

ESCC Update

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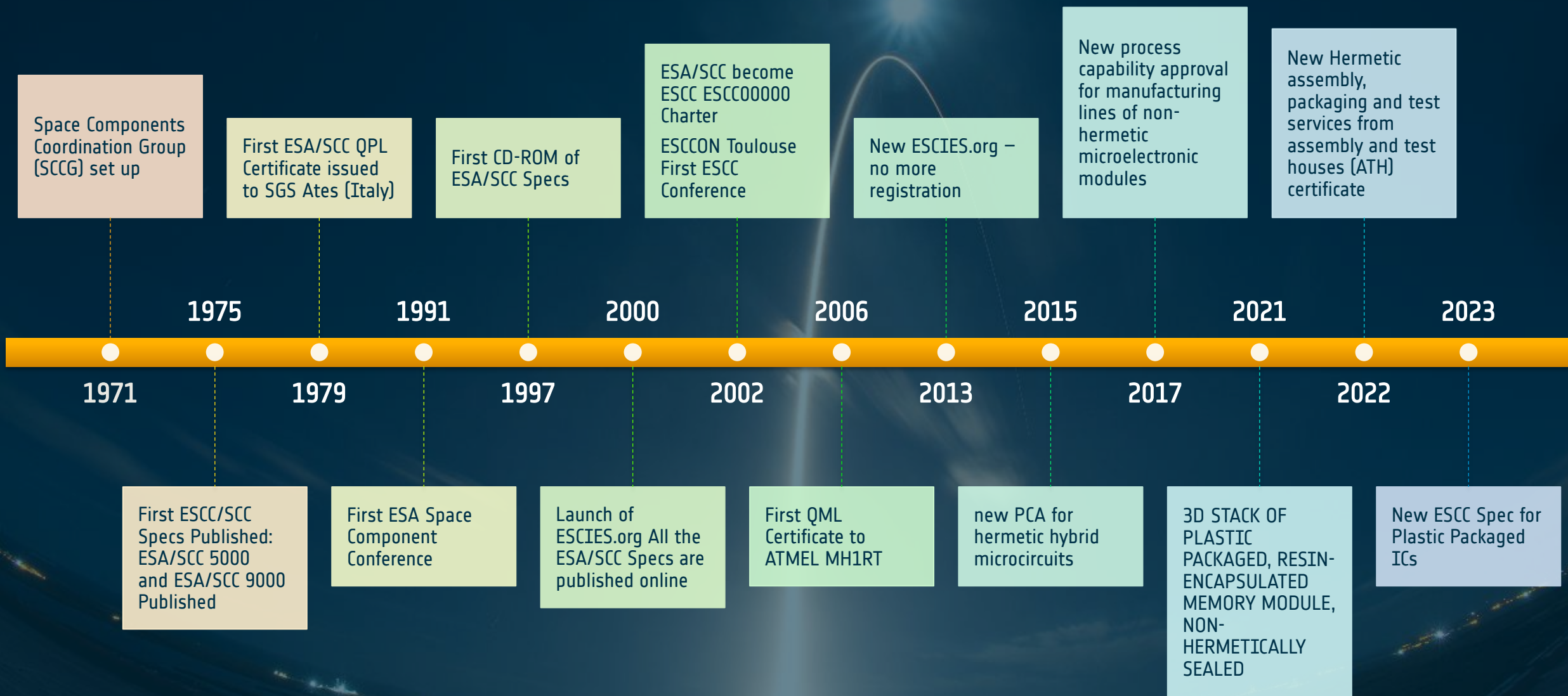
ESCCON 2023
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ESA-TECQ-HO-2023-000701

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A wise man once said

“You can’t get from where you are to where you want to be without knowing where you came from.”

