

Driving Commercialisation Through ESA Space Safety Programme's Competitiveness Segment

Dr Tim Flohrer
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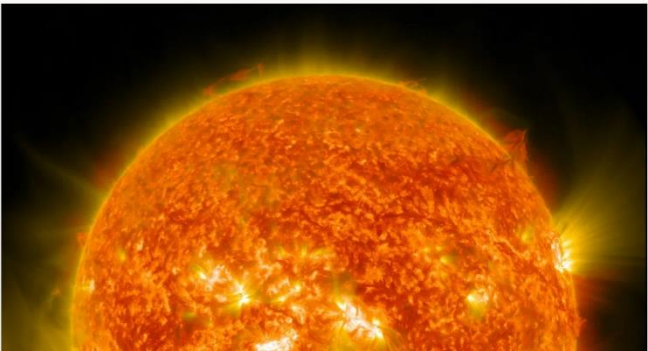
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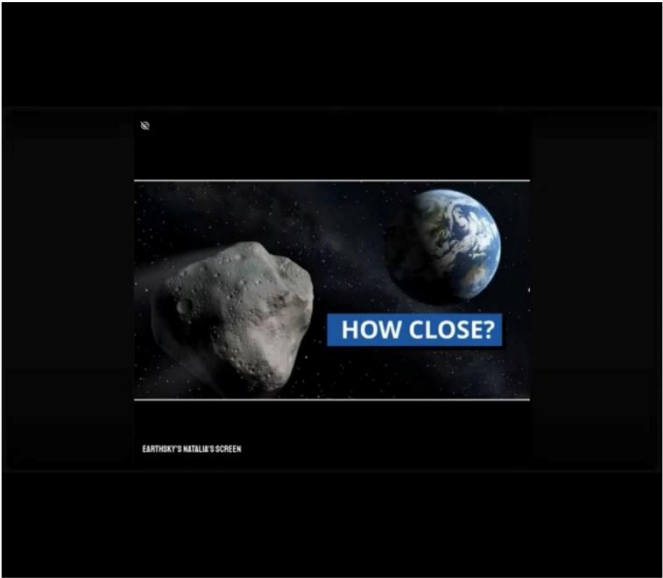
Solar flares in May 2024 revealed Earth's vulnerability to space weather

by Debra Werner
February 12, 2025



Asteroid 2024 YR4 has non-zero odds of hitting Earth

Posted by [Kelly Kizer Whitt](#) | January 28, 2025



SpaceX rocket debris crashes into Poland



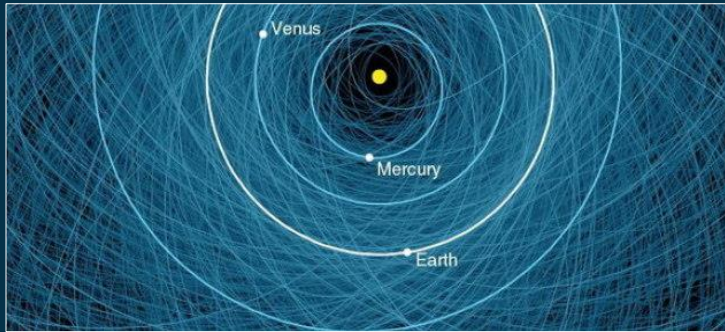
Fireball spotted in sky over Pocklington East Yorkshire before the debris crashed into eastern Europe

Eve Webster
BBC News

S2P: Programmatic goals (2030)



- Providing timely, accurate, and actionable space weather alerts through a pre-operational monitoring system
- Cooperating with with a Space Weather governing entity

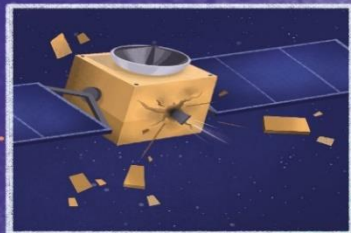


- Establishing a comprehensive detection and early warning network for asteroids larger than 40 m, providing alerts at least three weeks before impact.
- Deflecting asteroids smaller than 0.5 km.



- Developing technologies for a Zero Debris approach and assessing risks from small-sized debris
- Demonstrating in-orbit servicing technologies to advance the space circular economy
- Enhancing capabilities to evaluate environmental impacts on Earth

How does ESA's Space Safety Programme support industry-driven innovation by accelerating market entry and providing access to ESA expertise, data, and validation resources?



