Socio-economic impact assessment of the ARTES 4.0 programme

Case study portfolio

European Space Agency

13th December 2024

GR740 PBGA ARTES Core Competitiveness

The System-on-Chip Architecture Designed as ESA's Next Generation Microprocessor

- Empowering satellite communication: testing GR740 in plastic for space-ready performance

LEVERAGING ESA'S SUPPORT

- **Long-last relationship** to develop the product since 2009 until qualification (TRL 7) in 2021, over multiple phases
- Product performance was **verified and tested** to reach the required satellite communication standards
- **Provision of technical input** and **project management** over the technological development timeframe

CAES

COMMERCIAL GROWTH

Created **European sovereign product** reducing development on U.S. supply chain

Utilises **cost-efficient material**, increasing **commercial potential**

Used across **many applications** in collaboration with other space agencies (NASA), and large satellite manufacturers (TAS, Airbus Defence & Space)

TECHNOLOGICAL BENEFITS

- **Reuses existing parts** from older versions of the technology
- Improves tracking of parts and **encourages mass manufacturing**
- Maintains **high electrical performance** in space environment

TECHNOLOGY → APPLICATION → END-TO-END SYSTEM

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