Explore2040 – ESA's Exploration Strategy for Europe

Eric Istasse, Olivier Ingold
Directorate of Human and Robotic Exploration

Karol Brzostowski
Directorate of Commercialisation, Industry and Competitiveness

18 February 2025

Science & Exploration

Terrae Novae Period 4

"Europe is on its journey to the Moon and has broken the ground towards European autonomy in Exploration"

Transformation of LEO by providing the funding for LEO Cargo Return Service for participation in the LEO Economy & preparation of post-ISS

Ambitious European Moon Programme as participation to ARTEMIS which will bring the first European to the lunar surface

Consolidated Rosalind Franklin 2028 Mission and continued participation in the Mars Sample Return project with state-of-the-art technology part of the ESA participation

Europe's Sustained Presence in low Earth orbit

2035

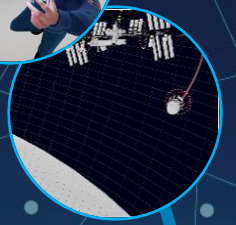
ESA anchor customer in the LEO economy

Scientific utilisation and astronaut missions

Post-ISS institutional and commercial platforms and utilisation services

2030

LEO Cargo Return Service recurrent use



Deep space habitation ground demonstrator

2025

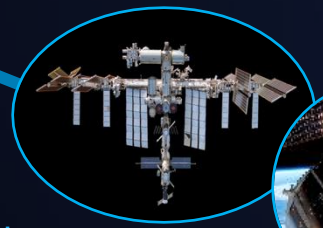
Ground-based and suborbital platforms for exploration preparation and science

2025

Accelerating the use of space

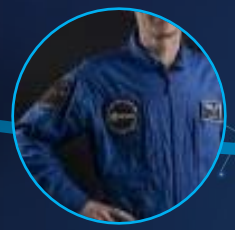
2025

Continued ISS operations and utilisation



Commercial partnerships

ESA Astronaut missions



2030

LEO Cargo Return Service demonstration

Sustained low Earth orbit exploration

ISS exploitation

Increased exploration focussed & enabled scientific activities, also favouring commercial driven research and applications

Continuation to be decided @CM25

Astronaut flights

career astronauts + project astronauts

…Towards a service-based post-ISS model

LEO cargo return service

Two demo missions to the ISS and back starting 2030

Phase 2. Demo missions to be decided @CM25

Long-term commitments beyond Period 4 vital for any service approach (anchor customer)

Post-ISS infrastructure

Uninterrupted access to LEO

Phase 1 to be decided @CM25

Europe's journey to the Moon

esa

Europeans on surface

?

Argonaut mission #1

2031

Missions of Opportunity

2025

IPs & CLPS

Small mission

2029

2027

PROSPECT

ESM-9 (notional)

Gateway ESA Lunar View

Artemis-5

2030

European on Gateway

3rd European on Gateway – mission tbc

ESM-8 (notional)

Small mission

Gateway ESA Lunar I-Hab

European on Gateway

Artemis-4

2025

ESM-2 (10/2021)

ESM-3 (9/2024)

ESM-4 (07/2025)

2026

Lunar Pathfinder

Artemis-2

ESM-5 (7/2026)

2027

ESM-6 (07/2027)

Artemis-3

Gateway ESA Lunar Link

Moonlight

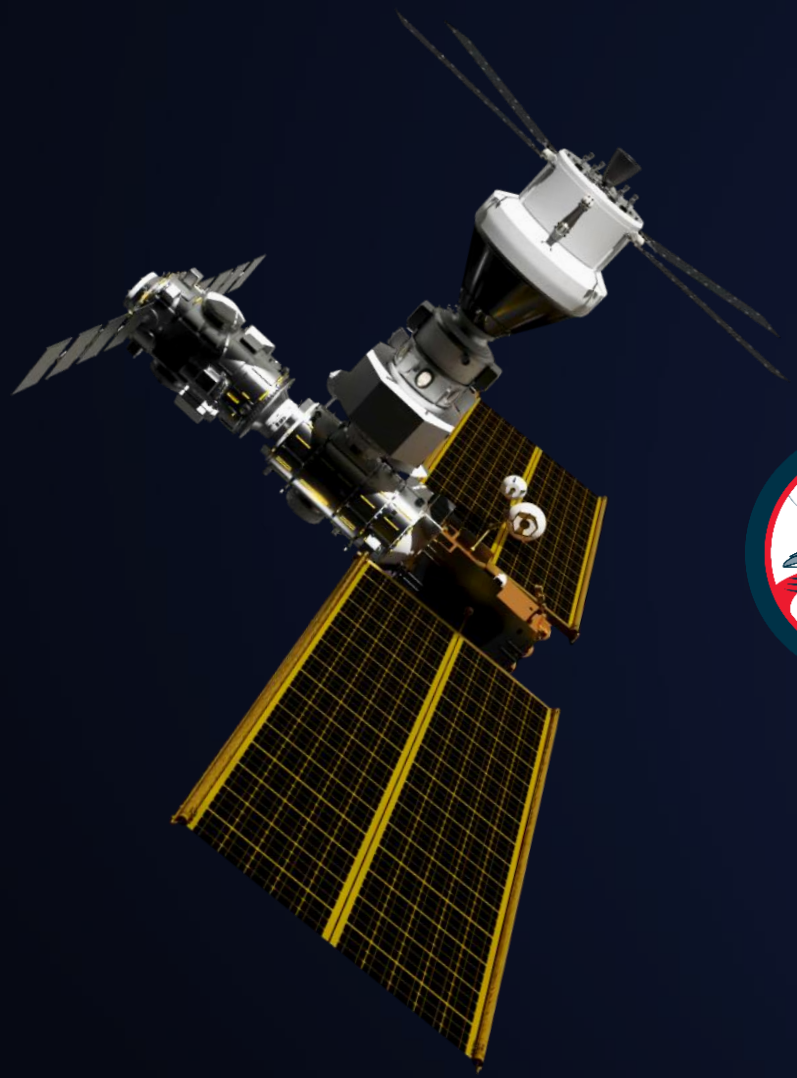
2028

ESM-7 (notional)

→ THE EUROPEAN SPACE AGENCY

Europe’s journey to the Moon

1st ESA astronaut to the Moon decided @CM25



European Service Modules 2026-2028

Up to 3x Artemis launch ESM-2-3 (already delivered) and ESM-4

2x Delivery to NASA (ESM-5-6), 3x Manufacturing (ESM-7-8-9)

Gateway

ESA Lunar Link – Launch with US PPE and HALO

ESA Lunar I-Hab – Attached to the Gateway

ESA Lunar View – Phase C-D development

Exploration focused and exploration enabled science

Two out of three radiation instruments are European - European Radiation Sensors Array (ERSA) - Internal Dosimeter Array (IDA)

Europe’s journey to the Moon

…Towards European self-determination

Lunar Pathfinder

Communications relay services delivery start expected in 2026

supporting Moonlight

Small European robotic missions

1st orbital mission to be decided @CM25

Missions of opportunity (MoO)

Reap the benefits from past investment: PROSPECT on Intuitive Machines NOVA-C, EMS for JAXA/LUPEX, LandCam-X, + more

Continuation to be decided @CM25

Small missions have priority over new MoO

Argonaut mission #1 to be decided @CM25

Argonet power/com/nav candidate mission

Consolidating Europe's Exploration of Mars

Horizon goal
Europeans part of the first Mars expedition

2040

Advanced EDL and surface science*

ESA Lightship-2 Marconi node & passenger spacecraft*

2035

Mars Express

Trace Gas Orbiter

2030

2025

Rosalind Franklin Mission

Advanced EDL and surface science*

2035

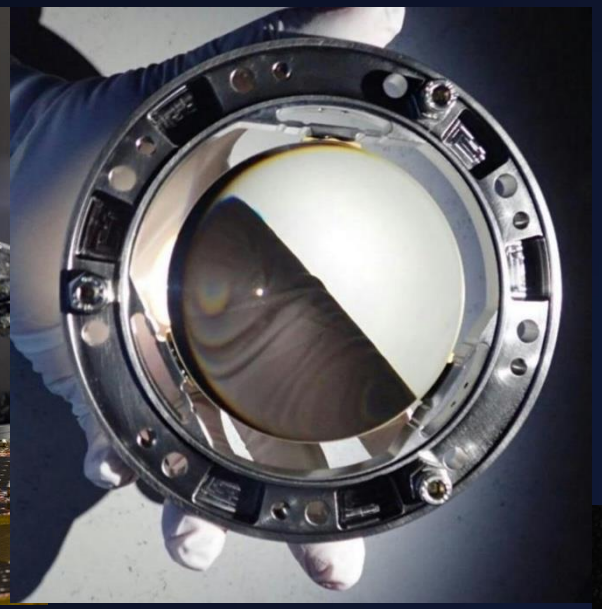
Mars Sample Return**

2030

ESA Lightship-1 Marconi node & passenger spacecraft*

* Notional Explore2040 implementation plan
** Depending on NASA MSR re-architecture

Explore and bring the Red Planet back to Earth



Status of decisions taken at CM22

ExoMars TGO and Rosalind Franklin mission

Mars Sample Return

European Return Orbiter (ERO) and Sample Transfer Arm (STA) - depending on NASA MSR re-architecture

ESA LightShip-1 launch 2032/33

Electric propulsion Tug with Communications and Position, Navigation and Timing services

Passenger spacecraft with scientific payloads

Phase B2-C-D to be decided @CM25

Exploration Science

Exploration-focused science

Local resources

Environments & effects

Crew health & performance

Habitation

Exploration-enabled science

Highly competitive AOs

2 streams of science

Exploration-focused science → will be driven by programmatic needs

Exploration-focused science → have a close link with technology de-risking

Exploration-enabled science → will be excellence-based

Science in LEO/post-ISS → diversification, flexible, higher throughput, standardisation

Uplifting science

E3P4 Science

Core activity → transversal to all destinations

Exploration Preparation Research and Technology (ExPeRT)

