

Getting ready for tomorrow – Food for thought

Vanessa Keuck (ESA) – 11.02.2025 – European Earth Observation Ecosystem 2040+

Programme Overview

DAY 2 Wednesday 12 February 2025

8:30 - 9:15	Wake-up Coffee		
9:15 - 9:30	Welcome and inspiration for Day 2	Simonetta Cheli (ESA Director Earth Observation)	Live Streaming
9:30 - 11:30	Splinter discussions with coffee	<p>There will be four parallel splinter discussions:</p> <ol style="list-style-type: none"> 1. The European EO Ecosystem in 2040+ - System-of-Systems view (PoC Juliette Lambin and Dominique Gillieron) 2. User expectations and requirements for synergies within the European EO ecosystem (PoC Inge Jonckheere and Anja Stromme) 3. The role of FRM and reference measurements for performance certification and monitoring within the European EO Ecosystem (PoC Philippe Goryl and Thorsten Fehr) 4. The role of a constellation within the European EO ecosystem (PoC Bernardo Carnicero, Dirk Bernaerts and Vanessa Keuck) 	No Live Streaming
11:30 -13:00	Lunch		
13:00 -15:00	Splinter reporting (20min each reporting + 10min each discussion)		Live Streaming
15:00 -15:30	Wrap-up	Vanessa Keuck and Armin Loescher (ESA Earth Observation System Architect Office)	Live Streaming
15:30 -15:35	Thank you and next steps	Craig Donlon (ESA Head of Earth Observation System Architect Office)	Live Streaming
15:35 - 16:00	Good Bye Coffee		



Splinters – some food for thought and tonight's discussions

Splinter 1: The European EO Ecosystem in 2040+ - System-of-Systems view (PoC Juliette Lambin and Dominique Gillieron) – **GREEN sticker**

Splinter 2: User expectations and requirements for synergies within the European EO ecosystem (PoC Inge Jonckheere and Anja Stromme) - **RED sticker**

Splinter 3: The role of FRM and reference measurements for performance certification and monitoring within the European EO Ecosystem (PoC Philippe Goryl and Thorsten Fehr) - **YELLOW sticker**

Splinter 4: The role of a constellation within the European EO ecosystem (PoC Bernardo Carnicero, Dirk Bernaerts and Vanessa Keuck) - **BLUE sticker**

Some food for thought and tonight's discussions

Strategic aspects:

In EO, the strategic focus for the next decade (???)

- Addressing climate adaptation and
- Placing greater emphasis on economic & security
- GREEN, SUSTAINABLE AND RESILIENT SOCIETIES
- Climate resilience and (Natural) Emergency Management



A multi-dimensional topic

User needs aspects:



Commercial aspects:



M-IND : Mid-size sat INDustrialisation

Large EO Constellations – game changer for EO

(higher revisit & faster delivery : e.g. for disaster management)

- US Initiatives - [SDA-PWSA](#) 3 tranches : **475 sats** – 19 companies = **interoperability**
- Europe also very active (mostly **mid-size sats**), but behind
 - IRIDE 65+ sats; AWS-STERNA 20 sats; ES-PT, GR, PL Constell., ...)
 - [InCubed](#) sats, ... Iceye, Spire, Ororatech, ...

Need for LEO mid-size sats in multi-domains (beyond EO):

- CSC, NAV, EOP – constellations + SCI, S2P benefit if cheaper
- European launchers – compatibility
- Supply Chain – modular, interoperable / common I/F → multi-source
- Export market (e.g. integrating multi-domain – like iphone)

Why action needed now ?

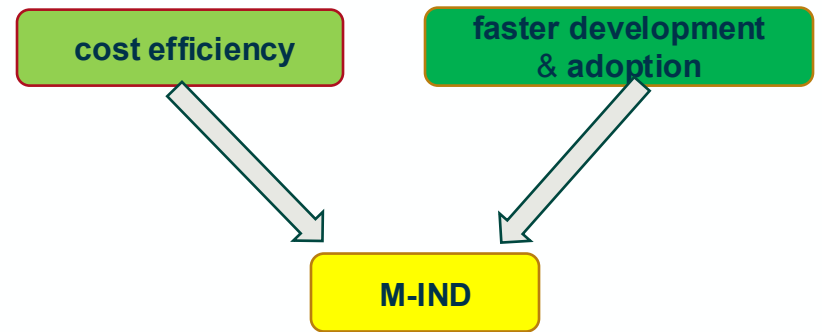
- Avoid **fragmentation** of the offer in Europe → more **common approach** needed
- Compensate **inefficiencies** → more **common approach**
- **not enough production volume** would defeat the lower recurring cost goal

