

navisp Element 1

Call for Ideas in Positioning, Navigation and Timing

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→ THE EUROPEAN SPACE AGENCY

Call for Ideas in Positioning, Navigation and Timing

- 10:00 Introduction to NAVISP
- 10:10 NAVISP Element 1 Work Plan 2026
- 10:30 Questions & Answers

Please put your questions in the chat!



What is navisp ?

NAVigation Innovation and Support Programme:

- ESA's programme focusing on **PNT (Position, Navigation, Timing)** innovation and competitiveness, advancing PNT solutions
- Supporting Participating States' PNT champions, sharing and mitigating **R&D and market risks**
- Leveraging on ESA's heritage on European GNSS
- **350** activities, **60M€** companies' contributions

Some highlights on PNT:

- In 2023, GNSS was approximately **65%** of the **total downstream space market (360B€)**
- GNSS is today the **dominant PNT** technology (will be a **580B€** market in 2033)
- PNT systems serve as a **fundamental component of modern infrastructure**
- **PNT disruption** poses major negative **consequences** across the economy (**1B€/day**)



- > 90 % is commercial and **accessible to European industry**
- **Europe losing market share in PNT**

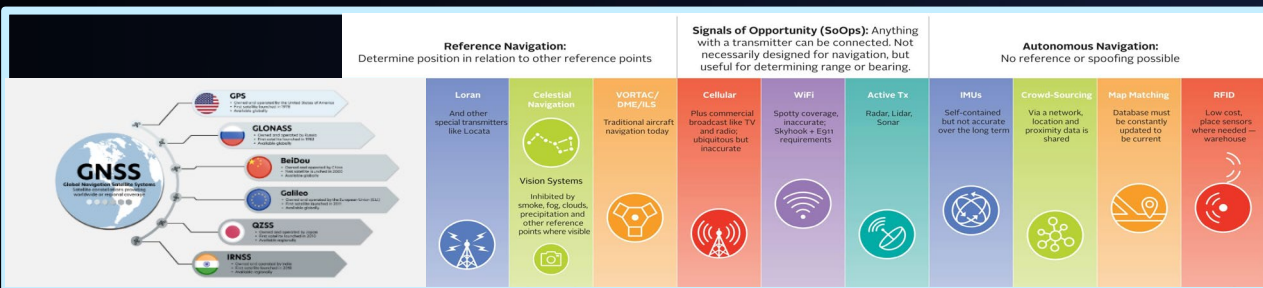
navisp Advancing commercial PNT



- Commercial / demonstrators
- Hosted payloads
- PNT-enhanced space operations



**Commercial PNT
Missions / Payloads**



- GNSS receivers / components
- Protect, Toughen, Augment
- Alternative PNT



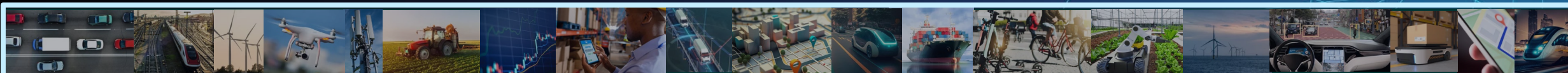
**PNT user segment
products**



Autonomous Mobility / Logistics **Surveillance / Geodesy** **Timing** **Dual use** **Others**



**Value – added
products / services
for PNT markets**



- Mitigate market leaders / owners R&D risk
- Establish coordinated action across market owner supply chain
- Support market owner ecosystem



Partnerships



→ THE EUROPEAN SPACE AGENCY



navisp Element 1 Scope

Perform feasibility studies and viability analysis for the emergence of new concepts in the PNT world (both upstream and downstream)