Post-ISS options

Small missions

Cis-lunar logistics and cargo return

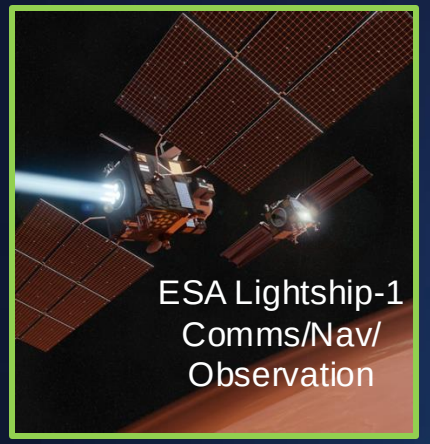
Lunar scouting and prospecting rovers

Lunar base camp

Less dependency

More autonomy

Deep space habitation simulator

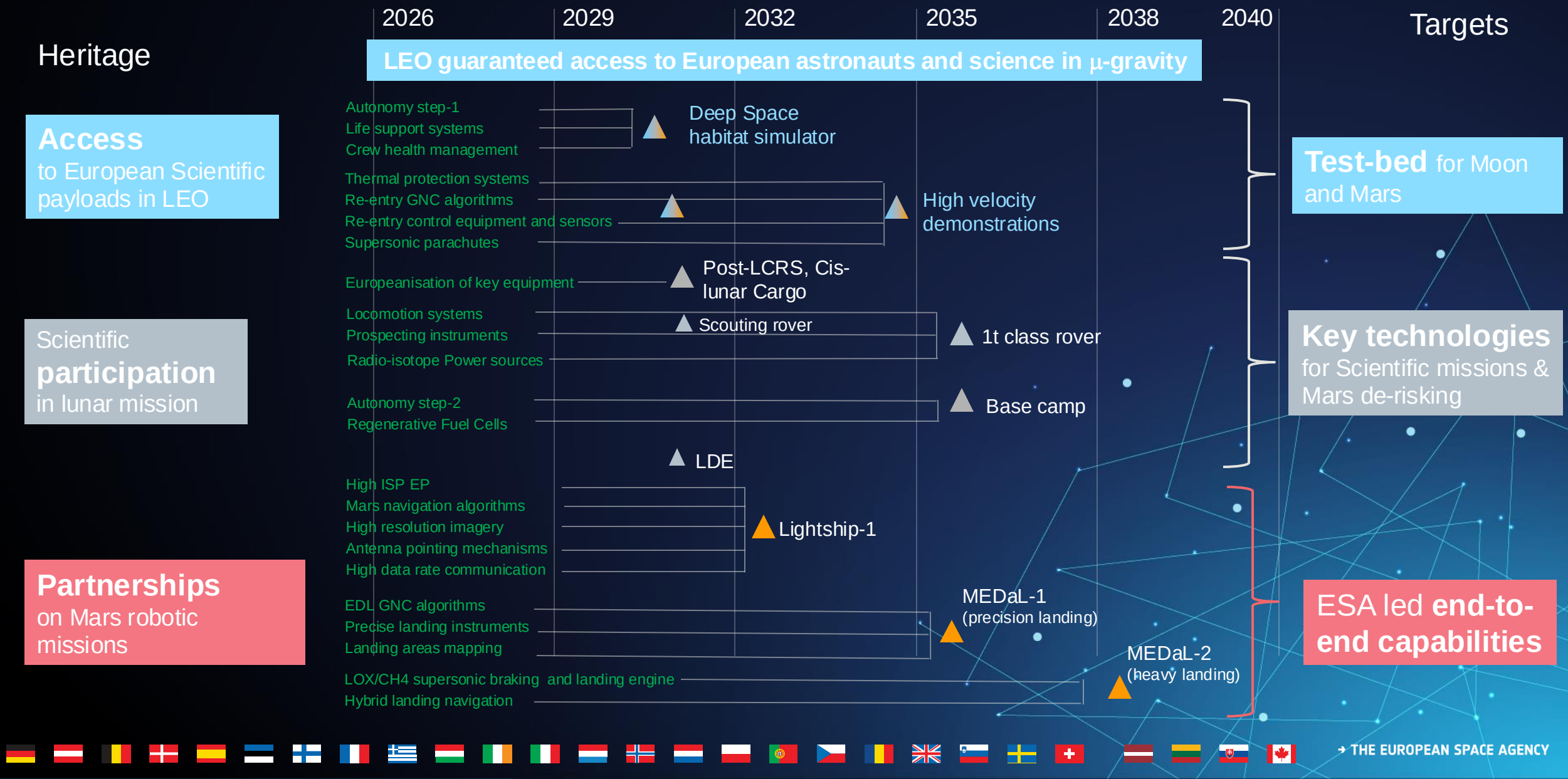


ESA Lightship-1 Comms/Nav/ Observation

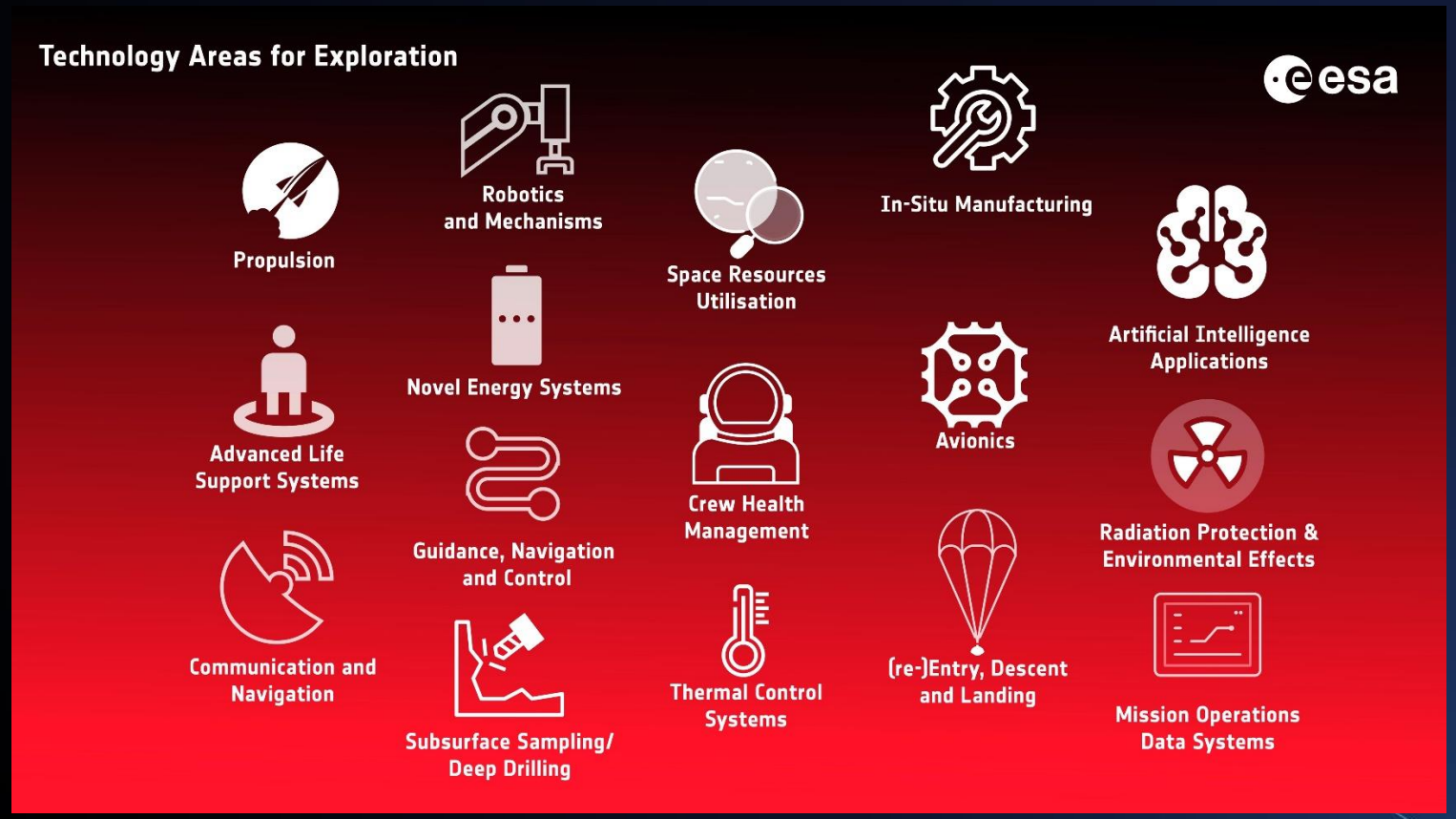
Mars precision landing and surface payloads

Hyper-Velocity (Mars) atmospheric entry derisking

Enabling capabilities

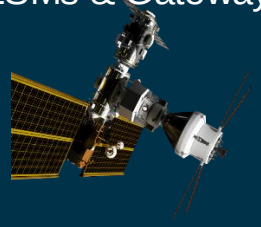
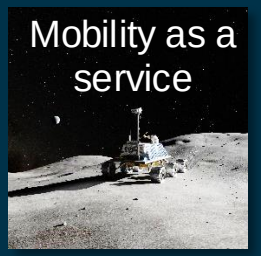
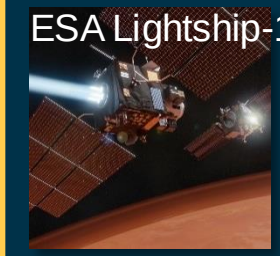


Thematical workplans



- Enabling capabilities to secure Explore2040 implementation
- Reduced dependency to non-European suppliers
- Maintain know-how and expertise between major missions on key technologies ; double sourcing when needed
- Strategical investments in key technological areas to position European suppliers on a worldwide market (institutional collaborations and commercial applications)

TERRAE NOVAE Period 4

	Obligations & dependencies	Less dependence in action	Non dependence in preparation	Non dependence in future preparation	
LEO	ISS continuation 	LCRS phase 2 	Science payloads 	Post-ISS phase 1 	Astronaut flights
Moon	ESMs & Gateway 	Argonaut/Argonet 	Small Mission 	Mobility as a service 	Science benefits
Mars	Mars Sample Return 	Rosalind Franklin Mission 	ESA Lightship-1 	Precision lander and surface activities 	Science benefits

Trusted partner & resilience to IPs and geopolitical challenges

New Astronaut missions

Uniqueness and ambition

Create (re)new(ed) partnerships and new benefits

Terrae Novae – Conclusions

New ways of implementation

LCRS implemented on a service-based approach with support from ESA on NASA safety certification

Stronger preparatory phases

ExPeRT studies new mission options and derisks critical technologies with durable impetus.

Delivering on the Explore2040 strategy, ensuring European readiness to adapt to new paradigms.

Sovereignty

Argonaut to launch, land and operate assets on the Moon surface independently or in cooperation

Lightship & Mars precision landing to show autonomy and leadership by attracting Partners

Uplifting science

Terrae Novae puts scientific discovery at its core. The focus on science propels groundbreaking advancements for space exploration and deepens our understanding of fundamental processes shaping life and the universe.

Slovenia – Small on Earth but boundless in space

Space Strategy:

https://www.gov.si/assets/vlada/Seja-vlade-SZJ/2023/11-2023/Slovenian-space-strategy-2030.pdf

https://www.gov.si/assets/vlada/Seja-vlade-SZJ/2023/11-2023/Slovenska-vesoljska-strategija-2030.pdf

Terrae Novae

Slovenia involvement & opportunities

Eric Istasse, Olivier Ingold
Directorate of Human and Robotic Exploration

Europe's exploration vision

ESA SHORT-ARM HUMAN CENTRIFUGE

Centrifuge at Planica
© ESA

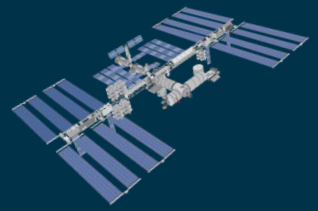
BRAVE BEDREST STUDY

BRAVE
2024-2025

Centrifuge at Planica
© ESA

Overview Slovenian involvement in Exploration Science

Multiscale Boiling: I. Golobič (co-I; University of Ljubljana), M. Zupančič (co-I; University of Ljubljana)



Multiscale Boiling: I. Golobič (co-I; University of Ljubljana), M. Zupančič (co-I; University of Ljubljana)

BREEZE: I. Mekjavič (co-I; IJS), D. Salvadego (co-I; IJS)

MyoOmics: T. Debeveč (co-I; University of Ljubljana)
MIBER-RNA: A. MacDonell (co-I; IJS), I. Mekjavič (co-I; IJS)
BRAVE CArt: M. Drobnič (PI; IJS), A. MacDonell (co-I; IJS), I. Mekjavič (co-I; IJS), A. Merčun (co-I)

THROMBOSIS: I. Golobič (co-I; University of Ljubljana), M. Zupančič (co-I; University of Ljubljana)
EARLYPHASE: R. Pišot (co-I; ZRS Koper), , B. Šimunič (co-I; ZRS Koper), U. Marušič (co-I; ZRS Koper)

Topical Team Fire Safety: G. Jomaas (coordinator; ZAG Ljubljana)

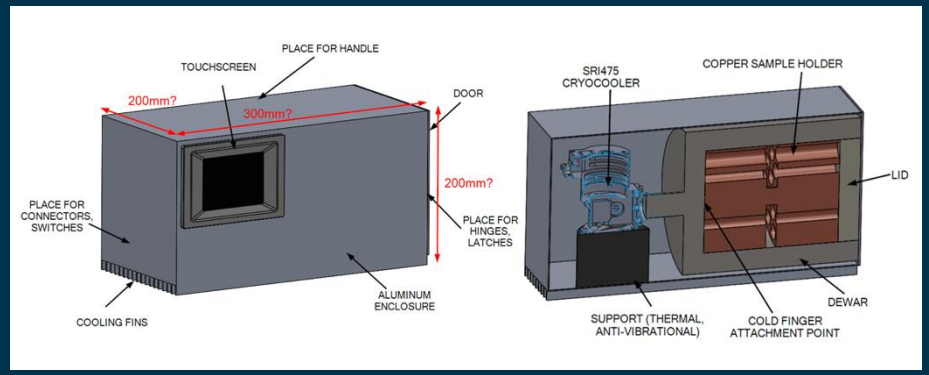
Slovenian activities under development

CHEST [LE-TEHNIKA]

- CHEST = Cooling and Heating Stirling Trunk
- Small thermally conditioned container for transportation of biological samples or thermally sensitive material (medicine, lab on chip, reagents)
- Controlled temperature settable between -100^{0}C up to 20^{0}C.
- Interchangeable inserts for various sample shapes
- Based on existing rotary Stirling cooler SRI475 Made in Slovenia by LE-TEHNIKA

Use cases:

- Ground use: transport from around the world to launch site and from integration lab to launch site
- Space use: transport to /from ISS and future stations and beyond- Cry cold stowage provision

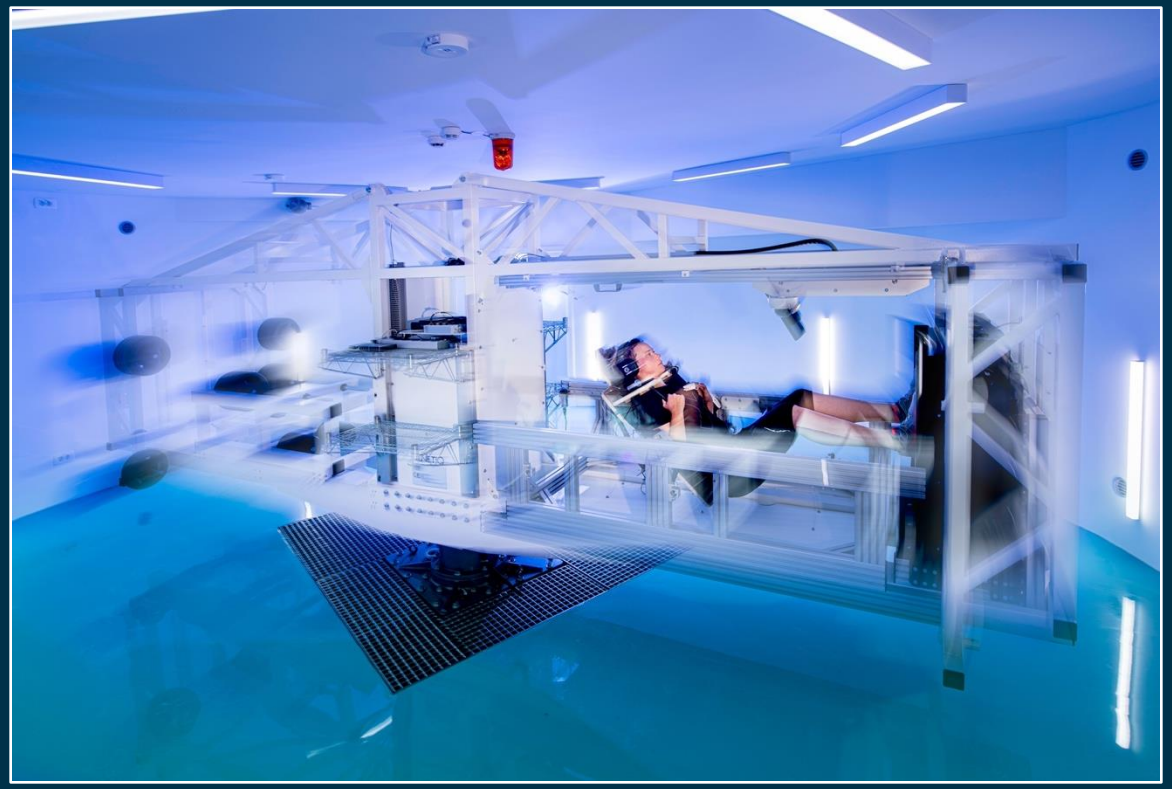


Slovenian activities in preparation

Jugular Vein Pressure Device [University of Ljubljana]
Coordination: Prof. dr. Janez Urevc

- The objective of the activity is to follow-up on an existing Agency development of the Jugular Vein Pressure (JVP) device, completed successfully.
- The activity will technically demonstrate the JVP device prototype functionality and verify the suitability and accuracy of the developed mathematical models under microgravity conditions.
- This is a very relevant activity as it can help early detection and diagnosis of thrombosis in spaceflight.

