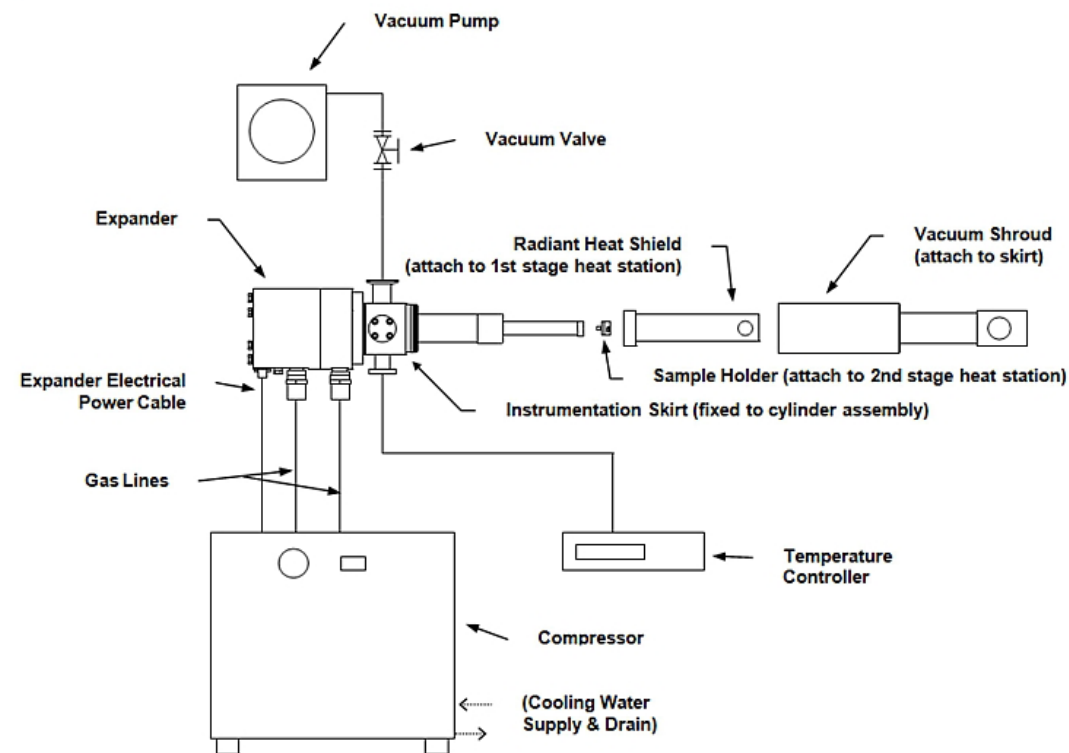
Cost Range : A

Planning: MS – Q4 2020

Description and Specific Condition :

Procurement of an industrial system to perform thermal property measurements down to 1.9K based on a closed-cycle cryocooler. These measurements shall be carried out on samples (rather than on components) in order to establish a complete set of constitutive models useful for FEA calculations and predictions of sub-components behaviour.

Contact: Michael.Guinhard@cern.ch



MS-4602/EN

Manufacturing, Assembly and Testing of Vacuum Vessels for ISOLDE Targets

Procurement Code: 05 04 01 02

Contact: Michael.Owen@cern.ch

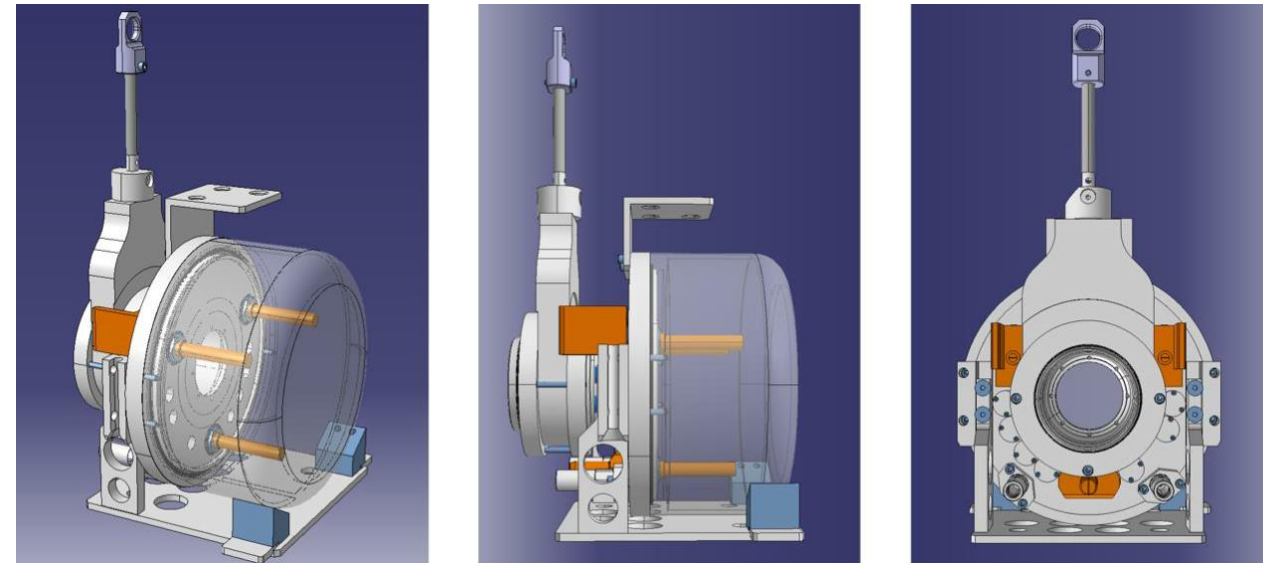
Cost Range : B

Planning: MS: Sent /IT: Q4 2020

Description and Specific Condition :

Manufacturing, assembly and testing of an estimated quantity of 250 vacuum vessels for ISOLDE targets over a period of five years, including the following manufacturing processes: precision machining, cleaning for high vacuum, brazing, electron beam welding, and clean room mechanical assembly.

Interested firms shall have a proven experience and competence in the fields of aluminium vacuum vessel production, procurement and traceability of raw materials, precision machining, clean room assembly for high vacuum applications, metal joining using copper brazing and electron beam welding of aluminium alloys.



Sketched views of a vacuum vessel for the ISOLDE target

Thank you



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