ESCC where do we come from



ESCC Qualified Products - the value added

European Parts for Space Applications

Stable and controlled processes

Proven designs and supply chain

Periodic testing, reduced screening and test efforts

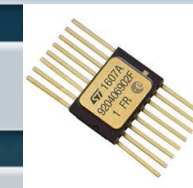
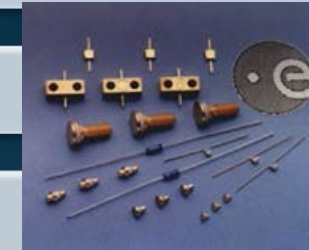
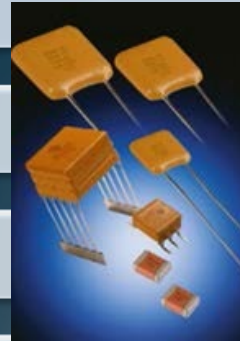
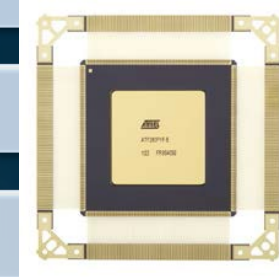
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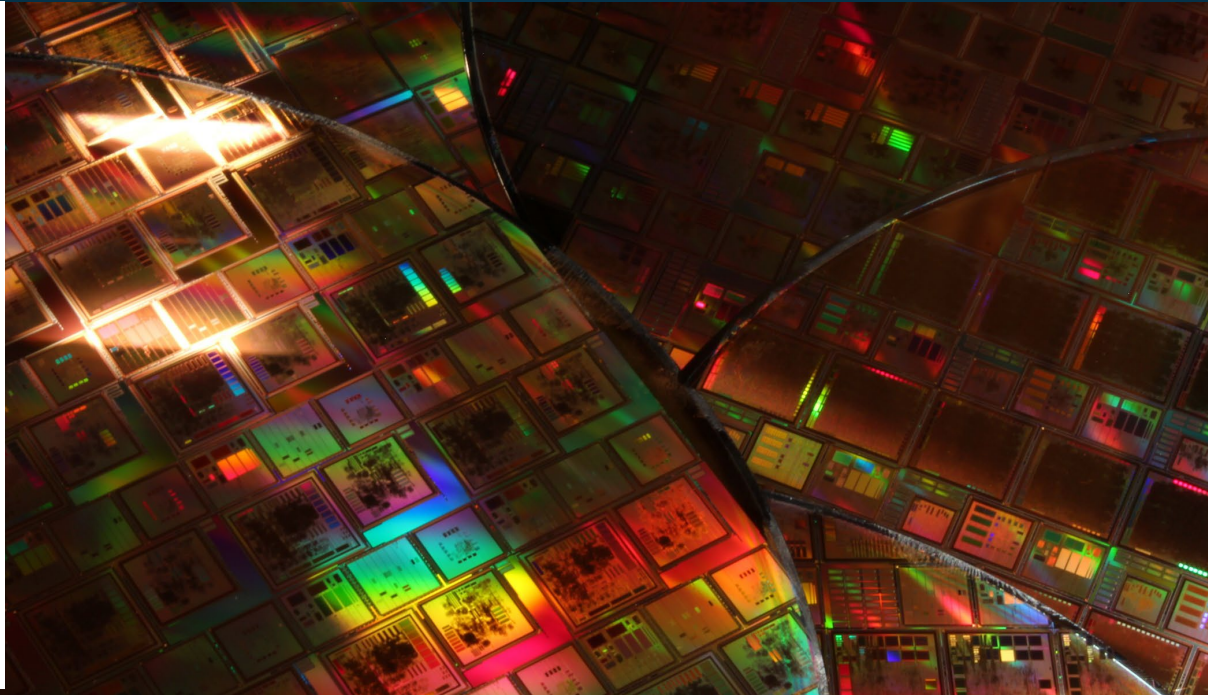
Low risk of obsolescence