Slovenian Ground-Based Facilities

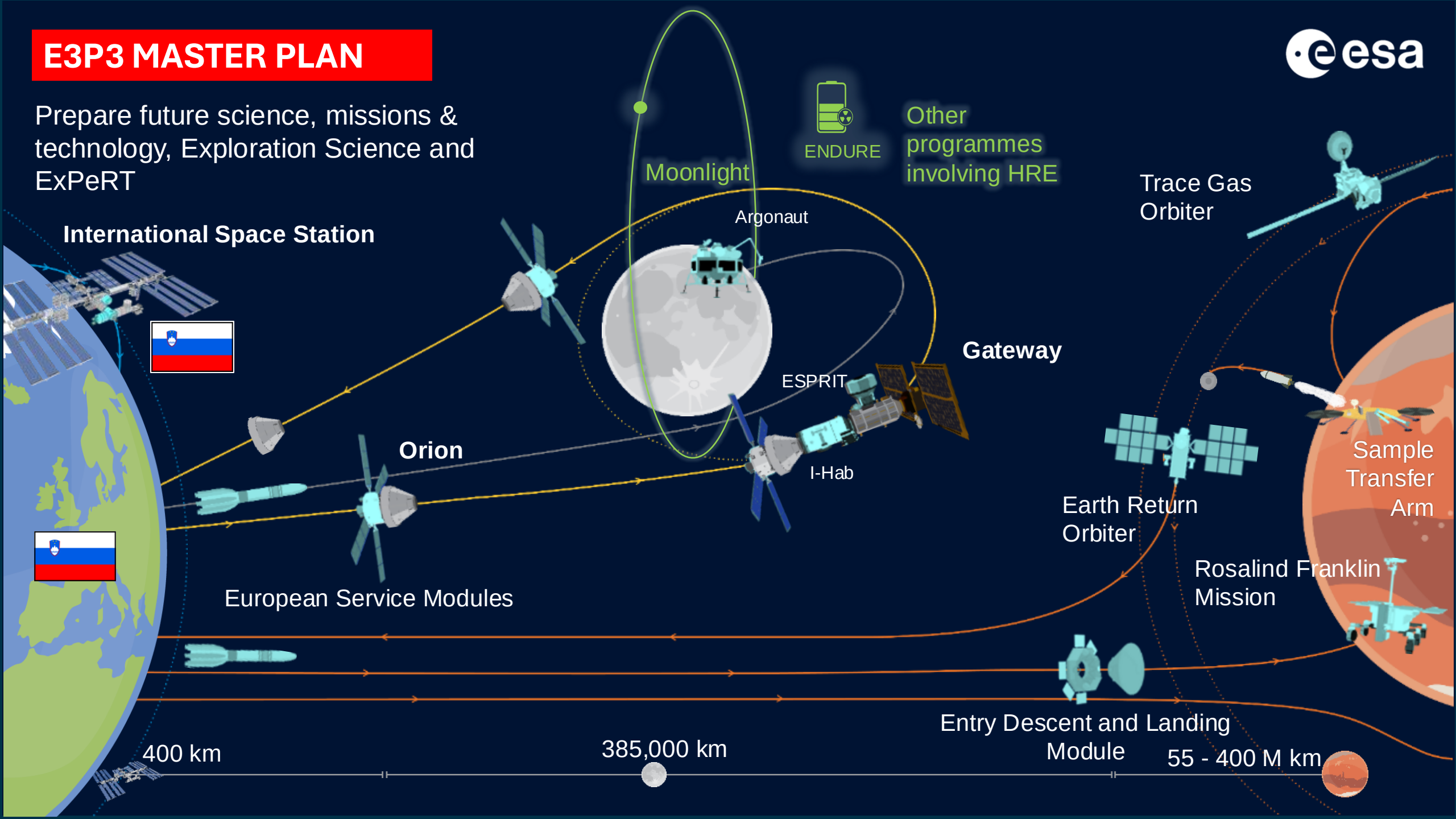


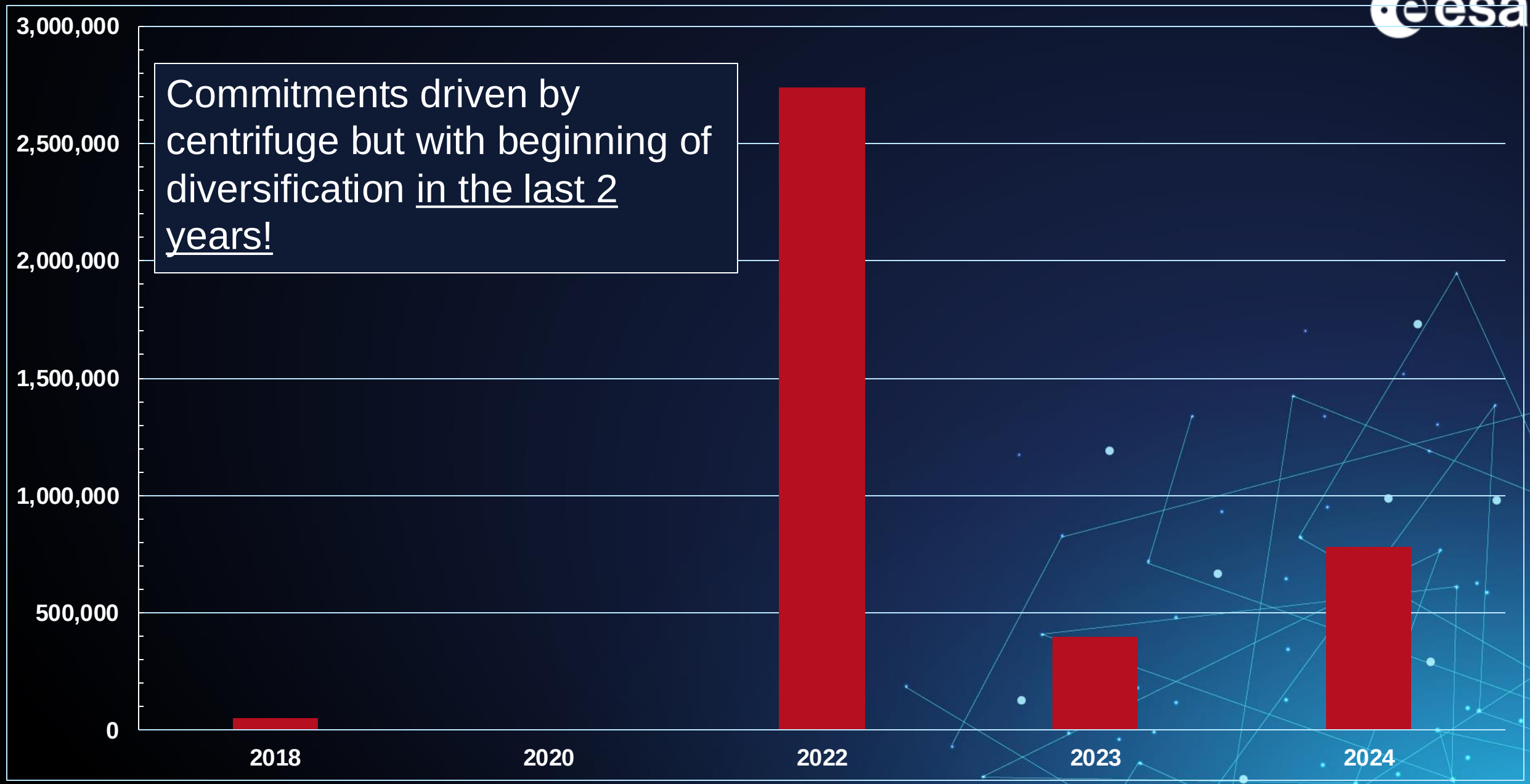
PlanHab
Planica

ZAG, Fire Safety
Ljubljana

E3P3 MASTER PLAN

Prepare future science, missions & technology, Exploration Science and ExPeRT

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2018
2020
2022
2023
2024
Commitments driven by centrifuge but with beginning of diversification in the last 2 years!

Further upcoming activities with opportunities for Slovenia

- Significant remaining under-return for Slovenia in Exploration Programme → encourage Slovenian space sector actors to respond to all competitive activities!

  - ✓ ExPeRT: long term investment for Slovenia in the Programme with immediate impact on geographical return
  - ✓ Remaining large procurements: ESPRIT ERM/Lunar View but most significantly Argonaut LDE!
  - ✓ As well as any other procurement in SciSpacE

- Use procurement activities reserved to under-return countries!

ExPeRT planned mission studies and technology development

Phases§	Activity	ITT Release indicative	Duration months	Comments
Pre-Phase A	**Deep Space Habitat Simulator**	**Open (until 28/02)**	9	up to 2 // studies
Pre-Phase A	**Argonaut#1 mini-rovers**	Q1 2025	9	up to 6 // studies (OSIP)
Pre-Phase A	**Lunar Remote Camp**	Q1 2025 (January)	9	up to 2 // studies
Pre-Phase 1	**Cis-lunar Cargo Return pre-phase A**	Q1 2025	9	3 // studies
Phase 1 Demo	**Hypervelocity entry derisking**	Q2 2025 (TBC)	18	Up to 2 // studies (demonstrator)
Pre-Phase A	**Precision/Guided EDL Mission (MEDal)**	**Open (until 18/03)**	9	up to 3 // studies
Techno dev.	**Next Generation Electric Propulsion for Exploration study**	Q1/Q2 2025	6	up to 3 // studies
Pre-Phase A	**Study for the Integration of AI in Space Exploration Activities**	Q1/Q2 2025	6	up to 2 // studies
Techno dev.	**Fundamental techniques, models and algorithms for a Mars radio navigation system**	Q1/Q2 2025	12	up to 2 // studies

THE INTERNATIONAL SPACE STATION

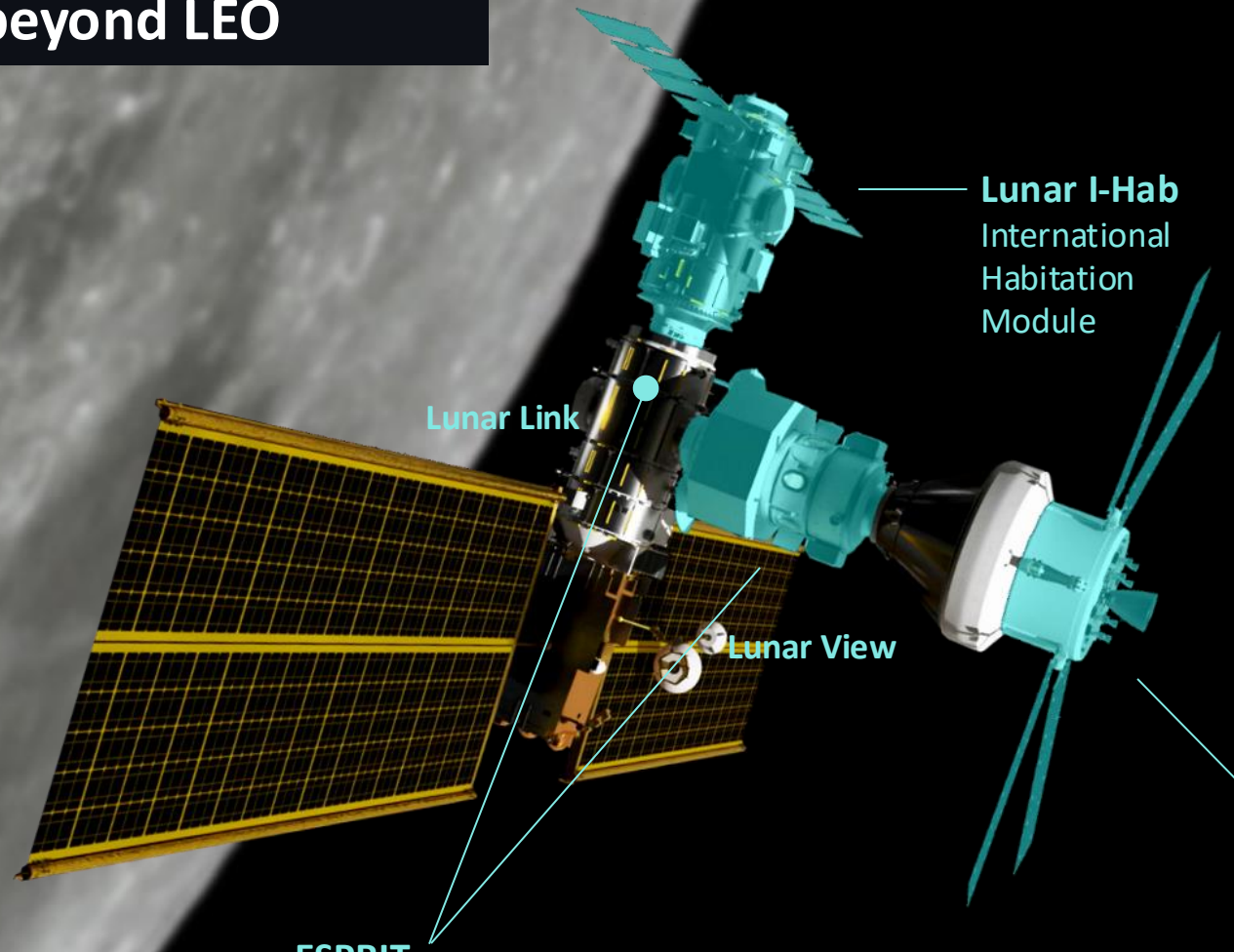
Cornerstone 1: Humans in low Earth orbit

Most procurement activities for E3P3 concluded

New opportunities to be confirmed in 2025

ESA CONTRIBUTIONS TO ARTEMIS

Cornerstone 2: Humans beyond LEO



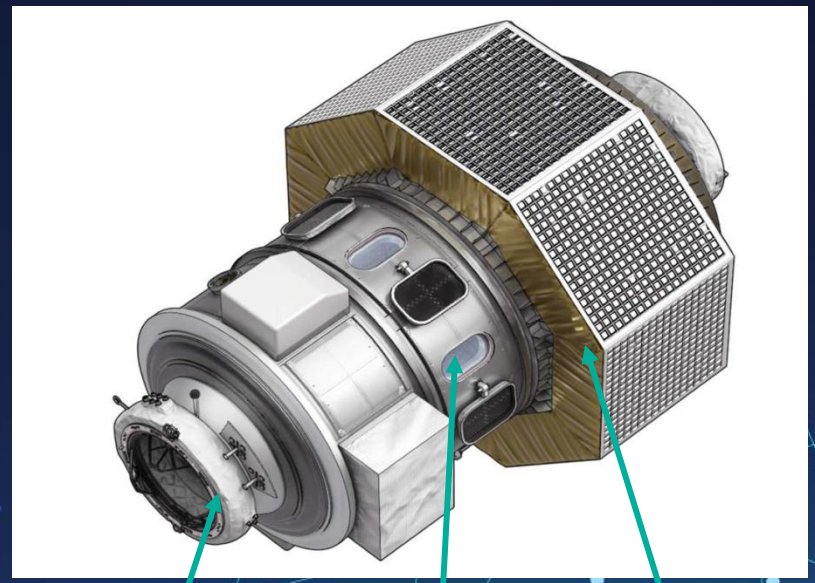
ARTEMIS

Gateway ERM-XL: Lunar View

- Signature @ IAC (October) between ESA and Prime TAS-F

- Still a considerable list of items to be selected:
  - UMAXT System: structure elements, MLI, fluidic units
  - Bi-propellant module: propulsion units, fluidics units,
  - WIT: mechanical parts, thermal parts
  - ERM overall: electronic units, GSEs, Harness