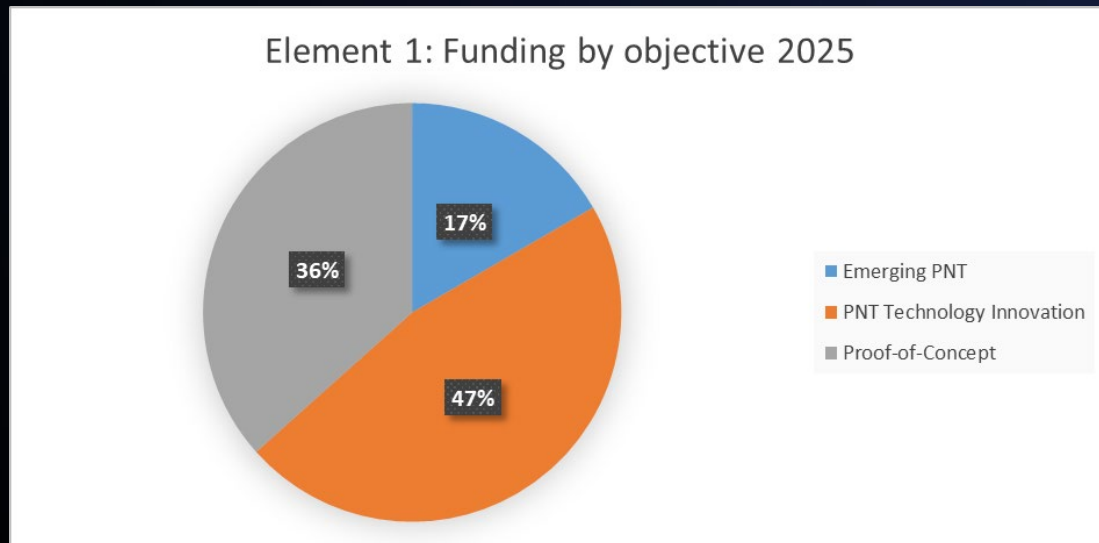
Contribute to the formulation and implementation of PNT technology strategies and roadmaps

Prove concept of promising PNT-based services



navisp Element 1

- Implemented through competitive Invitations to Tenders
- Activities defined in yearly workplans
- more than 118 contracts awarded
- more than 57M€ engaged



Through Element 1, ESA supports R&D on technical challenges

navisp - Element 1 success 2024

- Interpreted well **the need** of the PNT community
 - no need to re-issue ITTs for lack of bids
 - EL1-088 on Factor Graphs received 13 bids, and 5 parallel contracts were awarded
- Sparked **good collaboration** between industry and Universities/Research Centres
- Started to receive **Benefit and Impact Reports** from Contractors highlighting the usefulness of Element 1 for the acquisition of PNT technologies
- Consolidated the intended dynamic of the Programme (from **Element 1 technology developments** to **Element 2 preparation of products and services**, for example EL1-057 VDES-R technology to EL2-222 MAPS)
- Committed more budget to **Proof-of-Concept** projects
- Increased **implementation efficiency**, reducing the Time-to-Contract and doubling the number of contracts awarded compared to 2023



Element 1 outputs as enabler for Element 2

- Element 2 started by a consortium of NO, DE and UK companies to develop a “**Maritime Alternative PNT Solution (MAPS)**” based on VDES-R technology
- The work leverages on a previous Element 1 (EL1-057 "Development of advanced VDES-R user technologies for alternative PNT")



- review of the State of the Art in PNT technology/product/services
 - analysis of the most important trends in PNT
 - identification of PNT gaps that needs to be filled
-
- EL2: co-fund Industry activities when applicable/relevant
 - Thematic windows to steer gently Industry
 - EL1: establishing a plan of activities to develop the PNT technology identified
 - EL3: align with Participating States vision