Why by ESA ? Unique (Technical knowledge + European scale)

Converging High-Level messages on Competitiveness

- EC Draghi Report ([link](#)):
- Report by Special Adviser Niinistö
- Andrius Kubilius, EC Commissioner, Defence and Space, [Q & A](#)
- ESA High Level Forum with LSI, MidCap and SME

- **Large Production Volumes** : **LEO Constellations**
- **Competitive**: **affordable** & performance for purpose
- **Synergy in multi-use** : **platform(s)** (as **payload-agnostic** as possible)

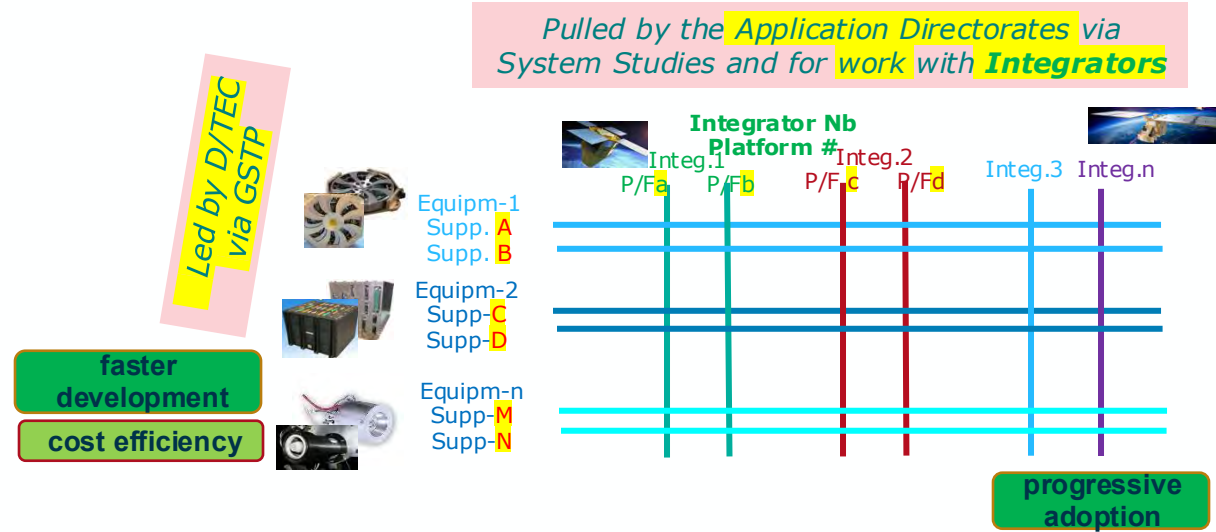


M-IND : Mid-size sat INDustrialisation

(Workshop @ ESTEC on 20-March) – will be announced to Sat.Integrators on 14-Feb

What is different with this?

- A new focus on a **specific mission's envelope** (LEO constellations)
 - Mid-size sats (100 -500 kg) **sweet spot** (overcomes CubeSats limitations + affordability wrt large sats)
 - useful to several directorates –EOP/CSC/NAV driving
- A pragmatic / unifying (M-IND) combining
 - GSTP, mainly for the supply chain
 - Programme Directorates' framework (system)



What this initiative IS:	What this initiative IS NOT:
For satellites integrators and PF primes → to improve their competitiveness on all markets	Limited to ESA missions
Payload agnostic (as much as possible)	Aimed at a specific application domain
Aimed at established & emerging industry	Only aimed at big primes
Promote interoperable equipment for 'dual+' sourcing with architecture & design flexibility	Developing a standard / unique European Platform
Federating and ensuring compatibility & inter-operability	One size fits all solution
About Industrialisation and Competitiveness (about reducing recurring cost and delivery time)	About Standardisation / 'SAVOIR-like' (common enabling elements / interfaces might be needed)

M-IND Workshop 20-March @ ESTEC:

- Only Sat Integrators + MS Delegates
- Will be announced on 14-Feb
- Contact: Josep.Rosello@esa.int