Sustainable for at least 5 years after initial qualification

Non-conformances management

Independent audits





Harmonization task

- Harmonisation tasks are performed under the auspices of the **Space Components Steering Board (SCSB)** supported by the **Policy and Standards Working Group (PSWG)** and the **Components Technology Board (CTB)**

Executive task

- **ESCC Executive**, provided by the Space Agencies participating in ESCC, is primarily responsible to:
 - **provide** an organisation for the custody and management of the ESCC Specification System
 - **manage** the related tasks of evaluation and qualification of components
 - **manage** the related tasks of certification of components and component manufacturers

ESCC publications - ESCIES.org

- **ESCC Specifications** for EEE components
- **ESCC Qualified Parts List (QPL)**
- **ESCC Qualified Manufacturer List (QML)**
- **ESCC Hybrid Process Capability Approval List (HPCL)**
- **ESCC European Preferred Parts List (EPPL)**
- **ESCC Executive Public notices**

ESCC Certificates - New Qualifications



Active Certificates

135

Active Certificates

10

Countries

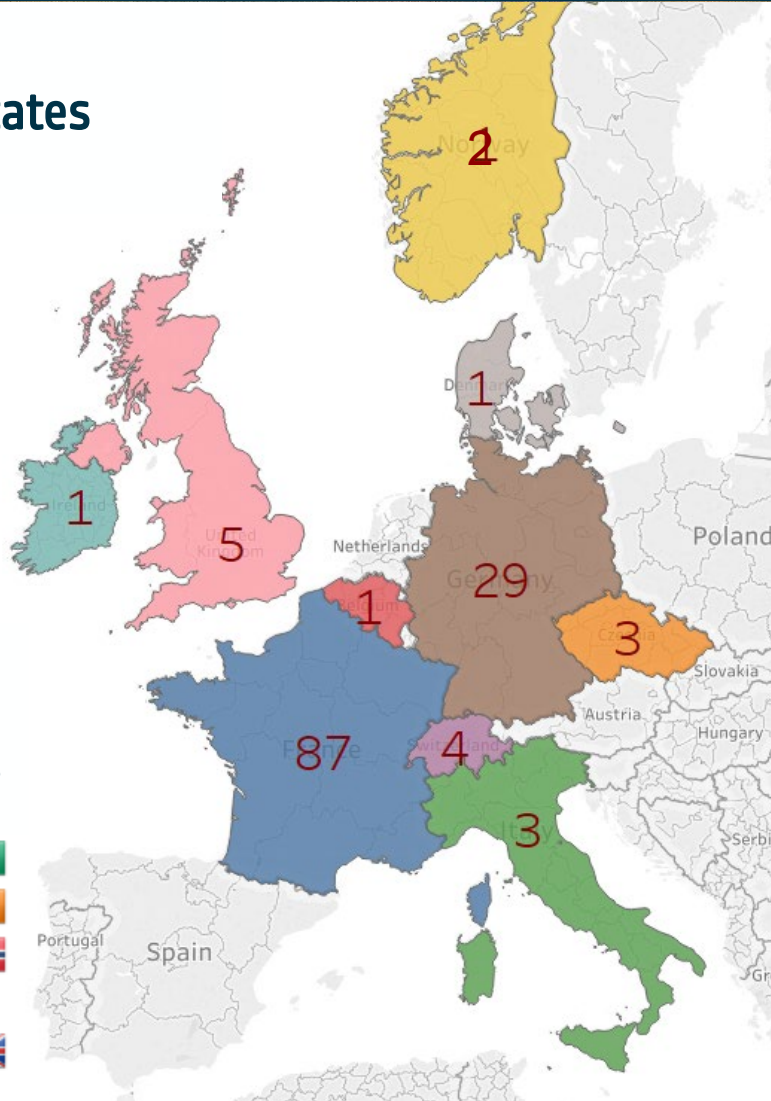
341

Part Type Families

699

Active ESCC Specifications

Belgium		Ireland	
Czech Republic		Italy	
Denmark		Norway	
France		Switzerland	
Germany		United Kingdom	