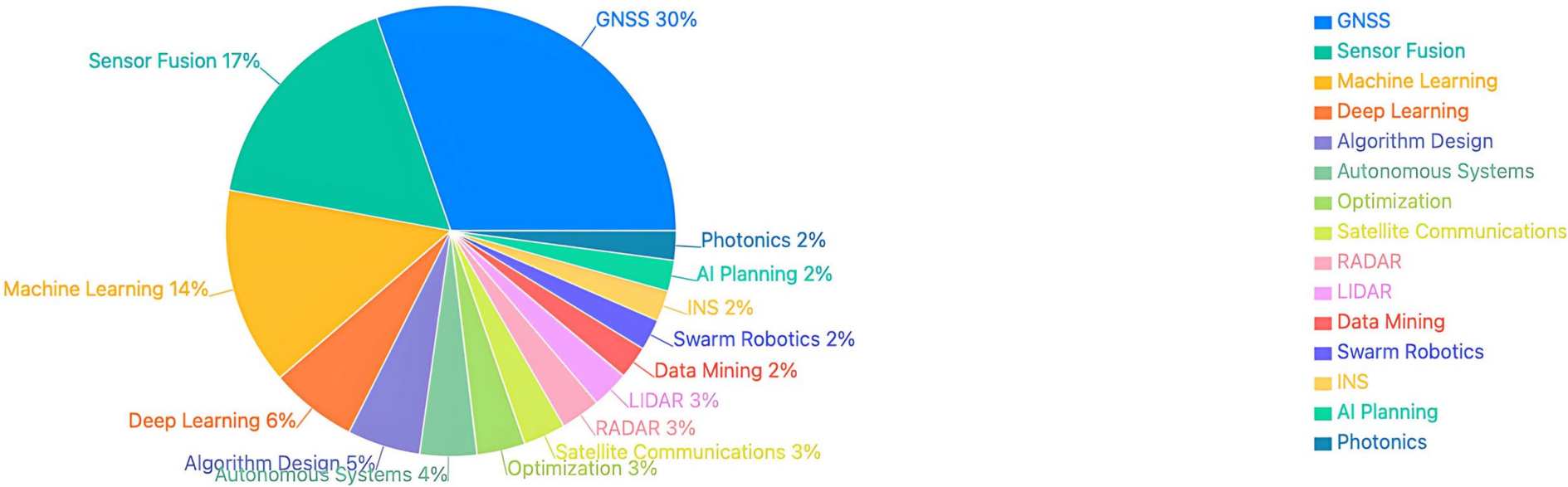




Technology Domains in PNT of the past 4 years



Technology Domain Distribution



Vision Phase 4 - Work Plan 2026

- Phase 4 is not introducing major changes in the Programme objective: “*Generation of **European PNT champions***”
- Element 1 is key to the achievement of this objective by **preparing the grounds** for Element 2 (commercial) and Element 3 (institutional) activities. Success in Element 2 and 3 will be measured by the ability to attract external stakeholder to co-invest in the programme (Public Private Partnerships - PPPs) and to help with Participating States institutional demand
- Consequently, the focus of Element 1 Work Plan is to prepare promising PPPs by:
 - Advanced **prototyping**
 - Larger scale **demonstrations**
- Potential areas of interest for this Work Plan:
 - Autonomous Transport and Green Mobility
 - PNT Resilience
 - Alternative and Complementary PNT
 - Disruptive navigation technologies



<https://navisp.esa.int/page/submit-new-ideas>

Propose your ideas to populate NAVISP Element 1 Workplans!

Activities under **Element 1** are defined and implemented according to an annual Workplan. The Workplan is prepared by the Agency through consultation with participating States and coordination with EC and EUSPA.

You are invited to submit your own innovative ideas for the preparation of the annual Workplan.

Scope	- Initial feasibility studies; viability analyses; proof of concept for promising PNT systems and services - Duration: ~12-24 months - Budgets: ~400-800 k€
What we are looking for	- Any innovative PNT concepts to be explored? - Any innovative use of PNT space-based solutions to be studied? - Any promising technique or technology to be proofed?
What to submit	- Briefly describe your idea and submit a 1-page description to navisp@esa.int - The description shall include: - Contextual Background - Objectives - Tasks to be performed - Expected results/ deliverables - Proposed duration and cost - Inform your national ESA delegation about your application (National Delegates can be found here)

Content of the proposal - idea one-pager

Title

.....