Follow-on according to Workshop outcome

Logistics

Non-hosted Dinner – 11.02.2025 19:30

Het Prentenkabinet

Kloksteeg 25

2311 SK Leiden

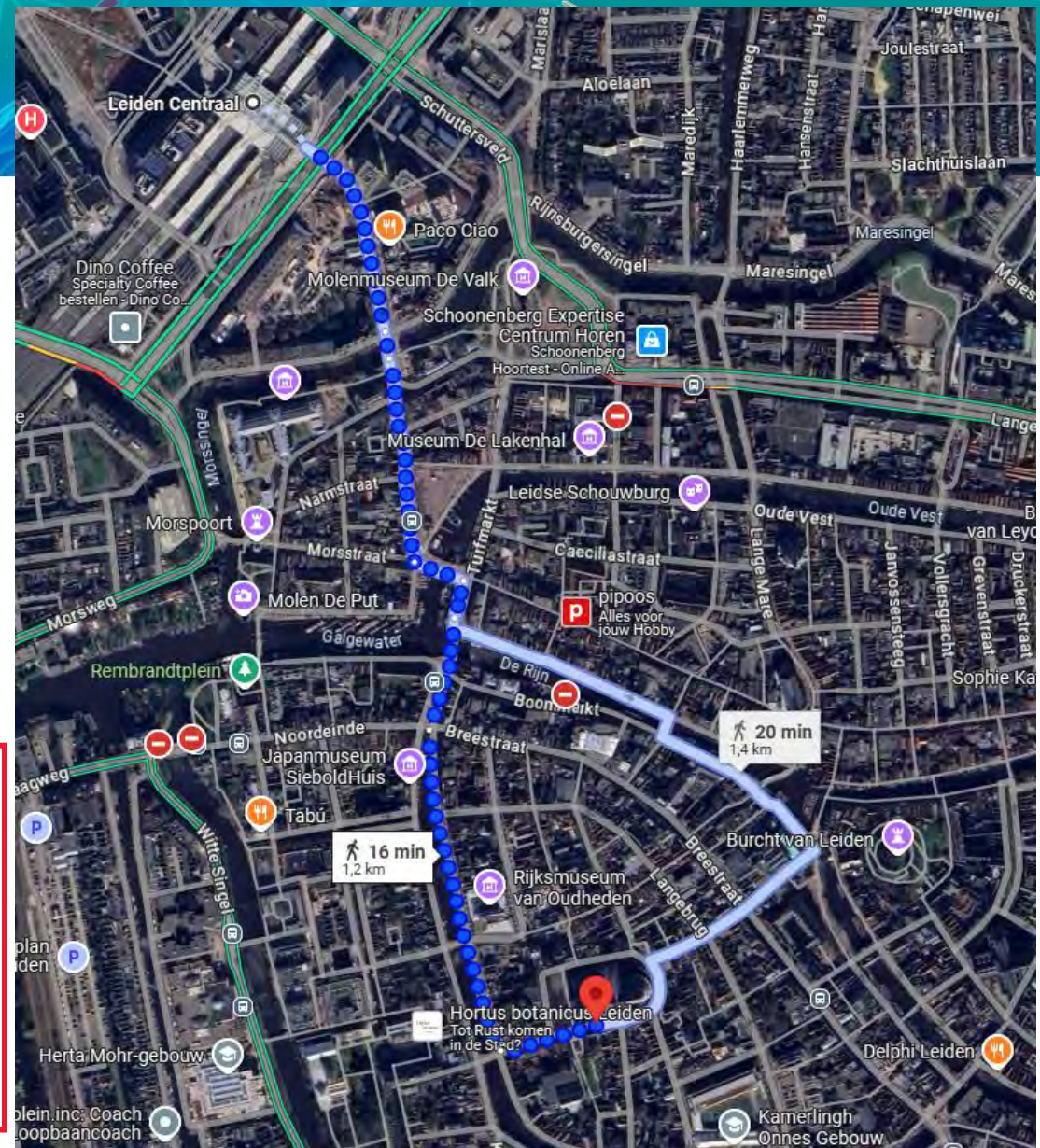
ESA ESTEC – Leiden Central by public transport ~20min

Bus No. 400 (directly at the gate) or Bus No. 21 (5min walk)

There are shuttle busses to/from:

Noordwijk Hotels on 11.02.2025 and 12.02.2025 (only morning)