➔ Evaluation in two steps: outline proposal (OSIP) + full proposal (DN esa-star)

- Support the last mile efforts in developing a product/service for the space safety market
- ESA will act as “Partner” in the meaning of the ESA Commercialisation Policy, i.e. as a **trial user and early adopter of the industry’s products/services to reduce business risks.**

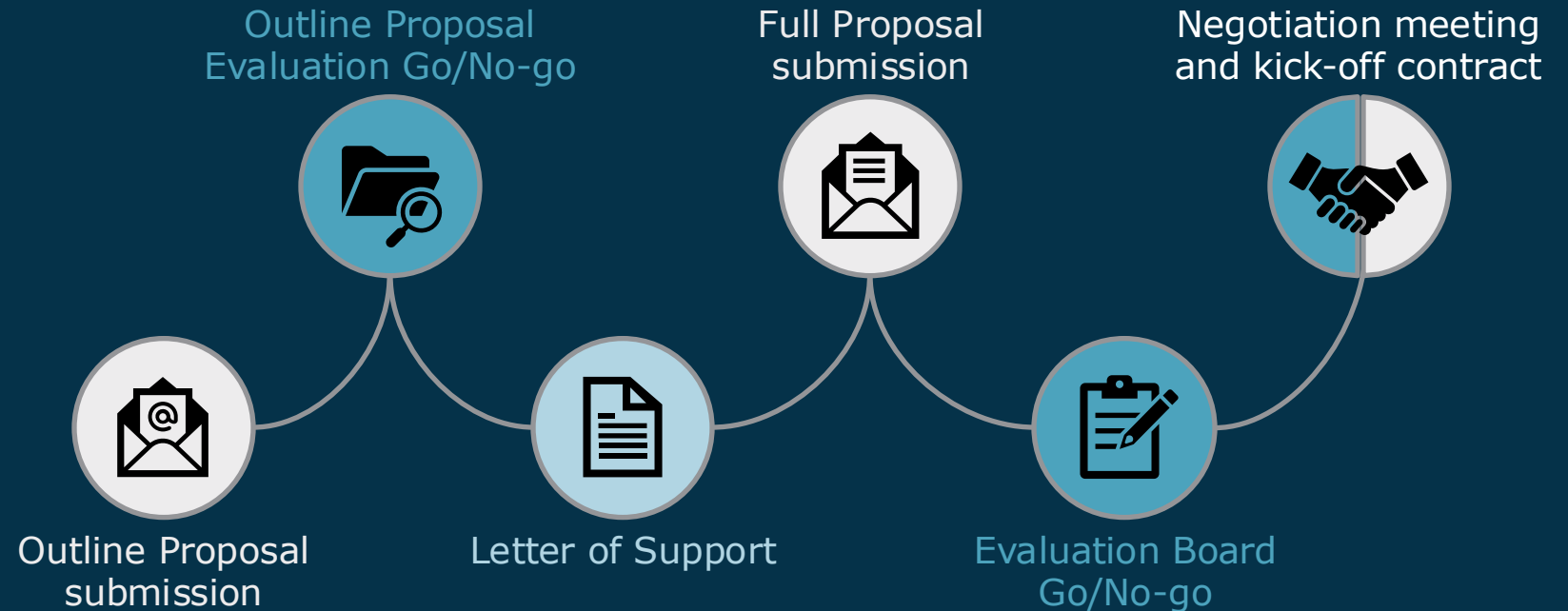
The **competitiveness** segment aims at **developing the space safety market** and at **exploiting commercialisation dimensions** → **industry-driven ideas of higher TRL to seed markets!**

