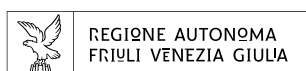


Big Science Business Forum 2024

TRIESTE
1 – 4 OCTOBER 2024

BSBF 2024 Procurement Handbook

Host Organizers of BSBF Trieste 2024



WELCOME MESSAGE

20th September 2024

Dear user,

when entering the Big Science market as a supplier, there are several steps that can be taken to initiate engagement with the **Big Science Organisations (BSOs)**. These include contacting BSOs directly and visiting their industrial policies/procurement webpages, contacting national **Industrial Liaison Officers (ILOs)** in your country, and monitoring calls for tenders on several different institutional bidding portals.

This **BSBF2024 Procurement Handbook** offers an accessible introduction to the Big Science market, its international organisations, and associated procurement procedures. Furthermore, it provides guidance and insights for SMEs, as well as a review of existing technology transfer initiatives. Newcomers or businesses interested in engaging are strongly encouraged to study the rules of the specific **BSO** in depth. This guide is the updated version of the 2022 edition. It includes updates on planned tender budgets for the years 2024-2028, procurement procedures and industrial policies drawn up in cooperation with

CERN - EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

ESA - EUROPEAN SPACE AGENCY

ESO - EUROPEAN SOUTHERN OBSERVATORY

ESRF - EUROPEAN SYNCHROTRON RADIATION FACILITY

ESS - EUROPEAN SPALLATION SOURCE

EUROPEAN XFEL - EUROPEAN X-RAY FREE ELECTRON LASER

FAIR - FACILITY FOR ANTIPROTON AND ION RESEARCH

F4E - FUSION FOR ENERGY

ILL - INSTITUT LAUE-LANGEVIN

SKAO - SQUARE KILOMETRE ARRAY OBSERVATORY

In this new edition, an institutional section has been added for each Big Science Organization, as well as procurement information on the **ABSOs – Affiliated Big Science Organizations** selected for the BSBF2024:

CTAO – CHERENKOV TELESCOPE ARRAY OBSERVATORY

DTT – DIVERTOR TOKAMAK TEST FACILITY

ELETTRA – SINCROTRONE TRIESTE

ELI – EXTREME LIGHT INFRASTRUCTURE ERIC

ESS BILBAO – CONSORCIO

EST – EUROPEAN SOLAR TELESCOPE

IFMIF – DONES ESPANA

INFN – ISTITUTO NAZIONALE DI FISICA NUCLEARE

MYRRHA – MULTY PURPOSE HYBRID RESEARCH REACTOR HIGH TECH APPLICATIONS

These data were collected at the BSBF2024 under the responsibility of **ILO Network Italia**, composed of representatives from CNR, ENEA, INAF and INFN, in collaboration with **PERIIA – Pan European Research Infrastructure ILO Association** in order to provide an initial overview to facilitate access to the European market of Big Science.

Have a good start
Paolo Acunzo
BSBF2024 Director

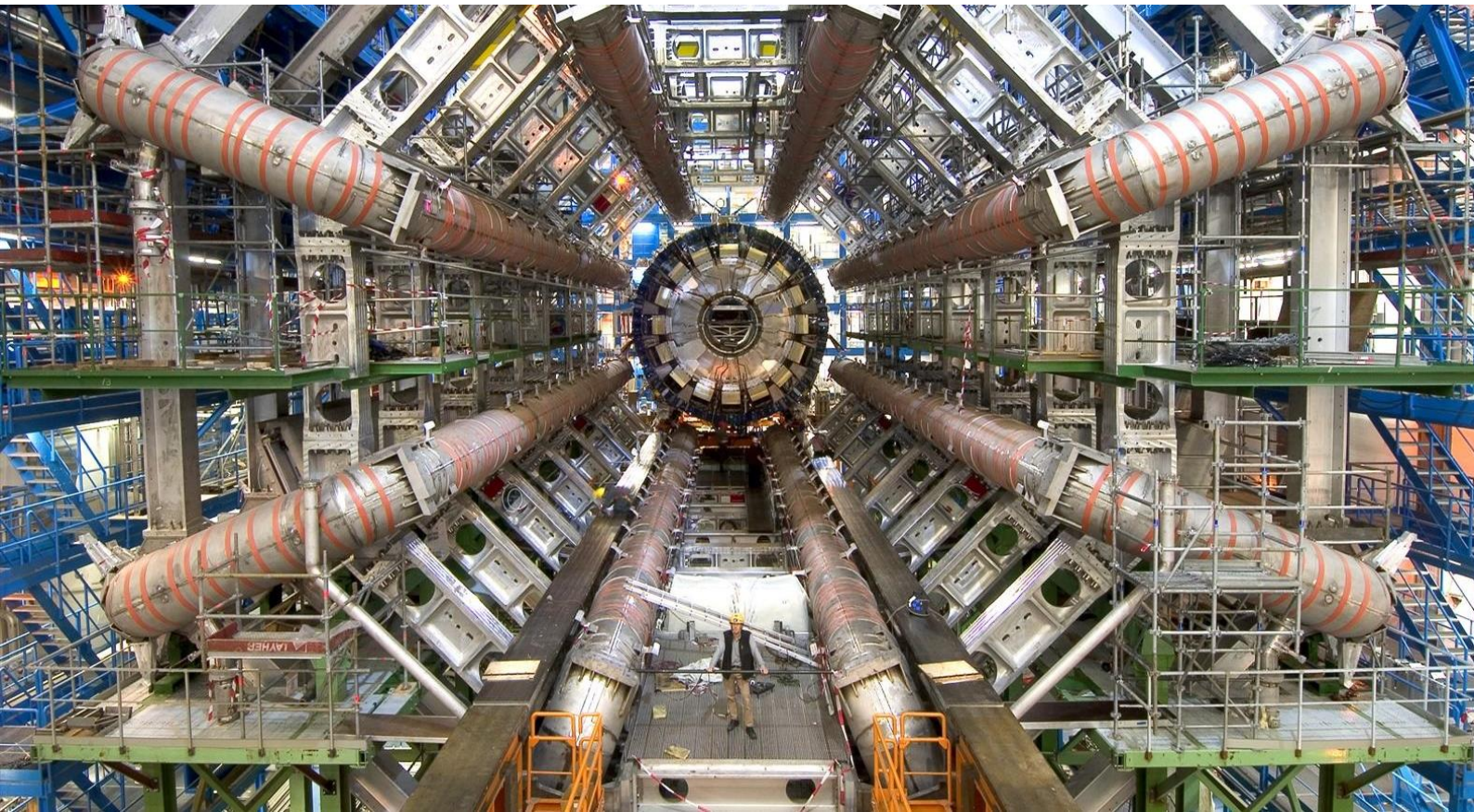
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Big Science Organisations (BSOs)





Credit: CERN

European Organization for Nuclear Research (CERN)

BASIC INFORMATION ABOUT THE BIG SCIENCE ORGANIZATION	
Foundation	Sept 29th 1954
Founding States	12 founding states Belgium, Denmark, France, the Federal Republic of Germany, Greece, Italy, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom and Yugoslavia.
Legal Basis	CERN was established by the Convention for the Establishment of a European Organization for Nuclear Research , which was signed on 1 July 1953 and came into force on 29 September 1954 . The convention serves as the legal basis for its founding, outlining its purpose, structure, and operations. Initially, it was founded to coordinate the efforts of European countries in the field of nuclear research.
Legal Seat	CERN's legal seat and headquarters are located in Geneva, Switzerland .
Headquarters And Other Sites	Headquarter in Geneva. CERN has two main sites, one in France and the other in Switzerland: <ul style="list-style-type: none"> • Prévessin (France) • Meyrin (Switzerland)

<p>Governing Board Composition</p>	<p>CERN is governed by the CERN Council, which acts as the principal decision-making body of the organization. The Council is composed of representatives from each of the 24 member states. Each member state has two official delegates, one representing the government and the other representing the national scientific interests of the country.</p>
<p>Governance Committees</p>	<p>In addition to the CERN Council, several committees assist in the governance of CERN.</p> <ul style="list-style-type: none"> • Finance Committee: The Finance Committee is composed of representatives from national administrations and deals with all issues relating to financial contributions by the Member States and to the Organization's budget and expenditure. • Scientific Policy Committee: makes recommendations on CERN's scientific programme. Its members are scientists elected by their colleagues on the committee and appointed by the Council on the basis of scientific eminence without reference to nationality. Some members are also elected from Non-Member States.

ABOUT

[CERN](#) is one of the world's leading laboratories for particle physics. At CERN, physicists and engineers use the world's largest and most complex scientific instruments to study the fundamental particles and laws of the universe. In 2012, two experiments at CERN - ATLAS and CMS - announced the discovery of the elusive Higgs boson, until then the missing piece in the Standard Model, which encapsulates our best understanding of the behaviour of all fundamental particles in the universe. CERN has over 60 years' experience in delivering state-of-the-art particle accelerators, including the world's highest energy particle collider - the Large Hadron Collider (LHC) - and beam facilities from the lowest to the highest energies available, which enable research at the forefront of human knowledge. Activity is currently underway to prepare for the "High Luminosity" upgrade, which will allow for a much higher rate of data collection than is currently possible.

To build its accelerators and detectors, CERN develops cutting-edge technologies in various domains (e.g. superconductivity, microelectronics, cryogenics, big data and ultra-high vacuum). Almost half of its annual budget of 1.2 billion CHF is spent on procurement of a wide range of goods and services from industry.

Industry can also access CERN know-how and technologies for their innovation: which is called knowledge transfer. This transfer of knowledge from CERN to both industry and academia contributes to tackling societal challenges in areas such as medical technologies, cultural heritage, aerospace, environment, and more. CERN being the birthplace of the World Wide Web is a testament to its wide application domains beyond particle physics, and indeed it has been a pioneer in many other novel technologies.

MEMBER STATES/ ENTITIES

Today CERN has **24 Member States**: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Israel, Italy, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovak Republic, Spain, Sweden, Switzerland and United Kingdom.

Cyprus and Slovenia are **Associate Member States in the pre-stage to Membership**. Brazil, Croatia, India, Latvia, Lithuania, Pakistan, Türkiye and Ukraine are **Associate Member States**.

Member States contribute to the capital and operating costs of CERN's programmes, and are represented in the Council, responsible for all important decisions about the Organization and its activities.

Japan and the United States of America, as well as the international organisations, European Union, and UNESCO currently have **Observer status at CERN**. The Observer status **entitles a country or organization to attend open sessions of the Council**.

FUNDING

CERN is funded by its 24 Member States and Associate Member States. The organization **also receives funds for the experiments and European Funding**.

PROCUREMENT

Procurement Budget 2024-2028

Year	Procurement Budget Expenditures 2021 - 2028 (MCHF)
2021A	370
2022A	482
2023A	405
2024F	570
2025F	580
2026F	600
2027F	620
2028F	620
TOTAL	4,247

Table 1: Annual Procurement Expenditures during the period 2021-2028
(rounded MCHF, A = Actual, F = Forecast)

CERN foresees to spend 2,500 MCHF during the period 2024-2028. Visit the [CERN PROCUREMENT SERVICE WEBSITE](#) for more info.

Suppliers Engagement Policy/ Strategy

CERN's Procurement Service hosts bi-annual (in September and May) Industry Webinars. Those events are an opportunity for the industry to gain insights into how to make business with CERN and learn about the Organization's forthcoming needs.

Industrial Database

All firms are also encouraged to register on [CERN'S SUPPLIER DATABASE](#) which CERN uses as a key source of information for preparing lists of firms to invite to its price enquiries and market surveys.

When registering on the supplier database, firms indicate their domains of expertise by "[PROCUREMENT CODE](#)", which allows CERN to match them with relevant opportunities. By registering on the supplier database, firms also create an account on CERN's e-procurement portal which will be used to send orders if they win business from the Organization.

Procurement Portal

Tendering activities – that is, price enquiries, market surveys and invitations to tender – are managed on a separate [E-PROCUREMENT PLATFORM](#).

To access procurement documents and reply to price enquiries, market surveys and invitations to tender, firms are asked to register on the e-tendering platform.

Particularly, [FORTHCOMING MARKET SURVEYS AND INVITATIONS TO TENDER](#) are announced in the CERN Procurement Service website and any interested firm can register to receive the market survey documents upon their publication.

Procurement Process

As an intergovernmental organisation, CERN has established its own procurement rules which comply with the principles of transparency and impartiality while aiming to achieve **a balanced industrial return for all its Member States**.

The supplies and services procured must be originated in CERN' Member States. Contracts are awarded following **Price Enquiries or Invitations to Tender (IT)**.

Price enquiries are made for contracts with an **anticipated value below 400'000 CHF** and are only open to a limited number of selected firms.

Invitations to Tender (IT) are made for contracts with an **anticipated value above 400'000 CHF** and are issued to firms qualified and selected based on a preceding open market survey.

Where CERN has **recurring demand for the same goods or services**, it may establish **multi-year framework agreements**, which are also **awarded following price enquiries or invitations to tender**.

A summary of these procurement procedures is provided [here](#).

Contracts for supplies are awarded to the firm meeting CERN's technical, financial, environmental and delivery requirements, and which offers the lowest price or the Best-Value-for-Money. However, **for requirements exceeding 100'000 CHF**, an **alignment rule** may apply which provides an advantage to a bidder if at least 60% of its supplies originate from poorly balanced Member States.

Figure 1: [CERN PROCUREMENT PROCEDURES](#)

Eligibility Criteria

CERN's budget is financed by its Member States and therefore CERN price enquiries and invitations to tender are restricted to firms proposing goods and services originating in those Member States.

CERN calculates the “balanced” status of a Member State by comparing its budgetary contributions to its industrial return through orders and contracts.

A Member State is considered to be **“well balanced”** if its industrial return exceeds a certain target level, and **“poorly balanced”** otherwise.

The list of “well balanced” and “poorly balanced” Member States can be checked [HERE](#). Certain mechanisms are built into CERN’s Procurement Rules to help ensure a balanced industrial return for all its Member States.

In its capacity as Host Laboratory **CERN also procures goods and services on behalf of collaborations running experiments on the CERN site**. For these procurements, price enquiries and invitations to tender may be open to firms proposing goods and services **originating in any member of the relevant experiment collaboration**.

Adjudication Criteria

Contract can **either** be adjudicated on the basis of the **lowest compliant bid** or the **Best-Value-for-Money**.

For instance, contracts for services on the CERN site are usually adjudicated on a Best-Value-for-Money basis taking into account the technical quality of the bid as well as the price.

Criteria used to evaluate a bid’s technical quality are stated in the invitation to tender, and typically include the profiles of key personnel performing services, the bidder’s experience and proposed quality assurance plan, and the bidder’s score in field tests held at the CERN site.

IPR Policy

CERN contracts are subject to the **General Conditions of CERN Contracts**, available on the CERN Procurement Service website [HERE](#), where other conditions and rules can be found. These terms stipulate that intellectual property generated as a result of the contract belongs to CERN but allow the supplier to use and commercialise the intellectual property subject to certain conditions.

Role Of ILOs

CERN also works with a [NETWORK OF INDUSTRIAL LIAISON OFFICERS \(ILOs\)](#), who are appointed by CERN’s Member States to facilitate the flow of communication between CERN and its suppliers. ILOs can provide advice on the opportunities available for doing business with CERN and the support available to firms in their local regions.

Procurement Areas 2024-2028

	2024F	2025F	2026F	2027F	2028F
Civil Engineering, building and technical services	82.0	85.0	85.0	80.0	83.0
Electrical engineering and magnets	24.0	26.0	15.0	20.0	21.0
Electronics and radio frequency	23.0	20.0	18.0	24.0	20.0
Information Technology	45.0	48.0	35.0	40.0	38.0
Mechanical engineering and raw materials	31.0	29.0	29.0	25.0	30.0

Vacuum and low temperature	25.0	23.0	18.0	21.0	24.0
Particle and photon detectors	0.8	0.77	2.0	5.0	5.0
TOTAL	230.8	233.0	202.0	215.0	221.0

Table 1: Procurement expenditures breakdown by key technological domains for the period 2024-2028 (rounded MCHF, F = Forecast)

The majority of CERN's procurement budget is composed of:

- Civil engineering, buildings and technical services, including cooling and ventilation equipment
- Electrical engineering and superconducting magnets
- Information technology, including computing systems, servers, software and network equipment
- Mechanical engineering and raw materials
- Electronics and radiofrequency
- Industrial services on the CERN site
- Cryogenic and vacuum equipment
- Particle and photon detectors

Figures presented in this section **reflect all types of supplies procured by CERN Procurement Service**. Therefore, they may not add up to the comprehensive numbers shown under the **PROCUREMENT BUDGET** section (see section above), which also includes expenditures for services on the CERN site, utilities and other supplies and services for experiments that are procured directly by the Experiments' budgets.

SMEs Involvement

Although CERN's Procurement Rules do not foresee special arrangements for SME involvement, a majority of CERN's suppliers are SMEs. CERN's needs are often very unique and complex, requiring flexibility on the part of its suppliers. CERN's suppliers are often asked to adapt their standard products and processes for the Organization's sometimes very particular requirements. Many CERN tendering activities also follow a long period of research and development. This can imply deliveries of relatively low volumes of prototypes over several years, before a development is mature enough to move into serial production. CERN finds that projects of this nature are often attractive and suitable to SMEs. Perhaps as a result, around 75% of CERN's suppliers have fewer than 250 employees.

TECHNOLOGY / KNOWLEDGE TRANSFER

Fundamental scientific research at CERN is a driving force for technological advancements. These advancements may drive innovation in industry, also in fields outside of the high-energy physics. This process makes an impact on society creating a mutually beneficial situation: CERN aims at making an impact on society through the

dissemination of its technologies while industry can acquire know-how and technologies to boost their innovation. Find out more at kt.cern.ch

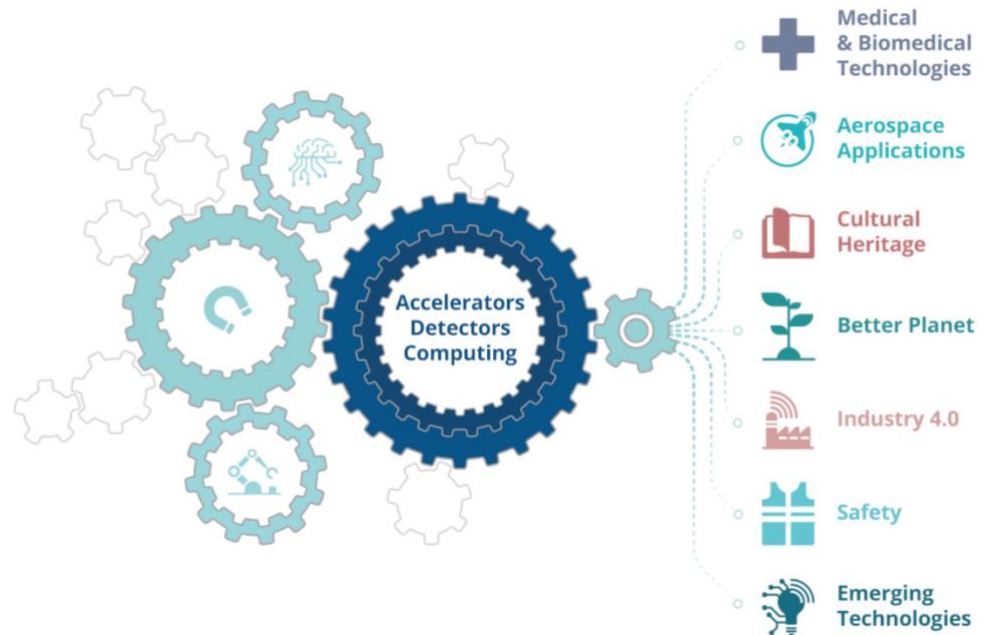


Figure 2: CERN's expertise builds broadly on three technical fields: accelerators, detectors and computing. The applications of CERN technologies and know-how extend beyond high-energy physics to a vast range of areas such as aerospace, medical & biomedical, industry 4.0, cultural heritage, safety and towards a better planet. (credit: CERN).

The knowledge created by CERN's community has the potential to create impact by leading to innovation in fields beyond high-energy physics. The Organization encourages the creation of start-up companies and offers support to CERN personnel and external entrepreneurs seeking to establish a business using technology and know-how from CERN. Currently, there are 35+ start-ups and spin-offs based on CERN technologies or know-how, several of which have taken part in one of the Organization's [Business Incubation Centres \(BICs\)](#). The network consists of ten BICs as of 2021, which are run by existing incubators and ecosystems and provide support for small businesses taking CERN expertise to the market.

As the leading European institute for particle physics, CERN also participates and takes the lead in projects co-financed by the European Commission (EC) under programmes such as Horizon 2020. This long-standing relationship includes also collaboration activities in research and e-infrastructures, international cooperation, careers and mobility, knowledge transfer, innovation and open science. Cooperation with the EU is coordinated by the [CERN EU Projects Office](#).

In 2021, the Laboratory took part in seven co-funded projects with a strong knowledge transfer component, corresponding to approximately 80 million EUR in EC co-funding, distributed amongst the participating institutes and companies.

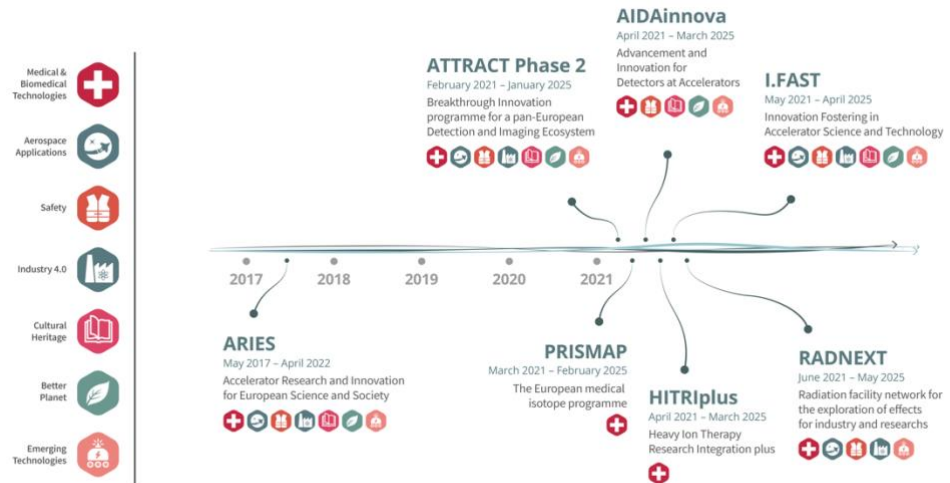


Figure 3: CERN participation in EC co-funded projects: ARIES, ATTRACT Phase 2, PRISMAP, AIDAInnova, HITRIplus, I.FAST, and RADNEXT (credit: CERN).

**USEFUL LINKS
AND
CONTACTS**

- [CERN website](#)
- [Procurement Website](#)
- [Forthcoming Tendering Procedures](#)
- [Supplier registration](#)
- [Knowledge Transfer website](#)
- [CERN70](#)

Procurement Service Contact: Procurement.servce@cern.ch

**IMPACT OF
PROCUREMENT
(STUDIES)**

- https://air.unimi.it/bitstream/2434/600698/3/CFFRS2017_final.pdf
- <https://onlinelibrary.wiley.com/doi/epdf/10.1111/apce.12311>
- <https://arxiv.org/ftp/arxiv/papers/1905/1905.09552.pdf>
- https://library.oapen.org/bitstream/handle/20.500.12657/42933/1/2021_Book_TheEconomicsOfBigScience.pdf#page=75



Credit: ESA

European Space Agency (ESA)

BASIC INFORMATION ABOUT THE BIG SCIENCE ORGANIZATION	
Foundation	1975
Founding States	ESA was founded by 10 member states: Belgium, Denmark, France, Germany, Italy, the Netherlands, Spain, Sweden, Switzerland, and the United Kingdom.
Legal Basis	The legal basis for the establishment of ESA is the Convention for the Establishment of a European Space Agency , commonly referred to as the ESA Convention. This convention was signed on 30 May 1975 and came into force on 30 October 1980 . The ESA Convention outlines the organization's objectives, governance structure, and operational principles.
Legal Seat	ESA's headquarters are located in Paris, France . This serves as the main administrative centre for the agency, coordinating activities across its various centres and facilities.

<p>Headquarters and Other Sites</p>	<p>ESA operates several key facilities across Europe, each specializing in different aspects of space research and operations:</p> <ul style="list-style-type: none"> • ESTEC (European Space Research and Technology Centre) in Noordwijk, Netherlands: The largest ESA site, focusing on spacecraft and satellite development. • ESOC (European Space Operations Centre) in Darmstadt, Germany: Responsible for satellite control and mission operations. • ESRIN (European Space Research Institute) in Frascati, Italy: Specializes in Earth observation data. • EAC (European Astronaut Centre) in Cologne, Germany: Trains astronauts for missions. • ECSAT (European Centre for Space Applications and Telecommunications) in Harwell, UK: Focuses on telecommunications and space applications. • ESEC (European Space Security and Education Centre) in Redu, Belgium: Focuses on space cyber security services, the Space Weather Data Centre, the ESA Education Training Centre and one of ESA's ground station network. • French Guiana Space Port: Europe's gateway to space where ESA is the owner of the launch and launch vehicle production facilities. • ESAC (European Space Astronomy Centre), in Villanueva de la Cañada, Spain: hosts the scientific operations centres for ESA's astronomy and planetary missions, along with their scientific archives.
<p>Governing Board Composition</p>	<p>ESA's governance is centred around the ESA Council, which is the principal decision-making body. The Council is composed of representatives from each member state, typically at the ministerial level, and is responsible for major decisions, including budget approval, program direction, and policy formulation.</p>
<p>Governance Committees</p>	<p>Several committees assist the Council in governing ESA:</p> <ul style="list-style-type: none"> • Administrative and Finance Committee (AFC): Oversees financial and administrative matters. • Science Programme Committee (SPC): Manages the agency's scientific agenda. • Industrial Policy Committee (IPC): Advises on industrial policy and procurement. • International Relations Committee (IRC): Handles international cooperation and agreements. • Oversight Committee (OC): Independent experts providing independent and objective advice on the effectiveness, efficiency and accountability of the Agency's internal control framework and assurance functions. • Security Committee (SEC): advise on physical security, protection of information, industrial security policy and their implementation.

ABOUT

[ESA](#) is **Europe's comprehensive space agency**, active across every area of the space sector: space science, human spaceflight, exploration, earth observation, space transportation, navigation, operations, technology, telecommunications and safety and security from space. ESA promotes a broad competitiveness of European space industries through its industrial policy. It also works in close cooperation with the EU and other European organisations as well as space organisations outside Europe. ESA is further increasingly active in stimulating the downstream market that follows from space developments and applications. ESA collaborates with economic operators to carry out projects and activities in all areas mentioned.

MEMBER STATES/ ENTITIES

ESA currently has 22 Member States: Austria, Belgium, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, The Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland, and the United Kingdom. Slovenia signed the Accession Agreement to the ESA Convention on 18 June 2024. Upon ratification, Slovenia **will become the 23rd ESA Member State**.

The national bodies responsible for space in these countries sit on ESA's governing Council.

Canada also sits on the Council and **takes part in some projects** under a **Cooperation Agreement**.

Slovakia, Slovenia, Latvia and Lithuania are **Associate Members**.

Bulgaria, Croatia, Cyprus and Malta have **Cooperation Agreements with ESA**.

As can be seen from [this list](#), **not all member countries of the European Union are members of ESA and not all ESA Member States are members of the EU**.

ESA is an entirely independent organisation although it maintains close ties with the EU through an ESA/EC Framework Agreement. The two organisations share a joint European Strategy for Space and have together developed the European Space Policy.

FUNDING

ESA activities fall into two categories – “**mandatory**” and “**optional**”.

“**Mandatory programmes**” are activities and projects carried out under the Space Science Programme and under the General Budget (including e.g. studies on future projects, technology research, shared technical investments). All Member States contribute to these programmes on a scale based on their Gross National Product.

With respect to “**optional programmes**”, Member States are free to decide whether they want to participate and with which level of involvement. Examples of “optional programmes” are earth observation, telecommunication, navigation, human spaceflight and exploration and space transportation.

The 2024 ESA budget looks as follows: [ESA - ESA budget 2024](#)

Every 3 to 4 years, the ESA Council gathers at Ministerial Level to establish the objectives, the policies, and the funding for the next period.

PROCUREMENT

Procurement Budget 2024-2028

The **procurement budget for the period 2026-2028 will only be known following the ESA Council Meeting at Ministerial Level to be held at the end of 2025** when States take decisions and decide which programmes to subscribe to.

The **procurement budget for the past years** in the current period has **averaged to almost 6 billion EUR per year** (including an average of 2.3 billion EUR for third party activities).

Suppliers Engagement Policy / Strategy

In line with ESA's key objective of supporting European industry, ESA is fully committed to enhancing competitiveness through various initiatives, including: technology readiness via research and development programmes, demonstration projects, support for the development of space-based applications and commercialisation, fostering cooperation among industrial partners, providing training, and facilitating access to funding opportunities. ESA is fully engaged in supporting the competitiveness of the industry in its Member, Cooperating and Associate States.

Specific measures for Small and Medium-sized Enterprises (SMEs) are in place to support and encourage their participation (see dedicated section below).

