

BASIC ACTIVITIES OBJECTIVE 1

OPPORTUNITIES FOR SWEDEN

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DIRECTORATE OF TECHNOLOGY, ENGINEERING AND QUALITY

Basic Activities

enablers of all other activities

roots on which missions and programmes grow

1

Innovation

Discover and prepare future missions & technologies

2

Infrastructure

Technical labs & operation infrastructure

3

Knowledge

Develop, preserve, disseminate, educate

4

ESA Transformation

Commercialisation, Digitalisation, Cybersecurity, Green Agenda

5 ESA PRIORITIES FOR 2025

-  Strengthen ESA–EU relations
-  Boost commercialisation for a green and digital Europe
-  Strengthen space for safety and security
-  Address programme challenges
-  Complete the ESA transformation



ESA will help create markets for space technologies serving the green and digital agendas by acting as technical partner

ESA will boost commercialisation by:

- opening up access to its unique technical facilities
- sharing responsibility and risk with industry
- simplifying access to ESA programmes and activities
- updating ESA procurement and technology strategy
- reducing the average time-to-contract significantly for contracts below €1 million by the end of 2022
- boosting the Technology Strategy to achieve 30% faster development and adoption of innovative technologies
- doubling spending on game-changing technologies

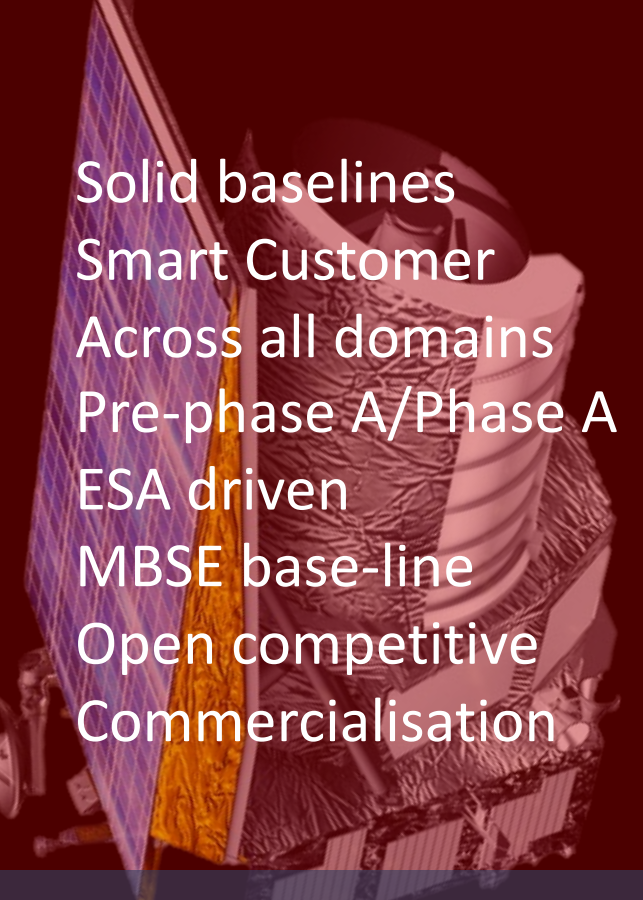
Disruptive Ideas

- High failure probability
- Low budget
- Fast and Open
- Interactive
- Novelty driven
- Internal/external
- Outside driven
- Open competitive
- Commercialisation

Discovery

FOIA UNCLASSIFIED - For FOIA Official Use Only

- ESA UNCLASSIFIED - For ESA Official Use Only



Future Missions

- Solid baselines
- Smart Customer
- Across all domains
- Pre-phase A/Phase A
- ESA driven
- MBSE base-line
- Open competitive
- Commercialisation

