

EEE Space Component Sovereignty for Europe

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EEE Space Components Supply Chain - Challenges



- Changing industrial landscape driven by terrestrial applications.
- Continuous mergers and acquisitions of key global space micro-electronics suppliers
- Fabless approach with a global reliance on far East for semiconductor manufacturing.
- Shortages in semiconductors and microchips, leading to increased lead times for critical high reliability EEE-components, mostly procured outside Europe.
- Transition from a low-volume business (institutional missions) to a highly competitive and dynamic business environment (new space).





- > Importance of increasing European EEE Component portfolio for space.
- Institutional support is needed to ensure European Sovereignty for space EEE components

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Vision – European Sovereignty





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EEE Space Component Sovereignty for Europe





- Creation of the GSTP Component "<u>EEE SPACE COMPONENT</u> <u>SOVEREIGNTY FOR EUROPE</u>" (GSTP EEE Component)
- Implementation principles are based on approach used for GSTP Element 1 "Develop" (compendium, WorkPlan/Procurement Plan, Letter of Support, ITT, Contract)
- Work plans shall be structured along 6 technology lines
- A key objective is to implement an end-to-end fully coordinated plan for each Technology Line.



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Development Approach



 Detailed work program planning, involving end users, Agencies and component manufacturers at outset Technology push + system pull derived stretch targets and interim goals Business analysis, supply chain credibility, multi-use markets for sustainability 2 → Dynamic Implementation Single end to end plan for faster implementation, ensuring products are developed at the right time Phase Approach Smart decision gates to allow seamless transitioning through TRL phases, minimise delays 3 → Advance Procurement 	
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3 → Advance Procurement	
 Upfront commitment to batch procure components, reducing risk to manufacturers and end-users (fair and open market prices, no minimum order buy quantities) 	
 Sales proceeds re-invested into EEE Sovereignty Programme Qualification 	
4 → Common Objectives, Common Results	CC or
 ESCC qualification, transparency and visibility of information, components available to all Member States 	ement
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Collaborative approach



- Strong synergy with European Space Component Coordination (ESCC) /Component Technology Board (CTB)
- ESCC CTB roadmaps and Harmonisation roadmaps fully considered as a basis, but with additional supporting information (business case, quantified space system performance benefits, etc.)
- Coordination with National Agencies, EC, EDA using existing channels (e.g. ESCC CTB, JTF)



Preparation and Implementation of GSTP Component



Informative bilateral meetings with Delegates, LSI and Industry for all technology lines

- ✓ Industrial landscape charted
- ✓ Potential element of supply chain identified
- ✓ Technology lines defined and budget estimated
- ✓ Update of GSTP program proposal, declaration and implementation rules
- ✓ GSTP Component approved and supported at CM22
- ✓ Release of EEE GSTP Compendium (soon on ESASTAR Publication)
- ✓ 1st Work Plan & Procurement Plan submitted for approval at the March IPC





GSTP EEE Component	WP/PP Approval	First 1	TTs	
Compendium	L	etters of Support		First Contracts
Q1 202	3	Q2 2023	Q3 2023	Q4 2023
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Wide Bandgap Technologies





UDSM Technologies





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Photonic Technologies



Driving modular avionics for the next generation digital and RF payloads



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    High saturation power efficient detectors
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Packaging Technologies









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PCB and Electronic Assembly Technologies





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PCB and Electronic Assembly Technologies





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Test Facilities Technology Line





High Energy

Low LET

Beam

Time

Testing

• High and very High Energy Ion Beam commercial capabilities for R&D and Industry at competitive prices

 Develop and make available Low LET between 0.2 MeV/mg/cm² and 1.5 MeV/mg/cm². Ion Beam commercial capabilities for R&D and Industry at competitive prices.

 Access to increased irradiation beam time to European stakeholders of the GSTP EEE Components

Develop and make available European Testing Capabilities for EEE components

TAKE AWAY

GSTP EEE Component Compendium is being made available for entities belonging to GSTP participating states (soon on ESA-STAR Publication)

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First ITTs will be issued on ESA-STAR Publication in Q3/Q4

Please contact us for further details

News ESA Tender Actions Non ESA Tender Actions ESA Interacts Supporting Documentation 🌐										News ESA Tender Actions Non	ESA Tender Actions ESA Interacts Support	ing Documentation	
• esa-star Publication			ESA Tender Actions 🔻		۹ 🌲 🖯	esa-star Publication My Favourite News	Ø		GSTP Elen	News▼ nent 1 "Develop" Com	pendia 2022		۹ 🌲
My Favourite Tenders My Views All Active ESA Tender Actions	proposals.The present plan cover	s the domains of Earth Observation, Exploration, Space Transportation,	Telecommunications, Navigation, Space Safet	y and Generic Technologies. An addendum to t	this plan will be Read more	COVID-19 measures and instr EMITS to be replaced by the All News Conv 1 updated Archived		Publication Date 28/10/2022		Last Update On 08/11/2022 09:00 CET		Classification Procurement Related News	
 Open Competition Intended 1 updated Issued 3 updated 	Directorate Estabilishment Open Date	ESTEC 02/02/2023 14:25 CET	Authorised Contact Person Initiating Service IP Measure	Gian Lorenzo Casini D/TEC N/A		Announcements Events Enew 1 updated General Procurement Related News		Restricted by Entity Codes	Restricted by Countries	Restricted to SME Entities	Restricted to LSI Entities	Visible to National Delegates	
Archived All by Status (9 updated) • Restricted Competition • Direct Negotiation	Closing Date ECOS Required Classified Price Range	31/12/2024 13:00 CET No No KEURO	Prog. Reference Procurement Proposal	E/0901-01 - Technology Developme		Procurement Review Board Ann	The GSTP Element 1 "Develop	* Compendia 2022 includes a list of candic	late activities for the GSTP E1 "Develop" Work P	tan in the following technology themes:			Read m
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TDE WP/PP 2023-2024

https://esastar-publication.sso.esa.int/ESATenderActions/details/56520

GSTP Element 1 Compendia 2022

https://esastar-publication.sso.esa.int/news/details/737