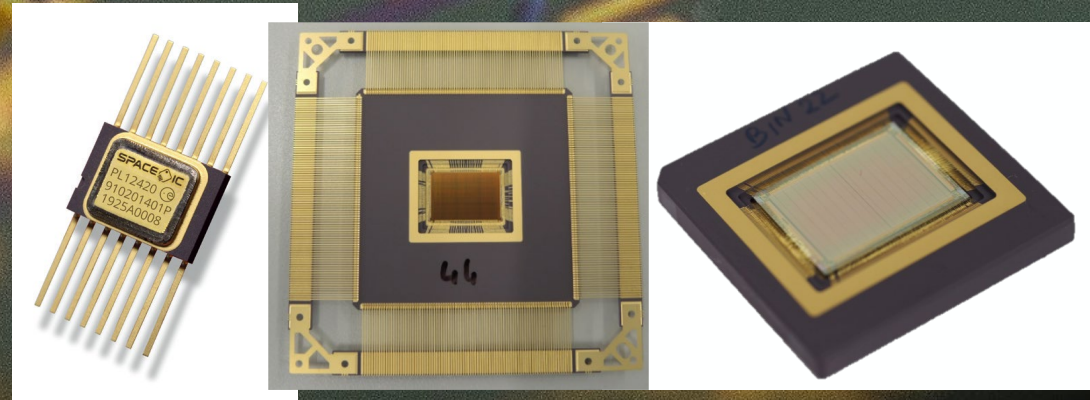


QPL (Qualified Parts List)

- **Certificate 376: Space-IC (Germany)** – October 2021
Synchronous rectified step-down converter based on type SPPL12420RH
- **Certificate 382: NanoXplore (France)** – September 2022
Integrated Circuits, Silicon, Monolithic, 35KLUT
Radiation-Hardened FPGA (NG-Medium)

QML (Qualified Manufacturers List)

- **Certificate 381: STM (France)** – Technology Flow – September 2022
Integrated Circuits, Silicon, Monolithic, CMOS Radiation Hardened 65nm ASIC Platform, based on type C65Space



ESCC Certified Manufacturers



3D plus		Deutsch		Flux S/A.		Kyocera AVX Fr		RAKON France		Space IC	
Airbus Defence & Space		Diamond SA		Infineon Technologies A.G.		Kyocera AVX UK		REL STPI		STMicroelectr..	
Axon' Cable		Draka Fileca		IRCA - RICA		Leach International Europe (Sarra..		Rosenberger		TE Connectivity Sensor Solutions	
Bizlink		Exxelia Magnetics		Isabellenhütte Heusler		MICROCHIP Technology Nantes		Safran Electronics & Defense		Tesat	
C&K Components		Exxelia Technolgies (Chanteloupe ..		IST		Minco		SCHURTER AG		Thales Alenia Space	
Cobham microwave		Exxelia Technologies (Marmoutier)		Kongsberg Norspace		Nexans		Smiths Interconnect Hypertac S.A.		Tyco Electronics	
COMEPA		First Sensor Lewicki		Kyocera AVX Cz		Radiall		Souriau Connection Technology		Vishay S.A. Division Sfernice	
						Vishay Electronic Draloric Selb		W.L Gore		W. L. Gore & Co	



45 manufacturers

ESCC qualification (QPL and QML)