Preparation

- # Preparation



Technology

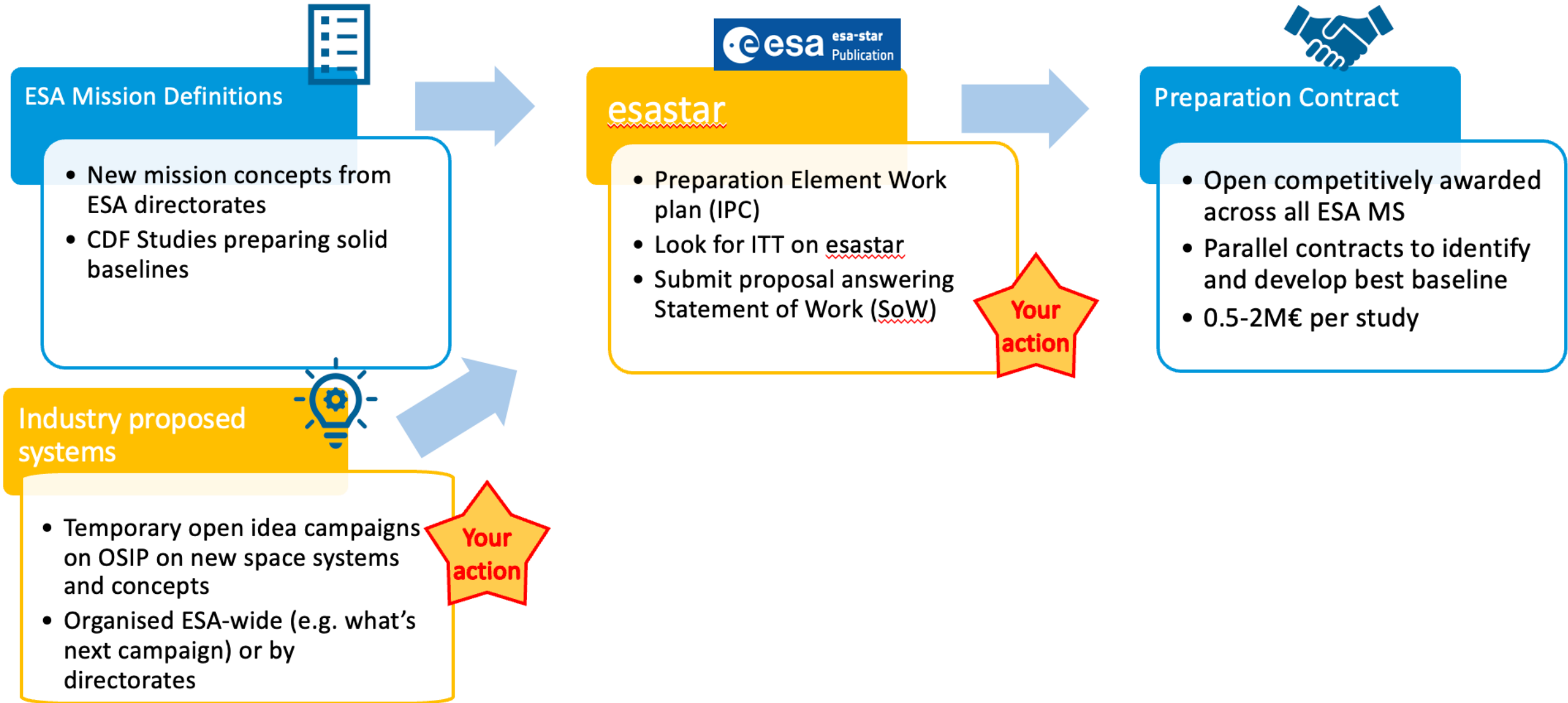
- Low TRL
- Generic
- Enabling missions
- Work plan based
- ESA driven
- SME focus
- Open competitive