Background and Rationale

.....

Objective

.....

Description of innovation and Tasks to be performed

.....

Main output of the activity

.....

Duration and cost

.....



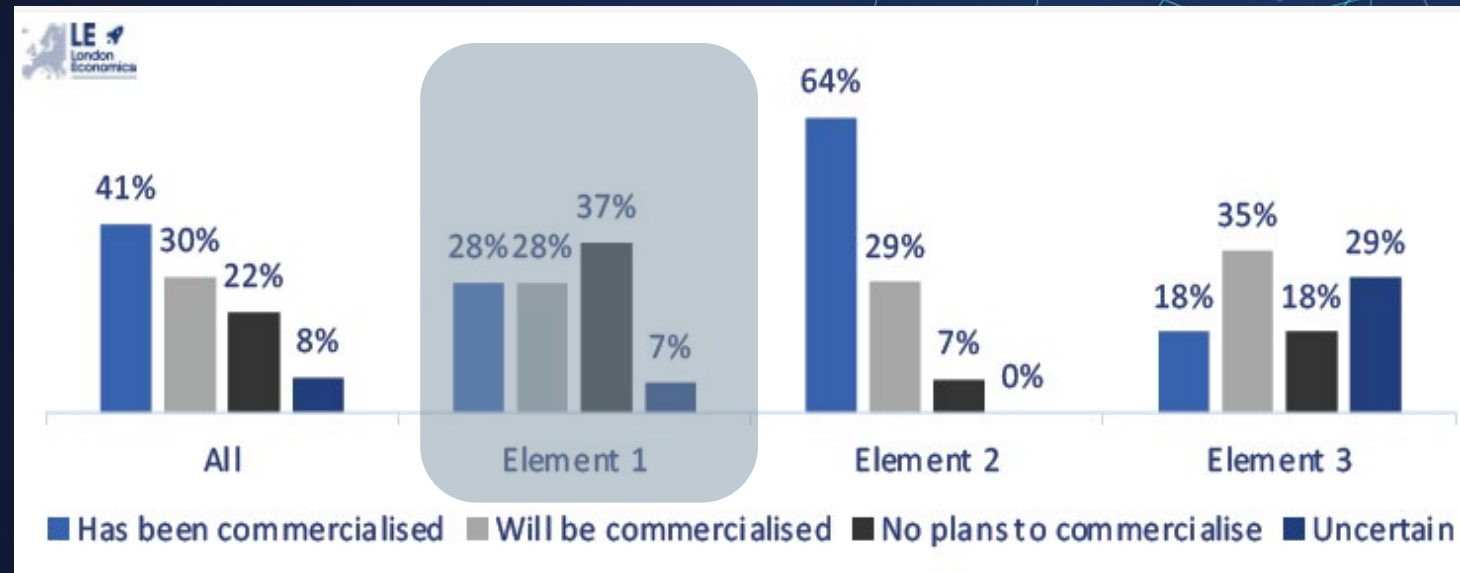
- Budget commensurate to the Phase 4 request
- No European GNSS evolution - No Galileo PRS

Please send your one-pager
by **16/05/2025** to:
navisp@esa.int

navisp Element 1 - Why submit an idea?



- Help to fulfil **the needs** of the PNT community
- **Cover all R&D costs** (with an 8% profit)
- Expect **Benefit and Impact** by the acquisition of PNT technologies
 - **Publish papers** in the most important navigation conferences and magazines (ION GNSS+, ENC, NAVITEC)
 - Acquire **technology (IPR, Patents)**, that could be commercialised or used for the preparation of PNT products and services under Element 2
- Retain **Deliverables**, in case of their further useful utilisation for purposes connected with the objectives of the contract
- Count on **implementation efficiency**, with a Time-to-Contract of 20 weeks
- **Open competition**





Thanks for your attention!



- Info: navisp.esa.int / www.linkedin.com/company/navisp-esa
- Questions: navisp@esa.int
- Subscribe to **navisp** newsletter!