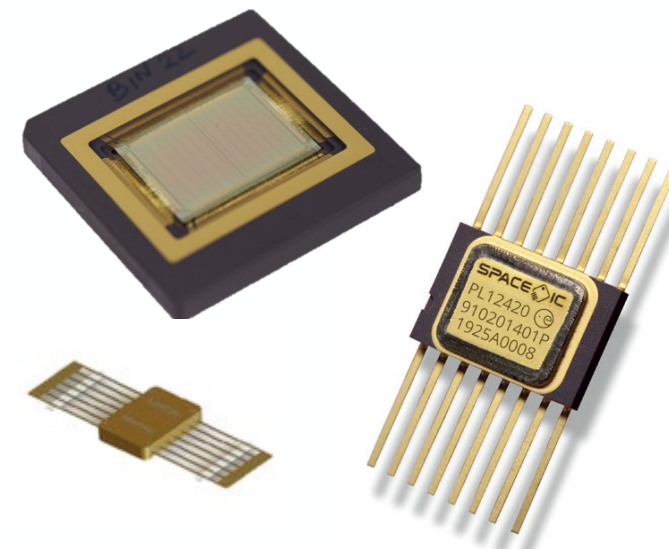
○ Some recent achievements

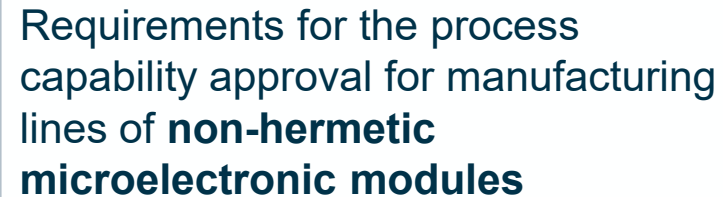
QPL

- **Certificate 376. Space-IC (Germany), 2021**
Synchronous rectified step-down converter based on type SPPL12420RH
- **Certificate 382. NanoXplore (France), 2022**
Integrated Circuits, Silicon, Monolithic, 35KLUT Rad-Hardened FPGA (NG-Medium)
- **Certificate 371. Rakon (France), 2021**
Crystal oscillator type RK135, 4MHz to 100MHz.

QML

- **Certificate 381. STM (France), 2021 (Technology Flow)**
CMOS Radiation Hardened 65nm ASIC Platform, based on type C65Space





ESCC certification

○ Some recent achievements

Hybrid

- **Certificate 384. Kongsberg (Norway), 2022**
Thin film hermetic hybrid microcircuits line

ATH

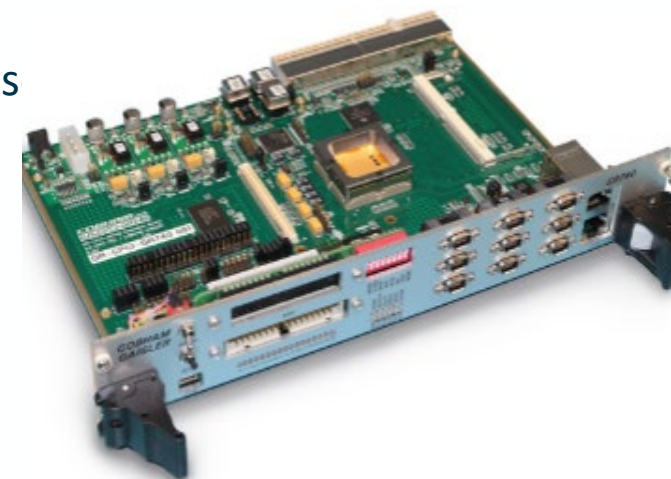
- **Certificate 379. First Sensor Lewicki (Germany)**
Hermetically encapsulated discrete semiconductors in SMD and TO packages

○ New document published in 2022 including certified manufacturers

- **PCAL: Process Capability Approval Listing (REP 008)**
- Include 8 manufacturers.



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ESCC: What's next in 2023

- ☐ Publication of the Generic specification for ICs plastic package: "9000P"
Should enable new qualifications and QPL listing
- ☐ Introduction of GaN technology into the QPL/QML.
UMS (France-Germany) GH50-20 process
- ☐ New guideline scheme MEMS components
- ☐ Work is ongoing on specifications Guidelines for procurement of LDs, electro-optical modulators, IR detectors, MEMS



ESCC Vision – Where do we want to be



Thank you for your attention

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