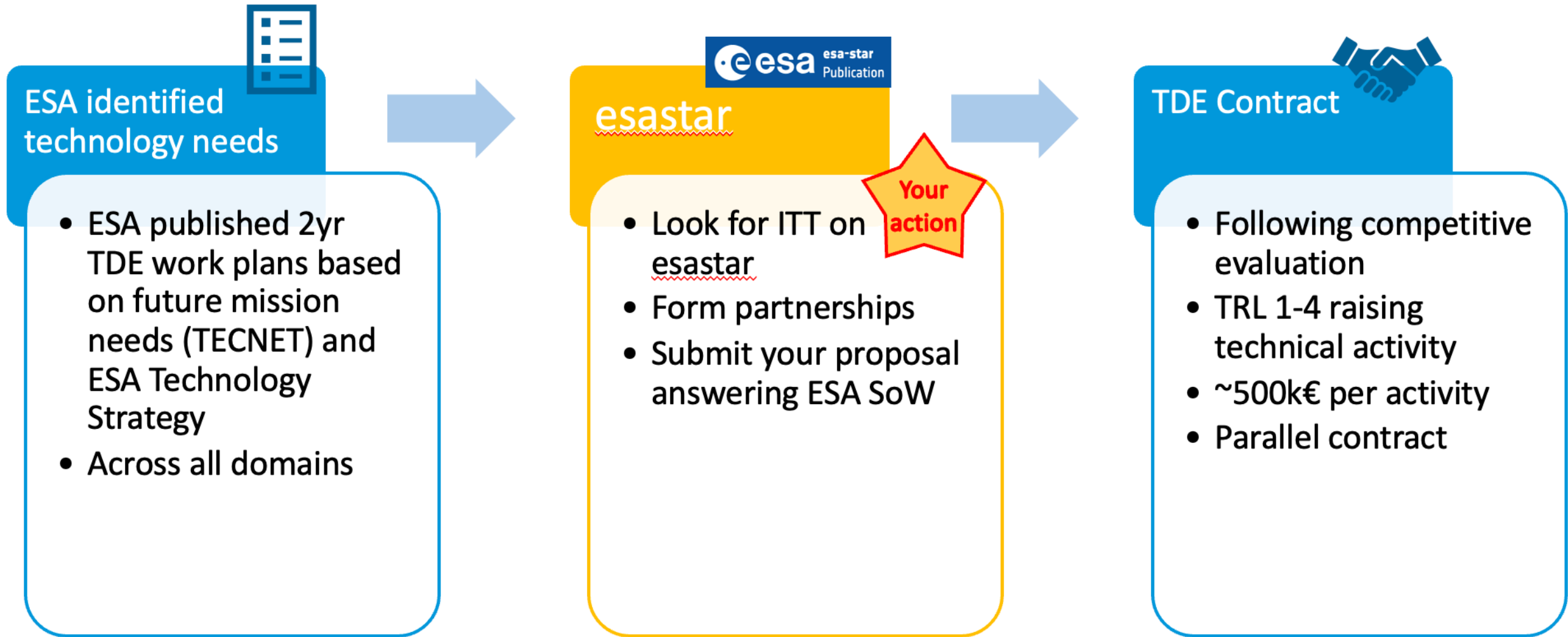
Techn. Dev.

- 
- # Techn. Dev.