Every 2 years ESA organises Industry Space Days (latest event 18-19 September 2024 [Industry Space Days \(isd.esa.int\)](https://isd.esa.int)) and regularly participates in business events and fairs.

ESA also **organises project and programme specific Industry Days** and encourages its Prime contractors to do so for specific major projects.

Upcoming events can be found [here](#).

The European Space Agency is committed to social and environmental responsibility and ethical business conduct in all aspects of its activities.

This commitment is clearly reflected in the ESA Corporate Social Responsibility (CSR) Principles adopted in 2020 and the [CSR Code of Conduct](#) whose provisions represent the social responsibility commitments of ESA itself as well as the expectations that ESA has for its suppliers.

Industrial Database

Registration in [ESA-STAR](#)- ESA's System for Tendering and Registration, is mandatory for all entities wishing to do business with ESA.

Esa-star allows **two levels of entity registration: "Light" and "Full"**.

This enables new users wishing to do business with ESA to carry out their registration in two steps. A **"Light"** registration will grant access to all esa-star services up to and including proposal submission. The award of ESA contracts requires a **"Full"** registration.

SMEs are encouraged to claim their SME status during the registration process in order to benefit from the Agency's SME support measures.

ESA follows the European Commission's SME definition, detailed in Commission Recommendation [2003/361/EC](#), as published in the Official Journal of the European Union L 124, p. 36 of 20 May 2003. The Agency **grants the SME status only after verification** of the data of the candidate companies.

Procurement Portal

The [Doing Business with ESA](#) portal provides access to all relevant Corporate Applications related to the procurement process and to doing business with the Agency, including [esa-star Registration](#), [esa-star Publication](#) and [esa-match](#), the Agency's matchmaking platform for industrial entities.

[esa-star Publication](#) is a module of ESA's electronic tendering system, **used for publishing a list of upcoming Invitations to Tender, Calls for Proposals, News, ESA Interacts, Invitations to Tender (ITT) / Requests for Quotation open for bidding**, as well as **general information about ESA's procurement process**.

The publication module also **allows external entities** (typically prime contractors of large projects) to **manage their competitive Invitations to Tender** under ESA Programmes in ESA's Best Practices scheme. Potential bidders can access the tender documentation and notify ESA if they are interested in a particular Tender Action.

Tenders are submitted electronically to ESA through [ESA-STAR](#) Tendering.

To ensure maximum exposure, **all open and upcoming business opportunities are available online (registration required):**

[esa-star Publication](#),

[Open Space Innovation Platform - OSIP - Start \(esa.int\)](#),

[ESA GRAND CHALLENGE - ESA Commercialisation Gateway](#).

Here companies can register for automatic notifications of opportunities in their field of expertise.

Procurement Process

ESA's procurement process is governed by its [Procurement Regulations](#) and, as Annexes III and IV to these Regulations, the Tender Evaluation Manual and the [General Tender Conditions](#). The [General Clauses and Conditions for ESA contracts](#) apply to contracts placed by ESA. Both documents can be found on [esa-star Publication](#).

ESA procurements are, as a rule, subject to open competitive tendering with, in some justified exceptions, restricted competition or direct negotiations with economic operators from ESA Member States, Associated States and Cooperating States.

ESA procures also through (permanent) Calls for proposals, open to initiative of companies willing to develop new technologies or space derived application services in partnership with ESA.

ESA's procurement contracts are nominally fully funded. However, contracts resulting from activities proposed by economic operators, in response to calls for proposals in certain programmes, are co-funded.

In addition, **ESA is developing a regime of Call for proposals without procurement** where the objective is not the procurement of goods, technology, or services but rather the development and propagation of ideas and innovation. **The resulting agreements would be, in these cases, a cooperative agreement.**

This new scheme is currently being discussed with ESA Member States in order to best support the competitiveness of industry.

Open Space Innovation Platform (OSIP)

To source ideas from economic operators, ESA rolled out the [OPEN SPACE INNOVATION PLATFORM \(OSIP\)](#) which is run through the Agency's Discovery & Preparation Programme. OSIP is a website that enables the submission of novel ideas for space technology and applications. It is not a procurement tool but a website that provides Discovery and other ESA programmes with a platform to find the best research and ideas to support.

Selected ideas might lead to a business partnership which would then go through the regular ESA procurement process.

Eligibility Criteria

All economic operators are eligible to submit a tender to ESA provided they; 1) belong to an ESA Member State, Associate State or Cooperating State and 2) do not fall under any of the exclusion conditions laid down in **Article 18** of the Procurement Regulations and 3) **have registered as potential bidders in the esa-star registration tool**. Concerning geographical return considerations and SME policies, see sections “Adjudication Criteria” and “SMEs” below.

Adjudication Criteria

[Industrial policy and geographical distribution](#) play a **significant role in ESA procurements**. Laid down in the ESA Convention, the policy is designed to ensure that **all Member States participate in an equitable manner with regard to their financial contribution** in implementing the European space programme.

Tenders are evaluated against **evaluation criteria that are published in the respective Invitation To Tender (ITT)** and are **weighted against pre-defined weighting factors** also published in the ITT.

The evaluation criteria are **nominally five** and include aspects such as background and experience, understanding of requirements, proposed programme of work, management, costing and planning and compliance to the draft contract.

The **tender evaluation board recommends contract award based on the resulting average weighted marks**, considering also **the overall price** and any **industrial policy aspects** applicable to the procurement.

In **large programmes** (e.g. satellites, space infrastructure development), the ITT gives **geographical return targets**, establishes **boundaries for participation of the Large System Integrators** and **limits the share** that may be allocated to the **Prime contractor** and its core team. These measures are put in place to ensure a broad participation of different categories of economic operators and a representation of all Member States.

IPR Policy

ESA's rules regarding IPR are laid down in the General Clauses and Conditions for ESA contracts. The Agency's IPR regime can be summarised as follows:

- **IPR developed under an ESA contract** remain with the Contractor or Subcontractor (except operational software, open source and EU delegated programmes) with certain licences being granted i.e. to ESA and the Member States.
- **IPR resulting from an ESA contract** used for the Agency's own requirements are freely available to the Agency, Participating States, persons and bodies.

Patents portfolio

ESA makes its intellectual property available on a freely-licensed basis to European space companies within its 22 Member States. For use by companies outside of ESA Member States, or for non-space applications, a different licensing model is in place, allowing the Agency to request royalties.

ESA's patent portfolio is available in an [online catalogue](#), to help promote their use. As one of the few agencies operating across all sectors of space, our portfolio ranges across subjects such as radio-frequency payloads and systems, structures and pyrotechnics, electromagnetic technologies and techniques, materials and processes, robotics, optics, electrical power and propulsion.

Role Of ILOs

The ILO network is not directly applicable to ESA activities, but ESA's delegations, and ESA itself, engage in the outreach and support of Industry.

All Member States' delegations are actively engaged in supporting their industries in the Space domain for their national and ESA programmes, relaying information to and from ESA and collaborating with the ESA Executive and deciding on strategy and implementation.

In addition, as already mentioned, in line with ESA's key objective of supporting European industry, ESA is fully committed to enhancing competitiveness through various initiatives, including technology readiness via research and development programmes, demonstration projects, support for the development of space-based applications and commercialisation, fostering cooperation among industrial partners, providing training, and facilitating access to funding opportunities.

ESA maintains an ongoing open dialogue with all categories of space industries throughout the year via dedicated forums.

More information can be found at:

[ESA - Business with ESA](#),
[ESA Commercialisation Gateway](#),
[ESA Space Solutions](#),

Procurement
Areas
2024-2028

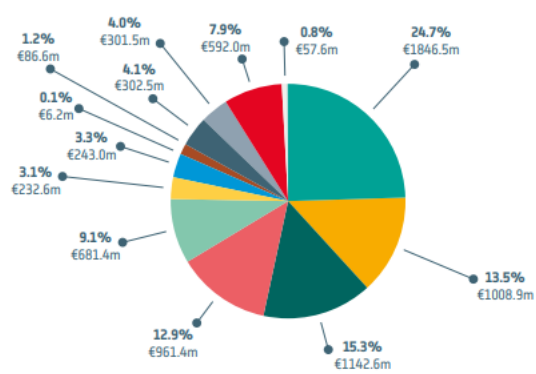
Please refer to **opportunities announced or published by ESA** or other space entities on [esa-star Publication](#) where you can search e.g. by countries and keywords, as well as on the [Open Space Innovation Platform - OSIP - Start \(esa.int\)](#) for the Calls for ideas.

As a reference, the final allocation for the year **2023** was:

FUNDING FOR ESA ACTIVITIES AND PROGRAMMES

Final budget by domain for 2023: €7.46 bn

- Scientific Programme
- Human and Robotic Exploration
- Space Transportation
- Technology Support
- Commercialisation
- Connectivity and Secure Communications
- Earth Observation
- Navigation
- Space Safety
- European Cooperation States Agreements
- Basic Activities
- Associated with General Budget
- Prodex



* Includes activities implemented for other institutional partners

ESA 2023 BUDGET BY FUNDING SOURCE

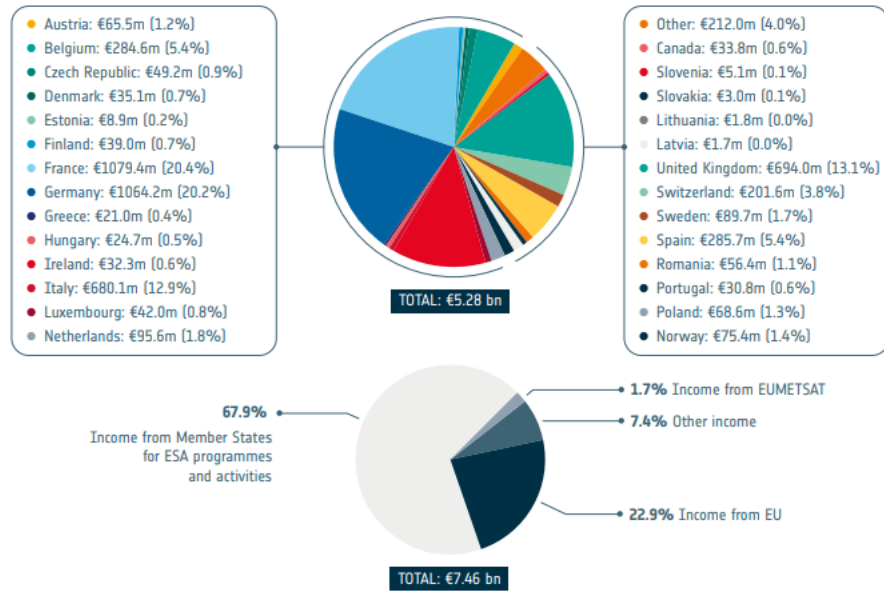


Figure 1: Excerpt from ESA Annual report 2023

SMES Involvement

ESA actively encourages SMEs to get involved in its programmes and activities. The Agency has an established SME policy which is targeted both at newcomers to the space business who need general ESA support as well as at experienced SMEs who have a validated technology or product and have to insert themselves into industrial consortia to gain operational experience.

Support measures are being implemented by the Agency's SME Office. The Office manages the SME policy adopted by the Member States and coordinates its activities with other institutional actors such as the national space agencies.

General SME support

- **Training**

Dedicated SME training courses are organised on topics such as R&D proposal writing, Product Assurance and ECSS standardization. Courses, including on-site sessions, webinars and e-learning modules, can be accessed via the [ESA Learning Hub](#).

- **SME helpdesk**

For information on support available to SMEs and for all matters related to the SME Initiative (payments, information on opportunities, name of experts, to share ideas, proposals), a dedicated SME helpdesk can be reached at: sme-office@esa.int

- **SME newsletter and portal**

The latest news on SME-related activities within ESA are available via the Agency's SME Portal and the [SME newsletter](#).

- [esa-match](#) is ESA's industrial matchmaking tool, developed by the SME Office. The platform aims to support the visibility of entities registered with ESA, to facilitate partnering, teaming and cooperation between companies and to bring together (potentially unknown) products or services and (latent) needs.

- **Events**

Every two years the [Industry Space Days](#), ESA's main business-to-business event, are organised at ESA/ESTEC (Noordwijk, The Netherlands). The event is an opportunity for SMEs and other entities to meet and discuss prospective business with new contacts, attend presentations and workshops, and showcase technologies to new partners. The 11th edition of the ISD takes place on 18-19 September at ESA/ESTEC, featuring pre-scheduled 1-on-1 meetings, an exhibition and a conference section

Procurement measures

To guarantee fair access to its programmes for all types of entities, ESA has developed a set of clauses, known as C1-C4 clauses, which are applied to certain types of procurements:

- C(1): Activities in open competition, limited to the non-primers.
- C(2): Activities in open Competition, where a significant participation of non-primers is requested.
- C(3): Activities limited to SMEs & R&D organisations, preferably in co-operation.
- C(4): Activities in open competition, subject to the SME subcontracting clause.

The aim of the C1 and C3 clauses is to foster competitiveness of equipment suppliers and SMEs (for C1 Clause), and of SMEs and Research Institutes (for C3 Clause), in areas where the concerned organisations have recognised expertise and capabilities. Procurements with these clauses can be found in the area of technology research activities and for the development of equipment components or instruments where SMEs and their partners have the necessary expertise and where favouring these entities would result in a more efficient use of funds. Procurements with C2 or C4 clauses are open to all economic operators but with encouragement of subcontracting to non-primers and SMEs. Procurements with the C1-C4 clauses applied can be found by using the filter function “Industrial Policy Measure” in esa-star Publication

Financial measures

To systematically ensure a neutral cash flow for Small and Medium-sized Enterprises, thus supporting their financial viability, ESA has introduced a 35% advance payment measure for SMEs. Whenever an SME is involved in an activity, as Prime contractor or Subcontractor, it is entitled to a 35% advance payment irrespective of any cash disbursement needs at the beginning of its activities in the contract. The advance payment constitutes a debt of the contractor to the Agency until it has been offset against a subsequent milestone or milestones.

TECHNOLOGY / KNOWLEDGE TRANSFER

ESA has established a new programme, [ScaleUp](#), which has the objective to foster innovation, enable the European space industry’s journey to commercialisation, and accelerate the scale up on the global markets of private ventures, providing support through two elements: Element 1- Innovate, and Element 2 - Invest.

Of the two elements, Element 1 - Innovate has a partial focus on technology development. Its main goal is to boost innovation and commercialisation in the European space sector providing services which support the growth of a company from initial business to ideation, and up to market readiness. Activities included are described below.

Element 1- Innovate

Φ-labNET

ESA aims to create a dynamic network of Φ-labs across Europe with a focus on disruptive innovation that can be adopted by the market. It will facilitate research teams

to engage in groundbreaking science and technology development and will support applied research to create ground-breaking solutions that have a potential in high-yield commercialisation.

The network of Φ -labs — scattered across ESA Member States — will share ideas, resources, and knowledge. It will also support growing connections between academia, research centres, investors, and industry. The network will also facilitate partnerships and funding from ESA and private investors.

Business Incubation Centres

ESA Business Incubation Centres (ESA BICs) are the largest network of incubators supporting space related start-ups in Europe. The objective is to support entrepreneurs with a space-based business idea and help them developing their technology and products while getting their company off the ground.

The ESA BICs seek entrepreneurs who develop applications that use space-based systems (such as satellite navigation, earth observation, or satellite communication); use space technologies in a non-space domain; and/or who develop innovative products and services for the space sector.

Each incubation centre is managed by local administrators who connect their ESA BIC to local industry, universities, research organisations, government, and investor communities. All the centres are embedded in local communities, but also have strong regional and national links. In the process, they also create and grow clusters of space-related start-ups across Europe. The network provides excellent opportunities to connect start-ups with new business partners across Europe.

Technology Brokers Network

The ESA technology broker network comprises dedicated specialists that bring together space and non-space industries.

ESA's Technology Brokers have two main objectives: first, to solve industrial challenges using innovative space technology, and second, to help cutting-edge companies bring their terrestrial innovations into the space domain.

The main focuses of the network are:

- **Transfer of technology for commercial purposes:** support technology transfer and appliances between established industry from the space and non-space sector, and within the space sector.
- **Protection and commercialisation of industry IP:** support SMEs to assess, enhance or define a strategy to protect and commercialise their intellectual property.
- **Prepare for space:** reduce the barrier to enter ESA programmes and strengthen the on-boarding process for newcomers.

Technology Brokers use a combination of market pull and technology push to find the best solution to a company's problem. They are part of the regional and national innovation ecosystems of their country, but act as a network to ensure a pan-European reach. The network provides a wide range of tailored support to both young and well-established companies looking to create new products and services including those listed below. Many ESA Technology Brokers also implement ESA Spark Funding calls to accelerate the technology integration and product development process. Funding

and eligibility differ between countries, so entities should contact their local broker for full details.

Element 2 – Invest

ScaleUp INVEST gives companies operating in upstream and downstream markets access to ESA's network of Business Accelerators and the Marketplace, helping them achieve sustained commercial growth. We support business development either as facilitator or customer, empowering firms to take risks, hit the market faster and attract investment through advanced business innovation.

Business Accelerators

ScaleUp's Business Accelerators enhance the commercial growth potential of promising European space companies by supporting business development and market readiness activities, facilitating access to finance and strengthening networks to new markets and customers.

Marketplace

The [ScaleUp INVEST Marketplace](#) aggregates and supports demand for new products and services, matching it with potential providers.

ESA acts as broker, bridging the gap by co-financing B2B deals, accelerating transactions, and enabling future space leaders to take their operations to the next level.

USEFUL LINKS AND RELEVANT CONTACTS

ESA Website:

[European Space Agency \(esa.int\)](https://esa.int)

Find business opportunities:

[ESA - Business Opportunities](#)

[ESA Commercialisation Gateway](#)

Welcome SMEs:

[ESA - Small and Medium Sized Enterprises](#)

IMPACT OF PROCUREMENT (STUDIES)

See the "Documents" section on the [ESA Space Economy Portal](#)



Credits: ESO

European Southern Observatory (ESO)

BASIC INFORMATION ABOUT THE BIG SCIENCE ORGANIZATION	
Foundation	1962
Founding States	ESO was initially founded by 5 member states: Belgium, France, Germany, Sweden, and the Netherlands.
Legal Basis	ESO was established under the Convention for the Establishment of a European Organization for Astronomical Research in the Southern Hemisphere (commonly known as the ESO Convention). This convention was signed on 5 October 1962 and came into force on 17 January 1964 . The convention outlines the objectives, organizational structure, and operational framework of ESO.

<p>Legal Seat</p>	<p>ESO's legal seat and headquarters are located in Garching, Germany. This is the central hub for ESO's scientific, technical, and administrative activities.</p>
<p>Headquarters and other Sites</p>	<p>Headquarters in Germany. In addition, ESO has local headquarters in Santiago de Chile and operates major observatories in Chile:</p> <ul style="list-style-type: none"> • La Silla Observatory (Chile): ESO's first observatory, operational since the 1960s. • Paranal Observatory (Chile): Home to the Very Large Telescope (VLT), one of the most advanced optical telescopes in the world. • ALMA (Atacama Large Millimetre/submillimetre Array) (Chile): A collaboration with international partners (NSF (USA) and NINS (Japan), together with NRC (Canada), NSC and ASIAA (Taiwan), and KASI (South Korea), in cooperation with the Republic of Chile), ALMA is one of the most powerful radio telescopes. • ELT (Extremely Large Telescope) (under construction in Chile): Expected to be the world's largest optical/near-infrared telescope. <p>ESO also operates the Supernova Planetarium & Visitor Centre (Garching, Germany): A facility for education and public outreach.</p>
<p>Governing Board Composition</p>	<p>ESO is governed by the ESO Council, which is the highest decision-making body of the organization. Each member state appoints representatives to the Council, typically including one or more delegates from both the scientific community and the government.</p>
<p>Governance Committees</p>	<p>In addition to the Council, several committees assist in ESO's governance:</p> <ul style="list-style-type: none"> • Finance Committee: Manages financial oversight, including budgeting and financial planning. • Scientific Technical Committee (STC): Provides advice on scientific and technical matters related to ESO's projects. • Observing Programmes Committee (OPC): Evaluates and prioritizes observing proposals for telescope time allocation. • User Committee (UC): advises the ESO Director General on matters concerning the use of the ESO facilities (telescopes, instruments, operations tools, etc.) for both ALMA and La Silla Paranal Observatories.

ABOUT

[ESO](#) carries out an ambitious programme focused on the design, construction and operation of powerful ground-based observing facilities for astronomy to enable important scientific discoveries. ESO also plays a leading role in promoting and organising cooperation in astronomical research.

ESO operates two unique world-class observing sites in the Atacama Desert region of Chile: La Silla and Paranal.

ESO operates the ALMA Observatory (in Chajnantor) together with AUI/NRAO and NAOJ. Each year, more than 2000 proposals are submitted for the use of ESO telescopes, requesting between four and six times more observing time than is available. ESO is the most productive astronomical observatory in the world, which annually results in almost 1000 scientific papers based on ESO data.

ESO works with industry to carry out projects and to build instruments and telescopes, including the Extremely Large Telescope (ELT), the world's biggest optical telescope, which is under construction and will become a reality at the end of the present decade. The Material budget for ELT construction is around 1,170 MEUR at 2024 economic conditions.

MEMBER STATES/ ENTITIES

The European Southern Observatory (ESO) is an **intergovernmental organisation with currently 16 Member States**, which are: Austria, Belgium, Czechia, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Poland, Portugal, Spain, Sweden, Switzerland and United Kingdom.

Since 2017 Chile has been the **host of ESO telescopes** and **partner country** for many decades.

Australia has entered into a 10-year **strategic partnership** with ESO as of 2017, participating in various ESO projects but without full membership status.

FUNDING

In general, **the construction of ESO facilities is funded from ESO's annual budget, financed by the Member States' and Strategic Partner's contributions.**

This budget is approved by the ESO Council where the governments of the Member States are represented.

The **list of ESO Member States and Strategic Partner and their funding contributions** are available [here](#).

PROCUREMENT

Procurement Budget 2024-2028

Year	Procurement Budget Expenditures 2021-2028 (MEUR)
2021A	105
2022A	94
2023A	144
2024F	105
2025F	102
2026F	102
2027F	102
2028F	102
TOTAL	857

Table 1: Annual Procurement Expenditures during the period 2021-2028
(rounded MEUR, A = Actual, F = Forecasted).

The estimated procurement budget for ESO in the period 2024-2028 is 513 MEUR. This volume is built of some remaining procurements for the ELT construction, and, for the essential part, of operational costs to run the existing sites (La Silla Paranal Observatory, ALMA observatory and APEX).

Suppliers Engagement Policy / Strategy

The policy of ESO is to use providers in its Member States and Host State Chile, so that the potential return to the national industries is one of the most attractive benefits of ESO membership besides the scientific ones.

Market survey is based on previous knowledge of potential suppliers, on companies being proactive in making themselves known to ESO through the channels that ESO provides for it and through information provided by the Industrial Liaison Officers (ILOs) about their national industrial capabilities.

ESO aims to **achieve a distribution per member state country that is as fair as possible.** ESO usually participates in the [industry events organized by the ILOs](#).

ESO also **plans to host an ESO Industry Day in June 2025**, to which the ILOs would invite companies of their respective countries.

Industrial Database

Interested companies from the **ESO Member States and the Host State Chile can register** to the [ESO procurement portal](#).

Upon registration, the company is requested to select one or more categories in which they can provide goods and/or services.

The supplier database is an important source to identify potential suppliers for each procurement and **the main source for those below 50 kEUR.**

Registered suppliers are requested to maintain their own data updated using the login data used at the time of the registration.

Procurement Portal

The **ESO procurements starting from 50 kEUR are published in advance** on the [ESO procurement portal](#). Each time a Project is published, the companies that have selected a business category corresponding to such project will receive a notification.

Procurement Process

The **instruments used by ESO in its telescopes are built by institutes in the ESO Member States**. The institutes or the consortia of institutes **provide all the required personnel power in exchange for observing nights** on the ESO telescopes. **The hardware needed for the construction of the instruments is procured by the institutes under their own procurement rules**, but the cost of the hardware is reimbursed by ESO.

All procurements at ESO above 1,000 EUR are handled by the Contracts and Procurement Department. There are two different competitive procurement procedures:

- **The price inquiry procedure** that is applied for all **procurements below 150 kEUR and/or of a less complex nature**.
This procedure is characterised by the relatively short duration of the process (2-6 weeks) and the standardised contract based on the ESO General conditions of Purchase Orders.
- **The Call for Tender procedure (CFT)** that is applied for all **procurements starting from 150 kEUR and/or of a more complex nature**.
This procedure consists normally of **two steps**.
The **first step** is the **Preliminary Inquiry (PI)** during which interested companies can qualify themselves for the forthcoming CFT. The qualification is based on compliance with requirements regarding financial strength and experience in the field of the procurement.
The **second step** is the **CFT** during which the companies qualified through the PI are invited to submit an offer to provide the requested works or services.

In preparation of any procurement, it can be decided to first follow a **Request for Information (RFI)** process. The aim of this process, which is form-free, is to obtain as much market information as necessary in order for ESO to be able to define the best procurement strategy. During this phase there is also the opportunity for interested bidders to gather more information regarding the upcoming procurement that can be used to their own benefit in the subsequent procurement steps.

Next to the competitive procurements and the RFI as described above, **ESO has the possibility to do single source procurements in justified cases where a competition is not possible or not desirable**.

A [SCHEMATIC OVERVIEW OF THE ESO PROCUREMENT PROCESS](#) is the following:

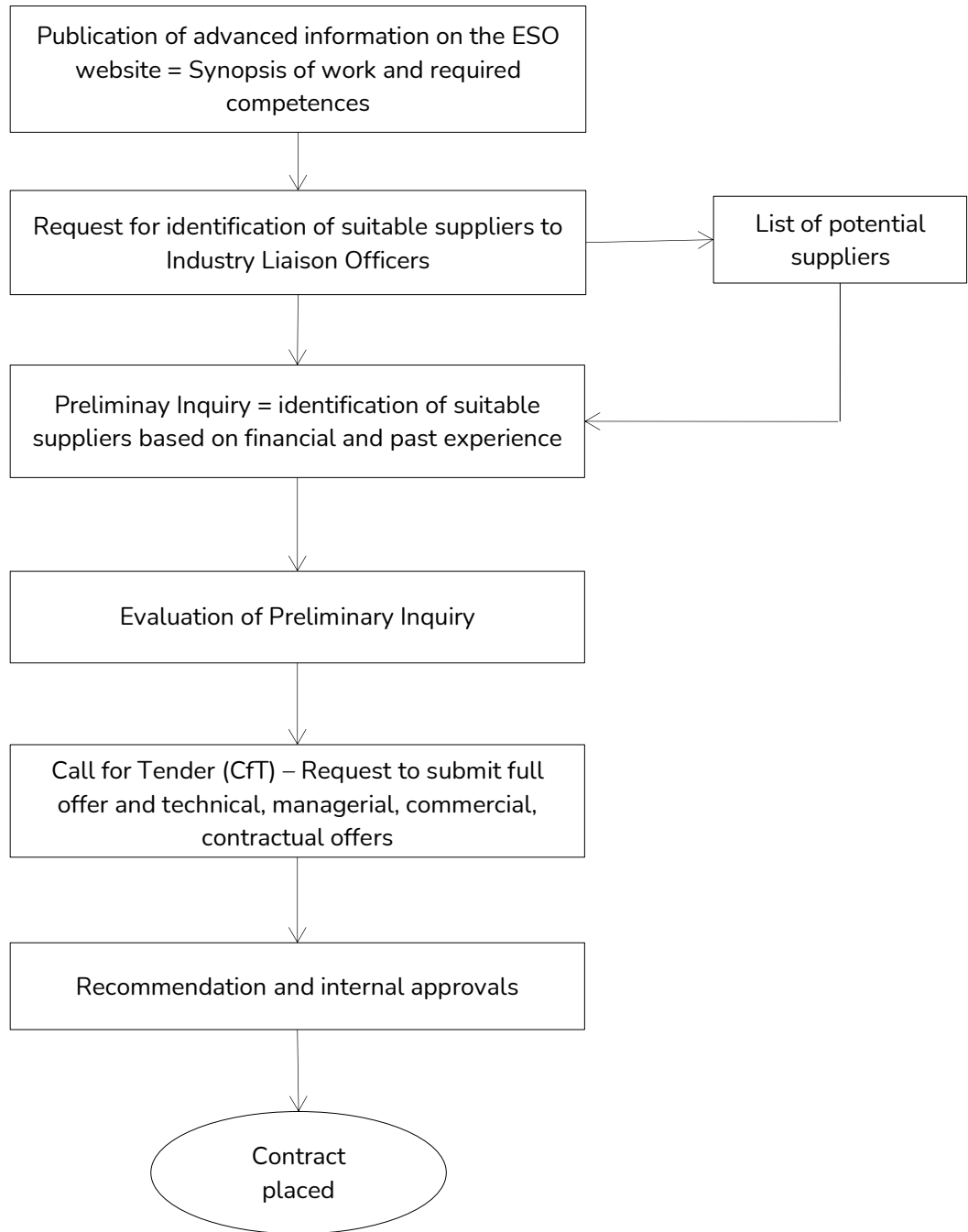


Figure 1: ESO Procurement Process for **procurements above 150 kEUR**

Eligibility Criteria

Besides some exceptional situations, like unavailability of certain goods and services in the ESO member States, **only companies established in one of the ESO Member States, and in some cases in Chile and Australia, are eligible to be invited to ESO procurements.** Once a company is invited to a procurement, the country of residence doesn't play a role anymore in the rest of the procurement process.