- THALES France supported by a Core Team :
  - THALES Italy (Torino), building on its large experience in the domain is responsible for the Pressurised section, aka the Windows Tunnel (WIT)
  - OHB Bremen is responsible for the Unpressurised part hosting the avionics and the two propulsion subsystems (Bi propellant and Xenon)., aka UMAXT.
  - OHB Bremen is responsible for the Xenon subsystem
  - THALES UK (Reading) is responsible for the Bi Propellant subsystem



Gateway Operations preparation

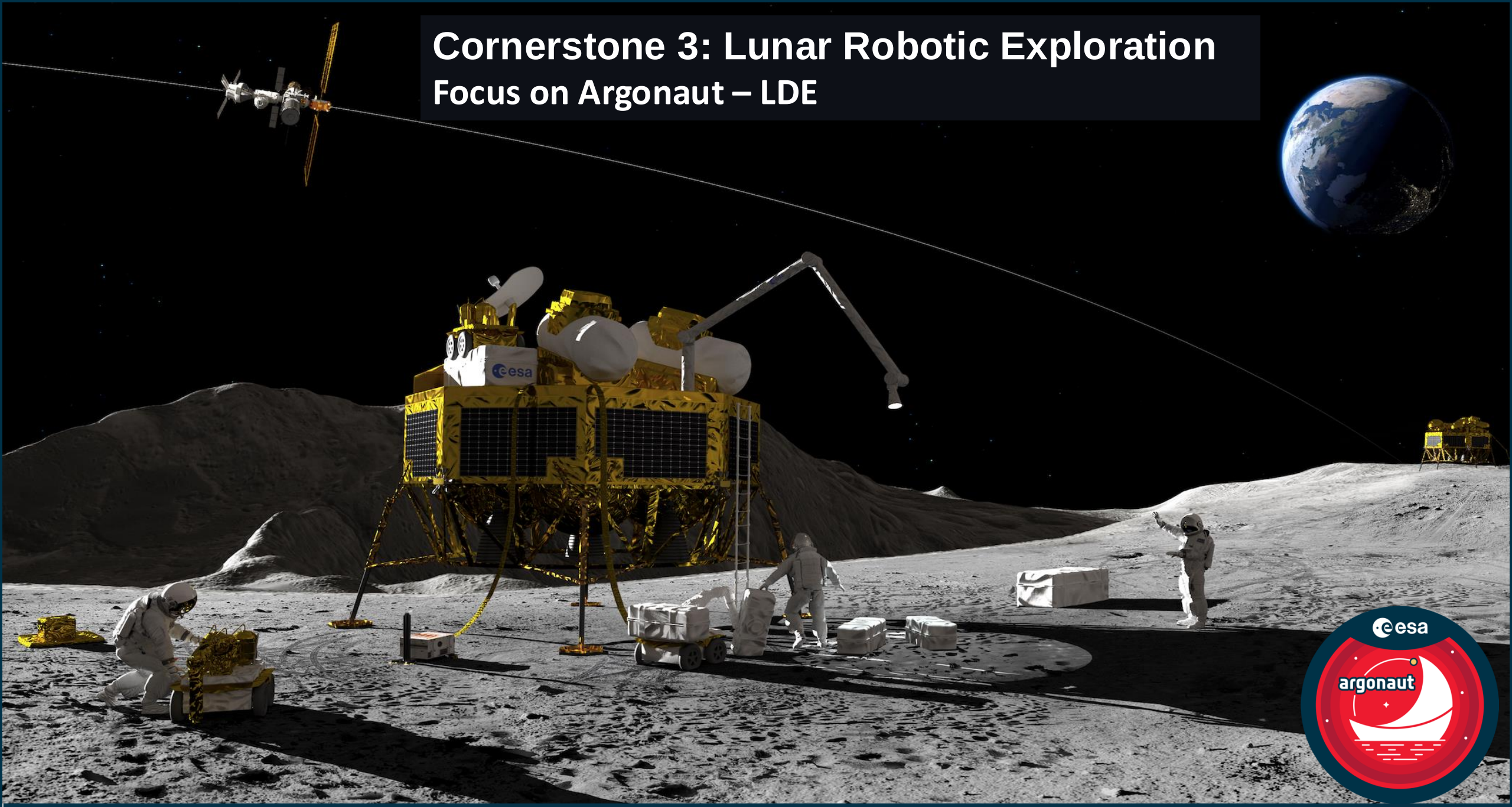
- ESA Gateway Simulators→ Purpose: support the crew & flight controller training, and operations preparation of the European Gateway components

- Radiation Protection Software development: ITT open until 21/03/2025

- Acoustic Monitoring for Gateway phase: ITT planned Q1-Q2 2025 → 60% reserved to under-returned countries of E3P

Cornerstone 3: Lunar Robotic Exploration

Focus on Argonaut – LDE



Argonaut Procurement Status

Selection of the NAMMO engine done in October but consortium remains to be built around the core team:

- Activities under Best Practices (Landing legs, LIDAR, On-board computer & Remote Terminal Unit)
- Other activities under competition across all Work Packages!

- TAS-IT supported by :
  - TAS-FR: for Data Handling Subsystem
  - TAS-UK: for Propulsion Subsystem
  - OHB-DE: for Electrical Power, Telecommunication, Telemetry and Control and Guidance, Navigation and Control subsystems

Industry day 6 March 2025 in Turin not to be missed: (deadline 24/02)

- Coincides with the expected release of a large number of ITTs:
  - ✓ TAS-I: Propellant tanks, landing legs, thermal control system, heat rejection system, GSEs, Structure, Harness, ISVV…
  - ✓ TAS-F: OBC, RTU…
  - ✓ TAS-UK: filters, valves…
  - ✓ OHB-DE: EPS equipment (SA, PCDU, Batteries…), Comms (Transponder, Antennas…), GNC (LIDAR, Star tracker, IMU…)
- Procurement actions in batches throughout 2025 and 2026!

BRINGING THE RED PLANET BACK TO EARTH

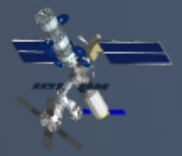
Cornerstone#4: Mars Exploration

- In STA: Development of high-performance and compact resolver sensor for planetary robotics applications → ITT under finalisation
- In TGO/MEX & RFM: series of small scientific activities to be released

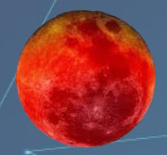
SciSpacE Research and platforms

• Micro-/Partial Gravity	Radiation	Isolation/Confinement	Other
Bedrest Dry Immersion Parabolic Flight Drop Tower Sounding Rockets Ground-Based Facilities International Space Station (ISS) Gateway	Ground-based Radiation GSI Radiation ISS Gateway	MARS500 / SIRIUS ESA-led isolation studies - future Concordia, Antarctica Gateway	Ground-Based Facilities


LEO: International Space Station (ISS), Space Rider, Commercial Platforms

BLEO: Gateway, Moon, and Mars



➢Important to succesfully implement activities approved in 2024 and 2025: CHEST & JUGULAR Vein

Doing business with ESA

Karol Brzostowski
Directorate of Commercialisation, Industry and Competitiveness

Europe's exploration vision

1. ESA Tools – Basics of ESA Procurement

https://doing-business.sso.esa.int/

- Portal for access to the entire esa-star toolset, including associated ESA corporate applications like esa-p
- All applications are connected, making it easier for users to access the systems and retrieve information
- Optimised and supported for use with the Google Chrome browser

1. ESA Tools – Basics of ESA Procurement

esa-star Registration https://esastar-emr.sso.esa.int/

- Registration on ESA-STAR is a **pre-requisite** to do business with ESA

esa-star Publication http://doing-business.sso.esa.int

- All Tender related documents can be found in esa-star Publication. Here you request the system to create a **Bidder Restricted Area** in ESA-STAR Tendering

esa-star Tendering http://doing-business.sso.esa.int

- In the Bidder Restricted Area, you can request for clarifications and **submit the proposal**

esa-star esa-match https://esastar-esamatch.sso.esa.int/

- Competences & Capabilities, **find suitable tenders and entities for collaboration**

Further Instructions

ESA - esa-star: open for business

https://esastar.sso.esa.int/Lists/List%20Training/Forms/AllItems.aspx

1. ESA Tools – Basics of ESA Procurement

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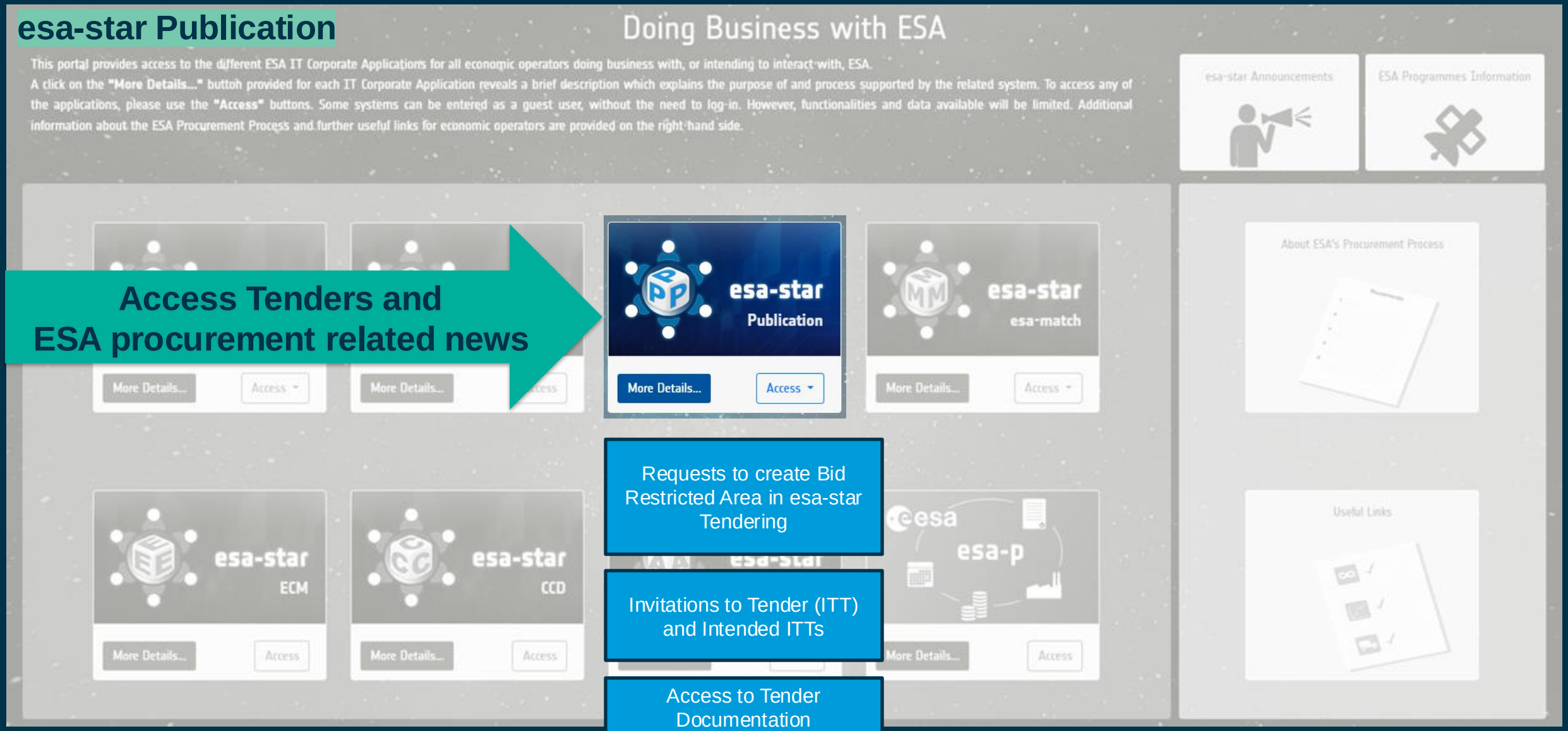
esa-star Publication



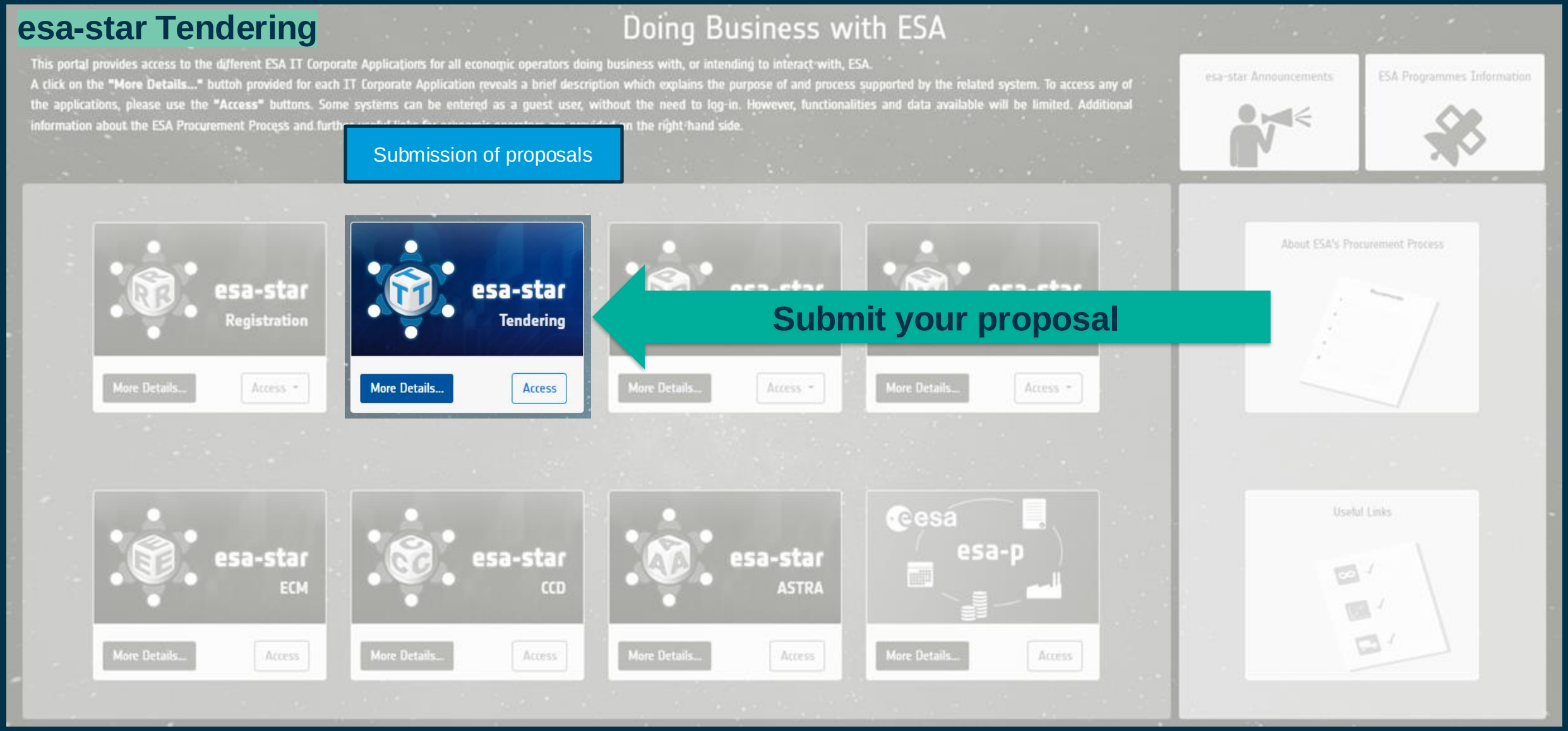
Access Tenders and ESA procurement related news