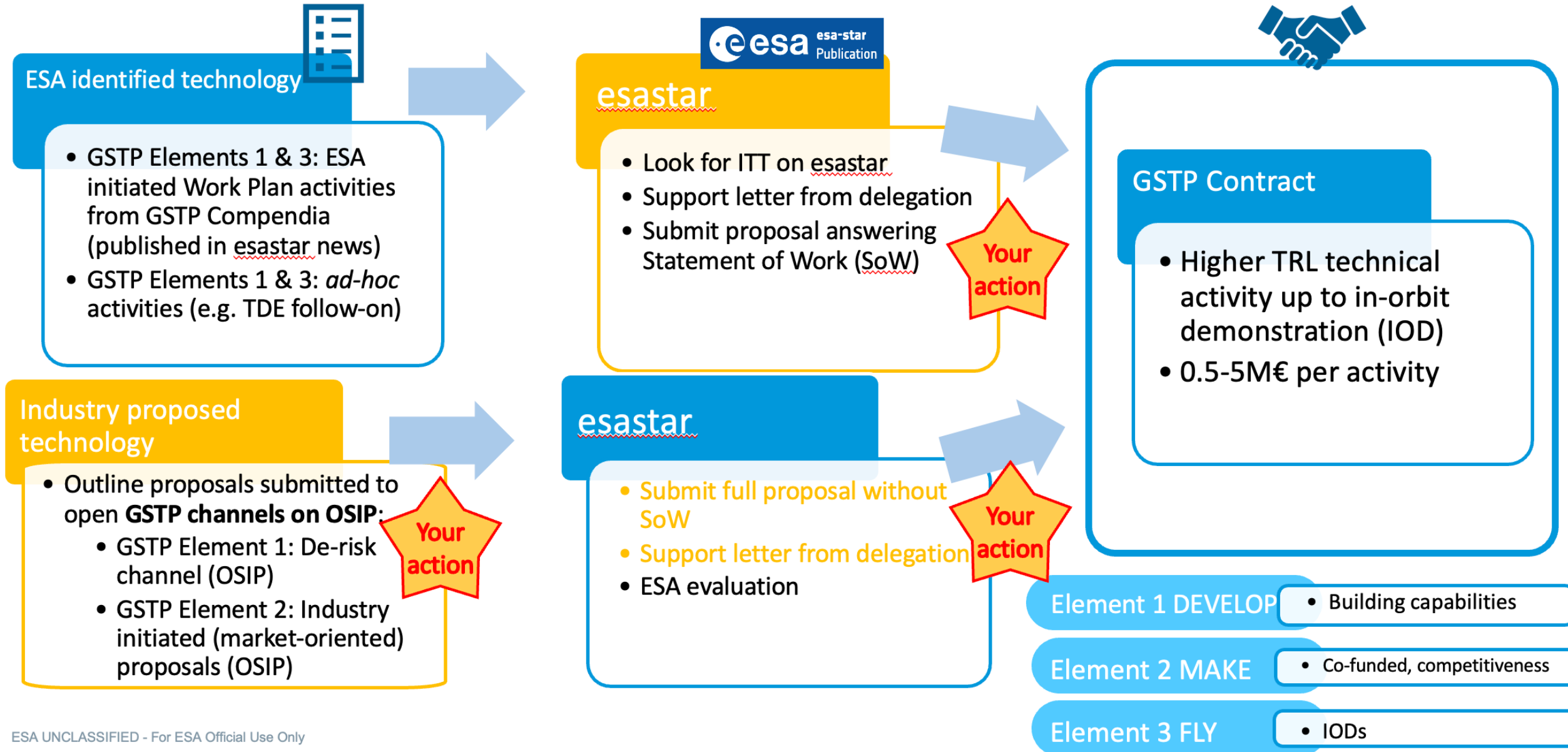


PREPARING NEW MISSIONS – PREPARATION ELEMENT PROCESS STEPS





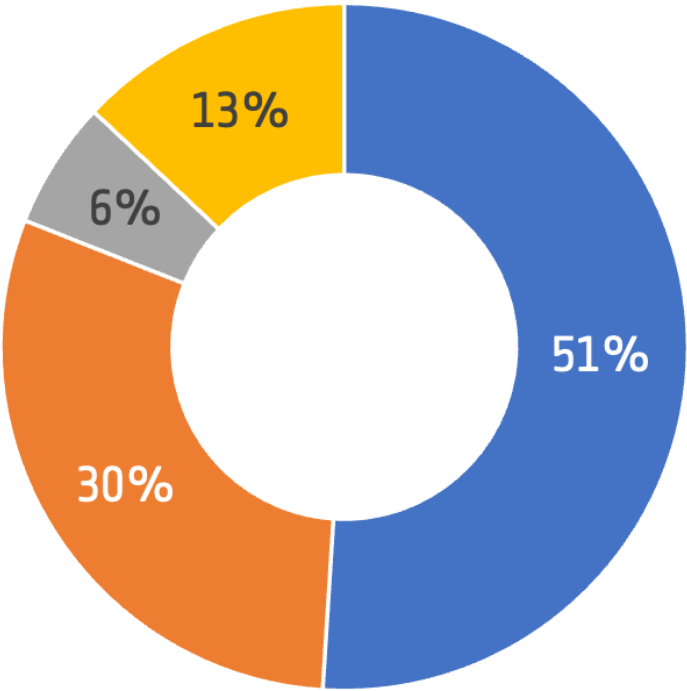
RAISING TECHNOLOGY MATURITY AND PREPARING FOR FLIGHT - GSTP



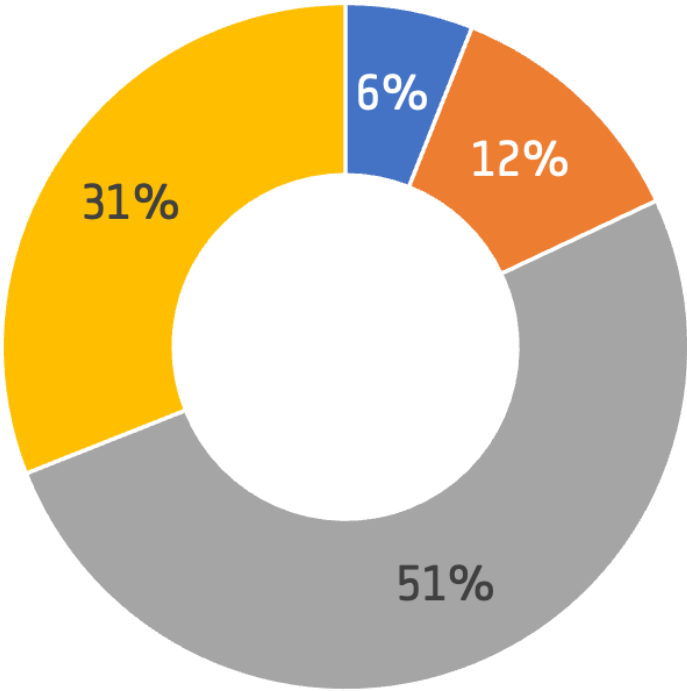