Adjudication Criteria

ESO uses a so called “**two envelope system**” where the **bidders are requested to submit two separate proposals**, one containing the **technical and managerial aspects** and one containing the **commercial/contractual aspects**. Both proposals are evaluated separately and in parallel against pre-defined evaluation criteria with a pre-defined scoring model. All offers that are evaluated technically/managerially and commercially compliant are eligible for contract award.

Adjudication takes place based on **the lowest priced compliant bid** principle or **the best value for money principle**. Which principle is applicable is also pre-defined before release of the procurement.

The evaluation criteria as well as the adjudication principle that will be used for the evaluation of the offers are part of the documentation that is sent to the invited companies.

IPR Policy

With regard to intellectual property rights (IPR) ESO follows the principle that **ESO owns what it pays for**. This means that **anything that is developed under a contract with ESO is owned by ESO**, see the latest version of the [General Conditions of ESO Contracts or Purchase Orders](#). However, ESO is willing to **provide a non-exclusive license to industry for commercial use of the developed IP**.

ESO has a [Technology Transfer Policy](#).

Role Of ILOs

The **ESO ILOs are listed on the [ESO Procurement portal](#)**.

The ILOs **play a key role in the identification of potential ESO suppliers**. In close collaboration with the ILOs, ESO aims to interest potential suppliers via industry days, conferences, seminars and visits to ESO and to companies.

The ILOs are informed once a year about the major upcoming procurements in order to allow them to allocate interested companies as early as possible. For **every procurement in the ESO Member States starting from 50 kEUR, the ILOs are requested to suggest up to 5 potential suppliers in their Member State**.

Another role of the ILOs is to bring to the attention and **discuss with of ESO general issues related to the procurement processes**.

**Procurement
Areas
2024-2028**

	2024F	2025F	2026F	2027F	2028F	2029F
Optics	1.0	1.0	0.5	5.5	<4	<4
Precision mechanics	3.0	2.5	2.5	12.0	n/a	n/a
IT infrastructure	8.7	17.0	16.7	15.8	7.3	6.6
Buildings	1.0	2.3	11.5	8.8	0.3	0.3
Infrastructure	5.0	15.3	21.2	13.0	6.52	1.4
Detectors	1.4	1.1	0.6	0.0	0.0	0.0
TOTAL	20.1	39.2	53.0	55.1	18.12	12.3

Table 2: Procurement expenditures breakdown by key technological areas for the period 2024-2029 (rounded MEUR, F = Forecasted)

In the period 2024-2028 ESO expects to spend around 513 million EUR in contracts in Europe. The vast majority of this amount would cover operational needs .

**SMES
Involvement**

ESO has no specific rules regarding contracts with small and medium enterprises (SMEs). Each competition is equally open to companies of any size and each of the companies is treated in the same way. For every procurement, there are specific experience and financial capability requirements that need to be met by the participating companies in order to be eligible.

**TECHNOLOGY /
KNOWLEDGE
TRANSFER**

Know-how developed for ESO before 2014 are owned and directly exploited by the industry that developed it.

Regarding **in-house developed know how**, a limited number of patented know-how is **available on favourable licensing conditions for interested companies**: visit the [ESO KNOW-HOW AVAILABLE FOR USE](#) page on their website.

For general enquires on technology transfer please contact TECHTRANSFER@ESO.ORG. The ESO policy regarding technology transfer is available [here](#).

**RELEVANT
CONTACTS
AND
USEFUL LINKS**

Contracts and Procurement Department email: cp@eso.org

Technology Transfer contact email: TECHTRANSFER@ESO.ORG

**IMPACT OF
PROCUREMENT
(STUDIES)**

Becoming a supplier of goods and services to ESO will allow to be known to other Big Science Organisations. In some cases, the R&D developed under ESO contract(s) might be re-usable for other applications.

A study about how ESO benefits its Member States is available at this [link](#).



Credit: ESRF/vuedici.org

European Synchrotron Radiation Facility (ESRF)

BASIC INFORMATION ABOUT THE BIG SCIENCE ORGANIZATION	
Foundation	1994
Founding States	The ESRF was initiated by a group of founding member states, which include: France, Germany, Italy and the United Kingdom.
Legal Basis	ESRF was established under an international agreement known as the ESRF Convention . The convention outlines the legal and operational framework for the facility. It was signed on 16 December 1988 and came into force on 1 January 1994.
Legal Seat	The legal seat and headquarters of ESRF are located in Grenoble, France .
Headquarters and other Sites	ESRF operates its facility in Grenoble , with no additional sites.

<p>Governing Board Composition</p>	<p>The governance of ESRF is managed by the ESRF Council, which is the highest decision-making body. The Council is composed of representatives from each member state and associates, typically including officials from government agencies or research organizations.</p>
<p>Governance Committees</p>	<p>Several committees assist in the governance of ESRF:</p> <ul style="list-style-type: none"> • Administrative and Finance Committee (AFC): Oversees financial matters, including budgeting and financial planning, procurement and personnel matters. • Scientific Advisory Committee (SAC): Provides advice on scientific priorities and the research agenda. • Technical Advisory Committee: Advises on technical and engineering aspects related to the facility's operation and development.

ABOUT

[THE EUROPEAN SYNCHROTRON \(ESRF\)](#) is a centre of excellence for fundamental and innovation-driven research in condensed and living matter science. It owes its success to the international collaboration of 21 countries, all driven by the same goals of enabling pioneering synchrotron science to tackle challenges that are too complex to be solved by one country alone. Each year, 10,000 researchers come to the ESRF to use its bright X-rays.

The force of the ESRF is its capacity to innovate, pushing the limits and seeking ever-higher performances for the benefit of the scientific community. The ESRF-Extremely Brilliant Source (EBS), opened to the scientific community in 2020, represents a disruptive step for X-ray science in the exploration of condensed and living matter from the nanometre to fully operational complex macroscopic objects. It enables more than ever scientists to tackle pressing global issues such as health, food safety, climate change, energy, environmental sustainability and the preservation of humanity's cultural heritage.

MEMBER STATES

The ESRF owes its success to the international cooperation of **21 partner nations**, of which **13 are Members** and **8 are Scientific Associates**.

MEMBER STATES

- 27.5% France
- 24% Germany
- 13.2% Italy
- 10.5% United Kingdom
- 6% Russia
- 5.8% Benesync (Belgium, The Netherlands)
- 5.0% Nordsync (Denmark, Finland, Norway, Sweden)
- 4% Spain
- 4% Switzerland

SCIENTIFIC ASSOCIATES

- 1.75% Austria
- 1.75% Israel
- 1% Poland
- 1% Portugal
- 0.66% India
- 0.6% Czech Republic
- 0.3% South Africa
- 0.25% Hungary

FUNDING

The ESRF is **financed by cash contributions to the annual ESRF budget from its partner countries**, with, in addition, some **income from industrial activities** and project-targeted **funding from national and European grants**. In-kind contributions do not apply.

PROCUREMENT

Procurement Budget 2024-2028

Over the period **2024-2028**, the ESRF **will invest 67 MEUR** for the construction of **new beamlines** complemented by some **refurbishments** and for **IT infrastructure** and a **detector program**. The 67 MEUR investment offers **opportunities for industry**. As most of the instrumentation is cutting-edge, the ESRF thrives to engage on other possibilities to work with industry.

Suppliers Engagement Policy / Strategy

The ESRF strongly believes that co-innovation provides the best way forward to strengthen European competitiveness. Indeed, the ESRF participates in different programs boosting European competitiveness and development and aiming at triggering innovation more widely and effectively. You can find out more about **ESRF collaborations** [here](#). ESRF participates in **a range of different events** and organizes also **activities and workshops for industry**, more information about these initiatives can be found in this [page](#).

Industrial Database

The supplier database is maintained by **the relevant Industrial Liaison Officers (ILOs)** and suppliers are invited to **contact them if they wish to be registered** (see the ILOs dedicated section below).

Procurement Portal

The ESRF calls for **tender are not published on the ESRF website but only through its Industrial Liaison Officers**, who can direct the call to relevant potential suppliers, who are then invited to bid. The invitation to participate to Calls for tender is done using an on-line tool that enables the ESRF and the suppliers to exchange documents.

Procurement Process

The ESRF is not subject to the rules foreseen for the public sector concerning the announcement of tendering processes. The **ESRF applies the rules approved by its Council of Administration** (ESRF Financial Rules).

At ESRF, **procurement above 50 kEUR** are subject to **Call for Tenders** as described below:

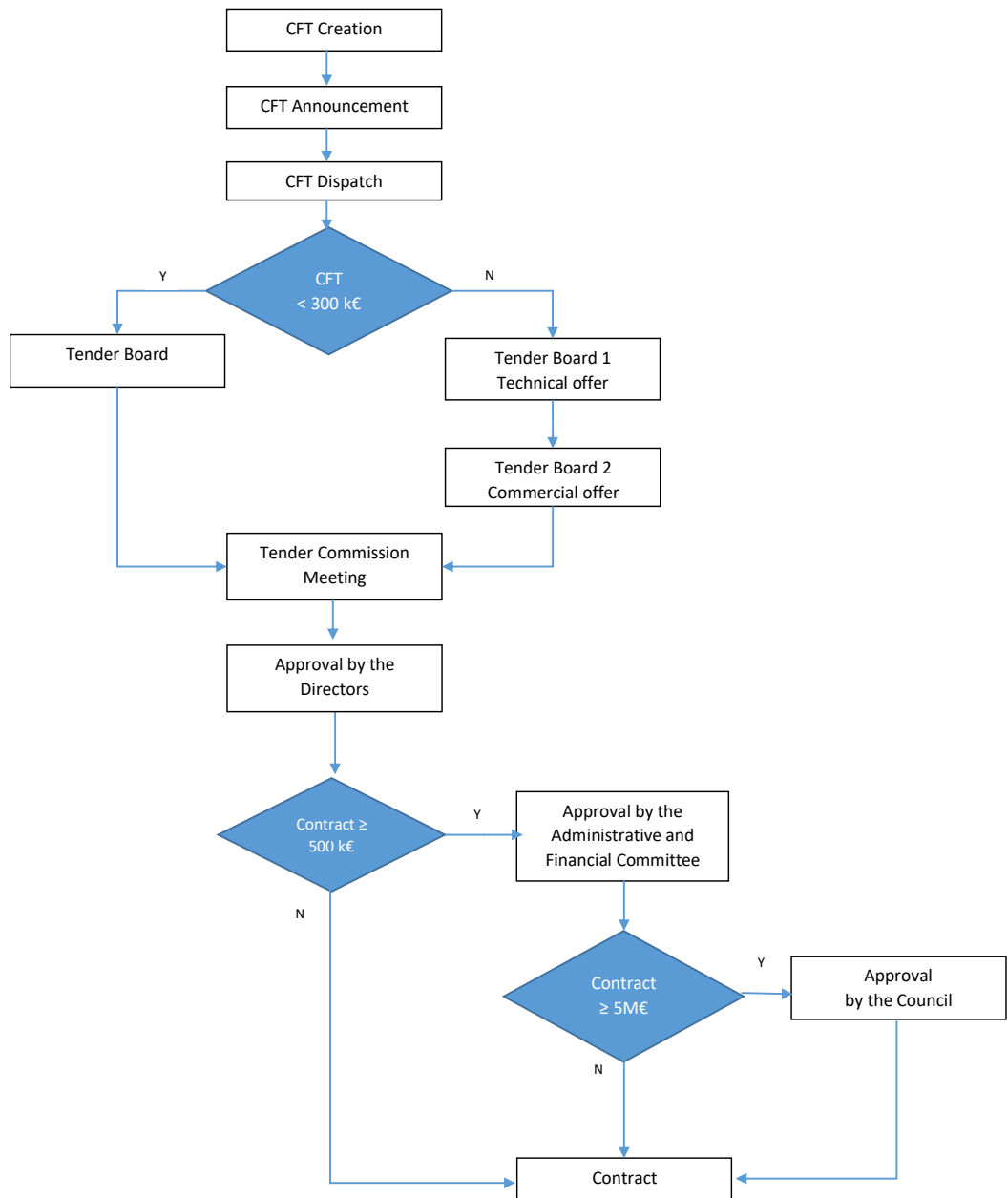


Figure 1: ESRF Procurement Process for more than 50 kEUR

For purchases exceeding 300 kEUR, a double envelope process applies, one for technical aspects and a second for commercial aspects.

Eligibility Criteria

The assessment of a company to be eligible for a procurement at ESRF is based on its **technical ability and experience to fulfil ESRF requirements**.

A formal **pre-qualification exercise** can be done for large procurements that require stringent and sensitive technical capabilities. In such case an in-depth analysis of technical and financial aspects is performed prior to the launch of the call for tender.

Adjudication Criteria

A **matrix with a scoring system is defined on a case-by-case basis**, according to the nature of the purchase, and is agreed prior to the opening of the offers.

Usually, the evaluation includes at minima the criteria for technical competencies, quality aspects, experience, delivery schedule, financial health, the price and the approval of ESRF contractual conditions. This matrix is used to rank the bidders and select the company.

At the ESRF, **Contracts are awarded on a best-value-for-money principle**.

Industrial return to ESRF partner countries is monitored on a quarterly basis.

IPR Policy

At ESRF, as a general rule, all drawings and technical documents, specific material, parts or equipment **acquired by the CONTRACTOR relating to the scope of execution of the related Contract**, including any elements **produced by the CONTRACTOR** (“**Technical Documents**”), shall **become the sole property of the ESRF**.

The CONTRACTOR shall not, without the written consent of the ESRF, reproduce, transmit or communicate such Technical Documents to a third party.

Drawings, data, technical documents, equipment, tools, know-how or any other technical information and intellectual property **received by the CONTRACTOR from the ESRF** (“**ESRF Material**”) shall **not**, without the written consent of the ESRF, be **used for any other purpose than for the execution of the Contract**.

In particular, ESRF Material may not, without the written consent of the ESRF, be used or copied, reproduced, transmitted or communicated to a third party.

Role Of ILOs

The Industry Liaison Officers (ILOs) are appointed by the Member States and Associates. In their role of representatives of their corresponding national industry, ILOs shall provide support to the ESRF in transmitting information to potential suppliers about forthcoming Calls for tender with the objective to achieve a balanced industrial return and that the contract is properly fulfilled by the supplier in terms of technical and financial aspects.

Procurement Areas 2024-2028

The **procurement opportunities in the period 2024-2028** are estimated as follows (figures in millions of EUR):

	2022A	2023A	2024F	2025F	2026F	2027F	2028F
Optics	1.9	3.3	1.0	1.0	0.5	1.0	1.0
Precision mechanics	5.9	5.4	3.0	2.5	2.5	1.0	1.0
IT infrastructure	6.9	5.4	5.0	5.0	5.0	3.8	3.6
Buildings	0.9	2.8	3.0	2.0	1.0	1.5	1.5
Infrastructure	4.7	8.4	1.0	0.5	1.0	1.1	1.1
Detectors	1.9	13.8	0.4	1.0	1.0	1.0	1.0
TOTAL	22.2	39.1	13.4	12.0	11.0	9.4	9.2

Table 1: Procurement expenditures breakdown by key technological domains for the period 2022-2028 (rounded MEUR, A = Actual, F = Forecasted)

SMES Involvement

The ESRF has not carried out any specific adaptation of the procurement rules for SMEs. SMEs are invited to participate in Calls for tender based on their technical capabilities.

TECHNOLOGY / KNOWLEDGE TRANSFER

Close to completing its “[Extremely Brilliant Source](#)” (EBS) upgrade – the first high-energy fourth generation synchrotron light source - the European Synchrotron Radiation Facility (ESRF), has developed a range of new technologies enabling the exacting parameters required for the success of such a high-performance light source facility.

Examples of patented technology include special radio-frequency blades (or “fingers”) for assuring continuity across compact vacuum vessels and a high-reliability “hot swap” power supply system to maximise accelerator up time. There are many other high-performance technologies of value to new storage ring and X-ray beamline constructions. You can **find more detailed** information about our **technologies developed in-house, patents, licenses and about our technology transfer policy** [here](#).

The ESRF is a partner in the [ENRIITC industrial liaison and contact officer network](#) funded by Horizon 2020 and coordinated by the European Spallation Source. The work of this project, started on 1 January 2020, includes proactive outreach towards industry as instrumentation suppliers and as technology transfer, as well as industry as a user. ENRIITC will undoubtedly act as a conduit for technology transfer opportunities over the three-year life of the project.

Today, the ESRF has made more than 35 technology licenses since the start of its activity, and more are expected in the future. **The technologies developed by the ESRF are open for technology transfer**; instrumentation suppliers should not hesitate to contact ESRF at industry@esrf.eu, in particular if they spot a technology which could support their business.

USEFUL LINKS AND RELEVANT CONTACTS

<https://www.esrf.fr/Industry/contact-industrial-services>

<https://www.esrf.fr/about/information-material>

<https://www.esrf.fr/about/upgrade>

<https://www.esrf.fr/Industry/applications>

<https://www.esrf.fr/home/about/collaborations-and-eu-projects.html>

<https://www.esrf.fr/UsersAndScience/UserGuide/Contacts>

<https://www.esrf.fr/cms/live/live/en/sites/www/home/Industry/our-services.html>

IMPACT OF PROCUREMENT (STUDIES)

Being suppliers to the ESRF offers numerous benefits for companies. It provides access to cutting-edge technology and innovative practices through major research projects, enhancing their own product development, opening doors to new markets and clients. It offers opportunities for collaboration and networking with scientists and industry leaders, promoting knowledge exchange and potential future partnership.

You can **find more information on the impact of ESRF activities** on industry [here](#).



Credit: ESS

European Spallation Source ERIC (ESS)

BASIC INFORMATION ABOUT THE BIG SCIENCE ORGANIZATION	
Foundation	ESS was officially established as an ERIC in 2015 . The project itself was initiated earlier, with various agreements and planning activities dating back to the early 2000s.
Founding States	Initiated with the collaboration of 13 founding member states , which include: Denmark, Estonia, France, Germany, Hungary, Iceland, Italy, Norway, Poland, Spain, Sweden, Switzerland, and the United Kingdom.
Legal Basis	The legal basis for the establishment of ESS is the ESS Convention , which was signed by its member countries. The Convention outlines the purpose, governance structure, and operational principles of the organization. The ESS was formally established as a European Research Infrastructure Consortium (ERIC) in 2015 under the legal framework provided by the European Commission for such entities.

<p>Legal Seat</p>	<p>The legal seat and headquarters of ESS are located in Lund, Sweden. This is where the main scientific and technical facilities are being constructed and where the majority of the administrative and research activities are centered.</p>
<p>Headquarters And Other Sites</p>	<p>ESS has additional key facilities in Europe, including:</p> <ul style="list-style-type: none"> • Data Management and Software Centre (DMSC) in Copenhagen, Denmark: This centre is responsible for handling the large amounts of data generated by the ESS experiments and developing software for data analysis and storage.
<p>Governing Board Composition</p>	<p>The governance of ESS is overseen by the ESS Council, which acts as the main decision-making body. The Council is composed of representatives from each member state, typically including officials from relevant ministries and national research organizations.</p>
<p>Governance Committees</p>	<p>In addition to the Council, several committees assist in governing the ESS:</p> <ul style="list-style-type: none"> • Administration and Finance Committee (AFC): The AFC advises the Council on all matters relating to administrative and legal issues and financial management. • In-Kind Review Committee (IKRC): The IKRC is charged with the general responsibility of evaluating the In-Kind contribution proposals and making recommendations thereupon to the Council. • Project Advisory Committee (PAC): The PAC is composed of international experts relevant for project oversight of construction of large scientific or similar complex technical facilities but not employed by or otherwise immediately connected to the Organisation. • Scientific Advisory Committee (SAC): Provides independent advice on all relevant scientific and technical issues related to the instrument suite and the scientific operation of the facility. • Technical Advisory Committee (TAC): Advises on technical and engineering aspects of the facility's construction and operation. • Chair's Committee (CC): The CC provides advice to, and serves as a sounding board for, the Director General on emerging issues, challenges, and initiatives that ultimately may require the Council's attention. The CC has no general decision-making mandate unless explicitly delegated this by the Council, which is on an ad-hoc basis.

ABOUT

The [EUROPEAN SPALLATION SOURCE](#) is a multi-disciplinary research facility based on the world's most powerful neutron source. The facility will enable scientific breakthroughs in research related to e.g. materials, energy, health and environment, in order to address some of the most important societal challenges of our time. It is expected to deliver first science in 2025 and reach its full specifications years later, with 15 instruments online.

ESS is organised as a European Research Infrastructure Consortium (ERIC) with 13 member nations, including the host nations Sweden and Denmark. More than 500 employees from 60 nations are collaborating with institutions all over Europe to deliver the facility. **The construction of the main facility in Lund, Sweden, started in 2014 with a budget of 1,843 billion EUR.** Two years later, the Data Management and Software Centre opened in Copenhagen, Denmark.

MEMBER STATES/ ENTITIES

ESS has **13 member states**: Sweden (host), Denmark (host), Czech Republic, Estonia, France, Germany, Hungary, Italy, Norway, Poland, Spain, Switzerland and the United Kingdom

FUNDING

ESS is fully financed by the **13 member states** based on a pre-defined split among the member states. The ESS funding model is divided into cash contributions and In-Kind.

Country	Share of ESS Member States Contributions to total project costs
Sweden (Host)	35%
Denmark (Host)	13%
Germany	12%
United Kingdom	11%
France	9%
Italy	6%
Switzerland	3%
Spain	3%
Norway	3%
Poland	2%
Czechia	2%
Hungary	1%
Estonia	0.2%

Table 1: ESS Member States Contributions

The **total ESS construction cost** is 1.843 billion EUR (in 2013 EUR) of which approximately **40.5%** or **747.5 MEUR** were expected to be delivered as **In-Kind contributions by the ESS member states**.

The **cash contribution** includes the **civil construction** that was **tendered for in the initial project phase**, resulting in an **umbrella contract with Skanska** with a value of approximately 630 MEUR.

The **remaining part of the cash contributions of approximately 465.5 MEUR** is **handled via the ESS procurement**.

PROCUREMENT

Procurement Budget 2024-2028

Year	Procurement Budget Expenditures 2021-2028 (MEUR)
2021A	83
2022A	147
2023A	125
2024F	150
2025F	140
2026F	90
2027F	90
2028F	80
TOTAL	905

Table 2: Annual Procurement Expenditures during the period 2021-2028
(rounded MEUR, A = Actual, F = Forecast)

The ESS procurement budget is **estimated to be 550 MEUR**, covering **all new procurements from the ESS cash budget in the period 2024-2028**. This includes **the procurements of all values i.e. from low-value procurement to high-value tenders** published on the organisation's website.

Suppliers Engagement Policy / Strategy

ESS is committed to fostering a strong collaborative relationship with suppliers, encouraging them to participate in all business opportunities. To this end, ESS offers a wealth of valuable information on its [website](#) and **engages** in numerous **one-on-one meetings with existing and prospective suppliers**, in addition to **participating in industry events** and other networking opportunities. ESS has **ILOs in all member states**, which are instrumental in identifying and engaging with reliable suppliers (see the ILOs dedicated section below).

Industrial Database

ESS has an [E-TENDERING TOOL](#) that **includes a supplier database**. All interested companies are encouraged to [REGISTER](#) and to **configure their profile to get notified about relevant tender opportunities**.

Procurement Portal

The ESS **tender opportunities over a certain threshold (currently 200,000EUR)** are **published** in the [E-TENDERING TOOL](#) and on the [ESS WEBSITE](#). The e-tendering tool and website also contain a [LIST OF PLANNED PROCUREMENTS](#) for the **coming 1-12 months**, called **Specific Advance Notices (SAN)** and interested suppliers can register interest in those procedures. When such SAN is advancing to the tender phase, is changed or cancelled, **all suppliers that have registered interest will receive an automatic notification**.

Procurement Process

The main objective of the ESS procurement rules is **Value for Money** and that is best **achieved by open competition**. ESS **does not have any return principle**, the **ESS procurement rules have to follow the EU principles** of transparency, non-discrimination and competition and based on that, all **ESS tenders above a certain threshold (currently 200,000 EUR.-)** are **published** in the ESS [e-tendering tool](#) and on the [ESS website](#).

In general, **all procedures above a certain value (currently 200,000 EUR) are open, published, and conducted in one of the following three forms: open procedure, restricted procedure, competitive procedure with negotiation.**

Under circumstances defined in Article 16 of the ESS-ERIC procurement rules, the **organisation may negotiate directly** and obtain offers from one or more suppliers. Also in those cases, the aim is to ensure competition, if possible.

Procurements below the publishing threshold are conducted as **Requests For Quotation (RFQ)** whereby suppliers are invited directly to submit quotations. **In the range 50-200 KEUR, the ILOs are invited to suggest companies to be invited** to the RFQs.

ESS is also conducting market surveys in the form of Requests For Information (RFI) in cooperation with the requesting project division on a case-by-case basis, if deemed useful and needed for the case, and published in the ESS e-tendering tool and on the website. RFIs at ESS are no formal procurement procedure, they are not used for supplier selection but to conduct market research in the pre-tender phase.

The table below shows the current procurement thresholds and different types of procurement procedures at ESS.

Value Threshold	Publication	Procurement procedure	Minimum timing	Variations in Timing	Standstill Period
>200,000 EUR	Publication on ESS website. Other media depending on subject matter and value.	Open procedure	30 days	(+) 5 days if not available by internet (-) 3 days if receipt of tenders electronically (-10) days if SAN published 30 days - 12 months in advance	10 days
		Restricted procedure	30 days + 30 days		
		Competitive procedure with negotiation, with or without initial tender	30 days		
50,000 - 200,000 EUR	Optional on ESS website	Request for Quotation with the involvement of ILOs			
25,000 - 50,000 EUR	Optional on ESS website.	Request For Quotation on website (optional) or directly to minimum 3 suppliers	--	--	--

<25,000 EUR	--	Request For Quotation or price comparison with limited competition	--	--	--
<300 EUR	--	Established ESS shop accounts for immediate needs	--	--	--

Table 3: ESS Procurement Process

Minimum procedure applicable by value.

Minimum timing does not include time required for preparation and evaluation.

Transparency: **publication of awarded contracts (>200K EUR)** in [e-tendering tool](#) and on [website](#)

**Eligibility
Criteria**

ESS does not have a geo-return model or any return policy in their governance.

The ESS-ERIC procurement rules have to follow the basic EU principles of transparency, non-discrimination and competition and the main objective is best-value-for-money.

Based on that, there is no restriction as to which countries tenderers can come from. Requirements regarding managerial, technical and financial capacity are defined in each procurement procedure on a case-by-case basis.

**Adjudication
Criteria**

The award criteria in ESS tender procedures are **generally following the best-value-for-money principle** and considers elements such as technical quality, lead time and price. The scores and weighting are determined for each procedure individually.

A common weighting is 60-70% for the technical award criteria and 30-40% for the total tender price.

IPR Policy

ESS is regularly not requiring ownership of IPRs but only a license for free use. For additional details on the intellectual property rights (IPR) licensing process at ESS, please refer to the following [link](#).

Role Of ILOs

In order to promote the ESS tender opportunities and competition, ESS has an **Industrial Liaison Offices (ILO) network with ILOs appointed by the 13 member states.**

The ESS ILOs work as a link between ESS and their national industry.

ESS and the ILOs collaborate to promote business opportunities at ESS and provide information regarding the ESS procurement process.

For procurements in the range 50-200 KEUR, ESS uses a special type of Request For Quotation for which the ESS ILOs suggest companies to be invited in addition to the invitees selected by the ESS technical experts.

ESS and the ILOs also cooperate in areas such as development of the procurement rules, innovation etc.

The contact details of the ESS ILOs can be found on the [ESS website](#).

Procurement
Areas
2024-2028

	2022A	2023A	2024F	2025F	2026F	2027F	2028F
Optics	1.0	1.0	1.0	1.0	0.5	0.5	0.5
Precision mechanics	4.0	4.0	3.0	2.5	2.5	2.5	2.0
IT infrastructure	4.0	5.0	5.0	5.0	5.0	5.0	5.0
Buildings	2.0	2.0	3.0	2.0	1.0	2.0	2.0
Infrastructure	4.0	1.0	1.0	1.0	1.0	1.0	1.0
Detectors	0.5	0.5	0.5	1.0	1.0	0.5	0.5
TOTAL	15.5	13.5	13.5	12.5	11.0	11.5	11.0

Table 4: Procurement Expenditures breakdown by key technological domains for the period 2022-2028 (rounded MEUR, A= Actual, F=Forecast)

The largest accelerator and target work packages are already covered under In-Kind agreements and contracts awarded by ESS.

It is expected that the procurement focus during 2022-2028 will shift towards the science / instrument area, installation and integration work, as well as the areas related to ESS taking over the building site and the new Campus buildings (permanent offices, lab/workshop building, entrance/guard building).

Currently, the highest spending is in the areas of installation work and technical consultants under existing framework agreements that are re-tendered every 5 years, and this is expected to continue until ESS goes into steady-state operation.