Leaving outside of ERASMUS at 17:50 and 18.05
(First comes – first serves)



Splinters

Splinter 1: The European EO Ecosystem in 2040+ - System-of-Systems view **(GREEN)**

Splinter 2: User expectations and requirements for synergies within the European EO ecosystem **(RED)**

Splinter 3: The role of FRM and reference measurements for performance certification and monitoring within the European EO Ecosystem **(YELLOW)**

Splinter 4: The role of a constellation within the European EO ecosystem **(BLUE)**

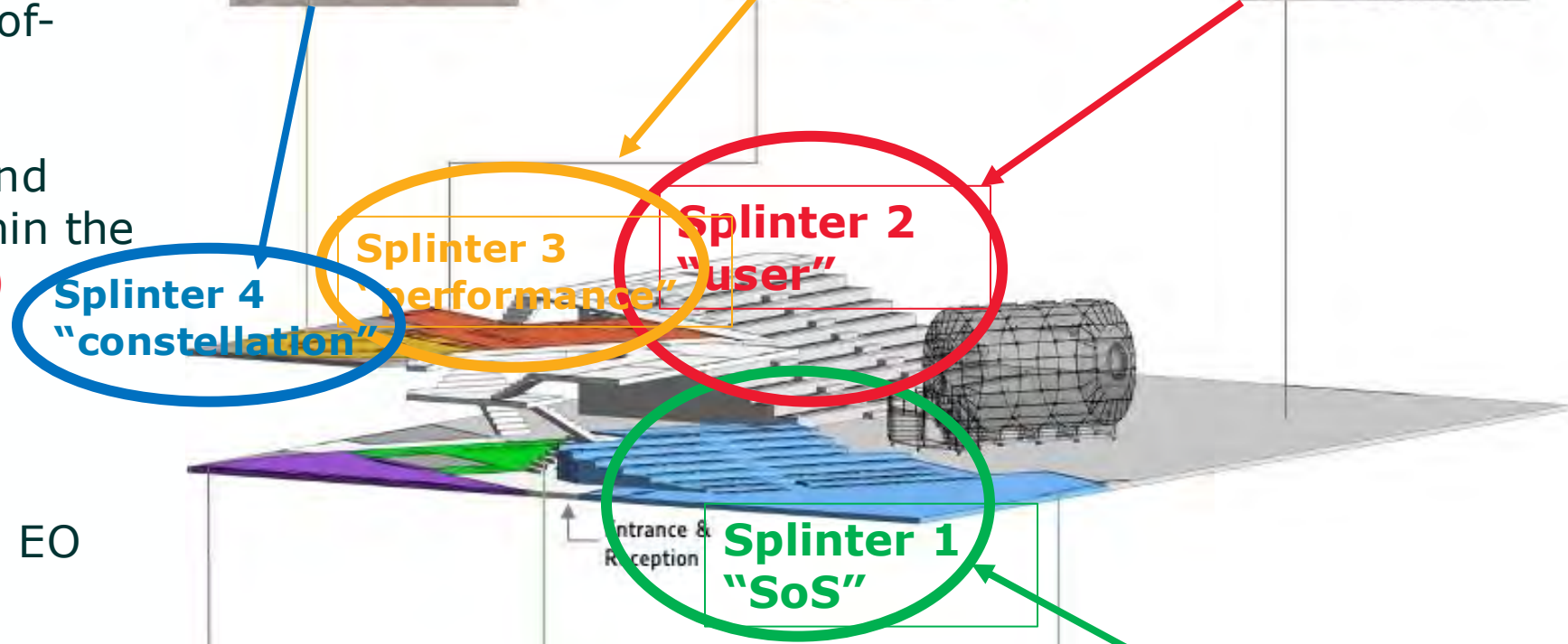
1st FLOOR | MOON ROOM



1st FLOOR | MARS ROOM



GROUND FLOOR | HIGH BAY



GROUND FLOOR | PRE-SHOW



GROUND FLOOR | EARTH ROOM