CONTRACTOR TYPES DISCOVERY, PREPARATION AND TECHNOLOGY DEVELOPMENT ELEMENTS for 2022



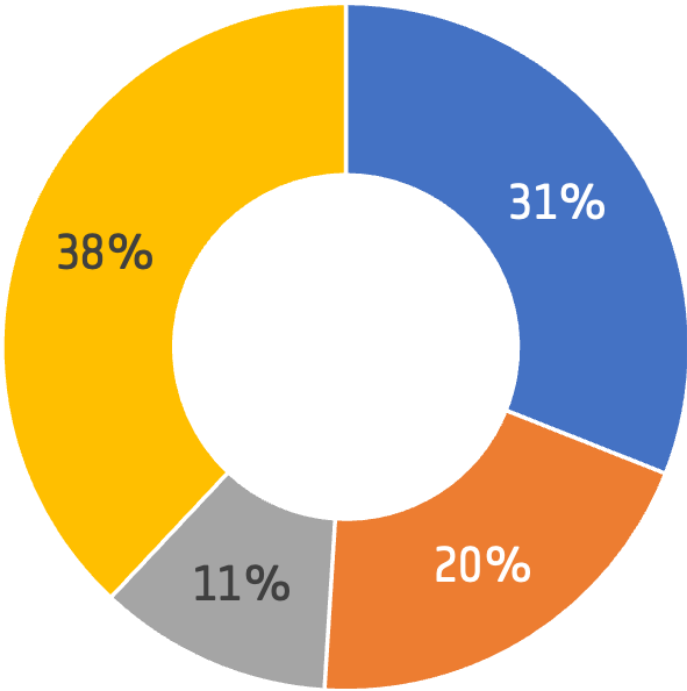
Discovery



Preparation



Technology Development



■ Research Centres & Universities ■ SME ■ LSI ■ Others (incl. MidCaps)