SMEs
Involvement

The ESS-ERIC procurement rules permit to subdivide contracts into separate lots to facilitate market access opportunities for small and medium enterprises and to reduce the risk of over dependency on one supplier.

This is assessed and implemented on a case-by-case basis.

It is expected that ESS will be able to increase SME engagement in the future through technology adjustment and innovation procurements.

RELEVANT
CONTACTS
AND USEFUL
LINKS

All useful information regarding ESS procurement can be found under the following links:

<https://europeanspallationsource.se/doing-business-ess>

<https://europeanspallationsource.se/supplierguidelines>

<https://europeanspallationsource.se/procurement/listings>

<https://europeanspallationsource.se/procurement/contract-award-notice>

IMPACT OF PROCUREMENT (STUDIES)

The ESS procurement has a number of effects on industry such as increased order volumes and business opportunities in new technical areas.

There have been several socio-economic impact studies to show the effect that ESS has on the region of Lund-Malmö-Copenhagen:

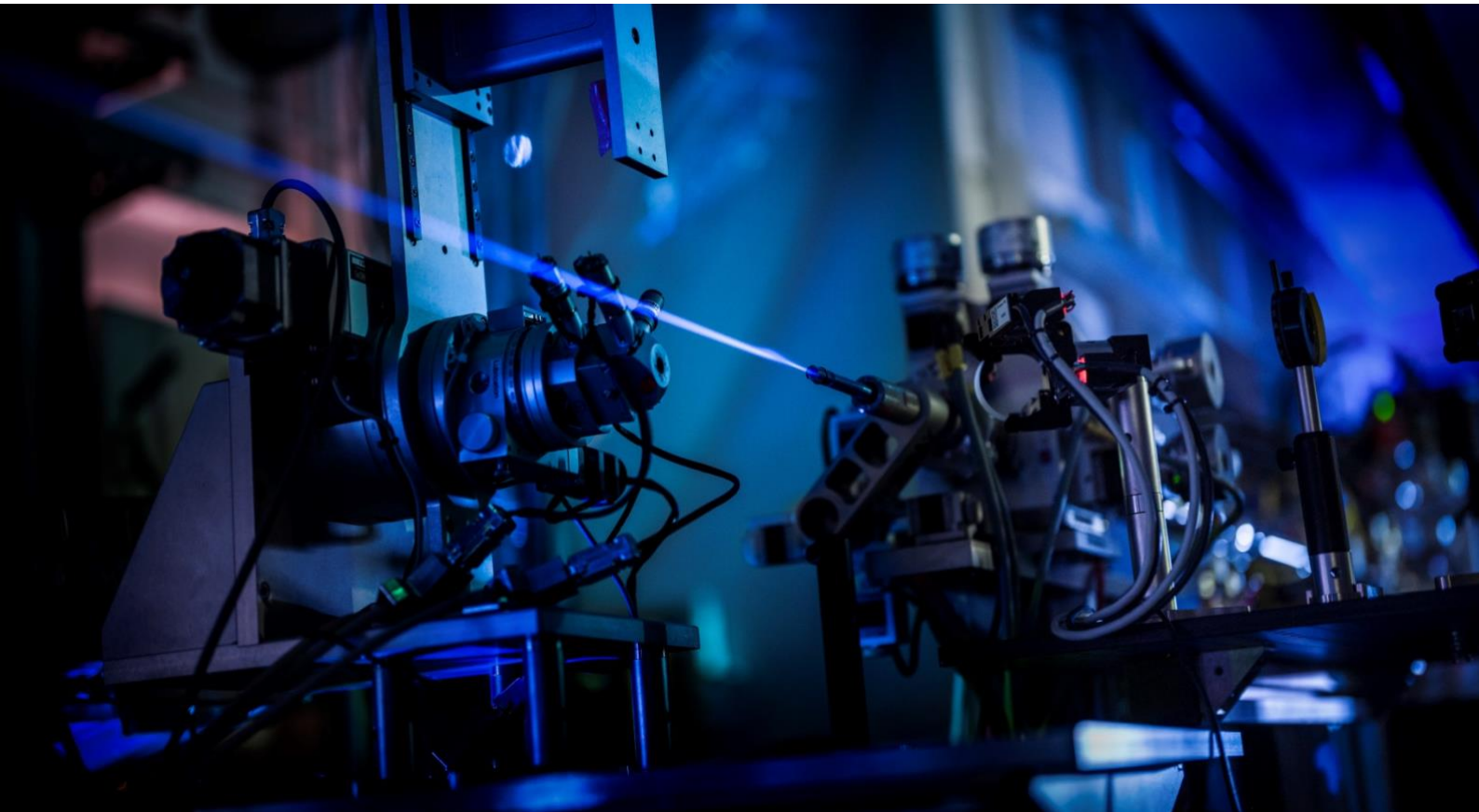
<https://europeanspallationsource.se/article/2020/12/16/anchoring-ess-society>

https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://orbit.dtu.dk/files/325267870/Final_published_version_ESS_SEI_report_2013_2018.pdf&ved=2ahUKEwilpIX2queGAXWWAxAIHU_tA1YQFnoECCgQAQ&usg=AOvVaw2GJc2DThkCj7VUafkgZwf

<https://www.bigsciencesweden.se/calendar/activities/ess-generates-socio-economic-benefit/>

<https://www.vr.se/english/just-now/news/news-archive/2022-04-25-swedish-investments-in-ess-are-producing-good-effects.html>

<https://iopscience.iop.org/book/edit/978-0-7503-3631-4/chapter/bk978-0-7503-3631-4ch17>



Credit: European XFEL / Jan Hosan

European X-Ray Free Electron Laser (European XFEL)

BASIC INFORMATION ABOUT THE BIG SCIENCE ORGANIZATION	
Foundation	Construction started in early 2009, and user operation began in September 2017. To construct and operate the European XFEL, international partners agreed on the foundation of an independent research organization: the European XFEL GmbH, a non-profit limited liability company under German law.
Founding States	A consortium of 12 countries, which includes: Denmark, France, Germany, Hungary, Italy, Poland, Russia, Slovakia, Spain, Sweden, Switzerland, United Kingdom.
Legal Basis	The European XFEL was established under the European XFEL Convention , an international treaty signed by its member countries . This treaty serves as the legal foundation for the organization, detailing its objectives, structure, and operational principles.
Legal Seat	The legal seat and headquarters of the European XFEL are located in Schenefeld, Germany . The facility's main campus is also situated in Schenefeld, near Hamburg.
Headquarters and Other Sites	The primary facility is located in the Hamburg metropolitan area , spanning the regions of Hamburg and Schleswig-Holstein in Germany. There are no other major international locations .

Governing Board Composition	The governance of the European XFEL is overseen by the European XFEL Council . Each member country is represented on the Council , which acts as the highest decision-making body . The Council is responsible for key decisions related to finance, scientific strategy, and operational management.
Governance Committees	In addition to the Council, several other committees assist in the governance of the European XFEL: <ul style="list-style-type: none"> • Administrative and Finance Committee: Handles financial matters, including budgets and funding allocations. • Scientific Advisory Committee: Provides guidance on scientific priorities and strategies. • Machine Advisory Committee: Advises on the technical operation and development of the X-ray free-electron laser.

ABOUT

[The European XFEL](#) is a research facility of superlatives. It generates ultrashort X-ray flashes—27 000 times per second and with a brilliance that is a billion times higher than that of the best conventional X-ray radiation sources.

The world's largest X-ray laser is opening up completely new research opportunities for scientists and industrial users in areas of research that were previously inaccessible. Using the X-ray flashes of the European XFEL, scientists can map the atomic details of viruses, decipher the molecular composition of cells, take three-dimensional images of the nano-world, film chemical reactions, and study processes such as those occurring deep inside planets.

At the European XFEL, international research groups can use complex scientific instruments to perform their experiments for a few days or weeks.

To generate the X-ray flashes, bunches of electrons are first accelerated to high energies and then directed through special arrangements of magnets (undulators). In the process, the particles emit radiation that is increasingly amplified until an extremely short and intense X-ray flash is finally created with properties similar to those of laser light.

The European XFEL is located mainly in underground tunnels that can be accessed on three different sites. The 3.4-kilometre-long facility runs from the DESY campus in Hamburg to the town of Schenefeld in Schleswig-Holstein.

At the research campus in Schenefeld, teams of scientists from all over the world carry out experiments using the X-ray flashes.

The company employs more than 400 people.

European XFEL **cooperates closely with the research centre DESY** and other organizations worldwide.

MEMBER STATES / ENTITIES

The European XFEL has been realized as a joint effort of many partners.

At present, **12 countries** are participating in the project: Denmark, France, Germany, Hungary, Italy, Poland, Russia, Slovakia, Spain, Sweden, Switzerland, and the United Kingdom.

FUNDING

Detailed Information about funding can be accessed at:

https://www.xfel.eu/organization/leadership/council/basic_documents/

PROCUREMENT

Procurement Budget 2024-2028

The **procurement budget for 2024–2028 is estimated** to be around **150 million euro**. This amount does not include any strategic developments.

The campus is still growing and undergoing further strategic developments. In addition, **two further tunnels (SASE4 & SASE5) are waiting to be equipped for future use**.

In general, the **funding for all procurement actions at European XFEL is part of the total annual budget made available to the company by its shareholders**.

There is also the possibility of **receiving extra funds for specially funded projects**, such as EUCALL or **third-party funding via industry or even other institutes**.

In-kind contributions took place during the construction phase of the facility but **are not foreseen during operation**.

Suppliers Engagement Policy / Strategy

European XFEL organizes **a range of industrial events**, including **technology workshops**, and also **offers space for booths or roadshows**.

Further information on **XFEL's industrial events** can be found [here](#).

The European XFEL Industrial Liaison Office (ILO) promotes and connects innovation-driven industries with European XFEL for possible collaborations or future procurement actions. Different actions and processes are ongoing, based on the approved Innovation Strategy.

For information, please contact the head of the European XFEL ILO, Antonio Bonucci (antonio.bonucci@xfel.eu).

Industrial Database

European XFEL has a solid supplier base generated by its ordering system, and procurement also works closely with the European XFEL ILO to receive new information about suppliers interested in doing business with the company.

The **supplier technology provider registration portal** is accessible at [this address](#).

Registration in the technology provider database **is not mandatory for participating in the procurement process**, but it **is used for pre-procurement market analysis**.

The technology provider database **serves as a contact database** and includes descriptions and highlights of the registered companies' available technology platforms.

Procurement Portal

European XFEL is bound to **apply the Public Procurement Law to all of its procurements.**

To ensure this, **all national tenders for the procurement of goods and services** (with a **value ranging from 25,000 to 221,000 euro**) will be **publicly announced on the [European XFEL website](#)** as well as in the [Bundesanzeiger](#), a government platform dedicated to the dissemination of information regarding national tenders.

All tenders for goods and services exceeding 221,000 euro must be **published via the [Tenders Electronic Daily \(T.E.D.\)](#)** platform, maintained by **the European Commission**. The same procedure, only with different thresholds, applies to all tenders for construction, social services, and concessions. European XFEL has fully integrated e-tendering into its processes, using the platform “Subreport” for its tenders.

European XFEL employs e-procurement and a new enterprise resource planning (ERP) system for the ordering process, encompassing the requisition, order placement and goods receiving stages.

Procurement Process

European XFEL works with all the procedures that public procurement law permits, including open tenders, restricted tenders with or without calls for competition, negotiated procedures with or without calls for competition, framework contracts, innovation partnerships, grants, joint open tenders with other institutes, etc.

Procurement processes at European XFEL follow the German national and European public tender rules, laws, and regulations.

All calls for tender above the threshold for European-wide tenders (thresholds 2024: **>221,000 euro for goods and service** and **>5,538,000 euro for construction**) are announced on the [Tenders Electronic Daily \(TED\) website](#), and **all tenders considered national (<221,000 euro)** are announced on a national/federal website called the [Bundesanzeiger](#).

Eligibility Criteria

When European XFEL was founded, it was decided by the shareholders that it would be **subject to European and national public procurement laws.**

European XFEL is therefore **prohibited by these laws to fulfil the policy of fair return to the shareholder countries in the procurement field.**

This decision was clearly established and supported to promote competition, avoiding predominant positions not related to the merit. For this reason, it is very important to promote actions that help to increase the pool of companies that could be potential suppliers, in particular for cutting-edge components.

Therefore, **all businesses worldwide are eligible to participate in tenders published and executed by European XFEL, once they fulfil the minimum requirements stated in the tender announcement**, published via Tender Electronic Daily (T.E.D.), Bundesanzeiger, Subreport, and the European XFEL website.

Adjudication Criteria

The award of contracts/tenders follows the “best value for money” practice. **Some calls for tender** related to the linear accelerator, operated by DESY, are **administrated by DESY’s procurement** group, in accordance with the operations agreement in place between DESY and European XFEL.

The evaluation criteria depend strongly on the type of goods or services to be purchased. **In general, European XFEL uses “best value for money”,** which in many cases is also **supported by additional criteria,** such as expertise, references, excellence, environmental impact, sustainability, technical implementation, compatibility, managerial competencies, technical teams, delivery times, added maintenance, and more.

IPR Policy

In general, European XFEL **includes a clause regarding the protection of proprietary rights and licenses, as well as a confidentiality clause,** in all of its tender documents and contracts.

In special cases, the European XFEL legal group assists to ensure that all propriety rights are taken into consideration and are protected.

The European XFEL ILO assists in coordinating the patenting process for inventions, **supporting both licensing and new startup creations, and negotiating the background and foreground aspects of collaborations.**

Role of ILOs

The European XFEL ILO has been appointed by the management, **assisting the Procurement group and the scientists in order to create an interest in the Big Science market industry and to become possible suppliers of cutting-edge components.**

A larger pool of potential suppliers leads to a higher participation and competition in calls for tender, which often results in better quality and best value for money.

The European XFEL ILO establishes a network with other national ILOs in order to enlarge the possibility to access information about new technologies, trends, and competences that are coming out in the market.

Regular meetings, as well as continuous contacts of the European XFEL ILO, national ILOs, and other important stakeholders, also fostered by European programmes, support the functionality of this network and help to achieve that goal.

Procurement Areas 2024-2028

More detailed figures cannot be provided due to the way the fund is set up.

European XFEL integrates various sectors, including utilities, cutting-edge components, and commodities.

Among others, the following can be highlighted:

- Diagnostics, detectors, sensors, optics, and instruments
- Big Data and artificial intelligence, user interfaces
- Instrumentation and control
- Superconducting magnets
- Cryogenic technology, vacuum, and leak detection technologies
- Building and construction

SMEs Involvement

As European XFEL is obliged to procure according to the European (GPA) and national public procurement laws, which **highly encourage the involvement of SMEs in all procurements**, it is part of our daily business to work with SMEs.

TECHNOLOGY/ KNOWLEDGE TRANSFER

European XFEL ILO coordinates and **promotes the technology and knowledge transfer processes**. Knowledge transfer significantly enhances the facility's impact within the industrial sector.

Contact of the Technology and Knowledge transfer reference person:

Antonio Bonucci, Aerospace Engineer, EMBA
Head of Industrial Liaison Office
In-Kind Contributions Supply Chain Manager

Phone: +49 (0)40 8998-4773
Email: antonio.bonucci@xfel.eu

https://www.xfel.eu/organization/industrial_liaison/

RELEVANT CONTACTS AND USEFUL LINKS

<https://www.xfel.eu>
https://www.xfel.eu/organization/industrial_liaison/
<https://www.xfel.eu/organization/procurement>
<https://ted.europa.eu/en>
<https://www.bundesanzeiger.de/pub/en/start?0>

IMPACT OF PROCUREMENT (STUDIES)

European XFEL provides the international scientific community with a world-leading research facility facilitating the advancement of scientific knowledge and the exploration of novel scientific avenues.

In collaboration with international user communities, especially from our shareholder countries, we perform world-class experiments for a broad range of scientific applications. Our suppliers can take part in this exciting journey.

The components and services offered to European XFEL have a growing market of FEL, synchrotron, and accelerator-based facilities.

The European XFEL ILO, in collaboration with the European XFEL Procurement group, reports various information to the European XFEL Council and Administrative and Financial Committee about industrial suppliers and partners. This includes the expansion of the pool of technology providers for cutting-edge components and state-of-the-art services, highlighting the positive outcomes of industrial involvement.



Credit: FAIR

Facility for Antiproton and Ion Research (FAIR)

BASIC INFORMATION ABOUT THE BIG SCIENCE ORGANIZATION	
Foundation	FAIR was officially founded in 2010 with the signing of the FAIR Convention
Founding States	The group of founding member states includes: Finland, France, Germany, India, Poland, Romania, Russia, Slovenia, Sweden.
Legal Basis	FAIR was established under an international agreement known as the FAIR Convention . The convention outlines the legal framework for the construction, operation, and management of the facility, as well as the roles and responsibilities of the member states. The FAIR Convention was signed in 2010 by the founding member states and came into force shortly thereafter.
Legal Seat	FAIR's legal seat and headquarters are located in Darmstadt, Germany . This is where the main facility is being constructed, adjacent to the GSI Helmholtz Centre for Heavy Ion Research, which is a key partner and host for FAIR.

<p>Headquarters and Other Sites</p>	<p>FAIR does not have other international sites, as the entire research infrastructure is being concentrated in Darmstadt.</p>
<p>Governing Board Composition</p>	<p>The governance of FAIR is managed by the FAIR Council, which serves as the primary decision-making body. The Council is composed of representatives from each member state, who are typically officials from government agencies or national research organizations.</p>
<p>Governance Committees</p>	<p>In addition to the FAIR Council, several committees assist in governance:</p> <ul style="list-style-type: none"> • Administrative and Finance Committee (AFC): Handles financial oversight, budgeting, and administrative matters. • Scientific Council: Provides strategic guidance on scientific priorities and the research agenda. • Technical Advisory Committee: Offers advice on technical and engineering aspects related to the facility's development. • Project Committee: Oversees the construction and progress of the facility, ensuring milestones are met.

ABOUT

FAIR is the Facility for Antiproton and Ion Research in Europe, one of the largest research projects in the world being built at GSI Helmholtzzentrum für Schwerionenforschung GmbH in Darmstadt, Germany. The constructor is the Facility for Antiproton and Ion Research in Europe GmbH (FAIR GmbH).

FAIR will generate particle beams of a previously unparalleled intensity and quality. The variety of these particles will be unique: ions of all the natural elements in the periodic table, as well as antiprotons, can be accelerated. A key component of FAIR is a ring accelerator with a circumference of 1,100 meters. Connected to this is a complex system of storage rings and experimental stations. The existing GSI accelerators will serve as the first acceleration stage.

The FAIR research is subdivided into the four experiment pillars:

- NUSTAR - Nuclear Structure, Astrophysics and Reactions
- CBM - Compressed Baryonic Matter
- PANDA - Physics with High Energy Antiprotons
- APPA - Atomic, Plasma Physics and Applications

The FAIR particle accelerator facility in Darmstadt is one of the world's biggest and most complex construction projects for international cutting-edge research.

On a site of approximately 20 hectares, unique buildings are being constructed in order to house and operate newly developed high-tech research facilities. This multinational and highly complex mega construction project has entailed the development of integrated construction workflow planning that closely coordinates building, civil and construction engineering, accelerator development and construction, and scientific experiments.

The FAIR project is being realised in international collaboration. International scientific and technical institutes of the shareholder countries and many more partner countries are cooperating.

Cutting-edge technologies and extremely innovative measuring methods and techniques are being developed for the unique FAIR particle accelerator facility. In order to create the facilities for acceleration and experiments, high-level scientists, engineers, and other experts are working in international partnership to advance new technological developments in many areas such as information and superconductor technology.

MEMBER STATES

Shareholders alongside Germany are Finland, France, India, Poland, Romania, Russia, Sweden, and Slovenia.

The United Kingdom is an **associate partner**; the Czech Republic is an **aspirant partner**.

Additionally, Italy, Spain, and China **participate** in various capacities, **through specific collaborations**.

FUNDING

FAIR is funded by its shareholder countries with the following commitment:

Country	Commitment (%)
Finland	1.47 (together with Sweden)
France	2.65
Germany	69.07
India	3.53
Poland	2.33
Romania	1.16
Russia	17.45
Slovenia	1.18
Sweden	1.47 (together with Finland)
United Kingdom	Fixed sum in Euro + >0.5%

Table 1: FAIR shareholder commitments

PROCUREMENT

Procurement Budget 2024-2028

Our procurement has three pillars:

1. **Site and Buildings:** The main part of the procurement will be finished by the end of 2024, and several procurements are currently available for bids.
2. **Accelerator:** More than 230 million EUR has already been successfully procured and assigned for accelerator components. From 2024 to 2028, approximately 42 million EUR is expected to be procured on the open market in this segment.
3. **Experiment:** Most of the procurement for experiments will be supplied via collaborations rather than by FAIR.

Year	Procurement Budget Expenditures (MEUR)
2021A	29
2022A	57
2023A	32
2024F	38
2025F	23
2026F	5
2027F	3
2028F	2
TOTAL	189

Table 2: Annual Procurement Budget Expenditures during the period 2021-2028 (rounded MEUR, A = Actual, F = Forecasted).

Suppliers
Engagement
Policy /
Strategy

FAIR relies on the following avenues, as well as our extensive market know how within the organisation:

Systematic market review prior to the launch of a tender

By means such as market research on the internet, exhibitions and scientific publications as well as meetings with potential bidders actively approaching the FAIR procurement department.

Industry days at GSI

In order to strengthen interaction between FAIR and industry the technology transfer staff unit organizes regularly in house industrial exhibitions called '**Roadshow**' on the FAIR campus.

The latest developments and technical solutions are brought to FAIR by companies of different branches and presented to the employees on site. The latest technologies and most innovative measuring methods and techniques are developed for our unique particle accelerator facility FAIR. For the realisation of the accelerator and experimental facilities, the supply of highly specialised components, some of which have been developed specifically for FAIR together with the manufacturers, is indispensable.

The Roadshow offers companies an exhibition space to present their latest developments and products at FAIR. The presentation of the product portfolio will take place in form of an exhibition stand on the campus area.

Contact: ROADSHOW@GSI.DE

Market knowledge and contacts of GSI scientific experts and GSI/FAIR buyers

FAIR draws on the 50 years of experience of our German shareholder and host institute, GSI Helmholtz GmbH (Gesellschaft für Schwerionenforschung; Society for Heavy Ion Research). Our scientists and technicians each have their own professional network which they are careful to curate.

Market knowledge of FAIR shareholders

Our ten shareholders each cultivate their own network of potential suppliers, paying particular attention to the market in their own countries. In the case of a fractured or emerging market, our shareholders have facilitated the formation of consortia.

Industrial
Database

The **Purchasing Department at FAIR maintains a master bid list for major accelerator components** which has been efficiently used for most of the successfully assigned procurements.

This internal database collects suppliers contacts or receives them from the business development representatives or from the ILOs (see dedicated section below).

Contacts generated during company meetings and events like BSBF are also added.

Companies interested in doing business with FAIR can also proactively present themselves to FAIR/GSI and ask for an appointment or a presentation date on the "Roadshow" at the FAIR campus (see section above).

Once inside the database, firms get notification when an opportunity in their segment appears.

Procurement Portal

All calls for tender above 30,000 EUR total purchasing value by FAIR and GSI are published in our [CALL FOR TENDERS](#) section.

National German calls for tender above 30,000 EUR are additionally published on the [DEUTSCHES VERGABEPORTAL](#).

European calls for tender fulfilling the requirements are additionally published in the [SUPPLEMENT TO THE OFFICIAL JOURNAL OF THE EUROPEAN UNION TED \(TENDERS ELECTRONIC DAILY\)](#).

Procurement Process

FAIR is subject to [DIRECTIVE 2014/24/EU ON PUBLIC PROCUREMENT](#).

Because FAIR is a **German limited liability company (GmbH)** all our tenders are published according to German procurement and state-aid law, which is commensurate with EU procurement law. **Calls for tender are published on the German or European tender sites** (depending on their estimated economic value, see section above). In principle, **any bidder anywhere in the world can make a bid to supply FAIR.**

The **tender procedure** used for each procurement activity is **determined primarily by the value of the procurement.**

The basis for the call for tender is either the publication of functional specifications or the use of built-to-print, depending on the magnitude of development support required from the supply base. **The majority of tenders for complex components are conducted as "negotiation tenders"**, allowing for the preselection of capable bidders, as well as technical reviews and intense negotiations during the purchasing process.

If the subject of the procurement activity is fully described and no technical or commercial reviews are needed, we will use the **"open tendering procedure"**.

In this case, we award based on capability and the submitted offers.

Our in-kind partners have their own procurement profile, which is totally independent of GSI/FAIR and follows the national procurement rules of the relevant country. Below, we give the total in-kind commitment of each country. Some of this commitment will be tendered on the open market according to national rules, some produced by partners or shareholders in-house, without tendering. We are procuring over half of our accelerator components in kind from our shareholders. Our largest shareholder is GSI (Germany), whose calls for tender are openly published on the German or European tender sites (depending on their estimated economic value). The rest of our procurements are made on the open market by FAIR, again on the German or European tender sites (depending on their estimated economic value).

Where our shareholders contribute In-Kind, they will often launch their own call for tender, according to their national procurement laws. Each country has its own modalities. Please find below the procurement pages of the FAIR shareholder in your country: you are likely to find calls for FAIR technologies that are not immediately obviously such.

Country	Shareholder	Where to check for calls
Finland (in consortium with Sweden)	Vetenskapsrådet (Swedish Research Council)	WWW.VR.SE/ENGLISH.HTML
France	CEA and CNRS	HTTPS://WWW.MARCHE-PUBLIC.FR/INDEX-EN.HTM
Germany	GSI GmbH	HTTPS://WWW.DTVP.DE/
India	Bose Institute	HTTPS://WWW.TATANEXARC.COM/T/AUTHORITY/BOSE-INSTITUTE-BI-TENDERS/
Poland	Jagiellonian University	HTTPS://OPENTENDER.EU/PL/SEARCH/TENDER
Romania	Ministry of Research and Innovation	HTTP://ANAP.GOV.RO/WEB/
Russian Federation	Rosatom	HTTP://ZAKUPKI.ROSATOM.RU/EN/
Slovenia	Ministry of Education, Science and Sport	HTTPS://OPENTENDER.EU/SI/SEARCH/TENDER
Sweden (in consortium with Finland)	Vetenskapsrådet (Swedish Research Council)	WWW.VR.SE/ENGLISH.HTML

Table 3: FAIR shareholders and call websites

Eligibility Criteria

As a German limited liability company, FAIR procurement is oriented according to the principles cited in the EU Treaty: Competition, Transparency, Economically, Equal treatment, Non-discrimination, Proportionality, Mutual recognition, Fair play.

As such, there is no policy of geo-return.

Depending on the procurement volume and the risk associated with the procurement package, FAIR and GSI may demand certain eligibility criteria such as:

- **Minimum annual turnover**
- **“European single procurement document (ESPD)”** self-declaration form
- **Proof of experience** in the relevant market field by self-declaration
- **Proof of availability of dedicated manufacturing equipment** by self-declaration

- **Proof of certificates**, either related to quality, personnel or equipment by self-declaration

Adjudication Criteria

Application, bidding and award criteria are published along with the call for tenders.

The specification of award criteria, their weighting (price vs. performance) and our method of evaluation are clearly documented in the initial tender documentation. Price weighting varies between 30% to 100%.

Typical **performance criteria** might include:

- Technical concept (e.g. technical solution, highlight of critical features incl. suggestions to solve, resource availability, qualification design & development).
- Manufacturing (e.g. availability of capacity, process flow, description of equipment and measurement devices, ...).
- Lead-time.
- Quality assurance.
- Serviceability.

IPR Policy

The FAIR intellectual property policy in a nutshell is the following:

- We ask for **rights to a supplier's background** only if and only **as far as necessary for the project**.
- **Rights are shared** between FAIR and the supplier for **foreground generated** within the procurement cooperation.
- Any **exploitation FAIR** makes of **background and foreground is solely for non-commercial research**.

Role Of ILOs

An Industrial Liaison Officer (ILO) is the person who is responsible for establishing and maintaining contact between FAIR/GSI and the businesses and institutions in their country/area. In FAIR/GSI context, this person is a single point of contact with respect to In-Kind, Technology Transfer and communication with industry in their respective partner country.

The **list of FAIR ILOs for shareholder and associate partner countries** can be found [here](#).

Info for ILOs can be found at this [webpage](#).

FAIR ILOs:

- Disseminate information about FAIR's needs
- Identify key businesses in their area
- Perform market analyses in their area
- Engage industry to become involved in FAIR
- Assist communication between industry and FAIR
- Disseminate information about the scientific possibilities of collaboration with FAIR

- Identify the potential for spin-off, spin-out and licensing in their area
- Promote the industry of their area in the scientific world

ILOs are important to FAIR and GSI because they:

- **Identify potential bidders and consortia** that could supply FAIR. More bidders mean a healthier market and better prices.
- **Act as a communication channel** between FAIR and industry in their country, and vice-versa.
- Play a **key role in technology transfer** of all kinds.

**Procurement
Areas
2024-2028**

Cutting-edge technologies and extremely innovative measuring methods and techniques are being developed for the FAIR particle accelerator. In order to create the facilities for acceleration and experiments, high-level scientists, engineers, and other experts are working in international partnership to advance new technological developments in many areas such as information and superconductor technology.

