ARTES 4.0 Technology and Products – an Overview

16 April 2026_2

The ARTES Programme - Objective

To support the production of market-leading, cutting-edge products and services within the global satellite communications market

ARTES:

Advanced Research in TElecommunications Systems

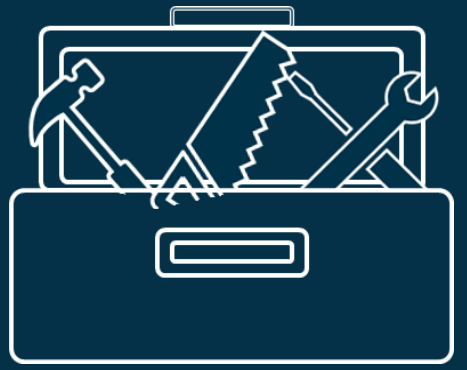
The ARTES Programme: Based on Partnership

- **National Delegations** contribute funding
- **Industry & institutions** develop products and services for the world satcom market
- **ESA** shares the risks and manages the contracts and activities
- **Industry** brings the end result to market & retains Intellectual Property Rights (IPR)

ARTES 4.0 Toolbox

STRATEGIC PROGRAMME LINES

GENERIC PROGRAMME LINES



ARTES Industrial Competitiveness (IC) + Strategic Programme Lines (SPL)

ESA initiated		Industry initiated	
General Programme Activities (GPA)	Partnership projects	General Programme Activities (GPA)	Partnership projects
Introduce or mature new satellite communication technologies, techniques and system concepts	Develop and validate innovative satellite communication systems, services or applications of future strategic value, addressing institutional needs or long-term market opportunities	Develop, demonstrate and mature innovative satellite communication products, systems or services	Driven by a defined business case, where industry leads the project definition, development and exploitation, with ESA support.

ARTES 4.0

Think tank for ideas and opportunities

Guides you to the most suitable programmatic tool

Makes **funding** available

Facilitates **synergies and cooperation** among Industry

Independent assessment and technical **expertise**

Full **transparency**, **confidentiality and fairness**

ARTES 4.0 Technology & Products

Call for Ideas (CfI) & Industry

ESA initiated programme activites

Up to 100%

ESA INITIATED

Initiated By Industry

Entry point

CCN

Entry point

Definition & Technology

Co-funded (see slide 13)

Product & Demonstration

Co-funded (see slide 13)

INDUSTRY INITIATED PROGRAMME ACTIVITIES

ESA initiated
Open Competition

Technology Push

Industry initiated
Direct Negotiation

Market Pull

ARTES 4.0
ESA INITIATED
TECHNOLOGY & PRODUCTS
ACTIVITIES

ARTES 4.0 ESA initiated process

Up to 100% funded, open competition

ESA

Yearly cut-off (in February)

Evaluation and feedback

ESA Call for Ideas (always open)

ESA Annual Workplans (GPA, 5G/6G, 4S, ScyLight)

Invitation to Tender (ITT)