2022: 170 activities, 17M€

45 activities, 17M€

109 activities, 55M€

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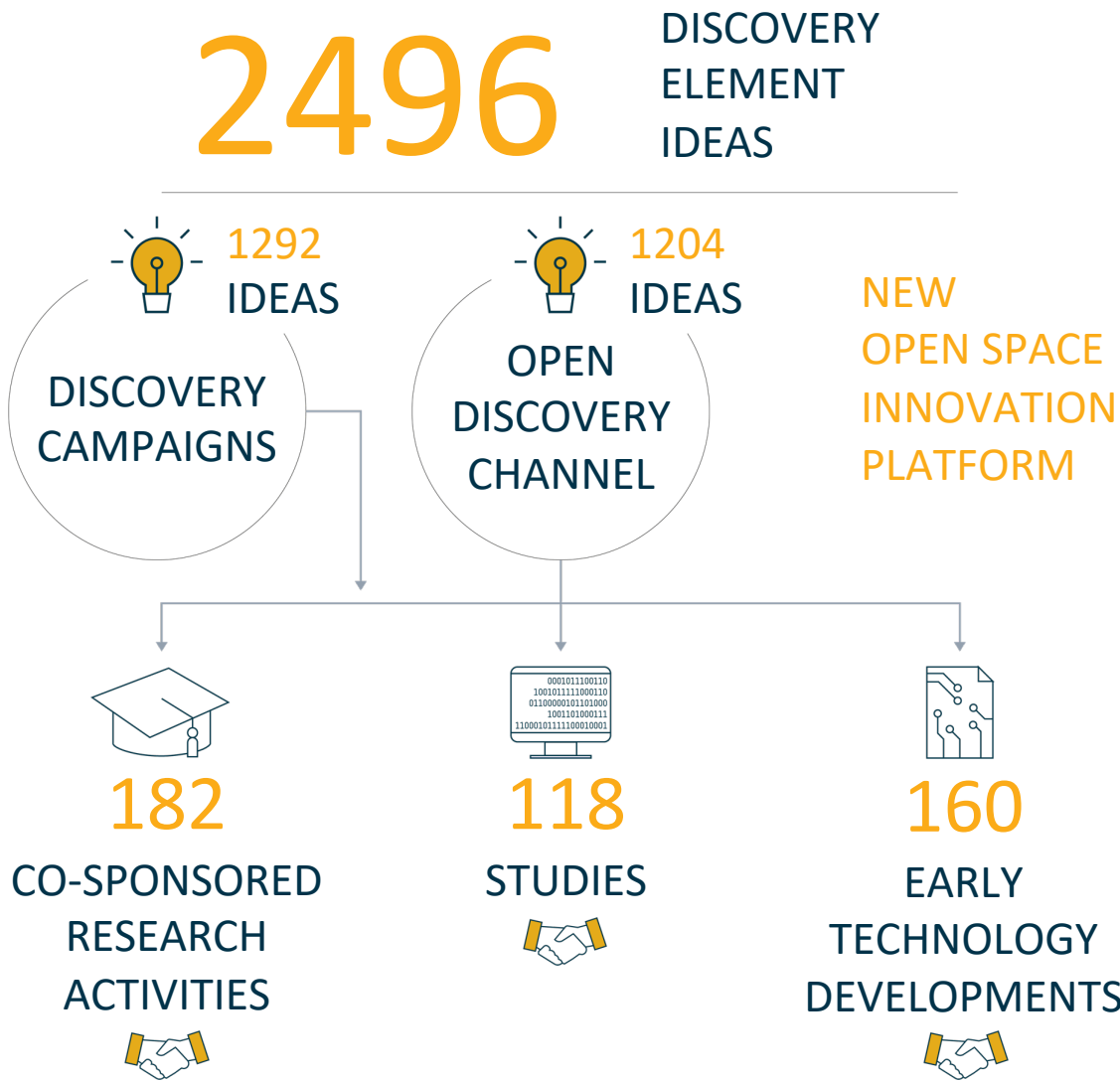
Status March 2023



DISCOVERY VIA OPEN INNOVATION



LATEST CAMPAIGNS



QUANTUM INFOM. PROC.

23 5

ONBOARD SOFTWARE

106 (27)

OPSSAT EXPERIMENTS

55 12

SUSTAINABLE H2

30 5

EXTENDED REALITY

36 7

SPACE 4 GREEN FUTURE

75 3

COGNIT. CLOUD COMP.