The table below gives the **estimated expenditure for the next four years**, by **technology branch**, the forecasted values are rounded to the nearest MEUR.

	2024F	2025F	2026F	2027F	2028F
Vacuum	1.0	5.0	1.0	0.8	0.7
Cryogenics	1.3	1.2	0.0	0.0	0.0
Magnets, RF systems, testing	1.2	2.8	0.2	0.1	0.4
Power supply, Power converters	0.0	3.8	0.7	0.8	0.1
Beam diagnostics, control systems	3.6	3.2	0.4	0.2	0.0
Collimators, Intersections	0.5	2.9	0.3	0.1	0.0
Alignment, pre-assembly	1.4	4.3	2.4	0.8	0.0
TOTAL	9.0	23.2	5.0	2.8	1.2

Table 4: Procurement expenditures breakdown by key technological domains for the period 2024-2028 (rounded MEUR, F = Forecasted).

**SMES
Involvement**

Where appropriate, we design our procurement packages in lots to allow better access for SMEs. We also encourage bids from consortia of SMEs.

FAIR is always interested in close cooperation with SMEs, especially for joint development projects. Currently, FAIR/GSI have numerous collaborations with SMEs in different fields of expertise as well as four ongoing national third-party funded innovation projects in the fields of accelerator physics, detector development, and biophysics. Additionally, GSI has its own internal funding instrument, the GSI Innovation Fund, for technology transfer projects. The aim of this fund is the product-oriented validation and further development of market-relevant technological potential from research and development at GSI and FAIR - ideally together with an industrial partner.

Contact: transfer@gsi.de

TECHNOLOGY /
KNOWLEDGE
TRANSFER

GSI and FAIR are adaptable and flexible in their partnerships with economic partners:

- **Cooperations:** New high-tech solutions are often developed in collaboration with business partners.
- **Contract Research:** Scientific and technical expertise can be used to work on a company's specific problem formulation.
- **Commissioned Work:** Technical infrastructure can be used for industrial applications according to a customer's specific requirements.
- **Provision of Components:** GSI is able to produce components, membranes and electronics with special properties.
- **Beamtime:** GSI provides measurements for industrial projects.
- **IP Utilisation Agreements:** GSI has a versatile IP portfolio in its fields of innovation.

GSI makes its inventions and developments ("Intellectual Property", IP) also available for industrial use through:

- **Validation projects:** The GSI Technology Transfer Department supports and coordinates funding applications for the validation of GSI developments in cooperation with companies.
- **IP license and transfer agreements:** The aim of each IP utilisation agreement between GSI and a business partner is to create a win-win situation that enables each party to generate and extract sustainable value.

USEFUL
LINKS
AND
RELEVANT
CONTACTS

FAIR - Facility for Antiproton and Ion Research in Europe GmbH

<https://fair-center.eu/>

GSI Helmholtzzentrum für Schwerionenforschung GmbH

<https://www.gsi.de/en/>

Resources for suppliers:

https://fair-center.eu/about/procurement/information_for_suppliers

In-Kind & Procurement at FAIR

<https://fair-center.eu/about/procurement>

Terms, Conditions and Agreements for purchases of FAIR:

<https://fair-center.eu/business-partners/purchasing-department>

GSI/FAIR Technology Transfer:

transfer@gsi.de

https://www.gsi.de/en/technology_transfer



Credit: ITER Organization

Fusion for Energy (F4E)

BASIC INFORMATION ABOUT THE BIG SCIENCE ORGANIZATION	
Foundation	2007
Founding States	Fusion for Energy (F4E) is the European Union's organisation managing Europe's contribution to ITER, the biggest scientific experiment on the path to fusion energy, and other international fusion projects such as JT-60SA, IFMIF-DONEs. F4E is a Joint Undertaking with the participation of Euratom (represented by the European Commission) and EU Member States. Most of its funding is received from the EU budget.
Legal Basis	F4E was established under Council Decision 2007/198/Euratom of the European Union , which laid down the statutes for the creation of the organisation. The decision was adopted on 27 March 2007 . F4E operates as a Joint Undertaking, a specific legal form established under the Euratom Treaty (European Atomic Energy Community), allowing for collaborative research and technological development in nuclear energy.

Legal Seat	The legal seat and headquarters of F4E are located in Barcelona, Spain . This site serves as the central hub for managing the European contribution to ITER and other fusion research projects.
Headquarters and Other Sites	Headquarters in Barcelona. F4E also has additional locations to support its activities: <ul style="list-style-type: none"> • Cadarache, France: This site is close to the ITER construction site and plays a crucial role in coordinating activities with the ITER organization. • Garching, Germany: This site focuses on the development and testing of key fusion technologies and systems. • Rokkasho and Naka, Japan: At the site of the International Fusion Energy Research Centre (IFERC) that has a number of projects to support ITER and DEMO, and at the site of JT-60SA - the most powerful tokamak device to date.
Governing Board Composition	The governing board of F4E is known as the Governing Board. This body is responsible for the overall strategic direction of the organization and is composed of representatives from the European Union member states, the European Commission, and Euratom.
Governance Committees	Several committees support the governance of F4E: <ul style="list-style-type: none"> • Administration and Management Committee: Provides advice and recommendations on specific matters related to the administrative and financial planning of F4E. • Technical Advisory Panel: Provides expert advice on the technical aspects of fusion projects and the ITER program. • Procurement and Contracts Committee: Reviews and advises on procurement policies and contract management.

ABOUT

[FUSION FOR ENERGY \(F4E\)](#) is the European Union's Joint Undertaking for ITER and the Development of Fusion Energy. The organisation was created under the Euratom Treaty by a decision of the Council of the European Union (EU).

F4E is responsible for providing Europe's in-kind and in-cash contribution to ITER, the world's largest scientific installation that aims to demonstrate fusion as a viable and sustainable source of energy. ITER brings together seven parties that represent half of the world's population – the EU, Japan, China, India, South Korea, Russia and the United States. The ITER assembly and operations are managed directly by an international organisation created for the purpose: the ITER International Organisation (ITER IO). F4E also supports international fusion research and development initiatives through the Broader Approach (BA) Agreement signed with Japan and in collaboration with the European fusion research community (Eurofusion), with the ultimate goal to reach the commercial exploitation of fusion energy. In addition, F4E is collaborating on the International Fusion Materials Irradiation Facility (IFMIF) that will be testing and qualifying materials for conditions similar to those of a future fusion power plant

F4E works closely with industry and R&D organisations across Europe to design, manufacture and test technical components for fusion installations. F4E is therefore well-placed to reinforce Europe's industry's capabilities and its ties to projects like ITER and also strives to create the conditions for a strong European supply chain needed for a renewed and comprehensive EU strategy for fusion, tackling not only the scientific challenges, but also all needs at the level of skills, industry or regulation. The recently launched the F4E Technology Transfer Marketplace programme is a prime example of this key role and contribution to furthering fusion technologies across the EU Member States.

Between **2008 and 2023**, F4E has **invested nearly 6.7 billion EUR in contracts**. For the period of **2024-2027**, F4E has an **operational procurement budget of about 2.2 billion EUR** for the European contribution to the ITER and BA projects.

MEMBER STATES

F4E has the following members:

- **Euratom**, represented by the **European Commission**;
- **27 member states of the EU**: Belgium, Bulgaria, Czechia, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland and Sweden.

Each member sits in the Governing Board (GB), the main body which supervises F4E.

FUNDING

F4E budget is **funded from the EU Budget (80%), France as Host of ITER (15%)**, the rest is **other funding (Members, ITER IO and miscellaneous)**.

PROCUREMENT

Procurement Budget 2024-2027

	Budget Forecast for Operational Procurement 2024-2027 (MEUR)
2024F	460
2025F	550
2026F	730
2027F	485
TOTAL	2,225

Table 1: F4E's Operational Procurement includes in-kind contributions to ITER. These figures are indicative and subject to the outcome of the respective budgetary procedures of the F4E contributors (rounded MEUR, F = Forecasted)

Note. Budget forecast for 2028 is not yet available, as EU budget rules foresee a 7-year MFF currently ending in 2027.

Supplier Engagement Strategy/Policy

ITER is the biggest international research partnership in the field of energy and can only be achieved in collaboration with industry, SMEs and research organisations. They are the backbone of this project. Getting the business sector on board and finding the best possible way to work together is high on the project agenda. F4E's Industrial Policy pursues this ambition through three main objectives:

- **Deliver the European contributions to ITER and the Broader Approach** making best use of the industrial and research potential and capabilities of all F4E members.
- **Broaden the European industrial base for fusion technology** and ensure a strong and competitive European industrial participation in the future fusion market;
- **Foster European innovation and competitiveness** in key emerging technologies

F4E's Industrial Policy applies through its day-to-day operations and procurement activities. To make good use of the full industrial and research potential of F4E members and ensure the widest possible participation of the industry, **F4E has engaged in pro-active market analysis strategy.** The purpose of F4E's market analysis activities is twofold: engage market actors in our procurement activities and feed the internal decision-making process with a better insight of existing market conditions.

F4E obtains information about the market conditions mostly through market surveys, information days, contacts with companies and exchanges with the Industrial Liaison Officers (ILOs, see the dedicated section below for further information). The information gathered through these activities helps making F4E's procurement activities more efficient by translating its needs into procurement packages matching the capabilities of industrial partners.

Procurement Portal

[F4E's Industry Portal](#) constitutes **the one-stop-shop for anyone willing to engage into business relations with F4E**. The Industry Portal offers information about **business opportunities, procurement modalities and key reference documents**; it also **hosts the partner's database and the e-procurement platform**.

Since end-2018 the e-procurement tool embedded within F4E's Industry Portal **allows for the fully electronic submission of bids**. See the section called "[How to Apply](#)" for information on how to register in EU Supply for submission of bids and also for guidance, tutorials and templates for preparing your bids.

F4E is building an EU Fusion Industry Supply Chain Database. Companies are strongly encouraged to get in touch with F4E to be identified as potential contributors to the ITER project and beyond (industryportal-info@f4e.europa.eu).

F4E uses the **Industry Portal** as well as **Information Days**, to **announce Market Surveys** and for general information of interest to our procurement activities. The Industry Portal includes a dedicated area for the ILOs (Industrial Liaison Officers) allowing companies to identify the ILO corresponding to their country.

Amongst other business opportunities, the F4E Industry Portal is **also advertising Call for Nominations and calls for Expertise** in view of the participation of F4E member states companies **to participate in Call for tenders of ITER IO organisation**. Experts that collaborate with Fusion for Energy on personal basis are also selected via Calls for Expressions of Interests for Experts published in our Portal.

Procurement Process

Procurement in Fusion for Energy follows the **rules laid out by the European Commission in its General Financial Regulation¹** with specific **derogations, specified in F4E's Financial Regulation²**.

The legal basis ensures that the following principles are respected through all steps of a procurement procedure: transparency, equal treatment, widest competition, proportionality and sound financial management.

The following **funding modalities** are foreseen in F4E's Financial Regulations:

- 1) **Expert contracts**: F4E can sign contracts with individuals for the provision of technical expertise against a payment or a fix fee plus the reimbursement of travel costs.
- 2) **Grants**: F4E can award co-funding grants in order to contribute to a R&D project carried out by an external organisation, if that activity contributes to F4E's objectives. F4E pays direct financial contribution to cover portion of the costs incurred by the R&D actor. Grant agreements can be awarded directly or through

¹ REGULATION (EU, Euratom) 2018/1046 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 July 2018 on the financial rules applicable to the general budget of the Union (GFR)

² Financial Regulation for Fusion for Energy adopted by Governing Board decision of 10/12/2019 and entering into force on 01/01/2020 - (F4E FR)

Framework Partnership Agreements (covering long-term R&D activities spanning several years).

- 3) **Procurement:** the most common way of pursuing F4E's objectives is by launching competitive call for tenders to purchase products or services on commercial terms. Three different types of procurement contracts are awarded by F4E, depending on the type of purchase (service, supply or buildings) as well as the characteristics of the purchase (one-off, repetitive, long-term exploitation, development).
- a. **Direct Contracts** are firm and self-sufficient, in that the contract is implemented without further formalities (the subject matter, remuneration and duration of performance of the contract are defined at the outset, as well as all other terms and conditions).
 - b. **Framework Contracts** stipulate the subject matter of the purchase, price lists, the legal setup, the duration etc, but other necessary elements of the contractual relationship are defined at a later stage, in one or more Specific Contract indicating e.g. the quantities or date of delivery. Framework contracts can be signed with one or more suppliers. F4E uses 3 types of framework contract: single-contractor, multiple-contractor with cascade and multiple-contractor with re-opening of competition.
 - c. **Innovation Partnerships** can be used in very specific cases, when F4E's objectives require the development and subsequent purchase of an innovative product or service which does not yet exist on the market and needs to be developed specifically.

Based on the scope of the purchase (research, support services, manufacturing of prototypes, series production, etc.), the **value, the complexity of the scope** or whenever specific indications are identified through market analysis, **F4E will use the most suitable tender procedure to select the most economically advantageous tender**. F4E can use **5 different types of procurement procedure**, which are **described in more detail** in the [How to do Business with F4E section](#) of F4E's Industrial Portal: **open, restricted, negotiated, competitive procedure with negotiation, competitive dialogue**.

The **procedures most often used by F4E are the 'Open procedure' and 'Competitive procedure with negotiations**.

The latter is used when the complexity of the tasks or the risks attached to the subject matter of the contract are high.

In all types of procedures, potential tenderers are encouraged to submit Q&As prior to the submission deadline and Technical Information Days are also organized to assist companies in assessing their possible participation and contribution to the call (e.g., as either a single tenderer, as part of a grouping of tenderers or, as often also occurs, as a specialized subcontractor in one or more of the bids). **When required**, depending of the type of procedure, **a selection of companies is made based on technical and financial capacity**. Only the companies complying with a minimum capability are invited to submit an offer.

The offers submitted shall in general address the way in which the company(s) will implement the tasks described by F4E in the Technical Specifications.

The Tender Specifications include all the additional specific requests and conditions which must be covered by an offer to be considered for award.

Eligibility Criteria

Participation to F4E's calls for tenders is **open as a rule to economic operators from F4E Member States (EU27).**

In **special justified cases** the participation can be **opened worldwide** (e.g. when insufficient competition is existing in the Member States).

Subcontracting is not directly limited to F4E Member States, although specific requirements **can introduce additional constraints** in this respect.

The **minimum capacity required** from tenderers (in terms of technical expertise, facilities or financial stability) are **defined for each call** and are proportional to the scope and requirements of the contract. Procurement strategies are established to allow for maximum possible competition and to promote where possible participation of SMEs. In compliance with F4E's Industrial Policy objectives, procurement strategies promote the development of critical fusion technologies within companies registered in F4E Member States.

Adjudication Criteria

Depending on the strategy, contracts will be **awarded either to the cheapest offer** (in simple cases) or to **the offer presenting the best value for money** (a combination between the quality of the proposal and the price offered, where necessary complemented by negotiations).

The purpose of evaluation of tenders in F4E is to assess technical and financial offers to choose **the most economically advantageous** one.

When award occurs to the offer with **the best ratio quality vs price** (the **award method which is most used by F4E**) the weighting between the price and the quality elements depends on the scope of the contract.

As a rule F4E also sets minimum levels of quality below which offers are excluded.

In most cases F4E gives significant importance to the merit of the quality plan and the reliability of the proposed schedule, the methodology proposed for the manufacturing, identification of risks and their mitigation actions, the internal organisation of the bidding team (consortium and/or subcontractors).

For certain calls for tenders, **where nuclear safety is particularly a sensitive factor, tenderers will be required to comply with certain nuclear safety requirements.**

Accordingly, for these calls, the selection and award criteria shall include safety related provisions and/or requirements.

With respect to **Quality Assurance provisions and requirements**, F4E's calls for tender will **almost always also include** at least **one selection criterion** and **one award criterion** related to Quality Assurance.

Fusion for Energy has also committed to develop and implement **sustainable procurement** and thus, when applicable because of the subject matter, **sustainable criteria will be also taken into account for the award of the contracts**

More information on selection criteria and award criteria used in F4E's calls are found in the following document: [Guidelines for Preparation of Procurement Procedures](#).

IPR Policy

[F4E'S INTELLECTUAL PROPERTY \(IP\) POLICY](#) aims to make participation to fusion projects attractive to industry, beyond the pure commercial terms of the relevant contracts. The key tool of this approach is **the principle of sharing knowledge and its potential benefits between the fusion research community and industry.**

F4E's manages the **ownership of IP rights within its contracts on a case-by-case basis**, having regard to the nature of the contract and the potential interest for both F4E and the contractor of the generated IP.

Irrespective of who owns the results of a contract, **F4E's encourages the use of the resulting knowledge by its industrial partners through licensing.** This is specifically the case for exploitation outside of the fusion field. F4E is promoting an active policy of use of IP results through its Technology Transfer programme. Additional details can be found [here](#).

Role Of ILOs

F4E's **relies on a network of Industrial Liaison Officers (ILOs) from different European countries** working to raise awareness regarding its opportunities and ways to get involved in the fusion projects. ILOs are directly nominated by F4E Member States.

The full list of appointed ILOs is available at: [F4E Industrial Liaison Officers \(europa.eu\)](#).

The ILOs mandate is the following:

- Raise awareness and transmit information to potential contractors about forthcoming calls to be published by F4E or ITER IO;
- Assist potential contractors in their understanding of F4E's requirements within the frame of the above-mentioned calls;
- Advise potential contractors, upon request, on technical, contractual and financial aspects of F4E's contracts;
- Foster the registration of potential contractors in the F4E databases;
- Act as a actors to exchange information on matters related to F4E industrial policy;
- Encourage the long-term participation of industry to fusion projects in view of commercial exploitation.

F4E holds ad-hoc meetings with the ILO network three or four times a year. Additionally information days and seminars are planned throughout the year, to report on the roadmap of the different procurement packages and facilitate partnerships between companies.

Procurement
Areas
2024-2027

1. Allocation of F4E Operational Budget (2024-2027):

	MEUR
Broader Approach	170
Cryoplant and Fuel Cycle	150
Diagnostics	130
DONES	90
Heating & Current Drive	230
In Vessel- Blanket	305
In Vessel- Divertor	205
Remote Handling	80
Site and Buildings and Power Supplies	580
Supporting Activities	130
Test Blanket Module	30
Vacuum Vessel	55
Technology Development Programme	70
TOTAL	2,225

2. Forthcoming procurements (until 2027) in several key Technological Domains:

Technological Domain	MEUR	Parallel Session Day 1 / 2
A2 - Robotics and remote handling systems	27	Day 1
A3 - Diagnostics, detectors, sensors, optics, and instruments	102	Day 1
B3 - Instrumentation and control systems	20	Day 1
B4 - Basic material technologies and advanced manufacturing techniques*	15	Day 1
C1 - Electrical, power electronics, electromechanical and RF systems	30	Day 2
C2 - High precision, small and large mechanical components	153	Day 2
C3 - Complex buildings, construction, and safety related systems	365	Day 2
D2 - Vacuum, cryogenic and leak detection technologies	85	Day 2

*Materials amount refers to contracts that are dedicated only to materials R&D and testing (e.g., First Wall W armour development)

As indicated, the above Technological Domains mirrors the programme at BSBF 2024 of several parallel sessions being presented by F4E representatives. BSBF 2024

participants are encouraged to seek more information on these domains and their associated technical competencies and needed expertise at the respective sessions.

SMES INVOLVEMENT

F4E fosters the participation of SMEs in its procurement activities and actively promotes the creation of consortia with the presence of SMEs as part of its pre-procurement activities. F4E's concern for SMEs is also reflected in its Industrial Policy implementation plan, which includes a number of measures aimed at facilitating their access to its procurement activities, e.g.:

- Share financial risks with contractors by reducing liabilities and guarantees where appropriate.
- Promote tender opportunities with value and risk suitable to direct SME participation.
- Reduce administrative burden for tenderers and contractors, e.g. through e-procurement and electronic management of contract modifications.
- An SME day organised by F4E will gather the needs of the SMEs and will work on an action plan to support easier access to the market to the SMEs.

TECHNOLOGY / KNOWLEDGE TRANSFER

F4E is strongly committed to implement a technology transfer strategy fostering the exploitation by industry of scientific, technological and systems engineering know-how produced in the development of fusion projects. Attainment of fusion power requires pushing the state of the art in several advanced technologies, which can then find applications far beyond the scope of fusion.

F4E recently launched the Technology Transfer Marketplace programme, through which it is promoting the transfer of fusion technologies developed under F4E to Europe's industry. Our experts are there to identify their business potential and to facilitate their commercial use. Our services are offered to all companies looking for new market opportunities. F4E is here to help entrepreneurs, scientists and businesses willing to integrate fusion technologies in the development of their products.

Further information about F4E's technology transfer activities can be found at the site dedicated to [F4E Technology Transfer Marketplace \(europa.eu\)](https://europa.eu/f4e-technology-transfer-marketplace).

USEFUL LINKS AND CONTACTS

[Fusion for Energy - Bringing the power of the sun to Earth \(europa.eu\)](https://europa.eu/fusion-for-energy)
[Industry and Fusion Laboratories Portal \(europa.eu\)](https://europa.eu/industry-and-fusion-laboratories-portal)
[F4E Technology Transfer Marketplace \(europa.eu\)](https://europa.eu/f4e-technology-transfer-marketplace)
[F4E Industrial Liaison Officers \(europa.eu\)](https://europa.eu/f4e-industrial-liaison-officers)

IMPACT OF PROCUREMENT (STUDIES)

F4E offers the possibility to companies and R&D organisations to participate in different fusion R&D initiatives and ITER. Manufacturing Europe's share of components and providing the infrastructure to this international project means

working with suppliers from all over the world, becoming more competitive by acquiring new skills.

[Benefits for Europe - Fusion for Energy \(europa.eu\)](#)

[Success Stories - Discover Europe's Business Potential in ITER \(europa.eu\)](#)



Credit: Cedrine Tresca

The Institut Laue-Langevin (ILL)

BASIC INFORMATION ABOUT THE BIG SCIENCE ORGANIZATION	
Foundation	1971
Founding States	ILL was established by three founding member countries: France, Germany, the United Kingdom.
Legal Basis	ILL was established under an international agreement known as the ILL Convention . This convention outlines the legal and operational framework for the institute. The original agreement was signed on 13 March 1967 , and ILL became operational in 1971.
Legal Seat	The legal seat and headquarters of ILL are located in Grenoble, France . This site hosts the neutron source and provides the primary administrative and operational functions of the institute.
Headquarters and Other Sites	ILL operates its main facility in Grenoble, with no additional major locations .

<p>Governing Board Composition</p>	<p>The governance of ILL is managed by the ILL Council, which is the highest decision-making body of the institute. The Council is composed of representatives from each member country, typically including senior officials or representatives from national research organizations or ministries.</p>
<p>Governance Committees</p>	<p>Several committees support the governance of ILL:</p> <ul style="list-style-type: none"> • Scientific Council: Advises on scientific and technical directions, prioritizing research activities and facility upgrades. • Finance Committee: Oversees financial matters, including budgeting and auditing. • Technical Advisory Committee: Provides advice on technical and engineering aspects of the facility. • Administration Committee: Manages administrative and personnel issues

ABOUT

[THE INSTITUT LAUE-LANGEVIN \(ILL\)](#) is an international research centre at the leading edge of neutron science and technology, it operates the most intense neutron sources in the world. **Since 2007 the ILL has spent EUR 93 million in an ambitious programme to ensure its instruments and nuclear facilities continue to address the challenges of the new millennium.**

The ILL operates the most intense steady neutron source in the world, a 58.3 MW nuclear reactor designed for high neutron flux. This source supplies neutrons to 40 state-of-the-art scientific instruments capable of probing the microscopic structure and dynamics of materials at molecular, atomic and nuclear level. Some 2000 scientists from 40 different countries come to the ILL every year to use its instruments and benefit from its long experience as a service Institute.

MEMBER STATES

Associate countries

France

- Commissariat à l'Energie Atomique et aux Energies Alternatives (CEA)
- Centre National de la Recherche Scientifique (CNRS)

Germany

- Forschungszentrum Jülich (FZJ)

United Kingdom

- United Kingdom Research & Innovation (UKRI)

Countries with Scientific Membership

- Spain: MCIN Ministerio de Ciencia e Innovación
- Switzerland: Staatssekretariat für Bildung, Forschung und Innovation (SBFI)
- Italy: Consiglio Nazionale delle Ricerche (CNR)
- Sweden: Swedish Research Council (VR)
- Denmark: Danish Agency for Science, Technology and Innovation
- Poland: Consortium of Polish Scientific and Research Institutions (NDPN)
- Slovenia: The National Institute of Chemistry
- Austria: Österreichische Akademie der Wissenschaften
- Czech Republic: Charles University, Prague
- Slovakia: Comenius University, Bratislava

FUNDING

109 M€ Annual income

- **73.7%** from the **Associates**
- **19.4%** from the **Scientific Member countries**
- **5%** from **own income**
- **1.9%** from **contributions from local authorities**

PROCUREMENT

Procurement Budget 2024-2028

Year	Procurement Budget Expenditures 2021-2028 (MEUR)
2021A	34.64
2022A	43.28
2023A	48.06
2024F	57.25
2025F	62.37
2026F	42.21
2027F	45.95
2028F	47.75
TOTAL	381,51

Table 1: Annual Procurement expenditures during the period 2021-2028
(rounded MEUR, A= Actual, F= Forecasted)

Between **2018 and 2025 a further 77 million EUR are to be invested in the ILL's "Endurance" and "Key Reactor Components" programmes**, guaranteeing that the Institute will maintain its world-leading position for at least another decade.

Endurance programme

The Endurance programme launched in 2015 progresses in two phases: Phase I & II. The remaining cost assumptions for Endurance Phase II amount to almost 6.9 MEUR.

Key Reactor Components

The Key Reactor Components are mainly mechanical parts for the reactor, sources, safety upgrades, studies and calculations, etc. The average annual spend is 2.8 MEUR spent over the period 2020-2029.

A specific project for the **Reinforcement of Physical Protection (RPP)** is progressing and phase one (new reception building and perimeter fence) is now complete. The **second phase of the project** represents an **estimated expenditure of 5 MEUR until 2025**.

Suppliers Engagement Policy / Strategy

The Institut Max von Laue-Paul Langevin (ILL) provides industrial users with privileged access to a broad, world-leading array of highly specialised neutron instruments, supported by the expertise of scientific and technical staff. You can see all the contacts on the [ILL internet website](#).

In addition, **ILL organizes events and workshops to increase companies' involvement in its activities**, such as: Germany@ILL, UK@ILL or **workshops** like the "Neutron Delivery Workshop".

You can find further information on upcoming events and initiatives at ILL [here](#).

Industrial Database

We have recently implemented an E-Bidding platform where companies can register. You can access and register to our Industrial database [here](#).

Procurement Portal

Currently, the **main opportunities are communicated through the ILL ILO's** (see dedicated section below).

Additionally, the ILL has developed an [E-procurement platform](#), and we publish, with due respect to our purchasing rules, part of our future opportunities through our internet website.

Procurement Process

The ILL purchases equipment and services in compliance with its procurement rules. ILL's procurement procedures are selective and its **invitations to tender** and **price enquiry** documents are **designed to guarantee fair competition**.

It is the Purchasing Service's main mission to manage the ILL's business with its suppliers, ensuring that its contracts and purchasing procedures guarantee both quality and overall compliance.

All the information regarding the procurement modalities, process, choice criteria's can be seen on the [internet website](#).

Industrial Liaison Officers (ILOs) are the main entry point for doing business with the ILL (see dedicated ILOs section below).

Eligibility Criteria

All the suppliers are eligible to tender provided that they respect the principles of transparency, competitive tendering and non-discrimination.

Some **technical specifications or regulations can restrict the eligibility**.

Adjudication Criteria

Contracts and orders are awarded to the firm whose bid **meets the technical, financial and delivery requirements** and represents **the best value for money**.

IPR Policy

For Industrial R&D at the ILL, we offer **different modes of access** depending on the level of confidentiality required by industrial clients.

For **more information**, please refer to [working together](#) section of our webpage.

Role Of ILOs

Industrial Liaison Officers are **appointed by ILL's Member States** to facilitate the flow of information and opportunities between ILL and its suppliers.

ILO's can **provide advice on doing business with ILL** and they **have access to all the available call to tenders**.

They are **the main entry point for doing business with the ILL**.

You can find the **contacts of our ILO delegation** for your country [here](#).

Procurement Areas 2024-2028

The main areas of procurement for the next 5 years are:

Regarding our **project Reinforcement of Physical Protection (RPP)**:

- Complex civil construction, safety-important buildings
- Safety systems, Licensing and Protection of hazardous installations, access control, fire and gas detection

Regarding our project **Key Reactor Components**:

- Large mechanical components: manufacturing and assembly
- Vacuum & Leak Detection Technologies
- Electrical, Electromechanical

Regarding our **future instrument project** there remain a few opportunities in:

- High Precision: manufacturing and assembly
- Cryogenic technology
- Vacuum & Leak Detection Technologies
- Diagnostics, Detectors and Instruments
- Instrumentation & Control and CODAC

SMES Involvement

Our **procurement rules are adapted to attract the SME's** since we are mainly working with SME's.

TECHNOLOGY / KNOWLEDGE TRANSFER

The **ILL has no specific department in charge of technology transfer**. Nevertheless, on a case-by-case basis, depending on the opportunities, **we develop small technology transfer projects**.