GROUND FLOOR | AUDITORIUM



Splinters

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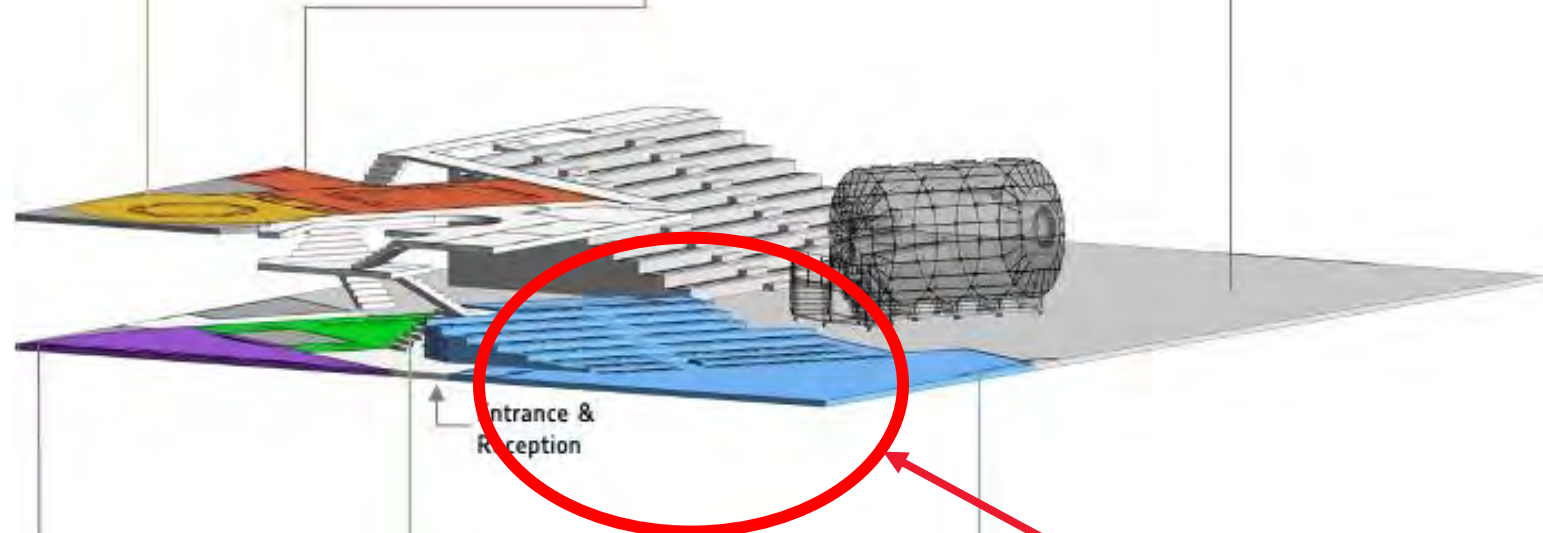
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GROUND FLOOR | HIGH BAY



Entrance & Reception

GROUND FLOOR | PRE-SHOW



GROUND FLOOR | EARTH ROOM



GROUND FLOOR | AUDITORIUM



Splinter 1: The European EO Ecosystem in 2040+ - System-of-Systems view (PoC Juliette Lambin and Dominique Gillieron)



Splinters

110001

Splinter 2: User expectations and requirements for synergies within the European EO ecosystem (PoC Inge Jonckheere and Anja Stromme)

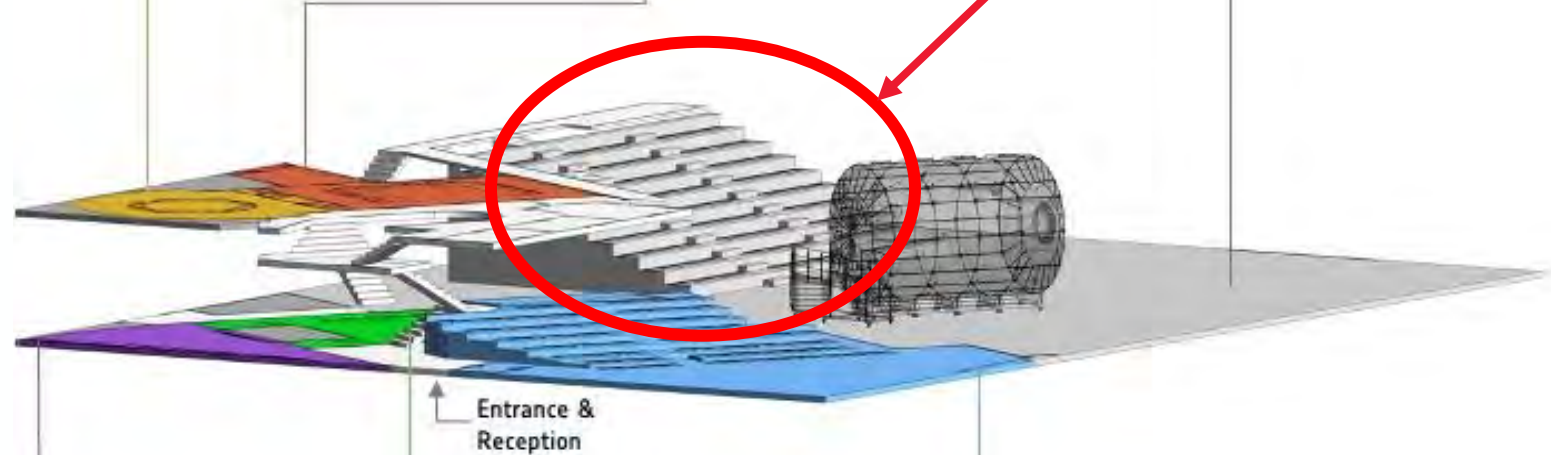
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Splinters