National Delegations **Industry**



ESA

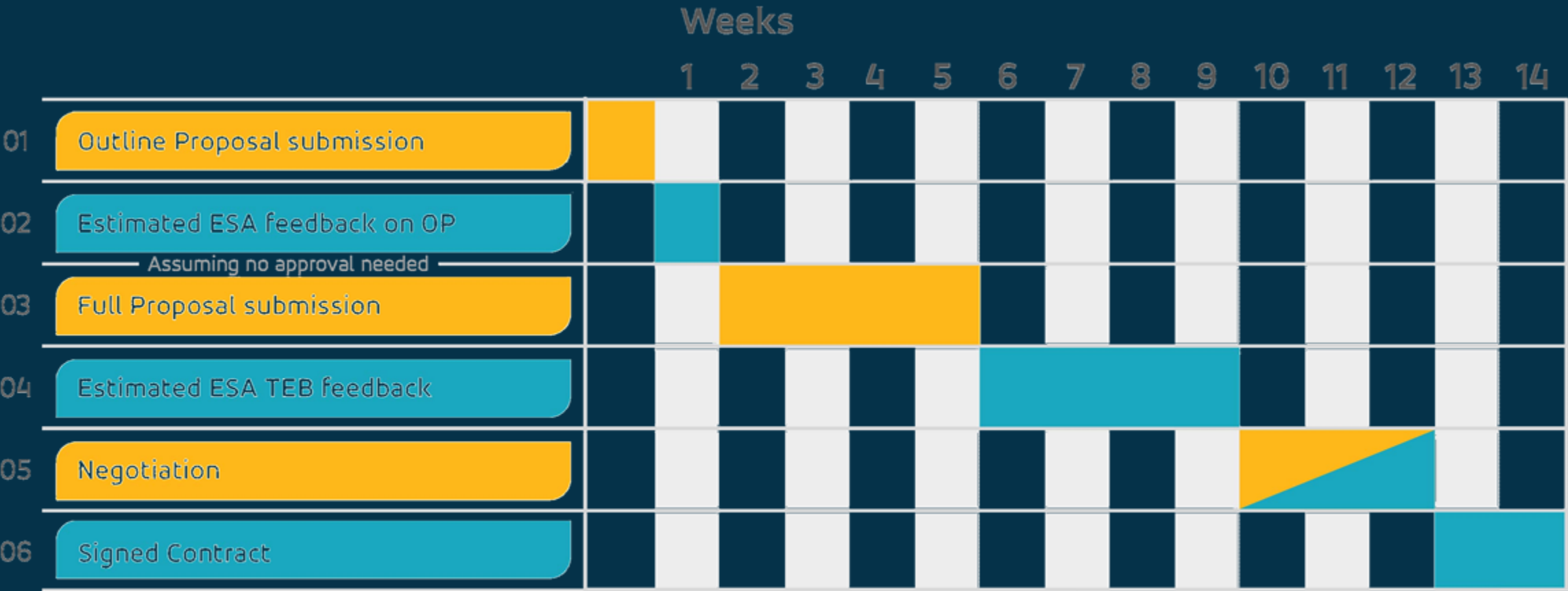
Partnering for evaluation of novel products and services, and enabling through ESA expertise



Call for Proposals (CfP)

Competitiveness Segment – indicative timeline

(target values)



Some more details

- ESA opened a "Call for Proposals" end of May 2023
- The channel "Space Safety Competitiveness" uses the **Open Space Innovation Platform** (OSIP, <http://ideas.esa.int>) – see QR-Code
- **Evaluation criteria**
 1. Viability of the business opportunity in the market context, including return of investment and targeted product/service cost
 2. Technical feasibility of the proposed programme of work including the development approach
 3. Adequacy of management and planning for the execution of the work, including background and experience (related to the particular field concerned) of the company(ies) and staff, including adequacy of proposed facilities
 4. Transparency and adequacy of costing
 5. Compliance with administrative tender conditions and acceptance of contract conditions



- “significantly accelerated validation of a new features”

“worldwide customer base established”

base established

“Enables swiftly roll out the feature to its existing customer base”

“Increased credibility has opened market access to new regions”

“Achieved operational, software and hardware excellence”

“Entered global market”

“directly improving the quality and commercial readiness”

“won commercial data delivery contract and received top marks”

What's coming up next?

- Ongoing CfP is highly successful → continuation in Space Safety Programme Period 3 (2026-2028) will be proposed at ESA CM25 in November
- Very positive feedback on the swift feedback after the initial assessment of the outline proposals by experts
- Experience with OSIP tool is very positive
- Improvements to focus on efficiency and fast pace (Space Safety AND Zero Debris as rapidly emerging markets!)
- Further increase efficiency of processes (such as “Cooperative Agreements”)
- Ongoing: Assessing market success
- Adding the role an ENABLER of industry-driven business (opportunity development and market gain through access to Agency’s expertise, data, software licences or access to cross validation of commercial offerings)

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THANK YOU!