As an example, ILL has developed a specific Preamplifier for instrument electronics in collaboration with an Italian supplier (CAEN Spa). We have granted the supplier a license for the design of the preamplifier. Enabling them to propose a solution for this specific Market.

A few examples of collaborations are presented on the [internet website](#) (case studies).

RELEVANT CONTACTS AND USEFUL LINKS

<https://www.ill.eu/neutrons-for-society/doing-business-with-the-ill>

<https://www.ill.eu/neutrons-for-society/doing-business-with-the-ill/administration-division-contacts>

<https://www.ill.eu/neutrons-for-society/societal-impact>

IMPACT OF PROCUREMENT (STUDIES)

<https://www.ill.eu/neutrons-for-society/societal-impact>



Credit: SKA Observatory

Square Kilometre Array Observatory (SKAO)

BASIC INFORMATION ABOUT THE BIG SCIENCE ORGANIZATION	
Foundation	2022
Founding States	The SKAO was initiated by several founding member countries, which include: Australia, Canada, China, Italy, the Netherlands, South Africa, and the United Kingdom. New members have subsequently joined.
Legal Basis	SKAO was established under an international treaty known as the SKA Observatory Convention . This treaty provides the legal and operational framework for the SKAO organization. The convention was signed on 12 March 2021 and came into force on 1 January 2022 .
Legal Seat	The legal seat and headquarters of SKAO are located in Jodrell Bank, United Kingdom . This site serves as the main administrative and operational center for the SKAO.

<p>Headquarters and Other Sites</p>	<p>Headquarters in Jodrell Bank, the SKAO has additional key sites related to the SKA project:</p> <ul style="list-style-type: none"> • Karoo District, Northern Cape South Africa: This location hosts the mid frequency SKA telescope. • Inyarrimanha Ilgari Bundara, the CSIRO Murchison Radio-astronomy Observatory, Western Australia: This location hosts the low frequency SKA telescope. host a significant portion of the SKA.
<p>Governing Board Composition</p>	<p>The governance of SKAO is overseen by the SKAO Council, which is the principal decision-making body. The Council is composed of representatives from each member country, typically including senior officials or representatives from national research agencies or ministries.</p>
<p>Governance Committees</p>	<p>Several committees support the governance of SKAO:</p> <ul style="list-style-type: none"> • Scientific and Technical Advisory Committee: Provides advice on the scientific and technical direction of the SKA project. • Finance Committee: Manages financial oversight, budgeting, and financial planning. • Audit Committee: Ensures compliance with financial regulations and oversees audits. • Strategic Planning Committee: Assists with long-term strategic planning and policy development.

ABOUT

The [Square Kilometre Array Observatory](#), is an international endeavour to build and operate cutting-edge radio telescopes to transform our understanding of the Universe and deliver benefits to society through global collaboration and innovation. Building on 70 years of radio astronomy developments, astronomers and engineers are busy constructing what is often described as one of the most ambitious scientific instruments on our planet.

The **Observatory is headquartered near Manchester in the UK**, and **the two telescopes are currently under construction in Australia and South Africa** by partners from across the five continents, including a significant, and growing, participation from European countries.

MEMBER COUNTRIES

SKAO is an intergovernmental organisation with (as of July 2024) **eleven Member States**: Australia, Canada, China, India, Italy, Netherlands, Portugal, South Africa, Spain, Switzerland, and the United Kingdom.

France and Germany are currently **completing their processes of accession to the SKAO**. These two countries, as well as Sweden, have **Cooperation Agreements in place with the SKAO giving them a variety of rights in the organisation**, including on **procurement matters**.

SKAO's Council is encouraging a broadening of the organisation's membership still further and **discussions in this respect are on-going with a number of countries**, including in Europe.

FUNDING

The SKAO is **entirely funded by its members**. A **large percentage of the SKAO's funding is currently allocated to ongoing construction of the two SKA Telescopes and associated systems, computing and infrastructure**.

The **construction and operation of the SKA Observatory is funded by both cash and in-kind contributions by Member States**. However, **all members are required to provide a minimum contribution in cash**. Financial contributions are negotiated on a periodic basis. Peripheral projects towards science preparation and future data processing/handling arrangements do receive external funding, for example from the EU's Horizon programme, but the core construction funding is provided by the Member States through their committed financial contributions to the SKAO.

There are defined work-packages that have been identified by our internal risk management process as **being more suitable for delivery as in-kind contributions** and **others** that have been **identified as more suitable for delivered as cash contracts**. **Only cash-procurement opportunities are advertised on the SKAO Supplier Portal.**

SKAO Member States procure their in-kind contributions under their own local rules and regulations with a few exceptions where the competition and subsequent **contract management is initiated and managed by the SKAO**.

PROCUREMENT

Procurement Budget 2024-2028

The following table illustrates how much we have spent on contracts for supplies and services for the last 3 years as well as forecast expenditure on future contracts for services and supplies for the period 2024 to 2028.

Year	Procurement Budget Expenditures 2021-2028 (MEUR)
2021A	26
2022A	91
2023A	185
2024F	323
2025F	312
2026F	266
2027F	188
2028F	136
TOTAL	1,547

Table 1: Annual Procurement expenditures during the period 2021-2028
(rounded MEUR, A = Actual, F = Forecasted)

Construction activities started in 2021 and are currently **scheduled to continue into very early 2029**.

Supplier Engagement Policy/Strategy

Procurement opportunities **are restricted to suppliers in SKAO member countries only** and **the majority of individual procurement opportunities were allocated to a specified member country from during the pre-construction phase**.

The SKAO **engages with industry in its Member States directly, and via its own network of industrial liaison officers (ILOs)**, see dedicated session below.

The SKA ILO network is always provided with prior notice of all significant contract opportunities as part of the SKAO's overall market survey strategy.

Potential Member State suppliers are invited to register interest in advertised contract opportunities as part of the market survey process [here](#).

Communications with potential suppliers is primarily via the **SKAO Supplier Portal** as well as the **SKAO ILO network**.

Industrial Database

The SKAO **always pre-qualifies potential tenderers** before they are invited to take part in any subsequent tendering exercise.

All **potential tenderers expressing interest in a procurement opportunity** are invited to complete and **submit a pre-qualification questionnaire and provide additional supporting documentation as requested**.

The SKAO **maintains a database of all qualified suppliers** and encourages all interested suppliers to **register on the [SKAO Supplier Portal](#)**.

Procurement Portal

After pre-informing the SKAO ILO network, **all significant contract opportunities are advertised on a dedicated [SKAO Supplier Portal](#)**. Any **specific tendering restrictions are highlighted** alongside every highlighted procurement opportunity.

Procurement Process

The SKAO is **an Intergovernmental Organisation established by Convention and external regulations, such as the European public sector procurement rules, do not apply**. The SKAO procurement process is typical of other similar organisations insofar as **restricted competitive tendering is our preferred route to market**.

Most of the contracts associated with the construction of the SKA Observatory were pre-allocated to those Member States that were historically invested in specific technology aspects of the SKA Project.

A consequence of these allocations is that **a significant proportion of the construction related competitive tender opportunities have been restricted to potential suppliers from pre-defined SKAO member countries**.

Whenever tender opportunities are restricted in this manner it is **clearly noted on the [SKAO Supplier Portal](#)**.

Further restrictions may be implemented as procurement proceeds, in order to finely adjust fair work return.

The SKAO will always seek to **leverage the advantages of competition procurement** within the constraints of managing fair work return obligations.

Contract opportunities will be promoted through the [SKAO ILO network](#) and advertised on the [SKAO Supplier Portal](#).

All new suppliers wanting to tender will need to register and subsequently pre-qualify.

Eligibility Criteria

The SKAO is committed to the **delivery of a defined percentage industrial return on the investments being made by its member countries during construction**.

The SKAO has developed specific procurement strategies, methodologies and tools that are successfully delivering on individual Member's industrial aspirations during construction of the SKA Observatory.

Adjudication Criteria

All procurement activities undertaken by the SKAO will be **based on the core principles of fair work return for the contributing Member States**, equality, transparency, and competitiveness.

Subject to overriding fair work return considerations, the SKAO **always awards to the supplier submitting the 'most economically advantageous tender', i.e., best overall value for money to the SKAO**.

Best value for money is **evaluated against various pre-defined criteria** such as quality, price, total cost of ownership, lowest environmental impact etc.

Evaluation criteria and weightings are always highlighted within SKAO's tender documentation.

IPR Policy

The SKAO Intellectual Property Rights (IPR) Policy can be summarised as follows:

Contributors to the development, construction and operations **licence the necessary IP to the Observatory.**

Foreground IP developed in the course of the contribution is licenced freely, and **background IP** is licenced under pre-agreed terms, largely agreed during the design process.

There are special provisions which allow other contributors to obtain licences to Foreground IP.

Foreground and Background IP is protected in such a way as to allow procurement, construction and operations without unnecessary disclosure.

Role of ILOs

SKAO Industrial Liaison Officer (ILO) contacts can be found [here](#).

The SKAO is reliant on its ILO network to generate interest from suppliers wanting to work with the SKAO and the ILOs role is to generate interest in all contract opportunities advertised on the SKAO Supplier Portal.

Procurement Areas 2024-2028

The following table indicates forecasted **third-party expenditure for the period 2024-2028**, broken down according to our own internal projects/structure.

	2024F	2025F	2026F	2027F	2028F
Telescope & Digital Equipment & Hardware	96.0	114.0	87.0	24.0	0
Infrastructure	138.0	60.0	21.0	5.0	3.0
Network & Software	23.0	29.0	22.0	19.0	2.0
Telescope Operations and Maintenance	6.0	7.0	16.0	13.0	15.0
Power	1.0	7.0	10.0	12.0	12.0
TOTAL	264.0	217.0	156.0	73.0	32

Table 1: Forecasted Annual Procurement expenditures breakdown by key internal projects for the period 2024-2028 (rounded MEUR, A = Actual, F = Forecasted)

Procurement for construction of the SKA Observatory started in July 2021. **Initial contracts awarded were for professional services and infrastructure**, including buildings with specialist fitments such as RFI shielding and software frameworks.

Since 2021 over 90 high value construction contracts have been awarded to entities within all SKAO Member States. **By the end of this year nearly all construction contracts will be in place.**

In future there are likely to be **significant opportunities expanding and upgrading both MID and LOW telescopes** to a still-larger infrastructure in addition to ongoing technology development.

SMEs Involvement

The SKA Observatory encourages bids and proposals from SMEs and we have tried to make our tender processes 'SME friendly'. As with most research infrastructures, a significant proportion of SKAO procurement is highly specialist and from markets where SMEs predominate.

TECHNOLOGY AND KNOWLEDGE TRANSFER

Radio astronomy is well known for examples of technology transfer, the development of Wi-Fi and novel sensing and imaging processing systems being a couple of stand-out examples.

Many of our member state stakeholders are motivated in their participation in the SKA Observatory by the prospects of technology transfer, and the Intellectual Property Policy alluded to above makes full provisions for this.

Being relatively early in the evolution of the SKAO as an International organisation, **the initiation of a formal technology transfer programme has not yet been timetabled.**

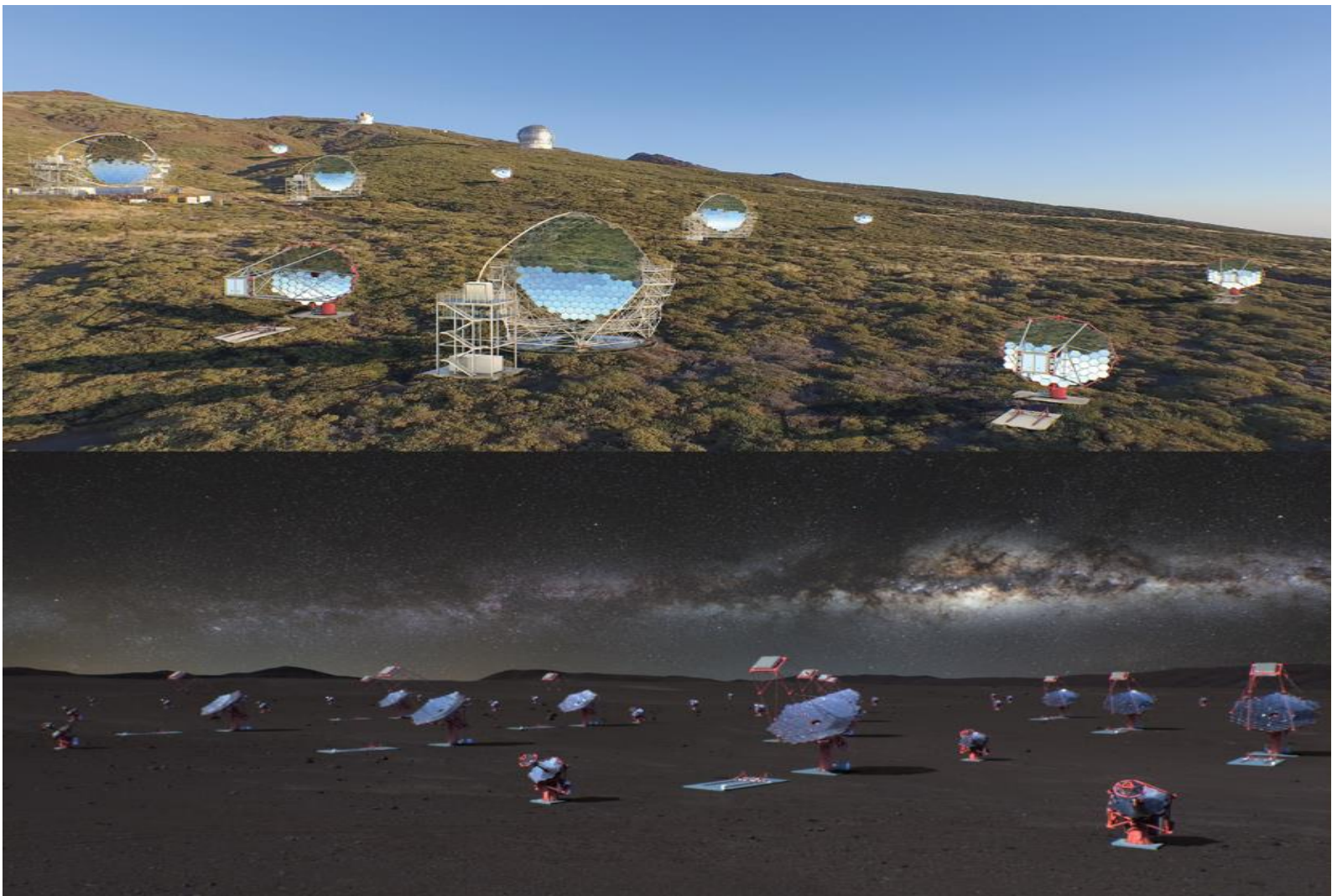
USEFUL LINKS AND RELEVANT CONTACTS

A link to the SKAO Website Homepage can be found [here](#).



Affiliated Big Science Organisations (ABSOs)





Credit: CTAO

Cherenkov Telescope Array Observatory (CTAO)

ABOUT

The [CTAO](#) will be the world's largest and most powerful gamma-ray observatory for the exploration of the high-energy Universe. With its unparalleled accuracy and unprecedented energy range (20 GeV- 300 TeV), the CTAO will seek to address questions in and beyond astrophysics. It will also be the first observatory of its kind to be open to the worldwide astronomical and particle physics communities as a resource for data from unique, high-energy astronomical observations.

The Observatory will be composed of more than 60 telescopes of three different types (Large-Sized, Medium-Sized and Small-Sized Telescopes) split between the CTAO-North site (Spain) and the CTAO-South site (Chile). Its headquarters and Science Data Management Centre are located in Bologna (Italy) and Zeuthen (Germany), respectively.

The project to build the CTAO is well advanced: working prototypes exist for all the proposed telescope designs, and significant site characterization and design work has been undertaken. Moreover, in October 2018, the prototype of the Large-Sized Telescope, the LST-1, was inaugurated at the CTAO-North site and is currently under commissioning, while three more LSTs are under construction.

The preparation of the design and implementation of the CTAO is managed by the CTAO gGmbH. The change from the initial legal entity gGmbH (under German law) to the final legal entity ERIC (European Research Infrastructure Consortium, under European law) will be finalised soon.

**MEMBER
STATES/
ENTITIES
OR
PARTNERS**

The CTAO Central Organisation (CTAO gGmbH) has been preparing the design and implementation of the Observatory since 2014 thanks to the support of its governing body, the [CTAO Council](#).

The Council is comprised of **11 member countries and one intergovernmental organisation**, as well as **associate members from two countries**. A **full list of members** is available on the [Governance page](#) of the CTAO website.

Additionally, the **CTAO's Board of Governmental Representatives (BGR)**, comprised of **representatives of the future ERIC member countries**, is one of the key committees created to prepare and evaluate documentation for the transition of CTAO's legal status from the current gGmbH (under German law) to an ERIC (under European law).

The BGR is composed of members from 12 countries and one intergovernmental organization: Australia, Austria, Brazil, Czech Republic, European Southern Observatory (ESO), France, Germany, Italy, Japan, Poland, Slovenia, Spain and Switzerland.

More countries are expected to join the CTAO ERIC in the future.

The Observatory not only benefits from the support of the **shareholders of its [Central Organisation](#)**, which is **responsible for the design, implementation, construction and operation of the CTAO**, but also **from internal groups, who work together toward the development and success of the Observatory**.

This includes the [CTAO Consortium](#), composed of **more than 1,500 members from 25 countries** that work on the **scientific exploitation of the CTAO**, and the [In-Kind Contribution Collaborations](#), groups **providing people, goods and services to the CTAO Central Organisation for the software and hardware development and construction of the Observatory**.

PROCUREMENT

Procurement Budget 2024-2028

Year	Procurement Budget Expenditures 2022-2025 (MEUR)
2022A	0.55
2023A	1.07
2024F	0.99
2025F	1.90
TOTAL	4.50

Table 1: Annual Procurement Expenditures during the period 2022-2025
(rounded MEUR, A = Actual, F = Forecasted).

Suppliers Engagement Policy / Strategy

CTAO gGmbH (CTAO “Central Organisation”) **does not act as centralized procurement function.**

Nearly **all project-related procurement is managed directly by In-Kind Contributors**, in their countries and **according to their procurement rules.**

Industrial Database

CTAO **does not at present maintain suppliers’ databases**, but **in the future** we envisage to launch a Call for Expression of Interest in order to create suppliers’ rosters.

Procurement Portal

[CTAO Procurement Portal.](#)

Procurement Process

All CTAO tenders are published on the [CTAO’s website](#) and publicized through CTAO’s social media channels (particularly, LinkedIn).

Tenders over EU thresholds are also published on the [Official Journal of the European Union](#) (Ted Portal).

For very specialized/complex procurements, a **supplier’s longlist** is also **compiled following market analysis** and an **email with the invitation to tender sent out.**

Eligibility Criteria

Eligibility criteria are those listed in the [EU Procurement Directive \(Directive 2014/24/EU, articles 57-58\)](#).

Adjudication Criteria

Adjudication criteria are those listed in the [EU Procurement Directive \(Directive 2014/24/EU, articles 67-68\)](#).

Role Of ILOs

The Industrial Liaison Officer network **is not applicable to CTAO activities**, but CTAO **itself, engages in the outreach and support of Industry.**

**Procurement
Areas
2024-2028**

	2024F	2025F
Infrastructure	0.5	1.5
TOTAL	0.5	1.5

Table 2: Procurement expenditures breakdown by internal project structure for the period 2024-2025 (rounded MEUR, F = Forecasted)

**SMES
Involvement**

CTAO has no specific rules regarding contracts with small and medium enterprises (SMEs). Each competition is equally open to companies of any size and each of the companies is treated in the same way.

**RELEVANT
CONTACTS
AND
USEFUL LINKS**

CTAO Procurement Opportunities:

<https://www.ctao.org/opportunities/procurement/>

CTAO Procurement Office:

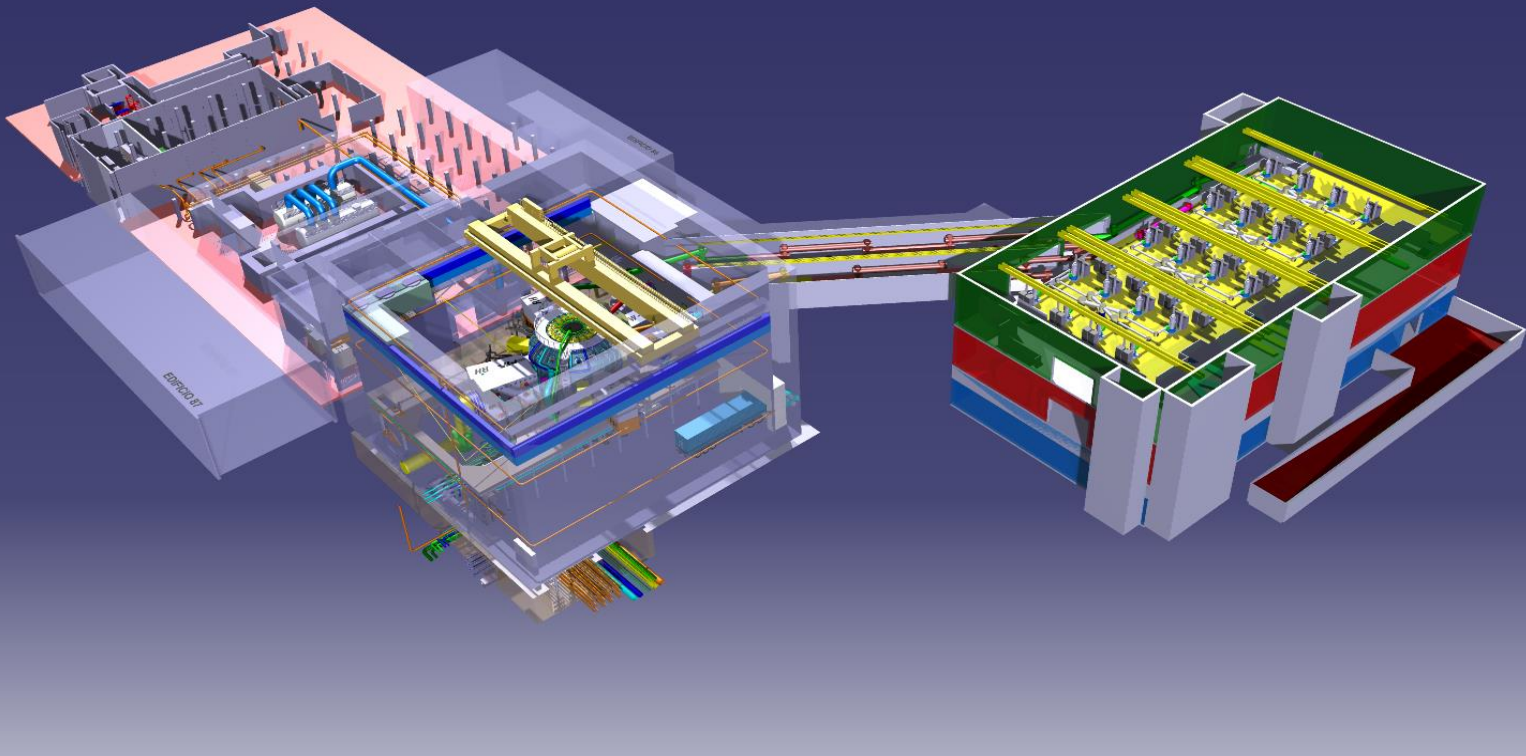
ctao-procurement@cta-observatory.org

CTAO LinkedIn page:

<https://www.linkedin.com/company/ctao-universe/>

CTAO Contacts:

<https://www.ctao.org/organisation/contact/>



Credit: DTT

Divertor Tokamak Test Facility (DTT)

ABOUT

The increase of energy demand is expected to more than double by 2050. Fusion can provide the Earth with a new safe, almost unlimited, and CO₂-free energy and is the ideal complement to intermittent renewable energies to complete the basket of eco-friendly technologies for future global energy needs.

The European Fusion Road Map aims at a demonstration plant DEMO (DEMONstration power plant) producing fusion electricity around 2050.

One of the key challenges in making fusion an affordable energy source consists in developing all the necessary tools to handle the large amount of thermal power originated in fusion reactions that leads to localized power loads on the exhaust system (the “divertor”) similar to those of the surface of the sun.

The Divertor Tokamak Test facility, [DTT](#), is a fusion experimental device foreseen by the European Fusion Roadmap, assessed by EUROfusion, and under construction in Italy at the ENEA Frascati Research Centre.

The DTT facility will play a leading role in fusion research, the main aim being to explore and develop reliable solutions for the extraction of the heat generated by the fusion process.

The construction of the DTT facility has started in 2019 and DTT S.C.a r.l. is the limited liability Consortium for the implementation of the Divertor Tokamak Test Project in charge of the design, construction, and management of the DTT experimental facility.

The DTT Consortium was **established with the goal of demonstrating innovative solutions for the divertor**, based either on advanced magnetic configurations or new materials such as liquid metals. Advanced magnetic configurations can spread the heat on a larger surface, so decreasing the local heat flux and helping in achieving detached divertor conditions. Liquid metals are not prone to the problems associated with localized melting when solid materials are used. For these reasons, DTT has been designed in a flexible way to accommodate different configurations.

The **design and construction phase** will take **7 years**, and **assembly and integrated commissioning** is aiming to be completed **by 2029**, therefore **many contracts will be awarded in the coming years**. According to the present baseline, **DTT will start operations in 2030**.

The **operations should then cover a period of more than 25 years**, up to the initial phases of the DEMO realization.

DTT invests in several key areas of research and innovation, with significant implications on the **energy and high-tech sectors**. Considering the DTT need to employ highly qualified personnel during the next decades, synergies with a number of universities have been established.

**MEMBER
STATES/
ENTITIES
OR
PARTNERS**

Partners of the DTT Consortium are:

- Agenzia nazionale per le nuove tecnologie, l'energia e lo sviluppo economico sostenibile – **ENEA**,
- Consorzio di Ricerca per l'Energia, l'Automazione e le Tecnologie dell'Elettromagnetismo - **CREATE**
- Ente Nazionale Idrocarburi - **ENI**,
- Consiglio Nazionale delle Ricerche - **CNR**,
- **Consorzio RFX**,
- Istituto Nazionale di Fisica Nucleare, **INFN**,
- **Politecnico di Torino**,
- **Università degli Studi della Tuscia**,
- **Università degli Studi di Milano-Bicocca**,
- **Università degli Studi di Roma Tor Vergata**,
- Centro di Ricerche Europeo di Tecnologie Design e Materiali - **CETMA**.

Share of each member in the DTT consortium (DTT S.C.a.r.l.):

- **70%** - ENEA,
- **25%** - ENI,
- **5%** is shared among the other partners,

FUNDING

The **construction costs** are entirely **secured by ENEA** through **specific agreements with the Ministry of University and Research** and the **Ministry of Environment and Energy Security**, with **Regione Lazio** and with the **EUROfusion Consortium** plus a **loan from the European Investment Bank**.

ENEA will remain the final owner of the facility. **Operating costs** (mainly for the design of the components) are **shared pro rata** by all the **Consortium members**

PROCUREMENT

Procurement Budget 2024-2028

Year	Procurement Budget Expenditures 2021-2028 (MEUR)
2021A	57.0
2022A	13.0
2023A	22.0
2024F	123.0
2025F	319.0
2026F	90.0
2027F	39.0
2028F	16.0
TOTAL	679.0

Table 1: Annual Procurement Expenditures during the period 2021-2028 (rounded MEUR, A = Actual, F = Forecasted).

Suppliers Engagement Policy / Strategy

Since 2018 DTT is promoting the involvement of potential suppliers through the **organization of annual general info-day for the industry**.

It also organizes **info days in in preparation for a call for tender to make the potential suppliers prepared to participate**.

DTT **participates also regularly to the “ILO Industrial Opportunities Days”**, organized every year by the [Industrial liaison officers Network Italia](#) (INI) the network of Italian Industrial Liaison Officers at the large international research infrastructures CERN, ESRF, X-FEL, ESS, ESO, SKA, F4E.

DTT also participates in the main annual conferences in fusion.

DTT is also present and active on [LinkedIn](#) with a personal webpage to inform the market of its progress.

Industrial Database

The industrial database **is not accessible online**. It is **formed through registration at the info-days organized by DTT**.

The list of the registered companies is archived internally, and it is **used to inform potential suppliers about ongoing calls for tenders**.

Procurement Portal

All the procurement processes of DTT are conducted exclusively via the following [e-platform](#). The portal interface is **available in 5 European languages** (Italian, English, Espanol, Català, Deutsch) and all the instructions are available on the homepage.

To participate in a call launched by DTT, **potential suppliers shall get registered to the e-platform**. Registration is free of charge.

Tender announcements are published on the e-platform, and if the case, **in the EU official journal**.

Procurement Process

No paper offer is allowed.

All Procurement processes are **based on the Italian Code of Public contract**, compliant with **EU Directives 2014/23/UE, 2014/24/UE and 2014/24/UE on public Procurement**.

All **tenders with an economic estimation above the European threshold** are **published in the [EU Official Journal](#)** where requirements and conditions to participate and submit the offer are specified.