110001

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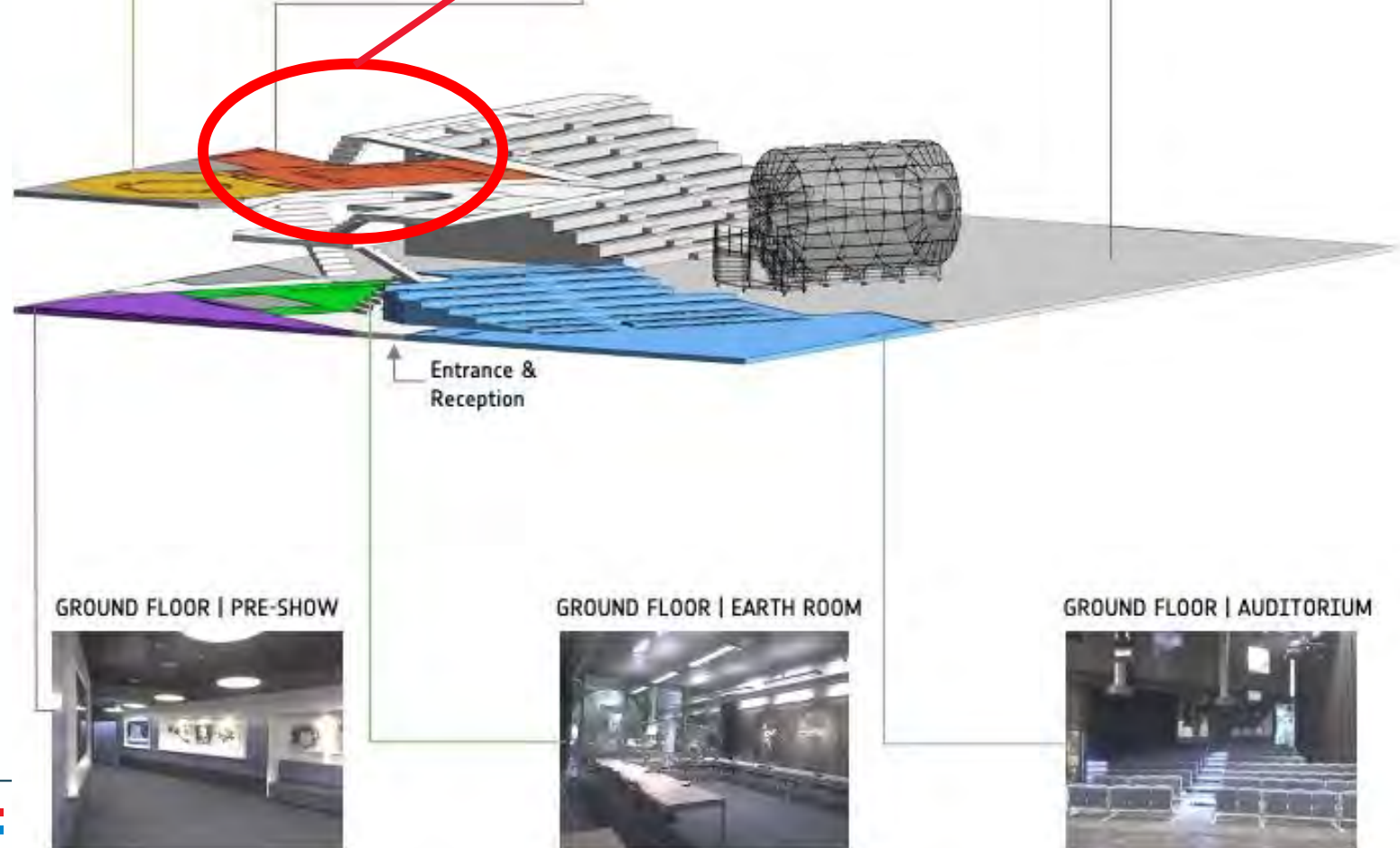
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Splinter 3: The role of FRM and reference measurements for performance certification and monitoring within the European EO Ecosystem (PoC Philippe Goryl and Thorsten Fehr)