Requests to create Bid Restricted Area in esa-star Tendering

Invitations to Tender (ITT) and Intended ITTs

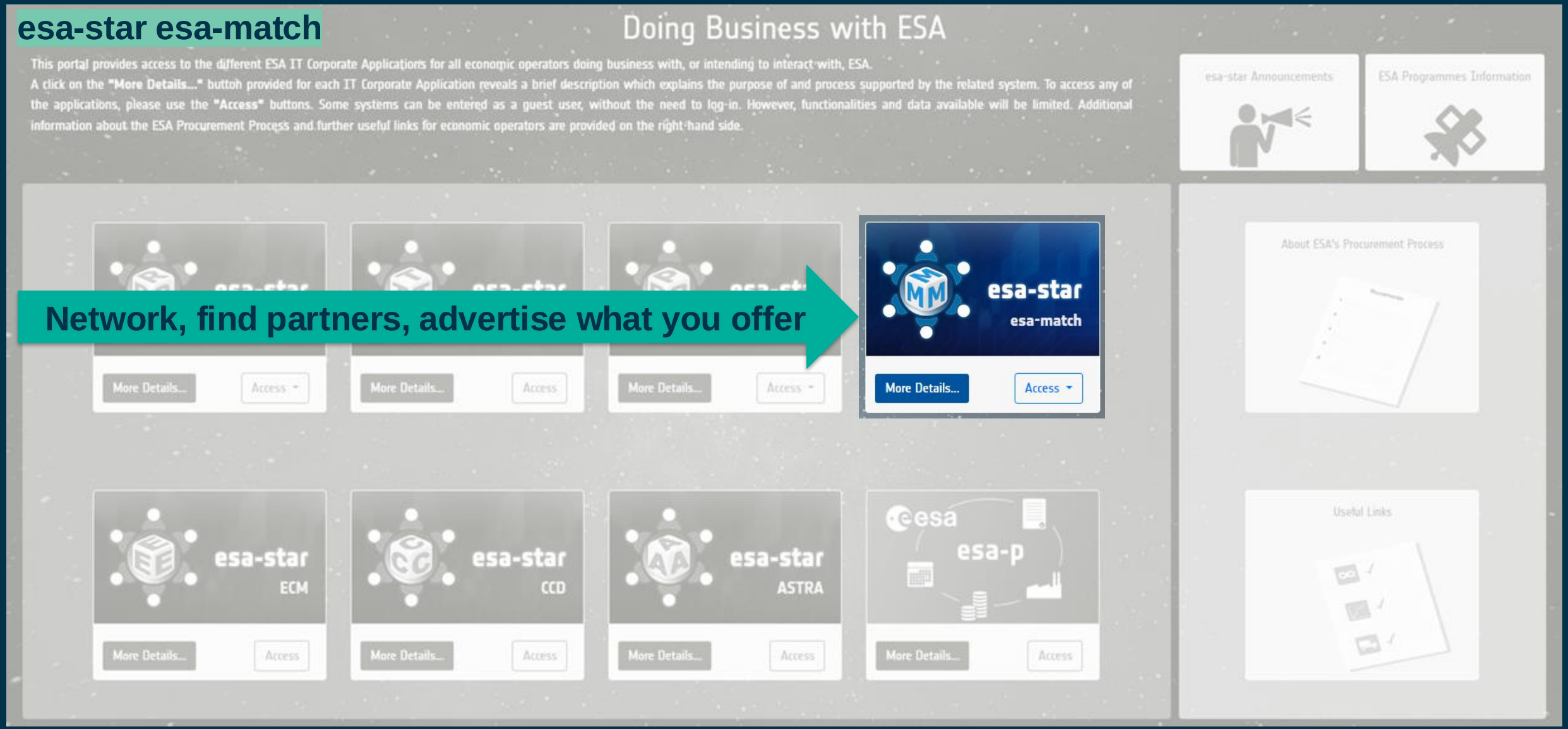
Access to Tender Documentation

1. ESA Tools – Basics of ESA Procurement



1. ESA Tools – Basics of ESA Procurement

esa-star esa-match



Doing Business with ESA – Tips I

- Register with ESA: esa-star Registration: https://esastar-emr.sso.esa.int/
- If you are an SME, claim your SME status
- Complete your esa-match profile
- Familiarise yourself with the Agency's standard documents/requirements/processes
- Review Intended and Open Invitations to Tender (ITTS and ITTs) regularly and identify activities of interest: Via esa-star Publication, communicate your interest in participating in the corresponding ITT
- In addition: Identify Calls for Proposals of particular interest and respond
- Contact potential partners
- Respond to ITTs
- Request a debriefing following an unsuccessful ITT proposal submission: this will help to improve the quality of subsequent tenders

Doing Business with ESA – Tips II

- Try to acquire and maintain an up-to-date knowledge of ESA's programmes, activities, organisation and methods of operation

Industry Days for major procurements

Industry Space Days (ISD)

- Business-to-Business event
- info at: https://isd.esa.int/

Other ESA Conferences

we explore. you benefit.

Human Spaceflight and Robotic Exploration

Back-up slides

- Procurement @ESA -

(Backup Slides)

EXpress PROcurement Procedure (EXPRO/EXPRO+)

EXPRO/EXPRO+ (EXpress PROcurement)

•EXPRO is a **tailored-to-purpose procurement method** designed to minimise time-to-contract for low to medium-budget procurements through a series of simplifications w.r.t. the standard process, the applicable tendering conditions and the rendering of the applicable contract conditions

EXPRO ITT/RFQ

- Cover Letter
- Statement of Work
- Draft Contract (Self-contained standard contract embedding the relevant parts of the GC&C)
- Proposal Template (in MS Word)
  - Cover Letter template
  - Proposal template (Response Letter template)
- "EXPRO/TC" Tendering Conditions (replacing GCT Parts 1 and 2)

- If the EXPRO/EXPRO+ procedure is used, it will be clearly stated in the Invitation to Tender (ITT) or Request for Proposal (RFP)

Call for Proposals Procedure

“A procedure, limited or not in time, for inviting economic operators to submit tenders at their own initiative without responding to a specific Invitation To Tender issued by the Agency”.

- Characterised by no technical requirements (Statement of Work)
- The choice of a Call for Proposal procedure is clearly indicated either in the Implementing Rules of the respective ESA programme/activity or the bilateral agreements concluded between the Agency and third parties.
- Submission of proposals under a Call for Proposal **may or may not include a preliminary stage** where amongst others outline proposals are submitted via the Open Space Innovation Platform (‘OSIP’) or another online platform outside of esa-star Tendering.
    - **Two steps tendering possible**
        - **Preliminary stage (e.g. an outline proposal)**, if consistent with programmatic aspects and funding (can be conducted outside of esa-star, e.g. in OSIP), then:
        - **Full proposal** (via esa-star)
- If certain conditions, announced in the Call for Proposal, are fulfilled by the Tenderer in its proposal, it may lead to a contract with the Agency. Through such contract, ESA either alone or in cooperation with other institutions funds the activity fully or, if the activity is co-funded, provides financial contribution towards the agreed results.

Call for Proposals Procedure

- **Evaluation criteria** are, in many cases, tailored to assess if the proposed subject has potential for **innovation/commercial exploitation and sustainability**, a strategic interest for the Agency or, depending on the specific case, matches the Contractor's business roadmap/the national space plan of the Delegation (depending on the programme);

- Negotiation aims at reviewing the **full proposal** against the Tenderer's own requirements and the expected output or results.

Pay special attention to differences in the tendering process between the different programmes!

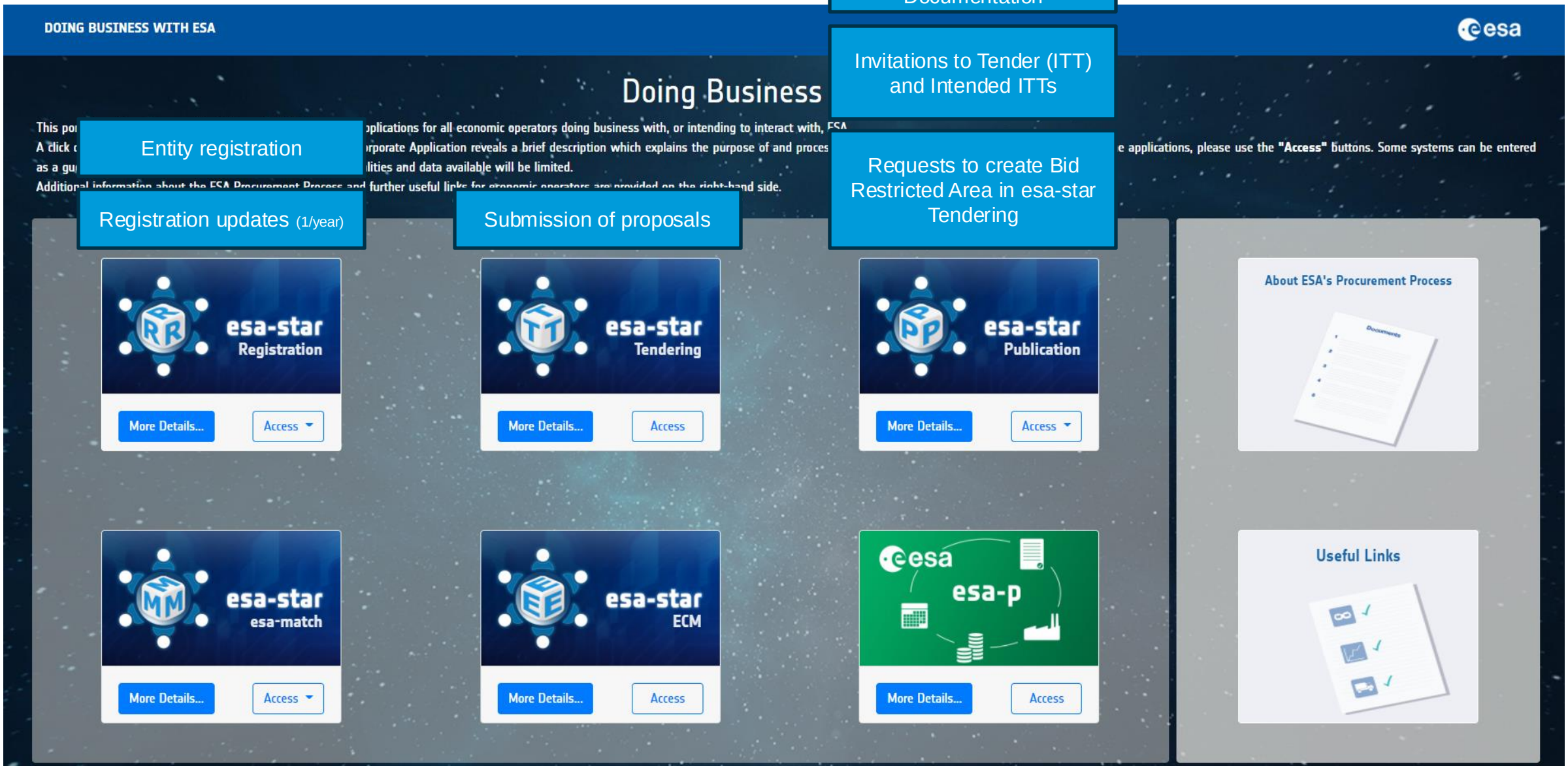
(e.g. proposal submission in steps, outline proposal followed by full proposal)

*Further information about Calls for Proposals is available on esa-star Publication (Instructions for Call for Proposal Procedure)

- ESA Online Corporate Applications-

(Backup Slides)

Doing Business with ESA portal



Entity registration

Registration updates (1/year)

Submission of proposals

Access to Tender Documentation

Invitations to Tender (ITT) and Intended ITTs

Requests to create Bid Restricted Area in esa-star Tendering

ESA-STAR REGISTRATION

How do I register my company?

esa-star Registration

Registration in esa-star is a pre-requisite to do business with ESA!