DTT grants the same condition of participation to economic operators located in EU countries and in countries signatory of GPA (Government Procurement Agreement) within WTO.

Eligibility Criteria

The following eligibility criteria are specified:

- **Suitability to pursue the professional activity** (enrollment in one of the professional or trade registries, kept in their Member State of establishment)
- **Absence of any grounds of exclusion** – Possession of moral requirements (in case of joint tendering to be verified on each participant)
- **Demonstration of an adequate financial and technical capability** for the execution of the scope of the Contract.

Additional **specific criteria** are **defined in relation to each tender**.

Adjudication Criteria

Award criteria are **defined in the invitation to tender**.

Considering the innovative nature of most of the DTT supplies, **the major part of the tender is awarded** with criteria of the **most advantageous offer with the best quality/price ratio**.

Evaluation criteria and the **weight** of quality and price elements are **always defined in the invitation to tender**.

IPR Policy

Any foreground generated **during the execution of a Contract** shall be communicated without delay to DTT and shall become the **property of DTT**.

DTT may use, publish, assign or transfer the foreground as it sees fit, without geographical or other limitations.

If the **Contractor** wishes to **use the foreground for his own needs** DTT shall **grant permission** under fair and reasonable conditions.

All information, documents and results given by or on behalf of DTT to the Contractor shall **remain the property of DTT**.

The Contractor shall **not dispose thereof without prior approval of DTT**.

Role Of ILOs

DTT participates also regularly to the “[ILO Industrial Opportunities Days](#)”, organized every year by the [Industrial liaison officers Network Italia](#) (INI) the network of Italian Industrial Liaison Officers at the large international research infrastructures CERN, ESRF, X-FEL, ESS, ESO, SKA, F4E.

Procurement Areas 2024-2028

The procurement opportunities in the period 2024-2026 are estimated as follows (figures in millions of EUR):

	Forecasted Procurement Expenditures 2024 – 2026 (MEUR)
Magnets	26.0
Mechanical Components	10.0
Power Supplies	17.0
Diagnostics	2.7.0
Assembly	3.8.0
Buildings	19.0
Medium voltage Distribution	6.0
High Voltage Systems	4.0
Auxiliary Systems	7.0
In Vessel Components	6.0
TOTAL	115.0

Table 1: Forecasted Procurement expenditures breakdown by key technological domains for the period 2024-2026 (rounded MEUR)

SMES Involvement

DTT consider of high priority the involvement of SME's and organizes **specific info-days** to make the potential suppliers prepared to participate

TECHNOLOGY / KNOWLEDGE TRANSFER

DTT has a special position to monitor and document all the innovations that emerge from the project activities.

USEFUL LINKS AND RELEVANT CONTACTS

OFFICIAL DTT WEBSITE

www.dtt-project.it

DTT LINKEDIN PAGE

[LINKEDIN](#)

DTT TRANSPARENT ADMINISTRATION PORTAL (in Italian)

<https://dtt-project.contrasparenza.it/trasparenza/>

DTT CONTRACTUAL DOCUMENTATION (in Italian)

<https://dtc-project.contrasparenza.it/trasparenza/generale/150/bandi-di-gara-e-contratti>

IMPACT OF PROCUREMENT

Being a supplier to the DTT project can offer significant benefits for companies. Here are some potential positive impacts:

Enhanced Reputation and Brand Recognition

- **Association with Cutting-Edge Technology:** Suppliers to DTT are associated with a prestigious project at the forefront of fusion technology, enhancing their reputation as innovators.
- **Increased Visibility:** Participation in the DTT project can increase a supplier's visibility within the scientific, technological, and industrial communities.

Increased Profitability and Market Opportunities

- **Long-Term Partnerships:** DTT is a long-term project, offering suppliers the potential for sustained revenue streams and partnerships.
- **Access to New Markets:** Participation in DTT can open doors to new markets and customers, especially in the energy and technology sectors.

Technological Advancement and R&D Investments

- **Exposure to Advanced Technologies:** Working on DTT exposes suppliers to cutting-edge technologies and research, which can drive innovation and improve their own product offerings.
- **Collaboration with Experts:** Suppliers can collaborate with leading scientists and engineers, gaining valuable insights and expertise.
- **Increased R&D Investments:** The association with DTT can incentivize suppliers to invest more in research and development, leading to technological advancements.

Strengthened Supply Chain and Partnerships

- **Improved Supply Chain Efficiency:** Participation in DTT can help suppliers improve their supply chain efficiency and quality control processes.
- **Strategic Partnerships:** Suppliers may form strategic partnerships with other companies involved in the DTT project, expanding their network and business opportunities.

Contributions to a Sustainable Future

- **Alignment with Global Goals:** DTT is a project focused on developing sustainable energy solutions, aligning suppliers with global efforts to combat climate change.
- **Positive Public Image:** Being associated with a project that contributes to a sustainable future can enhance a supplier's public image and reputation.



Credit: Elettra – Sincrotrone Trieste

Elettra - Sincrotrone Trieste S. C. p. A. (Elettra Sincrotrone Trieste)

ABOUT

[Elettra - Sincrotrone Trieste S.C.p.A.](#) is a non-profit Share Company (Società Consortile per Azioni) of national interest pursuant to Law 370/99 of the Italian Republic.

The company, which was established in 1987, manages the synchrotron light source [Elettra](#) and the free electron laser [FERMI](#).

The mission is to promote cultural, social and economic growth through:

- Basic and applied research
- Technology and know-how transfer
- Technical, scientific and management education
- Role of reference in the national and international scientific networks

After 27 years of successfully serving the user community with excellent results, Elettra will undertake a major upgrade (**Elettra 2.0**) towards what it is called the “ultimate” light source, to maintain its leadership for its energy range of **synchrotron research**, by enabling new science and the development of new technologies to the general benefit.

Moreover, since 2020, the **FERMI FEL** has been under a strategic upgrade that will double in extension the photon energy range covered by the two FELs, FEL-1 and FEL-2. The upgrade involves deep modifications of the linac and of the two FERMI

FELs with the ambition of extending the FEL performances and the control of the light produced over the extended range.

MEMBER STATES/ ENTITIES

Shareholders of the company are

- The [Area Science Park](#) - **55,87%**,
- The [Autonomous Regione of Friuli Venezia Giulia](#) - **35,87%**
- The [Italian National Research Council](#) - **4,62%**
- [Invitalia Partecipazioni S.p.A.](#) - **3,64%**

FUNDING

Elettra is supported by **state funding** as agreed between the [Autonomous Region Friuli Venezia Giulia](#) (BSBF 2024 Host) and the [Ministry of Universities and Research](#). **Additional budget** is collected through the participation in **Horizon Europe projects**.

PROCUREMENT

Procurement Budget 2024-2028

Starting from 2021 to 2023 our procurement office has managed about 80 million Euro of expenditures. Given the **upgrade of Elettra**, it is expected to have **additional expenditures of about 200 million Euros within 2028**.

Suppliers Engagement Policy / Strategy

Elettra Sincrotrone Trieste disseminates the opportunities of engagement for suppliers through **participation in national and international events such as [ILO Industry Opportunity Days](#)** and **Big Science Business Forum (BSBF)** and the **network of scientists in dedicated conferences**.

Industrial Database

The companies that wish to participate in tenders issued must **subscribe to the digital platform** for the management of the [Computerized Lists and Electronic Tenders of Elettra-Sincrotrone Trieste S.C.p.A.](#), a company of national interest.

Procurement Portal

The Company continues to **manage public tenders through the electronic platform called "UNITYFVG"**, in **collaboration with other regional research bodies and institutions** (Area Science Park, SISSA, University of Trieste, University of Udine, National Institute of Oceanography and Applied Geophysics - OGS). It is possible to consult the tender announcements according to the deadlines set by the contracts legislation at this [link](#).

Procurement Process

Elettra - Sincrotrone Trieste S.C.p.A., as a **"public Italian body"** (pursuant to Annex I.1, letter e) of Legislative Decree No. 36 of March 31, 2023, hereinafter also referred to as the "Code"), is **subject to the regulations of [Legislative Decree 36/2023](#), known as the "Code of Public Contracts** in implementation of Article 1 of Law No. 78 of June 21, 2022, **which delegates the Government regarding public contracts"** (published in Official Gazette No. 77 of March 31, 2023, effective from July 1, 2023).

Under circumstances defined in Article 16 of the ESS-ERIC procurement rules, the organisation may negotiate directly and obtain offers from one or more suppliers. Also in those cases, the aim is to ensure competition, if possible.

Eligibility Criteria

The eligibility criteria depend on the specific tender and are **defined in accordance with the principles of the Italian procurement code mentioned above.**

Adjudication Criteria

The **bidding documents establish the award criteria** for the offer, relevant to the nature, purpose, and characteristics of the contract.

In particular, **the most economically advantageous offer is evaluated based on objective criteria**, such as qualitative, environmental, or social aspects related to the subject of the contract.

IPR Policy

The IPR Policy depend on the specific tender and are **defined in accordance with the principles of the Italian procurement code mentioned above.**

Role Of ILOs

The **Industrial Liaison Office of Elettra** has been set up to **enhance the opportunity of collaboration with the industrial environment** and disseminate the know-how and technological developments available at Elettra.

Opportunities to participate in tenders are advertised in the ILO Industry Days.

The contact information could be found at this [link](#):

Procurement Areas 2024-2028

Given the upgrade of Elettra it is expected to have additional expenditures of about 200 million Euros within 2028. The **approved expenditures** are shown in the table below

	2024	2025	2026
Complex building, constructions, and safety related systems	6.56	1.23	5.30
Cryogenics, vacuum, and leak detection technologies	8.83	0.30	0.78
Diagnostics, detectors, sensors, optics, and instruments	3.80	-	1.40
Electrical, power electronics, electromechanical and RF systems	8.66	0.51	0.23
High precision and large mechanical components	7.12	0.85	-
Information and communication technologies	2.17	-	-
Instrumentation, control and CODAC	1.25	-	-
Magnets	0.96	-	-
Remote handling systems	-	0.20	-
Superconductivity and superconducting magnets	6.70	-	-
TOTAL	46.05	3.09	7.71

Table 1: Annual Approved Procurement Expenditures breakdown by key technological domains for the period 2024-2026 (rounded MEUR)

**SMEs
Involvement**

Elettra Sincrotrone Trieste **actively participates in funded projects where funding is assigned to promote the access of SMEs** to the facilities for feasibility tests (InCIMA4, CALIPSO, LEAPS-INNOV). **SMEs are eligible to participate in tenders** following the national procurement code.

**TECHNOLOGY /
KNOWLEDGE
TRANSFER**

Elettra Sincrotrone Trieste set up the Industrial Liaison Office in 2004 to support the technology transfer activities and the access of industrial users to the facilities for R&D projects, joint development and technological improvement.

**RELEVANT
CONTACTS
AND
USEFUL LINKS**

Industrial Liaison Office:

<https://www.elettra.eu/technology/industry/access.html>

Purchasing Office contact:

suppliers@elettra.eu

Supplier portal:

https://appalti.unityfvg.it/PortaleAppalti/en/homepage.wp?request_locale=en

Tender Portal (in Italian):

<https://albofornitori.elettra.eu/>



Credit: ELI ERIC

The Extreme Light Infrastructure ERIC (ELI ERIC)

ABOUT

[The Extreme Light Infrastructure ERIC \(ELI ERIC\)](#) is the world's largest and most advanced high-power laser infrastructure and a global technology and innovation leader in high-power, high-intensity, and short-pulsed laser systems. It provides access to world-class high-power and ultra-fast lasers for science, and enables cutting-edge research in physical, chemical, materials, and medical sciences, as well as breakthrough technological innovations.

The **legal form of ELI is ERIC (European Research Infrastructure Consortium)**.

As a main statutory mission, ELI ERIC is **responsible for making the ELI Facilities available to the scientific community as a single international organisation**, with unified governance and management.

ELI ERIC was **founded in April 2021** and consists of **two facilities** hosting operational world-class high-power, high-repetition rate laser systems, **specialised in different fields of research** with extreme light beams: the **ELI Beamlines Facility in Dolní Břežany (Czech Republic)** with the **ERIC Statutory seat**, and the **ELI ALPS Facility for Attosecond Physics in Szeged (Hungary)**.

The forthcoming **third facility ELI-NP** for Nuclear Physics is **under commissioning in Măgurele (Romania)**.

MEMBER STATES / ENTITIES

The Czech Republic and Hungary (host states) are joined by Italy and Lithuania as **founding members**, while Germany, Bulgaria, and Romania are **founding observers**

FUNDING

Country	Commitment (%)
Czech Republic	59,9%
Hungary	33,5%
Italy	6,1%
Lithuania	0,5%

Table 1: ELI ERIC's shareholder commitments

PROCUREMENT

Procurement Budget 2024-2027

Year	Procurement Budget Expenditures 2021-2028 (MEUR)
2021A	22.5
2022A	13.6
2023A	11.2
2024F	8.2
2025F	8.4
2026F	7.7
2027F	5.6
2028F	5.5
TOTAL	82.7

Table 1: Annual Procurement Expenditures during the period 2021-2028
(rounded MEUR, A = Actual, F = Forecasted)

Supplier Engagement Strategy/Policy

ERIC engages new and existing suppliers in promotional events organised by ELI research and engineering teams, purchasing departments and innovation offices at individual ELI ERIC's facilities located in the Czech Republic and Hungary.

Suppliers are **invited to make presentations to ELI staff** about their products and services or **may set up a booth at various conferences and workshops held on ELI ERIC premises.**

Researchers can also consult with potential suppliers about the parameters and conditions of supply, provided that the selection process itself cannot be affected.

ELI ERIC is also a member of various professional organisations (clusters), within which they can ask suppliers to innovate and deliver their outputs.

Industrial Database

ELI ERIC **does not have this type of database directly.** However, **potential tenderers can be alerted to these** through organisation tracking in the tool **Tender Arena** (see next section), both by tracking the organisation and by setting up monitoring of specific CPV and NIPPEZ codes

Procurement Portal

ELI ERIC publishes open tenders on the website:

[ELI ERIC ONGOING AND FINISHED PROCUREMENTS \(ELI-LASER.EU\)](#)

In parallel, open tenders are available on ELI ERIC's profile in the electronic purchasing tool of tender arena:

[Z0005125: THE EXTREME LIGHT INFRASTRUCTURE ERIC - TENDER ARENA](#)

Procurement Process

ELI ERIC's procurement procedures respect the main EU principles of transparency, proportionality, mutual recognition, equal treatment, and non-discrimination.

The individual components of the process are (i) procurement planning, (ii) selection of procurement strategy and procedures, (iii) tender publicity, (iv) evaluation, (v) award decisions and notifications, (vi) appeals and disputes, and (vii) auditing and reporting.

Detailed procurement rules are publicly available at [eli-eric-procurement-rules.pdf \(eli-laser.eu\)](#)

Eligibility Criteria

When awarding contracts, ELI ERIC strives to promote the objectives of best value for money, publicity, integrity, innovation, sustainability and social responsibility.

In order to avoid possible disqualification, ELI ERIC may treat as ineligible and may choose not to invite a supplier to bid or award a contract to a supplier if it is known to ELI ERIC that he has been convicted of any criminal offence within the past three years.

Adjudication Criteria

ELI ERIC chooses specific evaluation criteria directly in the context of a particular tender.

The criteria must be related and proportionate to the subject-matter of the contract and may include (but are not limited to) suitability to pursue a professional activity, economic and financial standing, and technical and professional ability.

IPR Policy

ELI ERIC creates assets that might be subject to IPR protection.

This is based on principles of uniqueness, financial sustainability, ethics, prevention of infringement of third parties' rights, and use of results for the economic benefit of ELI ERIC and society in general.

ELI ERIC exploits its IPR portfolio by creating partnerships with enterprises including SMEs, research organisations, universities, and other partners with different backgrounds, motivations, and interests.

Role Of ILOs

Industry Liaison Office (ILO) network for ELI is an initiative to foster the establishment of business relations between ELI and industry.

ELI in joint efforts with ILO network strives to create an integrated and sustainable supplier base for ELI, and to **promote ELI as a partner for joint technology development** with innovative industrial suppliers. ELI aims to interact with the ILO network to maximise the contacts between ELI and industry.

To achieve this aim, ELI **plans to organise in joint efforts with ILO network common outreach events** not only in the ELI ERIC **member countries** (Czech Republic, Hungary, Italy and Lithuania), but also in **other European countries** (Spain, Portugal, the Netherlands, Poland, Switzerland, and eventually others)

Procurement Areas 2024-2027

The table below shows ELI ERIC's investment for the Period 2024-2028.

	2024F	2025F	2026F	2027F	2028F
Primary laser sources	3.9	2.8	2.6	2.4	2.4
Secondary sources and end stations	2.2	2.7	2.5	2.3	2.2
Support systems	2.1	2.9	2.5	0.9	2.1
Repair, services and maintenance of buildings	6.2	1.0	0.8	0.8	6.2
ICT	2.4	2.0	1.7	1.7	2.4
TOTAL	16.8	11.4	10.1	8.1	15.3

Table 2: Annual Procurements expenditures breakdown by key technological domains for the period 2024 – 2028 (rounded MEUR, F = Forecasted)

SMES Involvement

ELI ERIC **supports the involvement of SMEs and the start-up community in its supplier chains** as an efficient way to transfer academic-based ideas and concepts into applications. This **principle has been highlighted in ELI ERIC policies**.

TECHNOLOGY / KNOWLEDGE TRANSFER

ELI ERIC actively supports technology and knowledge transfer initiatives, which are developed in the competence of the ELI ERIC Innovation Office.

These activities cover the agenda of valorisation of ELI ERIC research results, protection of intellectual property, and dealings with industrial partners.

The ELI ERIC Innovation Office organises workshops and promotional events for industry partners who offer their products to the ELI ERIC research and engineering teams. **Promotional events can be combined with other events (conferences, workshops) held at ELI ERIC premises.**

ELI ERIC has internal guidelines shaping its attitude towards the motivation of its employees for technology and knowledge transfer including internal motivation schemes. The ELI ERIC Innovation Office supports ELI ERIC employees in setting up their own spin-off projects.

USEFUL LINKS AND CONTACTS

ELI ERIC web page:

<https://eli-laser.eu/>

ELI ERIC procurement rules web page:

<https://eli-laser.eu/procurement/rules/>

ELI ERIC Facilities contacts:

<https://eli-laser.eu/contacts/eli-eric-facilities/>

IMPACT OF PROCUREMENT

ELI ERIC's industrial partners may strongly benefit from the development of ELI ERIC's cutting-edge laser systems, research instrumentation, and other relevant components. The **most important contributions for supplying companies** have been achieved in the areas of **optics, cryogenics, vacuum distribution, or targetry**.

An example of a positive impact is the project between ELI ERIC and companies of STREICHER Pilsen and DeLong Instruments. STREICHER Pilsen delivered the large vacuum chambers for laser beam compressors, and control systems were delivered by the company of DeLong Instruments. The delivery from STREICHER Pilsen included a structural analysis to predict chamber deformation and vibration stability of an optical table mounted with manipulators and mirrors. ELI ERIC created a conceptual design based on optical paths and functional requirements, which allowed STREICHER Pilsen to modify the vacuum chamber in order to integrate all functional components and to create 3D design and 2D manufacturing drawings.

One of the most important achievements developed thanks to this cooperation was the technology of cleaning large UHV vacuum chambers compatible with highly sensitive optical mirrors. Manufacturing large vacuum chambers with low outgassing required multiple cleaning steps that needed to be made during this project. STREICHER Pilsen delivered large vacuum systems to both ELI ERIC facilities (ELI Beamlines and ELI ALPS).



Credit: ESS Bilbao

ESS Bilbao (ESS Bilbao)

ABOUT

[ESS Bilbao](#) is an international research and development centre for Particle Accelerator and Neutron Science and Technologies which generates knowledge and added value by leveraging the Spanish In-Kind contribution to the European Spallation Source ERIC, currently being built in Lund.

The **ESS Bilbao facilities include**, in addition to the offices, an **advanced welding center (AWF) in Jándiz (Vitoria)**, with large e-beam and brazing welding machines and an **R&D Center in the Bizkaia Technology Park**, where the **assembly and testing** of the in-kind components as well as other internal projects/collaborations are carried out. This **R&D Center also houses the support laboratories (Vacuum, RF Test Stand, Integration...).**

ESS Bilbao is a **public consortium of the Spanish and Basque Governments**. ESS Bilbao is the unique organisation **in charge of channelling all Spanish In-Kind contributions to the European Spallation Source-ERIC (ESS ERIC) in Lund, Sweden**. The scientific and technological advances that are being generated as a part of the design, production, and testing currently undergoing at ESS Bilbao facilities play a key role in the ESS project.

The **In-Kind works** are in the **following areas**:

ACCELERATOR

- **MEBT**: is an accelerating element that goes after the Radio Frequency Quadrupole (RFQ) and integrates design, manufacturing, diagnostics, control, assembly, and testing.
- **Radio Frequency (RF) system**: 6 RF chains, (1 for RFQ and 5 for Drift Tube Linac). The RF systems encompass klystrons, modulators, loads, waveguides, interlocks and Low-Level Radio Frequency.

TARGET:

The spallation process takes place when accelerated proton beam hits, the tungsten bricks of 11-tonne target wheel. This will produce neutron brightness for scientific experiments. The Work Packages in this area include the target wheel, drive unit and shaft; monolith vessel; proton beam window; proton beam instrumentation plug and tuning beam dump.

INSTRUMENT MIRACLES:

it is a time-of-flight backscattering instrument for polymer science, energy materials and magnetism studies. ESS Bilbao is the prime contractor for the design, manufacturing, assembly and cold commissioning of the instrument.

MEMBER STATES/ ENTITIES

ESS Bilbao is a **public consortium of the Spanish and Basque Governments**.

FUNDING

ESS Bilbao is the unique organisation **in charge of channelling all Spanish In-Kind contributions to the European Spallation Source-ERIC (ESS ERIC) in Lund, Sweden**. **Spain is contributing 3% of the total ESS construction cost during the construction phase (2014-2027), equivalent to 55.29M€2013**. This contribution is **90% in-kind and 10% in cash**.

PROCUREMENT

Procurement Budget 2024-2028

From **2019 to 2023** more than **16M€** were awarded in call for Tenders, the **geographical distribution of contracts** is presented in the figure below.

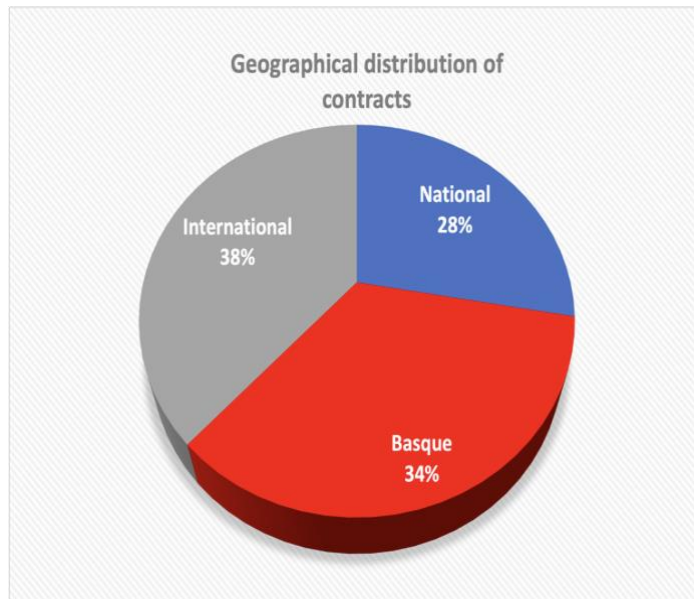


Figure 1. Geographical distribution of contracts from 2019 to 2023.

Six tenders have been launched during 2022 and 2023, related to Accelerator, Target and MIRACLES project for an approximate **total amount of 3M€**.

ESS Bilbao's **public procurements awarded in 2022-2023:**

ACCELERATOR:

- 132/22 LLRF components: Crates MTCA, Power supplies, CPUs, MCH

TARGET:

- 134/22 Manufacturing PBIP Frame
- 245/22 Quality control service for the manufacturing of Target components
- 247/22 Inspection service of the manufacturing process of Target components.

MIRACLES INSTRUMENT :

- 265/21 Manufacturing Out of bunker neutron guides
- 146/23 Neutron detector system

In 2024, a volume close to €2 million is expected. ESS Bilbao's **public procurements scheduled for 2024** are shown below:

MIRACLES INSTRUMENT

- Analyser crystals ~ 300K€
- Vessel internal shielding ~ 150K€
- Cave ~1,2M€

ACCELERATOR

- RFQ cooling system ~ 400K€

**Suppliers
Engagement
Policy /
Strategy**

The scientific and technological advances generated at the ESS Bilbao and the knowhow achieved had reinforced and increased the capacity of Science Industry at regional and national levels.

ESS Bilbao is also **actively collaborating in other projects worldwide** in the sector of **particle accelerators and neutron scattering science** and technologies such as **Myrrha (SCK-CEN), ISOLDE (CERN), ITER and IFMIF-DONES**.

In addition, ESS Bilbao is committed to promoting technological developments and innovation in collaboration with industry through different public programmes from CDTI (prototypes and feasibility studies for some target components, Misiones NEURON-DONES) and from Basque Country (Hazitek-high speed neutron choppers and BENMACON).

One of the aims of ESS Bilbao is to ensure that the investments into science and technology generates benefits in Spain by acting as a driven force for the industry.

**Industrial
Database**

ESS Bilbao **does not currently have an Industrial Database** accessible online.

**Procurement
Portal**

ESS Bilbao **does not currently have a Procurement Portal** accessible online.

**Procurement
Process**

ESS Bilbao has a well-established procedure for public **procurements based on the national law for Public Administration**, which applies to all contracts signed with regional, national and international companies.

ESS Bilbao **joined the [Spanish Public procurement Platform for tenders](#)**, an electronic platform which allows bids for tenders and their results to be publicised on the internet while offering additional services relating to contracts that are underway.

**Procurement
Areas
2024-2028**

ESS Bilbao has **developed a Strategic Plan for 2024-2027**, with the expected annual investment for the coming years. The Strategy is **based on three pillars**:

1. **Finishing already committed In-kind Contributions to the European Spallation Source** for the Construction Phase and widening partnership with new In-kind works for Operational Phase.
2. **Collaborating in other worldwide projects in particle accelerators and neutron scattering science** and technologies through In-Kind Works, partnership of 3rd linked party (European projects), and direct contracts.
3. **Promote internal projects to develop our own infrastructure.**

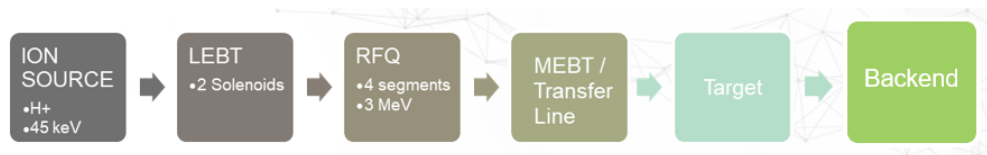
The investment regarding In-kind Contributions to ESS during 2024-2027 will be around 7 M€ for the Construction Phase and another 4M€ for ESS Initial Operation. For other projects, around 4 M€ are expected to be invested in that period.

Another pillar for the investment of incoming years will be in-house projects. ESS Bilbao plans to have the "Argitu-Zero" Project installed and running for 2027, consisting of a hot linac infrastructure (Ion Source – LEBT – RFQ - MEBT) with a small target and a backend for neutron detection, with an investment planned above 3M€.

The ESS Bilbao RFQ is a linear accelerator that works as a bridge between the high voltage acceleration of the ion source and the other RF cavities. It is a key component, since it accelerates protons from 45keV to 3MeV while keeping the beam focused. The RFQ consists of 4 segments with a total length of about 3 meters. The vanes that form each of the segments are assembled using innovative assembly system technology with polymeric vacuum gaskets.

After the delivery of the four segments in 2023, intense campaigns were launched for mechanical characterization, vacuum test and low power radiofrequency. All these tests were successfully completed. For 2024, assembly and integrated tests with high RF power are planned as well as the design, manufacturing and testing of the Cooling System.

During 2025 and 2026, the design, manufacturing, and commissioning of the rest of the components (transfer line, target and backend) will take place.



USEFUL LINKS
AND
RELEVANT
CONTACTS

ESS Bilbao website:

<https://www.essbilbao.org/>

ESS Bilbao Contacts webpage:

<https://www.essbilbao.org/about-us/contact-us/>



Credit: EST

The European Solar Telescope (EST)

ABOUT

[The European Solar Telescope \(EST\)](#), is a project aimed at the design and construction of the largest solar telescope ever built in Europe and its operation at **the Roque de los Muchachos Observatory, Canary Islands, Spain**. With a 4.2-metre primary mirror, it will increase by a factor 3-4 the size of today's largest solar telescopes operating in Europe, leading to a larger collecting area and a better image resolution. This is a key aspect to observe the Sun quickly, before the tiniest detectable magnetic structures change. EST will detect weak signals now simply buried in the noise, triggering a giant step forward in our understanding of the Sun.

EST is **currently concluding the Preliminary Design phase**, with a main **goal of passing the Optical PDR meeting in October 2024**, and the **general EST PDR in the 2025 first semester**.

Its **present budget is about 250 M€**. The **construction phase is expected to start in 2027** once the funding for construction is available.

