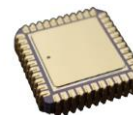




TECHNOLOGY DESCRIPTION

Traditional microchips used in aerospace and industrial applications lack adaptability and must be pre-configured for specific tasks, limiting operational flexibility. Spherical System's reconfigurable microchip offers a programmable, software-defined logic structure, enabling real-time updates without requiring hardware modifications. Key features include: radiation hardening [engineered to withstand high-radiation environments (100+ krad, SEL immune) ensuring long-term reliability in space and extreme terrestrial settings; adaptive processing architecture (for on-the-fly reconfiguration, optimising performance based on real-time data and mission needs); built-in redundancy and fault tolerance (enables continued operation despite localised failures, crucial for autonomous and remote applications); and low-power, high-efficiency design (for power-constrained environments, such as spacecraft, drones and off-grid industrial systems). This microchip provides a versatile solution for safety-critical and high-reliability applications, making it ideal for industries beyond aerospace, including renewable energy management, automotive artificial intelligence (AI) and industrial automation.



SPACE
FOR BUSINESS
BUSINESS
FOR SPACE



INNOVATIVE ASPECTS

- **Dynamic reconfiguration:** Unlike traditional ASICs (application-specific integrated circuits), this chip allows software-based logic changes post-deployment, extending system lifespan and adaptability
- **Radiation and fault tolerance:** Meets stringent space and high-radiation environment requirements, ensuring robustness in nuclear energy, defence and high-altitude aviation applications
- **Reduced hardware complexity:** Eliminates the need for multiple dedicated chips, reducing system mass, volume and cost while increasing overall performance
- **Cross-industry adaptability:** Originally designed for space but transferable to energy grids, autonomous transport systems and secure telecommunications infrastructure



TECHNOLOGY READINESS

TRL 9 (2025)

COUNTRY OF ORIGIN

Netherlands

LATEST UPDATE

03/2025

CONTACT



TAGS	#Microchip	#RadiationHardened Microchip	#Reconfigurable Electronics	#HighReliability Computing	#Semiconductor Design	#Embedded Systems
APPLICATION AREAS	Automotive AI & Safety	Renewable Energy Systems	Industrial Automation	Telecommunications	Satellite Communications	Earth Observation & Navigation