- Only registered (and validated) entities can access tendering documents in the non-public part of esa-star Publication, express interest in Invitations to Tender (ITT), submit requests for clarifications on open ITTs, submit tenders and be awarded ESA contracts
  - **“Light” Registration**: all transactions except contract award
  - **“Full” Registration**: contract award and invoicing

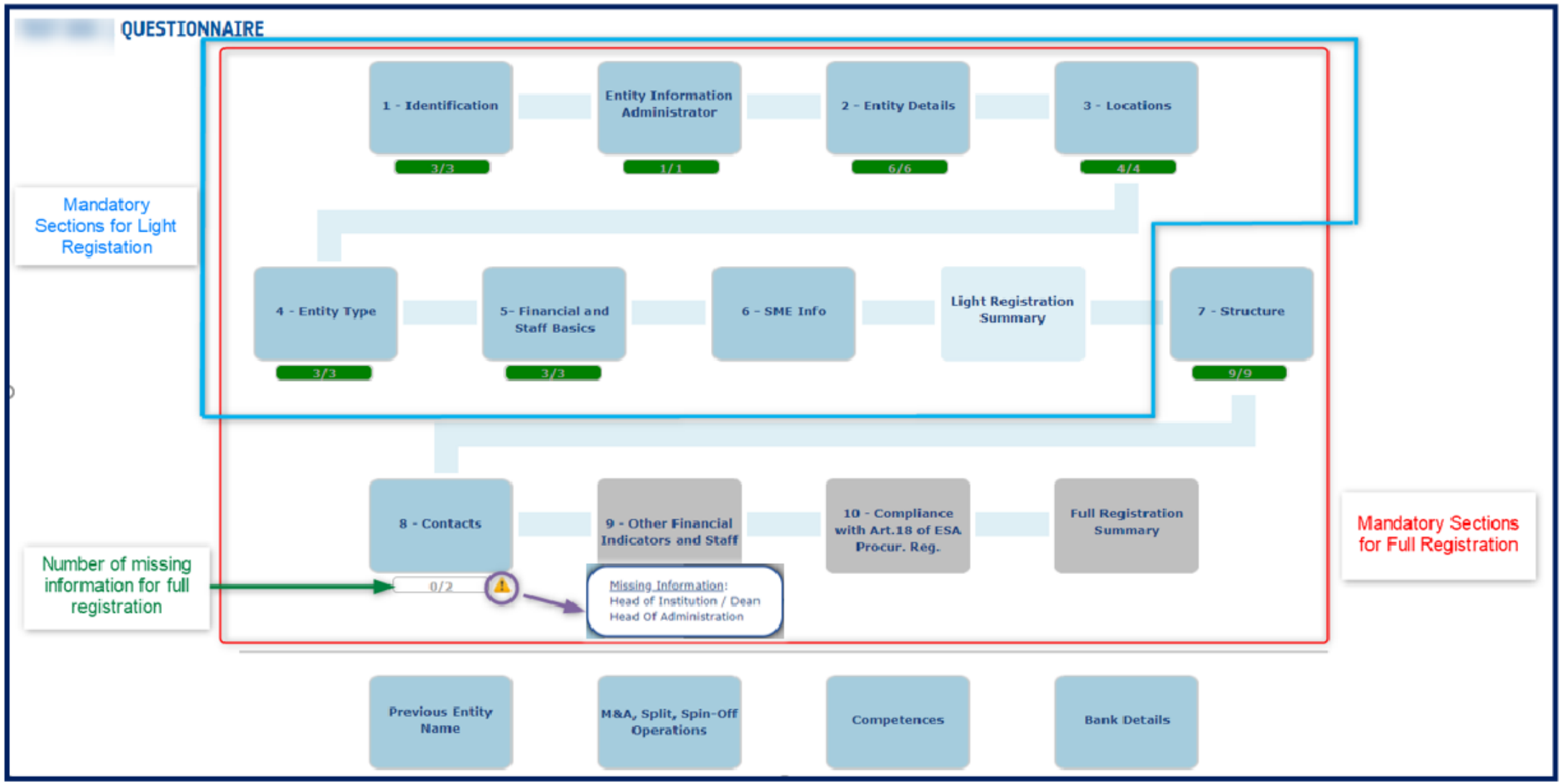
- Updates of the information are required every **12 months**

esa-star Registration

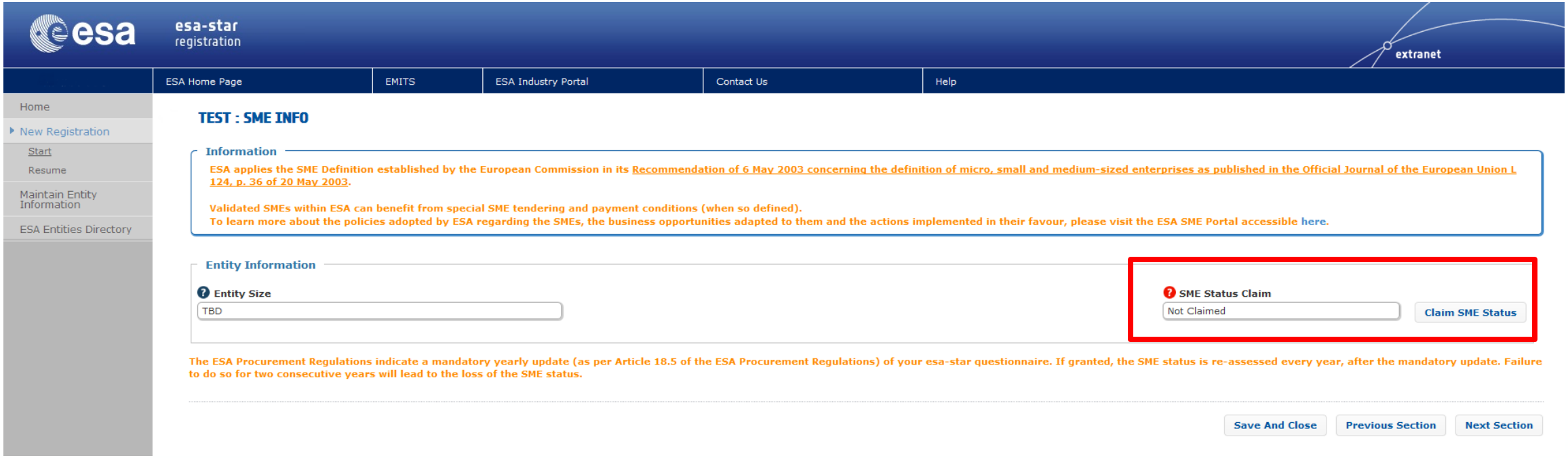
Link to access esa-star Registration: https://esastar-emr.sso.esa.int

1. **Home**: Containing the default welcome message
2. **Start**: Entity access to esa-star without credentials
3. **Resume**: Temporary code needed to access the partially completed questionnaire
4. **Maintain Entity Information**: ESA credentials are needed in order to access the approved questionnaire.
5. **ESA Entities Directory**: List of entities already registered

esa-star Registration: Process



esa-star Registration: SME status claim



If more than 25% of the shares of an entity are owned by another entity
OR if the entity owns more than 25% of another entity:

→ Additional information for each entity concerned will have to be submitted

ESA SME benefits

Validated SMEs within ESA can benefit from support measures as well as **special SME tendering and payment conditions** (when so defined).

Examples:

- **C1-C4 clauses** (A set of procurement clauses favouring non-Prime entities, including SMEs. Detailed description here)
- **35% advance payment** (Detailed description here)
- **Training courses for SME** (Detailed description here)

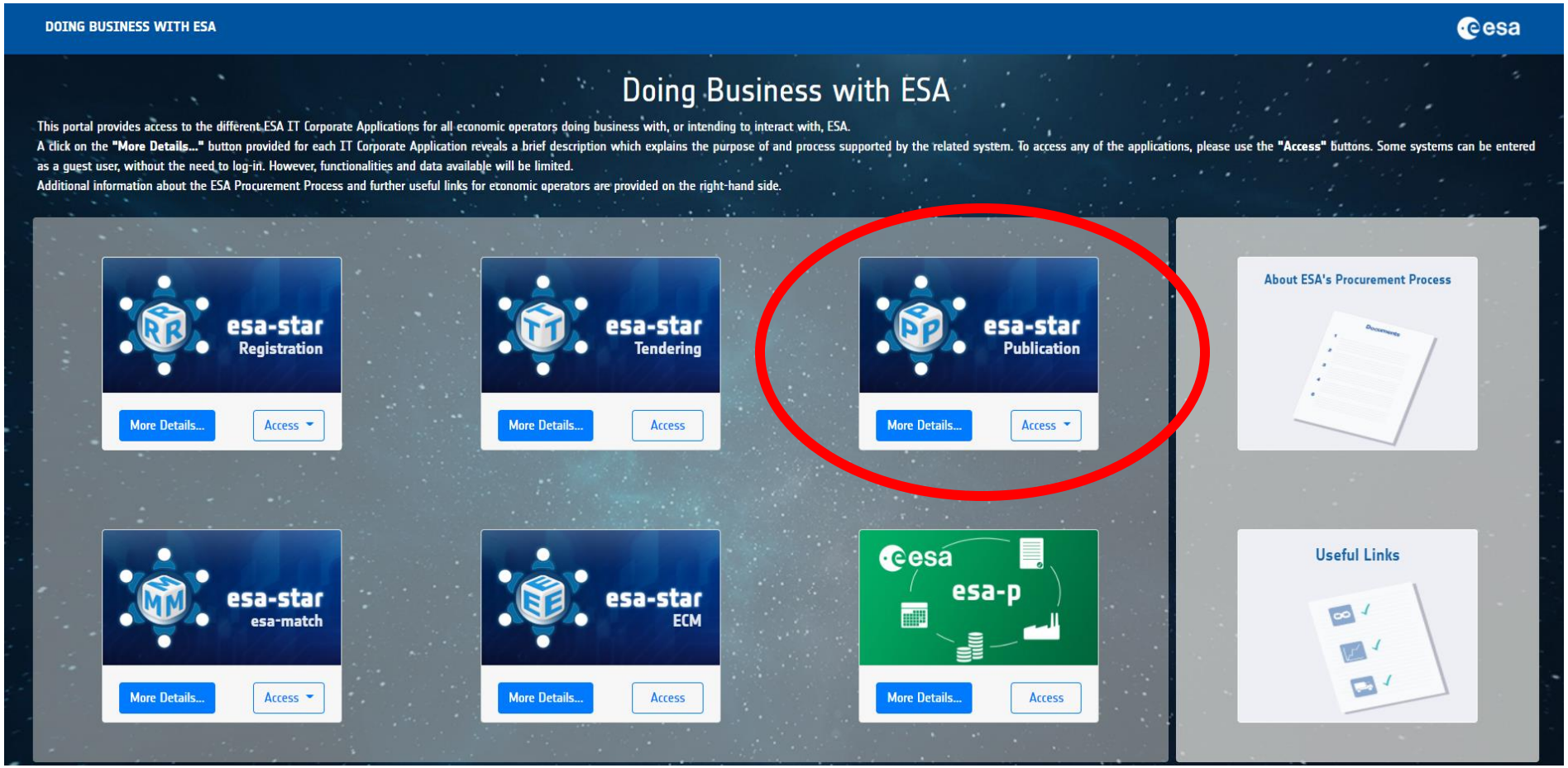
To learn more about the policies adopted by ESA regarding SMEs, the business opportunities adapted to them and the actions implemented in their favour, please visit the ESA SME Portal accessible here.

ESA-STAR PUBLICATION

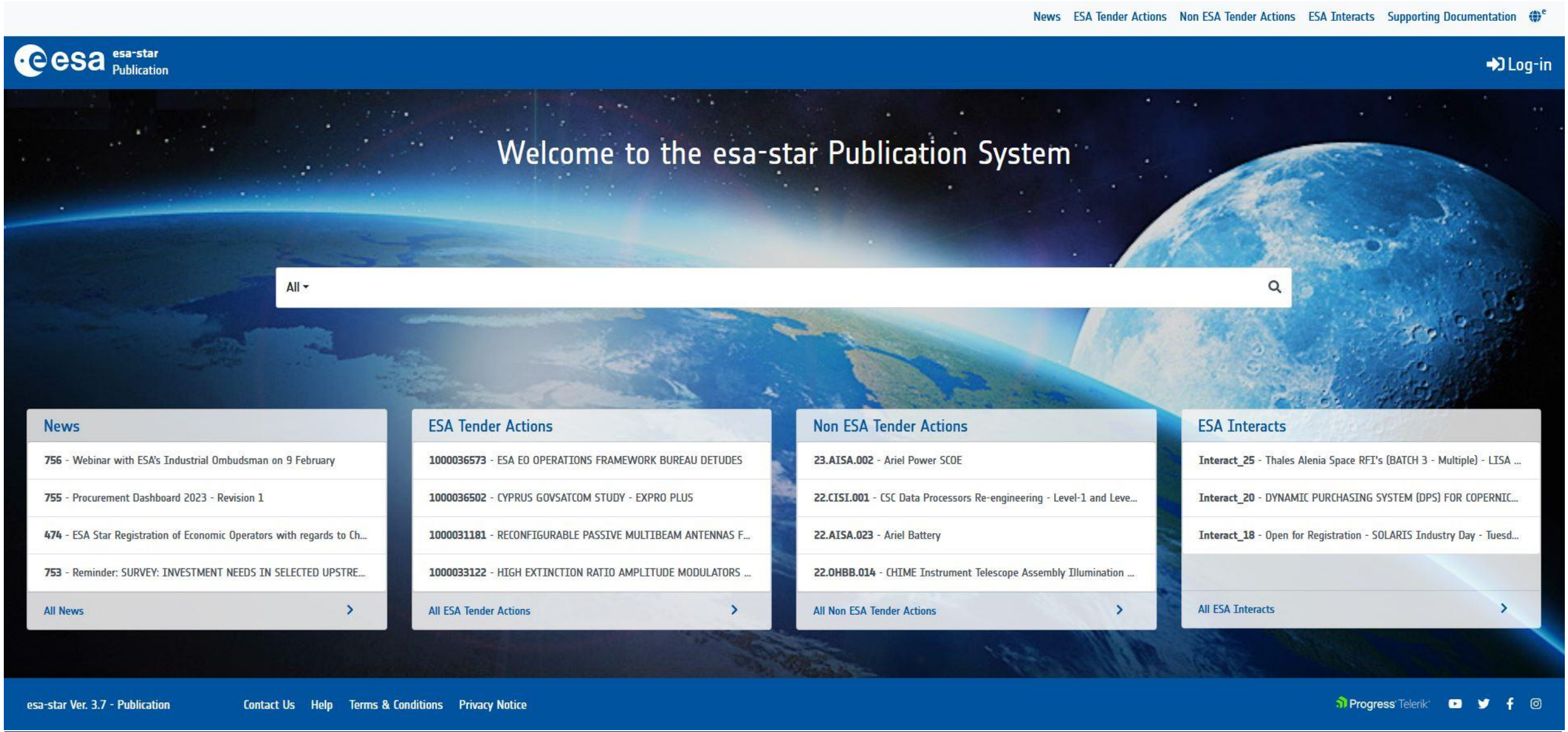
How do I find Tender Actions?