6-11 weeks

Full Proposal (FP) Submission

<5 weeks

Winning bid: Clarification & Negotiation

Contract

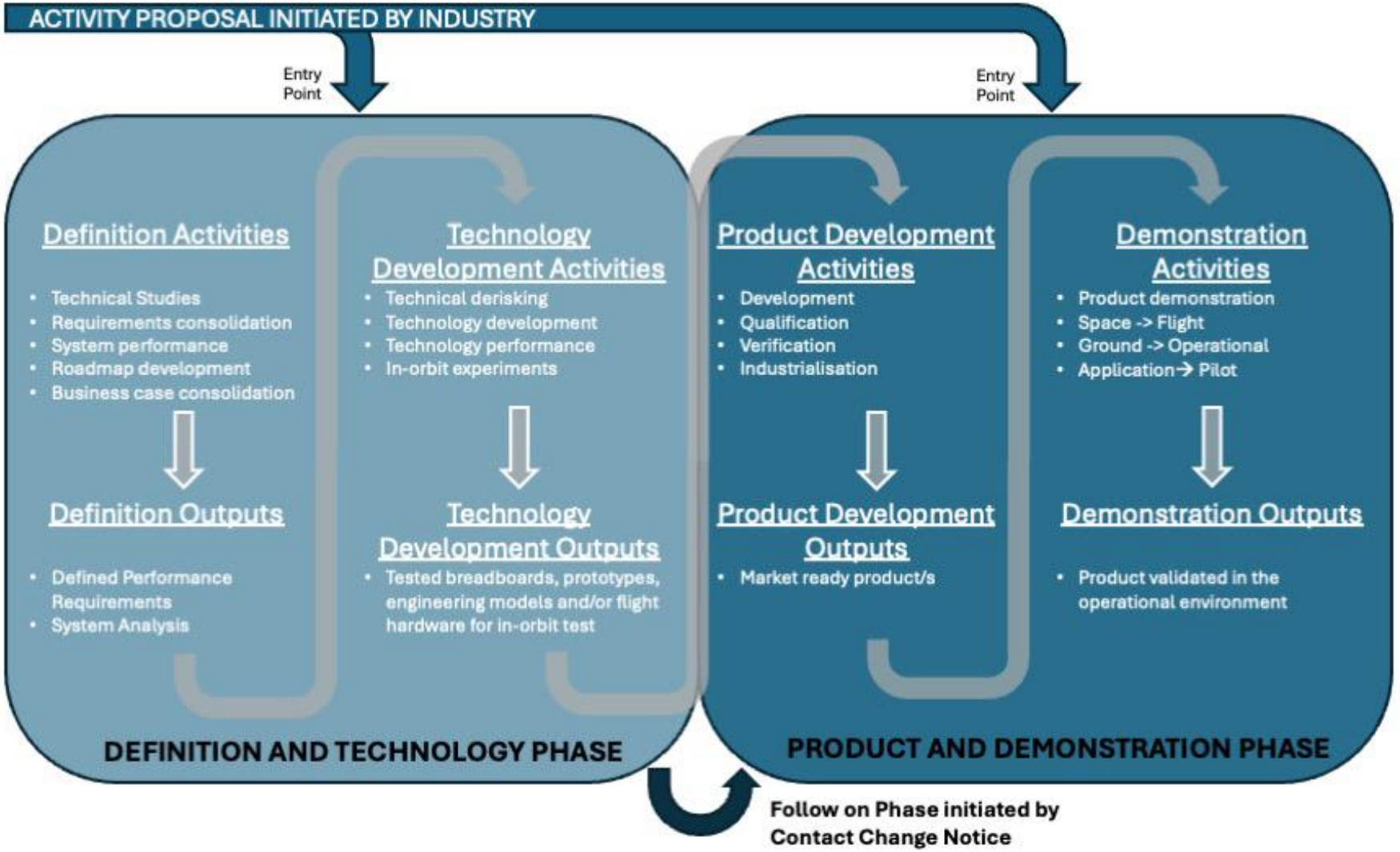
National Delegation

Industry Consults Delegation

Authorisation of Funding

ARTES 4.0
INDUSTRY INITIATED TECHNOLOGY & PRODUCTS ACTIVITIES

ARTES 4.0 Industry Initiated: Development Phases



Note: An activity can be proposed starting with either of the two Development Phases (or a part of it)

ARTES 4.0 Industry initiated: Development Phases

Development Phase	Main Activities	Outcome	TRL
Definition and Technology Phase	**Definition:** Technical studies and/or **Technology:** Technical risk mitigation excluding any qualification or industrialization and/or **Early in-orbit experimentation** including equipment/subsystem/end-to-end, when it is not possible to test the technology in a ground-based environment	Defined performance requirements; completed system analysis and/or Breadboard prototype or Engineering Model (EM) and/or Flight HW for early in-orbit test purposes	Up to Readiness Level 6
Product and Demonstration Phase	**Product:** Development, qualification, verification and industrialization and/or **Demonstration:** Space product: in-orbit validation/demonstration “flight activities” and/or **Demonstration:** Ground product: validation in operational environment and/or **Demonstration:** End to end system validation	Engineering/Qualification Model (EQM) or similar, of the space segment and/or Verified product in a non-operational environment, of the ground segment and/or Flight hardware (in case of flight activities) and/or Validated ground product in an operational environment	Up to Readiness Level 9

ARTES 4.0 Industry-initiated: Funding Levels

Development Phase	Funding level up to		Funding level for Universities or Research Institutes and public sector entities working as subcontractor supervised by industry consortium:
	Non-SME	SME	
Definition and Technology Phase	75%	80%	• Up to 100% for universities, research institutes, and public sector entities, whose work as subcontractor is requested, justified, and supervised by the industry consortium, and provided they do not retain any commercial (e.g. financial) interest in the future exploitation of the final product or service, and their funding does not exceed 30% of the total allowable cost • Up to 75% for universities and research institutes pursuant to the previous paragraph, which have a demonstrated commercial interest in the future exploitation of the final product or service
Product and Demonstration Phase	50% (1)	80%	• Up to 100% for universities, research institutes, and public sector entities, whose work as subcontractor is requested, justified, and supervised by the industry consortium, and provided they do not retain any commercial (e.g. financial) interest in the future exploitation of the final product or service, and the funding does not exceed 30% of the total allowable cost • Up to 75% for universities and research institutes pursuant to the previous paragraph, which have a demonstrated commercial interest in the future exploitation of the final product or service

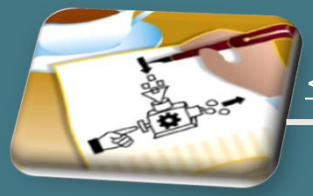
(1) For SPL ScyLight, up to 75% for activities addressing non-established markets that are highly innovative and contain a high technical and/or market risk