EST **first light is planned to happen around 2030**, with an estimated operation period of 30+ years.

MEMBER STATES / ENTITIES

Project PROMOTORS - EAST Partners:

The **European Association for Solar Telescopes (EAST)** has been promoting the sustainable development of EST as a pan-European research infrastructure and supports its coordinated implementation. EAST is presently composed of 26 institutions spread across 18 European countries

EST Canary Foundation (EST FC)

A Canary Foundation (EST-FC) has been recently created as **interim legal figure** with the main **goals of passing the design PDR with external reviewers**, of **obtaining the construction permits** (as initiation of the Construction Phase) and **setting up the Board of Governmental Representatives (BGR) to establish the grounds for the creation of the EST ERIC.**

The present **EST-FC partners** are:

- Astronomický Ústav AV ČR, V. V. I. (Czech Republic)
- Astronomický ústav Slovenskej kadémie vied (Slovakia)
- Agencia Estatal Consejo Superior de Investigaciones Científicas - Instituto de Astrofísica de Andalucía (Spain)
- Instituto de Astrofísica de Canarias (Spain)
- Leibniz Institute für Sonnenphysik KIS (Germany)
- Max Planck Institute for Solar System Research (Germany)
- Stockholms Universitet (Sweden)
- Università della Svizzera italiana - Istituto Ricerche Solari Aldo e Cele Daccò (Switzerland)
- University of Sheffield (UK), representing the United Kingdom Universities Consortium (Aberystwyth, Durham, Exeter, Glasgow, Sheffield and Queen's University Belfast).
- University of Graz (Austria)

Other EAST institutions are **expected to become part of the EST-FC**, either as **full members** or as **observers**.

FUNDING

The **nations represented by the institutions that constitute the EAST consortium and the EST Foundation** are **expected to establish the Board of Governmental Representatives** in the near future to discuss and **determine the funding, in-kind contributions**, and all aspects related to the infrastructure's construction.

PROCUREMENT

Procurement Budget 2024-2028

The **estimated construction budget** for the project is of the order of **250 M€** for the construction period of **6 years**.

Year	Procurement Budget Expenditures 2023-2028 (MEUR)
2023A	0.50
2025F	0.30
2027F	53.88
2028F	35.85
TOTAL	90.53

Table 1: Procurement expenditures during the period 2023-2028
(rounded MEUR, A= Actual, F= Forecasted)

Suppliers Engagement Policy / Strategy

EST has already **organised dedicated industry days** at a **number of countries** (e.g., Czech Republic, Italy, Spain, Portugal, Switzerland, ...) and **will continue to do so** to keep technological companies all over Europe aware of the needs of the project.

EST has **participated in BSBF since 2020** as well as in similar events **organised at national level**.

EST is also **present at the main international world-wide conferences in the field of astronomy**, such as the SPIE Astronomical Telescopes + Instrumentation in which the status of the project and its main systems is shown.

In all cases, **B2B meetings with companies of interest take place**.

All the **information related to past and coming procurements of EST** can be found at the [project web page](#).

Industrial Database

The project has an **internal database of companies** operating in the various European countries and their **field of expertise related to the EST needs**.

Companies are welcome to **show their interest to our team at the BSBF meeting** and we will take note to **inform them**, without obligation, **when the tender is announced**.

Procurement Portal

You can access the EST procurement pages [here](#).

Procurement Process

Procurement rules can be found at this [webpage](#).

Eligibility Criteria

The procedures for the award of contracts by the EST ERIC shall **respect the EU principles** of transparency, proportionality, mutual recognition, equal treatment, and non-discrimination.

Any **special requirement will be defined in the procurement documentation.**

Adjudication Criteria

Adjudication criteria will be **included in the call for tender documentation.**

IPR Policy

The EST project respects intellectual property rights and confidential information between partners and stakeholders. Any **disclosure of commercial information at completion of a procurement process must be authorised by the Board of the EST-FC** or the Board of the EST institution responsible for the procurement process.

Role Of ILOs

EST is directly connected with the European ILOs involved in the development of major research infrastructures in astronomy through the [Spanish Center for Technological and Industrial Development \(CDTI\)](#). CDTI has [shared](#) all the **EST procurement opportunities opened so far with the European ILOs network**, ensuring proper communication between EST and European vendors, and guaranteeing equal opportunities for all.

Procurement Areas 2024-2028

EST forecasted procurements expenditures in the period 2025-2028 will be mainly in the technological domains shown in the table below:

	2025F	2027F	2028F
Buildings	0.3	17.6	0.0
Optics	0.0	17.6	0.0
Precision mechanics	0.0	11.28	15.0
TOTAL	0.3	46.48	15.00

Table 1: Procurement expenditures breakdown by key technological domains for the period 2025-2028 (rounded MEUR, F = Forecasted)

There **will be other procurements, related to the in-kind contributions (Instruments, Multiconjugated adaptive optic system and the data center)**, that will be managed by the project institutions.

SMES Involvement

The **participation of small and medium-sized companies is always welcome.**

A number of **European companies** have been **participating in the various EU programmes in which EST has participated and obtained funds** (FP7 EST Conceptual Design, FP7 Solarnet, H2020 GRESt, H2020 PRE-EST, H2020 Solarnet).

The option of **joint ventures** is also welcome and has already been used.

TECHNOLOGY / KNOWLEDGE TRANSFER

Thanks to the joint development of new applications and the breakthrough technologies pushed by the EST project, a **co-creation effect for the companies that have accompanied the project through its various design phases has been established.**

Additionally, **collaboration agreements have been implemented with companies, facilitating mutual learning and knowledge exchange** through different industrial sectors. Some examples of such development are in the field of (1) Large-format high-speed prototype detector (2) Large aperture etalon, (3) Liquid crystal cells, (4) Adaptive optics, (5) Large telescope mechanic structures or (6) Thermal control among others.

RELEVANT CONTACTS AND USEFUL LINKS

EST project web page:

<https://est-east.eu/>

EST procurement web page:

<https://est-east.eu/procurements>

General contact email:

est@est-east.eu

IMPACT OF PROCUREMENT

EST is a highly technological project with an important impact in the private sector companies linked to it.

In the achievement of EST goals, new applications will come up during the development of breakthrough technologies, increasing the capabilities of the industrial sector in the design and manufacture of mechanical structures, large format optical elements, high speed detectors, precision scientific instrumentation or data management systems among others, as well as strengthening the cooperation between academia and industry.

The development of EST instruments will involve challenges in materials, mechanisms and optical components. These are generic technologies, with application in a wide range of science instrumentation, from Earth observation and satellites to infrared spectroscopy for medical diagnostics.

In astronomy, EST will also open up solutions for night-time telescopes increasing the benefits for industry in a wider area.

Buildings & Plant Systems



Credit: IFMIF - DONES

International Fusion Materials Irradiation Facility – DEMO Oriented Neutron Source (IFMIF - DONES)

ABOUT

One of the key challenges in the realization of fusion energy is the development of neutron-tolerant materials that can withstand a flux of neutrons up to 14 MeV while maintaining adequate structural and other physical properties over long periods. The European Fusion Roadmap (2018) identifies the creation of IFMIF-DONES to address this

need. The European IFMIF-DONES Facility is the central element of the DONES Programme, which aims to establish an extensive database on fusion materials.

The IFMIF-DONES Facility is defined to provide an accelerator-based D-Li neutron source to produce high-energy neutrons at sufficient intensity and irradiation volume to simulate as closely as possible the first wall neutron spectrum of future nuclear fusion reactors for testing materials.

In addition, the [IFMIF-DONES](#) facility could be also used by other (i.e. non-fusion) scientific communities, such as health-related (mainly for isotopes production), basic physics (astrophysics, solid state physics), or nuclear physics. It can also provide some unique technological-related services for the industry.

On **16 March 2023**, the **1st DONES Steering Committee** was held in **Granada**, the highest governing body of the DONES Programme, and **agreed**, among others, **to start the construction phase of the IFMIF-DONES Facility in Escúzar (Granada - Spain)**.

Since 2023 the IFMIF-DONES facility has been in its construction Phase and **the operation phase will start in 2034**.

MEMBER STATES / ENTITIES

The **members** of the DONES Programme represented on the DONES Steering Committee (highest agreements-making body of the DONES Programme), will be **the countries and/or organizations participating as:**

- **Parties**, because they have already **formally confirmed their commitment**, or as
- **Observers**, when interested in the DONES Programme but **have not yet formalized their commitment**, will be members of the DONES Programme.

The **current members** of the DONES Programme are:

- **Parties**: Spain and Croatia.
- **Observers**: Austria, Belgium, Czech Republic, Finland, France, Germany, Hungary, Italy, Japan, Latvia, Lithuania, Romania, Slovakia, Slovenia, Ukraine and Euratom (F4E).

FUNDING

Country	Commitment (%)
Spain	55
Croatia	5
Italy	To be defined during 2024
Euratom (F4E)	To be defined during 2024
Japan	To be defined during 2024
Others	To be confirmed

Table 1: IFMIF-DONES shareholder commitments

PROCUREMENT

Procurement Budget 2024-2028

Year	Procurement Budget 2021-2028 (MEUR)
2021A	6
2022A	8
2023A	10
2024F	10
2025F	30
2026F	90
2027F	130
2028F	116
TOTAL	400

Table 2: Annual Procurement Expenditures for the period 2021-2028
(in 2021 values, rounded MEUR, A = Actual, F = Forecasted)

Supplier Engagement Policy/Strategy

The contributions to the DONES Programme from the Parties will take the form of **in-kind contributions**.

Any acquisition of goods or services is made in accordance with the following rules:

The different **in-kind contributions of the Parties will be channelled through Implementing Agencies (IA)**. The IAs

are legal entities designated by the Parties for the execution of the duties of the Parties and realization of the DONES Programme;

Consequently, the Implementing Agencies (IA) will manage the tender process for the in-kind contribution in compliance with their own financial regulation.

Currently, the **Parties** and **Implementing Agencies** of the DONES Programme are:

- **Kingdom of Spain:** IFMIF-DONES España Consortium
- **Republic of Croatia:** DONES.HR Project Consortium
- **Euratom, Italy, Japan, Germany, others:** To be defined

Industrial Database

There is **no common database available in which companies interested in the project can register** because the **management of suppliers is done directly by each implementing agency** corresponding to each partner of the programme that makes an in-kind contribution to the project.

Procurement Portal

There is **no procurement portal available for all tenders related to the project**, as these **tenders are managed directly by each implementing agency** corresponding to each programme partner making an in-kind contribution to the project.

However, **an updated list of the tenders published by the implementing agencies** related to the project is available at the following link: [Call for Tenders - IFMIF-DONES](#)

Procurement Process

There is **no common procurement process available to follow for all tenders related to the project**, as the **management of these purchases is done directly by each implementing agency** corresponding to each programme partner making an in-kind contribution to the project.

This is why **each procurement process will depend on the criteria established by the corresponding Implementing Agency** (IFMIF-DONES España Consortium, DONES.HR Project Consortium, Fusion for Energy...).

Eligibility Criteria

The eligibility criteria **will depend on the criteria established by the corresponding Implementing Agency** (IFMIF-DONES España Consortium, DONES.HR Project Consortium, Fusion for Energy...) for each call for tender.

Adjudication Criteria

The adjudication criteria will **depend on the criteria established by the corresponding Implementing Agency** (IFMIF-DONES España Consortium, DONES.HR Project Consortium, Fusion for Energy...) for each call for tender

IPR Policy

The IPR Policy will **depend on the criteria established by the corresponding Implementing Agencies** (IFMIF-DONES España Consortium, DONES.HR Project Consortium, Fusion for Energy...).

Role of ILOs

The **policy and strategy of ILOs is under definition** and the website section to include ILO's contacts is under construction.

Currently the **ILO nominated by IFMIF-DONES España Consortium for IFMIF-DONES in Spain** is Ana Belen Del Cerro, anabelen.delcerro@cdti.es.

Procurement
Areas
2024-2028

	2024F	2025F	2026F	2027F	2028F
1 = Site, Buildings and Plant Systems	9.15	20.19	69.11	96.36	72.78
2 = Test Systems	0.14	0.14	1.14	1.47	2.84
3 = Lithium Systems	0.20	0.20	1.93	2.12	3.85
4 = Accelerator Systems	0.39	6.78	14.52	28.82	30.73
5 = Instrumentation and Control Systems	0.12	0.12	1.03	1.03	2.63
TOTAL	10.00	27.43	87.73	129.80	112.83

Table 1: Annual Procurement expenditures breakdown by key sub-systems for the period 2024-2028 (rounded MEUR, 2021 values, F = Forecasted)

The main systems of IFMIF-DONES Facility have the following relationships with the 10 technologies areas identified for the BSBF 2024:

- Basic material technologies and advanced manufacturing techniques (1, 2, 3, 4)
- Complex building, constructions, and safety related systems (1, 5)
- Cryogenics, vacuum, and leak detection technologies (2, 3, 4)
- Diagnostics, detectors, sensors, optics, and instruments (2, 3, 4, 5)
- Electrical, power electronics, electromechanical and RF systems (1, 2, 3, 4)
- High precision and large mechanical components (1, 2)
- Information and communication technologies (5)
- Instrumentation, control and CODAC (5)
- Remote handling systems (1, 2, 3, 4, 5)
- Superconductivity and superconducting magnets (4)

SMEs
Involvement

The SMEs involvement policies **will depend on the criteria established by the corresponding Implementing Agencies** (IFMIF-DONES España Consortium, DONES.HR Project Consortium, Fusion for Energy...).

TECHNOLOGY
AND
KNOWLEDGE
TRANSFER

The policy of technology and knowledge transfer is **currently under definition**.

USEFUL LINKS
AND RELEVANT
CONTACTS

DONES Programme Members: [Members - IFMIF-DONES](#)
DONES Call for Tenders: [Call for Tenders - IFMIF-DONES](#)
DONES latest news: [News - IFMIF-DONES](#)
DONES contact: [Contact - IFMIF-DONES](#)



Credit: INFN

Istituto Nazionale di Fisica Nucleare (INFN)

ABOUT

[Istituto Nazionale di Fisica Nucleare \(INFN\)](#) is the Italian research institution devoted to the study of the fundamental constituents of matter and the laws governing them, overseen by the Ministry of University and Research (MUR). It conducts theoretical and experimental research in the fields of subnuclear, nuclear, and astroparticle physics.

For the time being, the INFN employs, as personnel or associated researchers, about 5,000 scientists whose work is recognised internationally for their contribution not only to various European laboratories but also to numerous research centres worldwide.

INFN carries out **research activities** at **two complementary types of facilities: divisions and national laboratories**

The **four national laboratories**, located in **Catania, Frascati, Legnaro, and Gran Sasso**, house **large equipment and infrastructures** available for use by the national and international scientific community.

Each of the **20 divisions** and the 6 groups linked to the divisions or laboratories are **based in different university physics departments and guarantee close collaboration between the INFN and the academic world.**

Currently, the **following seats** also form part of the overall structure:

- the **National Centre for Research and Development in Information Technology (CNAF)**, based in Bologna;
- the **GGI, Galileo Galilei Institute for Theoretical Physics**, in Firenze;
- the **Trento Institute for Fundamental Physics and Applications**;
- the **Administrative HQ** in Frascati;
- the **Head Office** in Rome.

At present, INFN is **carrying out some relevant infrastructure projects** funded by the National Recovery and Resilience Plan (PNRR), some as leader:

- **ETIC – Einstein Telescope Infrastructure Consortium**
- **EU-APS – Eupraxia Advanced Photon Sources**
- **IRIS – Innovative Research Infrastructure on applied Superconductivity**
- **KM3Net4RR – KM3 Neutrino Telescope for Recovery and Resilience**
- **LNGS-FUTURE – LNGS Facilities Upgrade To Unveil Rare Events**
- **TERABIT – Terabit Network for Research and Academic Big data in Italy and some partners**
- **CTA+ - Cerenkov Telescope Array Plus - leader INAF**
- **EBRAINS-Italy – European Brain Research Infrastructures-Italy - leader CNR**
- **ITINERIS – Italian Integrated Environmental Research Infrastructures System - leader CNR.**

Moreover, **INFN has proposed the National Research Centre in High-Performance Computing, Big Data, and Quantum Computing**, managed by the ICSC Foundation, with its headquarters at the Bologna technopole.

MEMBER STATES / ENTITIES

Italy is the only member state through the Ministry of university and Research.

FUNDING

in 2024, the **Italian Ministry of University and Research (MUR)** allocated approximately **350 million euros for INFN activity**.

The following table reports an indicative allocation of these funds to INFN activities:

INFN Activities	Share of total Budget (%)
Ordinary Allocation	84.71
International Research Activities	10.69
Ongoing Projects	4.57
Extraordinary Projects	0.03

Table 1: indicative allocation of INFN's total Budget for the year 2024

PROCUREMENT

Procurement Budget 2024-2028

During the **last three-year period**, INFN projects **originated procurements of approximately 350 million euros/year**.

Looking at the near future we must mention that **INFN is the leader for the Italian candidature to host the Einstein Telescope in Sardinia** and is just about to **start the construction and commissioning on the same site of a surface laboratory for a budget of 20 million euros** along with INAF, INGV, and Universities.

This is the **first real step towards the future infrastructure** for which a **14 million euros feasibility study and preliminary design contract was awarded last December** as part of the ETIC project.

INFN is also the **leader for another big infrastructure in the ESFRI Roadmap** which is **EUPRAXIA** at the Frascati Laboratories

Suppliers Engagement Policy / Strategy

All the INFN's **research activities are undertaken within an international competition framework**, in close collaboration with Italian universities on the basis of solid academic partnerships spanning decades. **Fundamental research in these areas requires the use of cutting-edge technology and instruments, developed by the INFN at its own laboratories and in collaboration with industries.**

Events, industry days and/or other programs to involve companies can be **organized in the framework of specific projects**

Companies interested in cooperation with INFN can get in touch with the **Technology Transfer Office** at the following address tto@lists.infn.it

Industrial Database

INFN has an **internal database of companies** operating in the various European countries and their **field of expertise related to the INFN needs**.

Companies interested in cooperation with INFN can get in touch with the **Technology Transfer Office** at the following address tto@lists.infn.it

Procurement Portal

INFN publishes all its procedures on the [transparency portal](#) and for the **digital management of contracts and tenders** it uses **three portals**:

- [MePA](#)
- [NovaPA:](#)
- [UBuy](#)

Procurement Process

Tenders published on the platforms can be classified as follows:

- **direct awards**, i.e. procedures that do not require a competitive phase
- **competitive procedures**, i.e. where a competitive phase between multiple economic operators is required to select the best offer, which in turn are divided into:
 - **open procedures**, where any company can send its offer in response to a call for tenders.
 - **negotiated procedures**, where the Public Administration negotiates the conditions of the contract with the participating companies.
 - **restricted procedures**, where any company can submit an application to participate but only companies invited by the Public Administration can subsequently submit their offer.
 - **dynamic acquisition system**, where Public Administrations generally purchase goods or services on the market electronically.

Eligibility Criteria

Tenders will be **carried out electronically** in accordance with the provisions of [art. 25 D.L.g.s n. 36/2023](#)

Adjudication Criteria

Adjudication Criteria are **disclosed in the relevant documents of each tender**.

IPR Policy

Commercial exploitation of technologies developed by INFN is **possible through license agreements**. In the case of an exclusive license, it is required an up-front payment as reimbursement of already incurred costs together with a royalties regime. Such **technologies can be patented or classified as know how**

Role of ILOs

The [Industrial Liason Office of INFN](#) supports the Institute to promote industrial opportunities.
INFN is also member of the [ILO Network Italia](#).

Procurement Areas 2024-2028

For the period 2024-2028, the main technological areas where INFN significant investments are planned are:

- Complex building, constructions, and safety related systems
- Cryogenics, vacuum, and leak detection technologies
- Diagnostics, detectors, sensors, optics, and instruments
- Electrical, power electronics, electromechanical and RF systems
- High precision and large mechanical components
- Information and communication technologies
- Instrumentation, control and CODAC
- Superconductivity and superconducting magnets

SMEs Involvement

SMEs are encouraged to participate in tenders in line with applicable regulations.

TECHNOLOGY/ KNOWLEDGE TRANSFER

The cutting-edge technologies developed by INFN are often useful in meeting the innovation needs of companies: there are numerous and systematic stories of collaboration between INFN and companies, both national and international.

INFN systematically collaborates with companies for the development, testing and validation of innovative technologies that may have the potential for commercial exploitation even beyond the R&D environment. The joint activities can be conducted in a collaborative manner between INFN and the companies and **the results jointly owned**.

INFN also makes its technological skills and cutting-edge infrastructure available to the companies for their own projects. In this case our researchers are glad to contribute to the innovation process of your company.

If any technology of our portfolio is of your interest, a license agreement for its commercial exploitation can be negotiated on good and reasonable terms.

RELEVANT
CONTACTS
AND
USEFUL
LINKS

INFN Technology Transfer webpage:

<https://web.infn.it/TechTransfer/>

INFN Procurement Portal (1):

<https://www.acquistinretepa.it/>

INFN Procurement Portal (2):

https://app.albofornitori.it/alboeproc/albo_infneproc

INFN Procurement Portal (3):

<https://infn.ubuy.cineca.it/>

IMPACT OF
PROCUREMENT

The INFN also has a positive impact on the Italian economy, through its close collaboration with high-tech companies, especially small and medium-sized enterprises (SMEs). It participates with them in joint initiatives for Italian projects but, above all, in major international ventures. For instance, Italian companies made an extremely significant contribution to the construction of the most technologically advanced components used in the LHC particle accelerators at **CERN in Geneva** but are deeply involved in DUNE projects at Fermilab and in **ESS, XFEL and many others** as well.

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Credit: MYRRHA

Multipurpose hYbrid Research Reactor for High tech Application (MYRRHA)

ABOUT

[MYRRHA](#) is the world's first large-scale Accelerator Driven System project at power levels scalable to industrial systems. MYRRHA offers R&D for advanced solutions for HLW and spent nuclear fuel treatment through Partitioning & Transmutation, development, and production of innovative medical radioisotopes, creation of reliable powerful radioactive ion beams (RIB) for fundamental research, R&D for materials for fusion and Gen.IV reactors, R&D on accelerator reliability and energy efficiency.

Via the legal entity **Myrrha international non-profit organization funded in 2021 by the Belgian State and the Belgian Nuclear Research Center (SCK CEN)**, the MYRRHA consortium welcomes international partners and investors.

The MYRRHA facilities are under construction since 2019 and will be constructed in 3 phases:

Phase 1 (2019-2026): design and construction of the first linac section (up to 100 MeV)

Phase 2 (2027-2033): extension of the 100 MeV linac to 600 MeV

Phase 3 (2027-2036): construction of the sub-critical reactor

MEMBER STATES / ENTITIES

Member categories :

- a) **Founding members:** Belgian State and SCK CEN
- b) **Contributing members** open for :
 - Countries
 - National Research Organisations, industries of a country
 - International Institutions or Associations

Rights & Obligations

- c) **Contribution in-cash or in-kind to become a contributing member**
- d) **from 40 M€ contribution :**
 - 1 Director in the Board of Directors (overall maximum of 4)
 - 1 Voting right in the General Assembly per 40 M€ contribution
 - **Annual membership fee <100 k€** on proposal of BoD (right of nomination of a representative in the International Scientific and Technical Advisory Board (ISTAB))

FUNDING

- CNRS, CEA, and IN2P3 (**France**),
- ENEA, INFN, CRS4 (**Italy**),
- CIEMAT, UPM (**Spain**),
- KIT, Frankfurt University-IAP (**Germany**)
- NRG (**NL**),

MYRRHA has also **developed** a series of **bilateral partnerships**, notably with:

- **Japan** (JAEA and J-Parc), which sees MYRRHA as the necessary pre-industrial phase prior to developing industrial ADS
- **Sweden** (ESS and Uppsala University) where both ESS and MYRRHA have a high-power linear accelerator, sharing many similarities in technological terms and also work with the same international partners.
- **France** (CNRS/IN2P3) for the global design and development of various components of the MYRRHA Linear accelerator.

PROCUREMENT

Procurement Budget 2024-2028

The **estimated Procurement budget** for the coming years is shown below:

Year	Procurement Budget 2020-2027 (MEUR)
2020-2024A	65
2024F	9
2025F	105
2026F	82
2027F	57
TOTAL	318

Table 1: Procurement expenditures during the period 2020-2027
(rounded MEUR, A= Actual, F= Forecasted)

Suppliers Engagement Policy / Strategy

The MYRRHA team is **regularly attending international scientific events** and promoting interactions with suppliers.

Industrial Database

Should you want **to register in the MYRRHA supplier database**, you can send an email to aanbestedingen@sckcen.be, including the following information:

- Company name
- Country of residence
- Company website
- Main business activity/ies (f.i.: engineering; construction; cryogenics; vacuum; RF; control system; instrumentation; ...)
- Contact person (+ email address)
- Concise description of core business activities, relevant to MYRRHA

Procurement Portal

In order to be informed when new tenders are published in view of the MYRRHA project, interested suppliers are advised to register on the [Belgian e-Procurement platform](#) which offers **the possibility of receiving automatic updates on selected topics**.

More info on how to register on the Belgian e-Procurement platform and on how to create a search profile can **be found via the [e-Procurement help center](#)**:

Should you encounter any problems when trying to register or when creating a search profile, you can **contact the e-Procurement help desk**:

- by the contact form on the e-Procurement website;
- by phone (+32 (0)2 740 80 00) on business days, 8.30 – 12.00 and 13.15 – 16.30

Procurement Process

Tenders regarding the MYRRHA project will be **granted in accordance with the applicable Belgian legislation on public procurement**.

The **details of the procurement process** will be set out in the information, and accompanying documents (if any), **published on the e-Procurement platform**.

Eligibility Criteria

In order to be eligible for participating to tenders regarding the MYRRHA project, at minimum, companies **may not be in a state of exclusion according to articles 67, 68 and 69 of the Belgian Law on Public Procurement dd. 17 June 2016**, or must **prove that they have taken adequate corrective measures in accordance with art. 70 of said Law**.

Next to that, companies may be **required to demonstrate compliance to the selection criteria**, set to verify the companies' economic/financial capacity and/or technical/professional competences relative to the subject of the tender.

Adjudication Criteria

Adjudication criteria will be determined relative to the subject of the tender and are **published in the tender documents**.

IPR Policy

Depending on the subject matter of the tender, different strategies for the allocation of IP rights apply.

Notwithstanding the foregoing, as a general rule, at least **a license of use will be requested on the Foreground IP** (and any Background IP necessary to enable the use of such Foreground IP) for the purpose of the implementation, exploitation, maintenance and/or decommissioning of the MYRRHA facility.

Role Of ILOs

Procurement link on the [MYRRHA website](#).

General contact information & procurement conditions

General contact information : www.myrrha.be and myrrha@sckcen.be

Purchase office : aanbestedingen@sckcen.be (procurement office)

Att. of Ann Follon - Category manager / MYRRHA business partner

Procurement Areas 2024-2028

Public tendering has been staged from 2024 to 2027; the execution will last until 2028.

Main Procurement areas for the period 2024-2029 (MEUR)
Buildings
Building systems
Cryoplant
Cryocell (components & assembly)
High Power RF (transmission lines & circulators)
Low Level RF
Beam Diagnostics
Magnets & Power Convertors
Vacuum
Installation & Maintenance
Hot Cells
Controls & interlocks systems Hardware
TOTAL Forecast >270 MEUR

Table 2: Forecasted Procurement expenditures breakdown by key technological domains for the period 2024-2029 (rounded MEUR)

SMES Involvement

With its wide and various technical fields, the MYRRHA project has historically often called for SME's involvement, since they were detaining very specific expertise that are applicable / useful for the MYRRHA project.

Therefore **SMEs are generally encouraged to participate and contribute to the MYRRHA project.**

Unless expressly indicated otherwise in the tender documents, **there are no lower size limitations for SMEs to participate.**

TECHNOLOGY / KNOWLEDGE TRANSFER

For certain technical projects, joint R&D development studies between MYRRHA specialists and suppliers may take place.

In such cases, both parties will evaluate the potential of creating new IP / knowledge and the possibilities for sharing / transferring such created IP / knowledge and/or licensing possibilities.

RELEVANT CONTACTS AND USEFUL LINKS

Myrrha INPO (aisbl-ivzw) becoming a Partner

Hamid Aït Abderrahim

Mobile: +32 476 71 91 13

haa@myrrha.be

MYRRHA Phase 1 Implementation (MINERVA)

Adrian Fabich

Mobile +32 470 90 32 77

adrian.fabich@sckcen.be

MYRRHA Reactor

Marc Schyns

Mobile +32 473 53 36 76

mschyns@sckcen.be

General contact information & procurement conditions

General contact information: www.myrrha.be and myrrha@sckcen.be

Procurement office: aanbestedingen@sckcen.be

Attention of Ann Follon - Category manager / MYRRHA business

IMPACT OF PROCUREMENT

By providing specialised supplies & services for the unique MYRRHA project, companies may gain unique/exclusive technical expertise and increase their know-how in specific technical fields.

As benefits, it may help them to increase their reputation in such fields for becoming potential suppliers in future projects requiring the same, similar or derived types of expertise.

Big Science Organizations



Affiliated Big Science Organizations





**BSBF 2024
Procurement
Handbook**



**Big Science
Business
Forum
2024**