68 12

COMMERC. OF PATENTS

15 7



>13k Users



>37k interactions



>3.2M page views

fast feedback

OSTIP

OPEN SPACE INNOVATION PLATFORM

DISCOVERY

~450

signed Discovery
contracts

>800

selected
Ideas

~2500

Ideas

1+5 Channels

16 thematic Campaigns

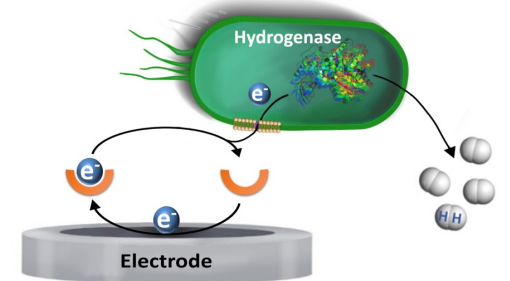
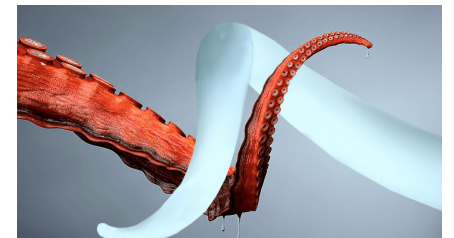
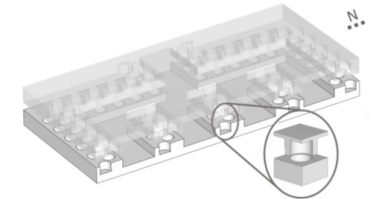
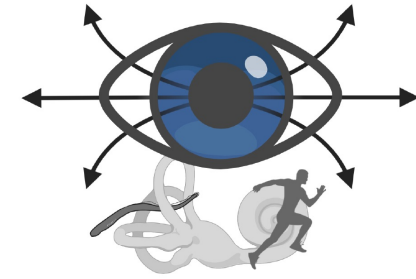


-
- | Factor | Percentage |
|--------------------|------------|
| Company reputation | 74% |
| Others | 26% |



Five running Discovery element activities with Swedish entities:

- Non-invasive vestibular prosthetics for use in altered gravity:
Ascertaining practical utility and neuronal integrity
- Glide-symmetry inspired design for manufacture and assembly approach applied to communication satellite antenna arrays in E-band
- Soft Annelid-Inspired Robot with Peristaltic Gait using Low Voltage Fault-Tolerant Artificial Muscles for Planetary Exploration
- Designing E. coli based biohybrid catalytic systems for sustainable fuel production
- COTS AI in Space



GET YOUR PROJECT (CO-)FUNDED BY ESA



You have a novel idea relevant to space? Then follow these three easy steps:

1. Go to ideas.esa.int and look for thematic Campaigns or enter the Open Ideas Channel
2. Check whether your idea is novel and eligible for OSIP – in case of doubt: ask on OSIP
3. Submit your idea and start discussing with ESA experts

Ideas can be one of three Categories:



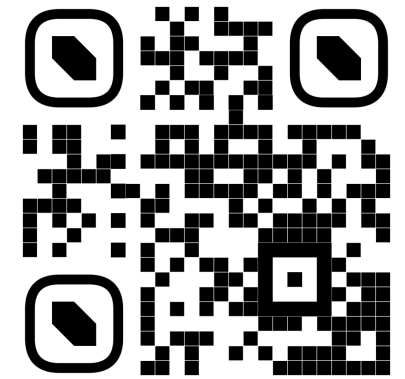
STUDIES
up to 100k€



**EARLY TECHNOLOGY
DEVELOPMENT**
up to 175k€



**CO-SPONSORED
RESEARCH** up to 90k€



ideas.esa.int
Open Discovery Ideas
Channel

Connect with us



Open Space Innovation platform: <https://ideas.esa.int/>

Running activities platform: <https://activities.esa.int/>

Nebula library of finished activities: <https://nebula.esa.int/>

Discovery and Preparation website: <http://www.esa.int/discovery>

Discovery pages on TEC B2B website: <https://technology.esa.int/program/discovery>

Preparation pages on TEC B2B website: <https://technology.esa.int/program/preparation>