Doing Business with ESA portal

Portal providing access to ESA's Corporate Applications: http://doing-business.sso.esa.int/



esa-star Publication



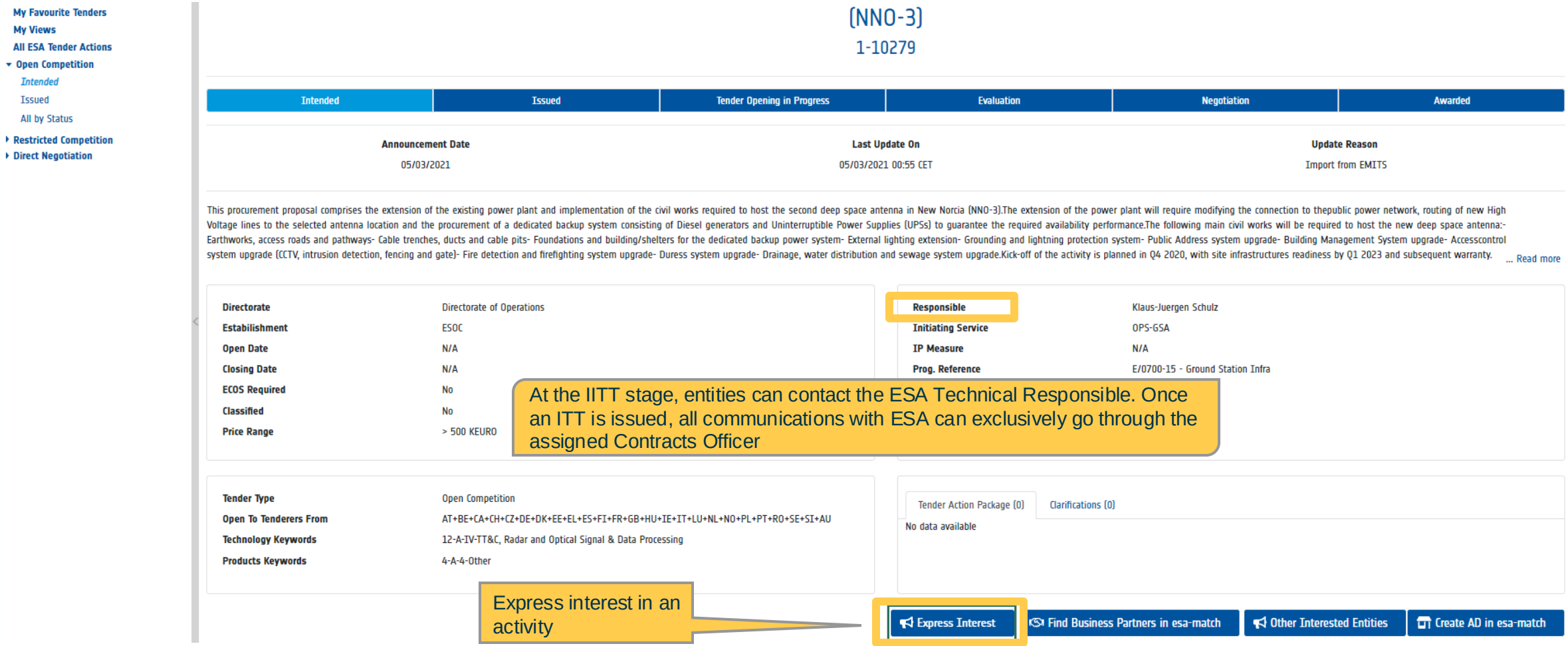
esa-star Publication

Features:

- Open Invitations to Tender (ITT) and Calls for Proposals
- Intended ITTs: potential tenderers may declare their interest and see which other companies have done the same (interesting to identify potential partners)
- Search for IITTs/ITTs/Calls for Proposals
- Reference Documents: technical, administrative and contractual standards and documents (e.g. PSS-A forms, ESA General Clauses and Conditions, Engineering standards etc)
- Competitive ITTs published by ESA on behalf of other entities (non-ESA tender actions)
- ESA Interacts
- News – Consultations to industry, Announcements, etc.

Intended Invitations to Tender

- Once approved and introduced in the Work Plan of the relevant ESA Programme, envisaged competitive procurement actions are published through esa-star Publication as "**Intended Invitations to Tender**"



Intended Invitations to Tender

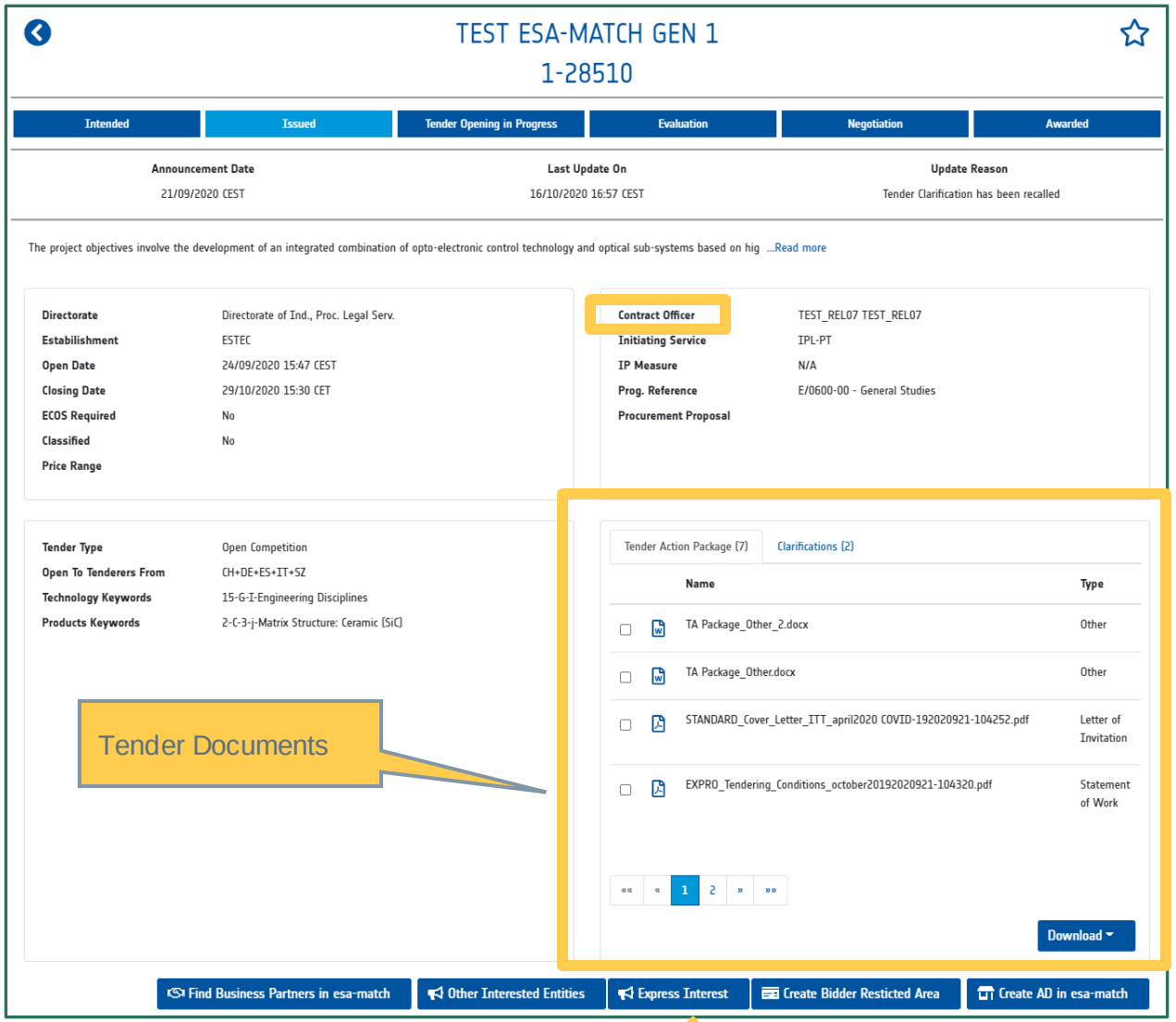
What can be done at **INTENDED** stage:

- **Price range:** size the scope and the effort of the work/ allocate effort
- **Abstract:** choose the key persons (update the CV?) and tools/ facilities
- **Industrial policy measure:** contact potential partners
- **Find the name of the responsible:** communicate with ESA

Network/find partners/establish contact with delegations

Invitations to Tender - Issued

- When an ITT is ready it will change its status from “Intended” to “Issued” in esa-star Publication. At this stage all tender documentation becomes available (e.g. the Letter of Invitation, Statement of Work, Contract Conditions and Tender Conditions)



Expression of Interest:
to be notified of changes, updates and clarifications pertaining to an ITT
to announce wish to team up and bid together with other companies

The Structure of an ITT - I

An Invitation to Tender (ITT) typically but not necessarily consists of the following elements:

1. **Cover Letter**
    - It describes at high level the contents of the Procurement and addresses key aspects (e.g. price type, maximum price to be observed, closing date etc.)
2. **Technical Documentation**
    - **Statement of Work**
        - Scope and objective of the work
        - Applicable documents
        - Constraints
        - Task Descriptions
        - Deliverable Items
        - Project Reporting
    - **Technical Requirements (Specifications)**
        - Performance
        - Interface
        - Design and Engineering
        - Integration and Verification
        - Operational

The Structure of an ITT - II

3. Draft Contract

- The draft Contract consists of:
  - its Articles
  - its Appendices (incl. e.g. the Statement of Work)

  The Contract is based on the Agency's General Clauses and Conditions for ESA Contracts

4. Special Conditions of Tender (SCT)

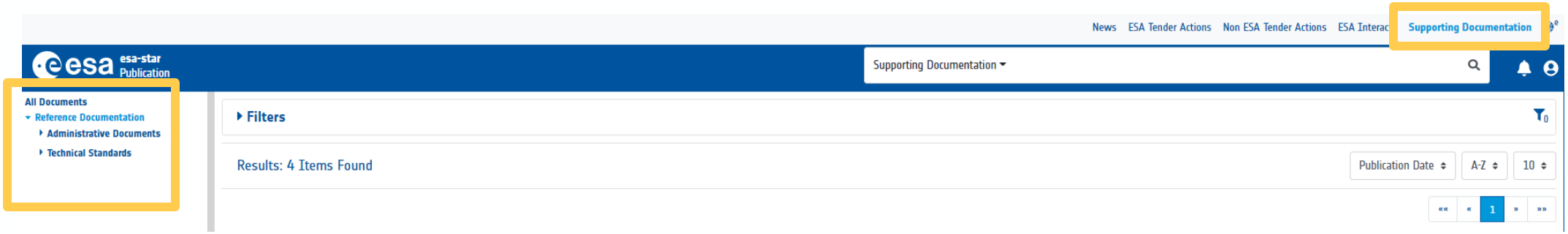
- The SCT describe e.g.:
  - how the tender shall be structured
  - which information shall be provided
  - which "Key Acceptance Factors" must be adhered to
  - which "Evaluation Criteria" and "Weighting Factors" apply

  The SCT are based on the "General Conditions of Tender for ESA Contracts"

*It is recommended to consult the General Conditions of Tender For ESA Contracts for further information

Reference Documents

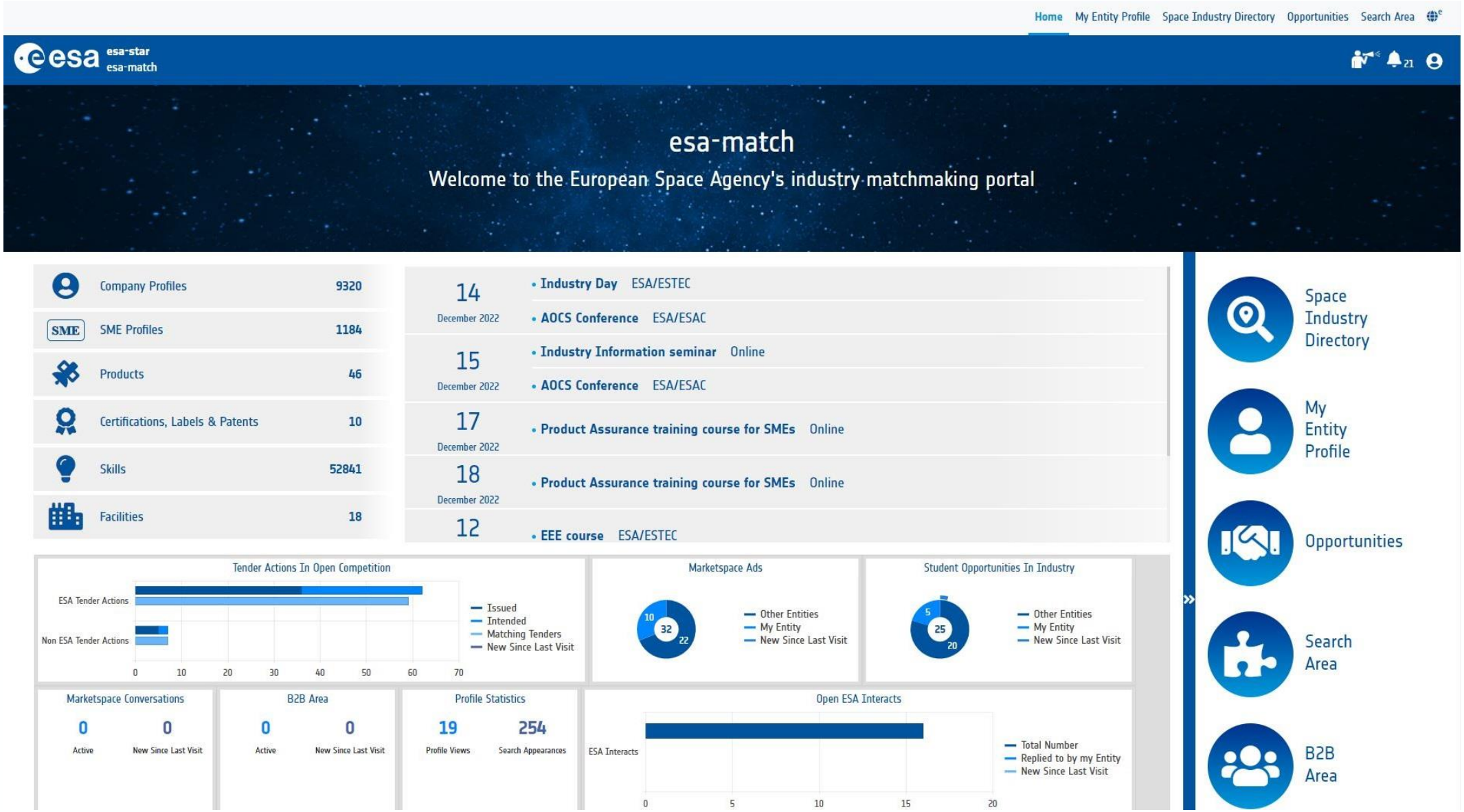
- Important Administrative Documents and Technical Standards are provided under "**Reference Documentation**"
    - e.g. ESA's "PSS Forms" (needed to tender for ESA ITTs)



ESA-MATCH

How do I find partners and collaborators?