ARTES 4.0 Industry-initiated: Process

ESA

OP Feedback

Evaluation and feedback



<2 weeks

<5 weeks

Outline Proposal (OP) submission through OSIP

Announcement of FP Submission date via email

Full Proposal (FP) Submission on esa-star

Clarification & Negotiation

Contract

Industry

National Delegation

Industry starts consulting Delegation prior to OP submission

Authorisation of Funding

NOTE: Variations to the basic process are in place for some Member States, please check with National Delegation

ARTES 4.0 Flight Activities

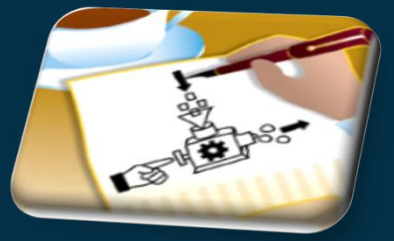
Flight Activities		
Type of flight activity	Flight Experiments	Flight Demonstrations
Phase	Definition/Technology	Product/Demonstration
Objective	Develop and understand the performance of the product in real space environments	Generate critical flight heritage for newly developed space products or end-to-end system validation of key performances in the space environment
Eligible HW	Flight HW related to telecom satellites and products (platform/payload)	
Type of mission	• On any type of mission including other ARTES missions • On a flight opportunity from anywhere in the world • Within main mission (Embedded) or alongside the main mission as hosted technology (Independent Hosted) or as a dedicated mission (Independent Standalone)	

ARTES 4.0 Flight Activity Support

Activities	Early In-Orbit Experiment	In-Orbit Demonstration	
		Embedded case	Independent case
System and Accommodation studies	Yes	Yes	Yes
Flight equipment or sub-system development including Manufacturing, assembly, integration and test	Yes	Yes	Yes
Satellite-level engineering and accommodation, including assembly, integration and test	Yes	Yes	Yes
Ground control and user segment engineering, manufacturing and AIT activities	Yes	Yes	Yes
Portion of the main mission spacecraft platform cost (as a shared resource between the main mission and the item)	Yes	No	Yes
Portion of the launch cost (as a shared resource between the main mission and the item)	Yes[1]	No	Yes[1]
Launch campaign (testing and minimum operation phase specific to the item, for validation of function and performance or monitoring)	Yes	No	Yes
LEOP / IOT and validation of the performance and function of the product	Yes	No	Yes
End-to-end system and service validation on a minimum scale required (including in-orbit operation monitoring)	Yes	No	Yes

[1] Unless planned to be used commercially

ARTES 4.0 Industry initiated: Outline and Full Proposals



OP to be submitted in OSIP

Outline Proposal (OP)

- Overview company, planning, cost, deliverables
- Product Definition, Development and Verification
- Business Plan

ESA evaluates OP and potentially invites Industry to submit FP

Call for Proposal on ESAStar

Full Proposal (FP)

Modular Structure

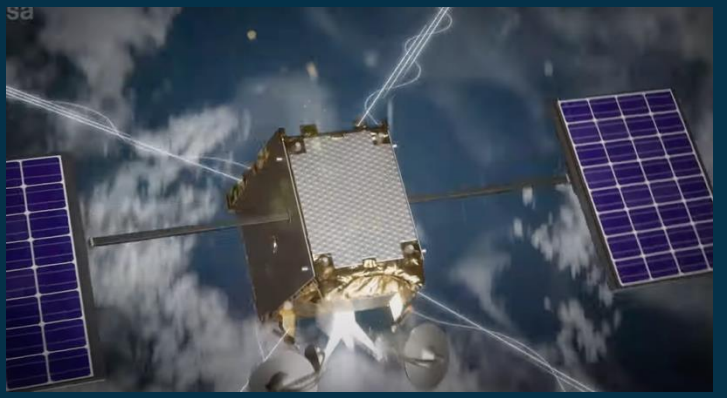
- 1 Cover Letter
- 2 Business Plan
- 3 Technical
- 4 Management
- 5* Implementation
- 6* Financial
- 7 Contractual
- 8 Flight Activity

Outline Proposal allows ESA to assess eligibility, feasibility and validity of the activity

* Dedicated proposal element required for subsequent Phases: from Definition and Technology phase to Product and Demonstration phase

ARTES 4.0 – A Success Story

ARTES 4.0 Video



https://www.youtube.com/watch?v=nGhL0t_RZeo

Your success is our success!

ARTES 4.0 – Further information & contact

Visit us at https://connectivity.esa.int/artes-4-0-programme-overview/industrial-competitiveness/technology-and-products

How to apply to ARTES: https://connectivity.esa.int/how-apply

Submit Outline Proposals for ARTES 4.0 Industry Initiated Programme Activities on Open Space Innovation Platform: **OSIP**

ARTES 4.0 ESA Initiated Programme Activities

Contacts:

- General Programme Activities (GPA): artes-at@esa.int
- SPL ScyLight: ScyLight@esa.int
- SPL 5G/6G: 5G@esa.int
- SPL 4S: ARTES-4S@esa.int