Splinters

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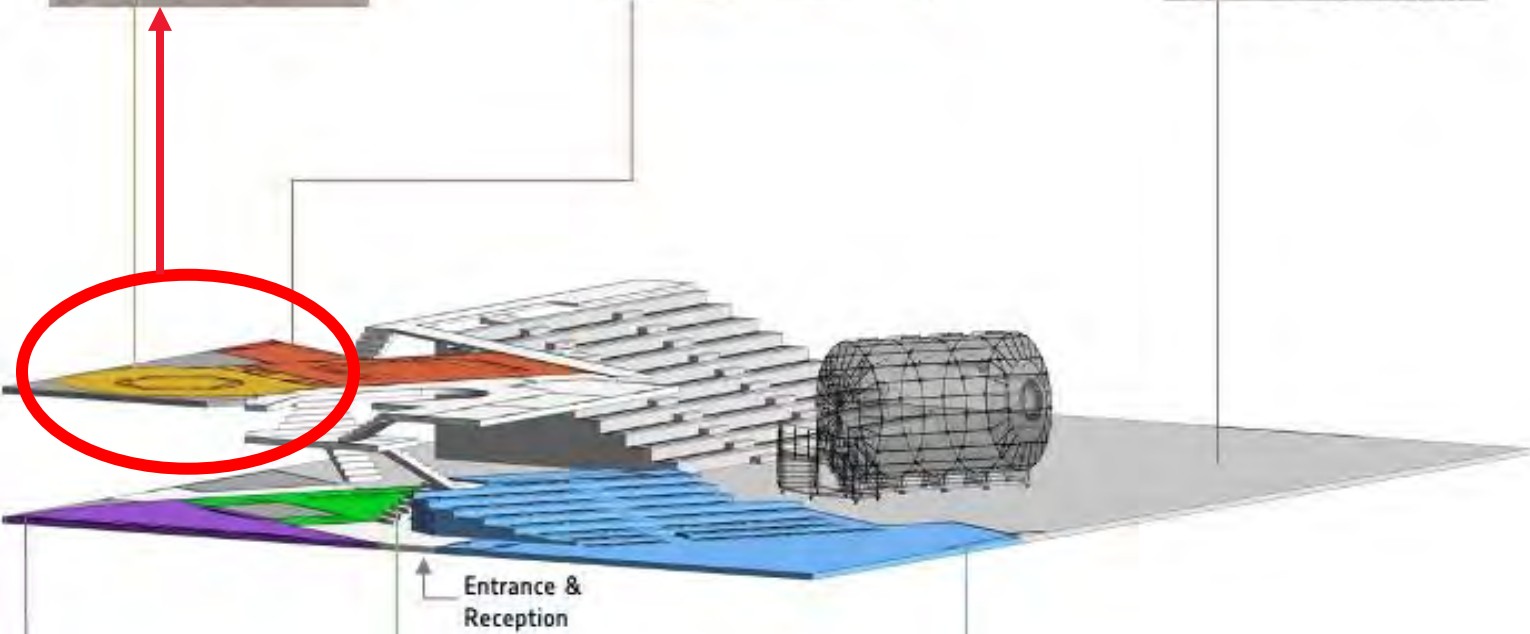
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GROUND FLOOR | HIGH BAY



GROUND FLOOR | PRE-SHOW



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Splinter 4: The role of a constellation within the European EO ecosystem (PoC Bernardo Carnicero, Dirk Bernaerts and Vanessa Keuck)