ESA's new industry matchmaking tool: esa-match



esa-match: features (internal part)

The system's main features are:

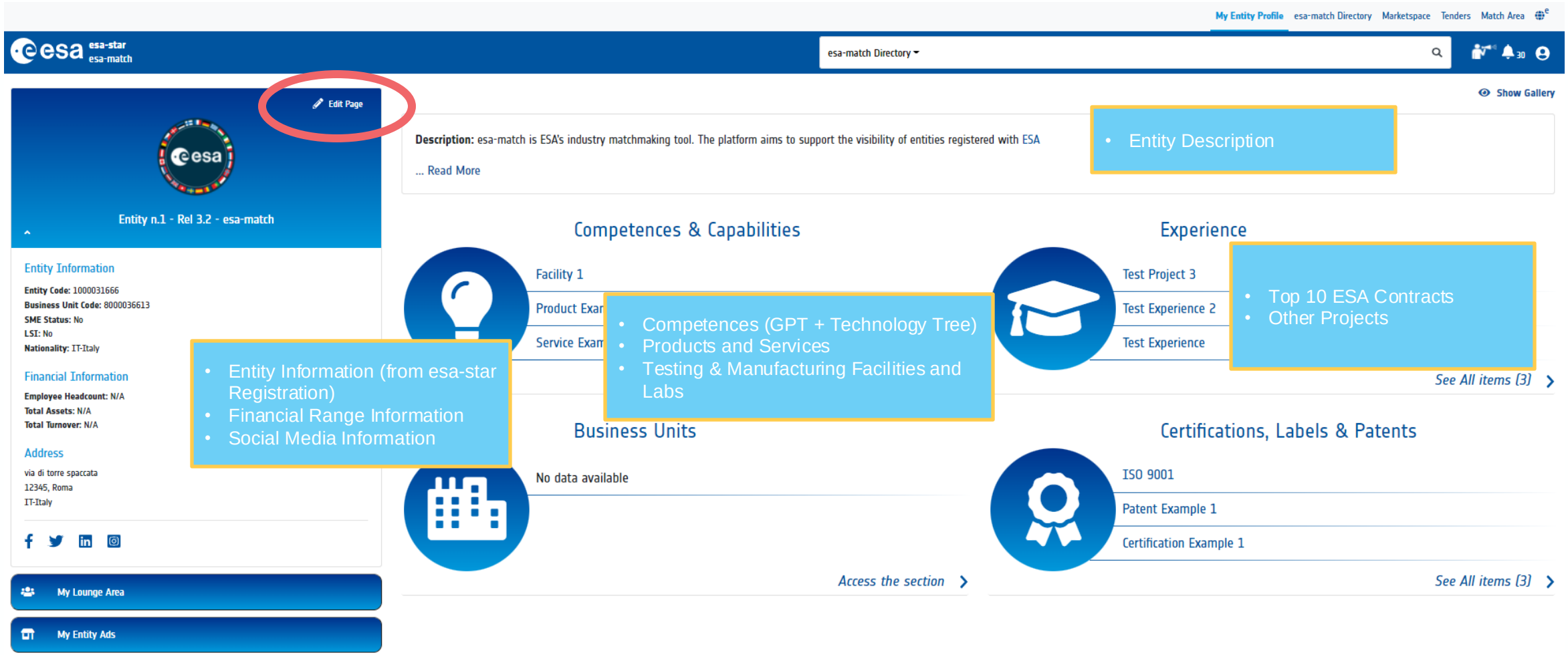
Space Industry Directory

Marketspace

Tenders

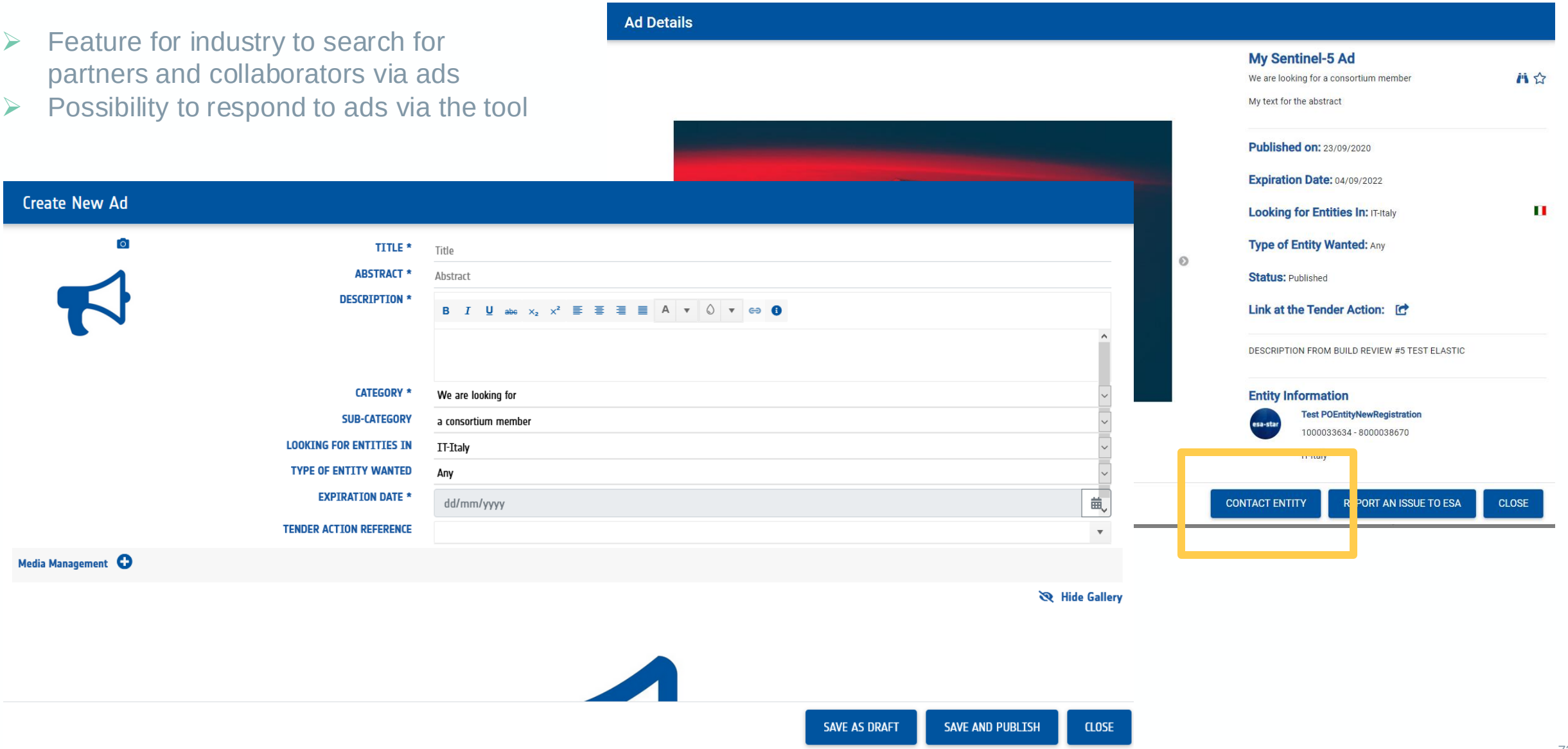
- **Entity Profiles**
  - Pages for eligible Legal Entities and Business Units where entities can present their companies, products, services and capabilities.
- **Space Industry Directory**
  - Area to search in all entity profiles, with options to search, filter and display entity locations on a map
- **ESA Calendar**
  - Calendar listing important ESA events such as Industry Days, conferences and training courses;
- **Dashboard**
  - Functionality in the internal part of esa-match which allows registered users to customise their esa-match experience and create their own homepage view with useful information (e.g. new tender actions published since last visit, Marketspace ads placed by others, ongoing B2B area conversations with other entities, profile views by other entities, number of personal “Favourites” marked in the system, “Recently added items” and much more).
- **Opportunities Area, including:**
  - **Marketspace**
    - Area where entities can place "ads" (and link them to tenders) to look for partners and collaborators ("I’m looking for" + "I offer"). A communications features lets entities react to ads and communicate with other entities.
  - **Student Opportunities in Industry**
    - Area in which companies and organisation can place ads to look for interns, trainees or thesis students;
  - **Tenders Area**
    - Area which provides access to ESA and non-ESA tender actions in open competition and information about potential partners;
  - **ESA Interacts**
    - Area displaying open ESA Interact
- **B2B area**
  - An entity’s private virtual room where conversations with other entities can take place.
- **Search Area**
  - Area where entities can search across all parts of esa-match

esa-match: entity profile page



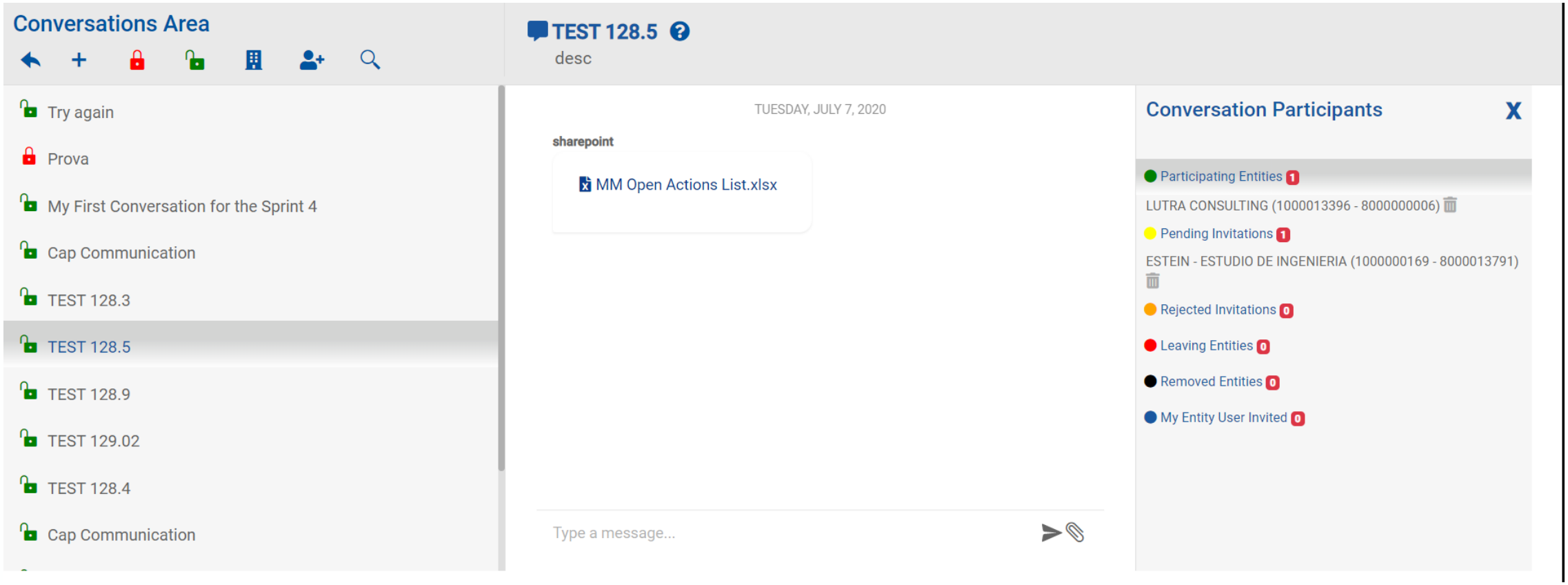
esa-match: MARKETSPACE

- Feature for industry to search for partners and collaborators via ads
- Possibility to respond to ads via the tool



esa-match: B2B AREA

- The B2B Area is a private virtual room of an entity where conversations with other entities can take place.
- Conversations in the B2B Area are visible only to authorised users of the entities involved in the conversation.



ESA-STAR TENDERING

How can I submit proposals to ESA?

esa-star Tendering

Link to access esa-star Tendering: https://esastar.sso.esa.int

- In order to submit offers to ESA, bidders have to create Bidder Restricted Areas (BRA) in esa-star Publication. The bidder work area is automatically created in esa-star Tendering afterwards.
- Bidders can then:
  - upload and submit offers to ESA
  - submit clarification and extension requests up to the deadlines set by ESA
  - recall a proposal at any time before the closing date

Should you be awarded a contract with the Agency: use **esa-p** to submit your invoices: https://esa-p.sso.esa.int. Support documents are available here.

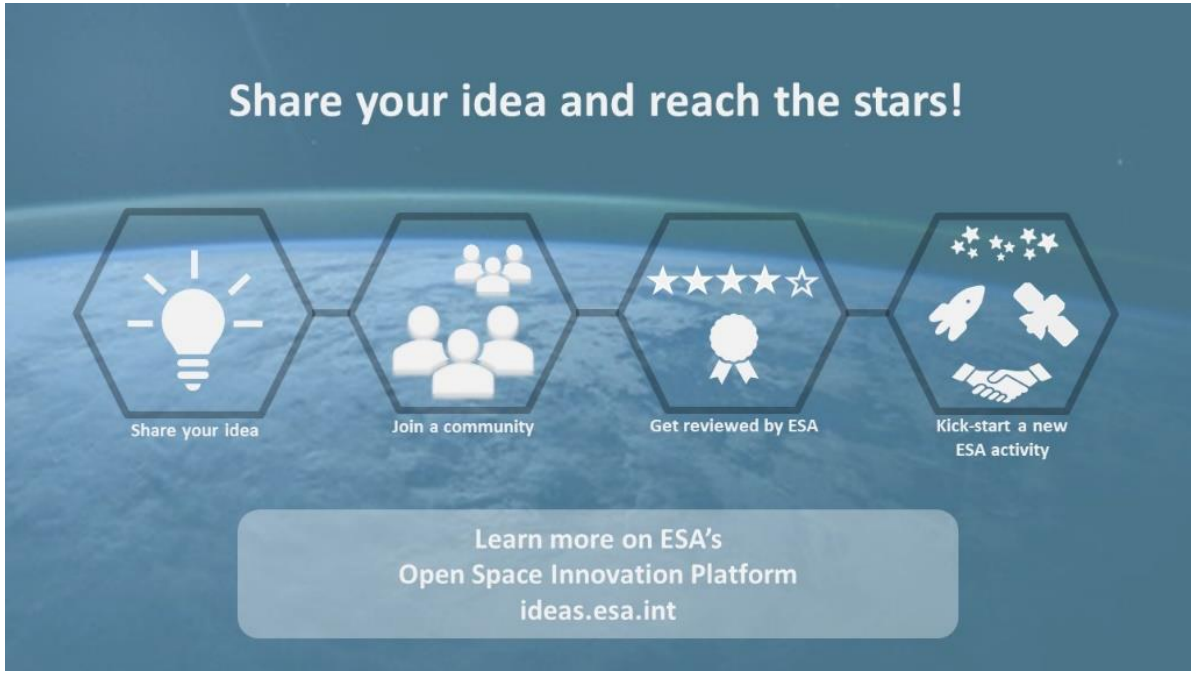
Communications with ESA during the Tendering period

- Once an ITT is published, contacts with the Agency regarding the activity can exclusively take place (via the dedicated functionality in esa-star) through the responsible **Contracts Officer** whose name is shown on the Cover Letter.

- The Agency's **Contracts Officer**, in coordination with the Tender Evaluation Board (TEB), will address every request during the tendering period and provide an answer
    - information deemed to be of interest to all potential tenderers, as well as possible extensions to the closing date, will be published on esa-star Publication as an official **clarification** to the ITT.

New ways of interacting with ESA

Open Space Innovation Platform (OSIP)



ideas.esa.int

- OSIP is a website that enables the submission of novel ideas for space technology and applications
- It is run through ESA's Discovery & Preparation Programme