

Space Passive Components Days

3rd SPCD edition

Welcome Speech

Dr. Ali Zadeh

Head of the Data Systems and Microelectronics Division (TEC-ED)

ESA/ESTEC – 10/10/2018

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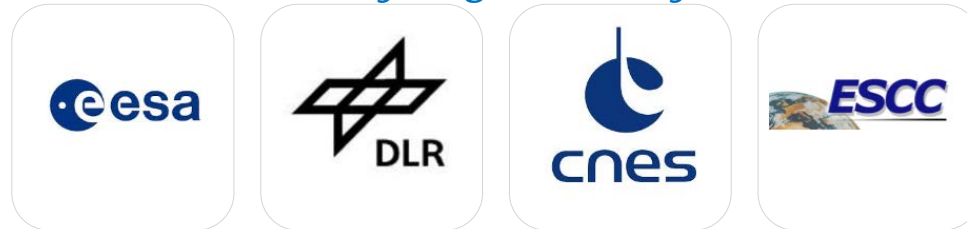


SPCD



SPACE PASSIVE COMPONENT DAYS SPCD 2018

Jointly organized by



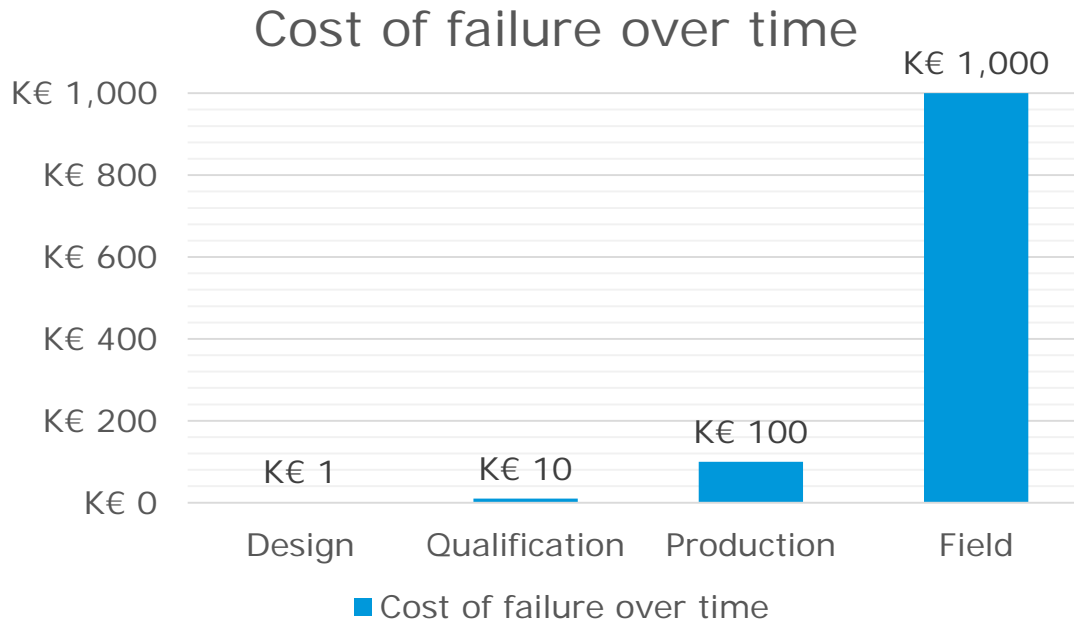
Co-sponsored by



3rd SPCD



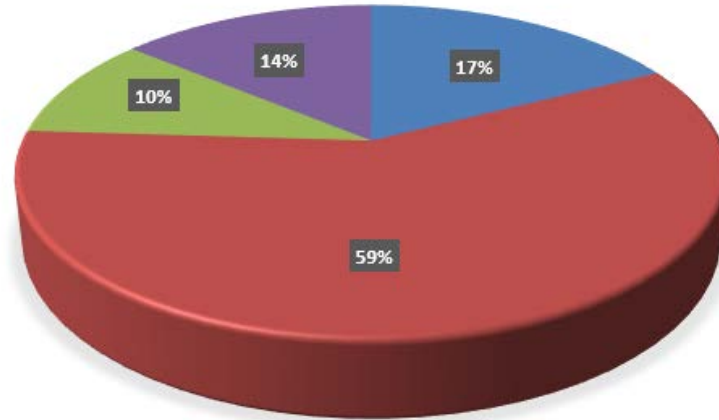
Passive Components represent more than 80% of the EEE parts used in spacecraft. Therefore, they represent a major concern for space applications.



In recent years, the development of Passive Components has been driven by reliability, performances, new functionalities, mass and volume saving and cost reduction.



Aim Of SPCD Symposium



3rd SPCD participation distribution

■ Agencies ■ Manufacturers ■ Institutes/ Academy/ Test houses ■ Primes/End users

Aim Of SPCD Symposium



The SPCD international Symposium is the premier technical conference dedicated to Passive components for space applications

EEE passive components for space applications



Capacitors & Supercapacitors



Power dividers & Couplers



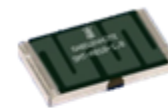
Connectors & Interconnections



Cable assemblies & Harness



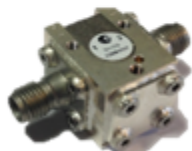
Relays & Switches



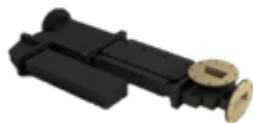
Resistors



Fuses



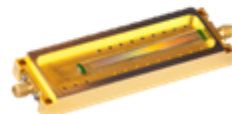
Circulators & Isolators



RF switches & Phase shifters



Loads & Attenuators



SAW devices (SAW Filters, etc.)



Crystals & Oscillators



Heaters & Thermal Sensors



Magnetics

Nine technical sessions: **48 presentations**

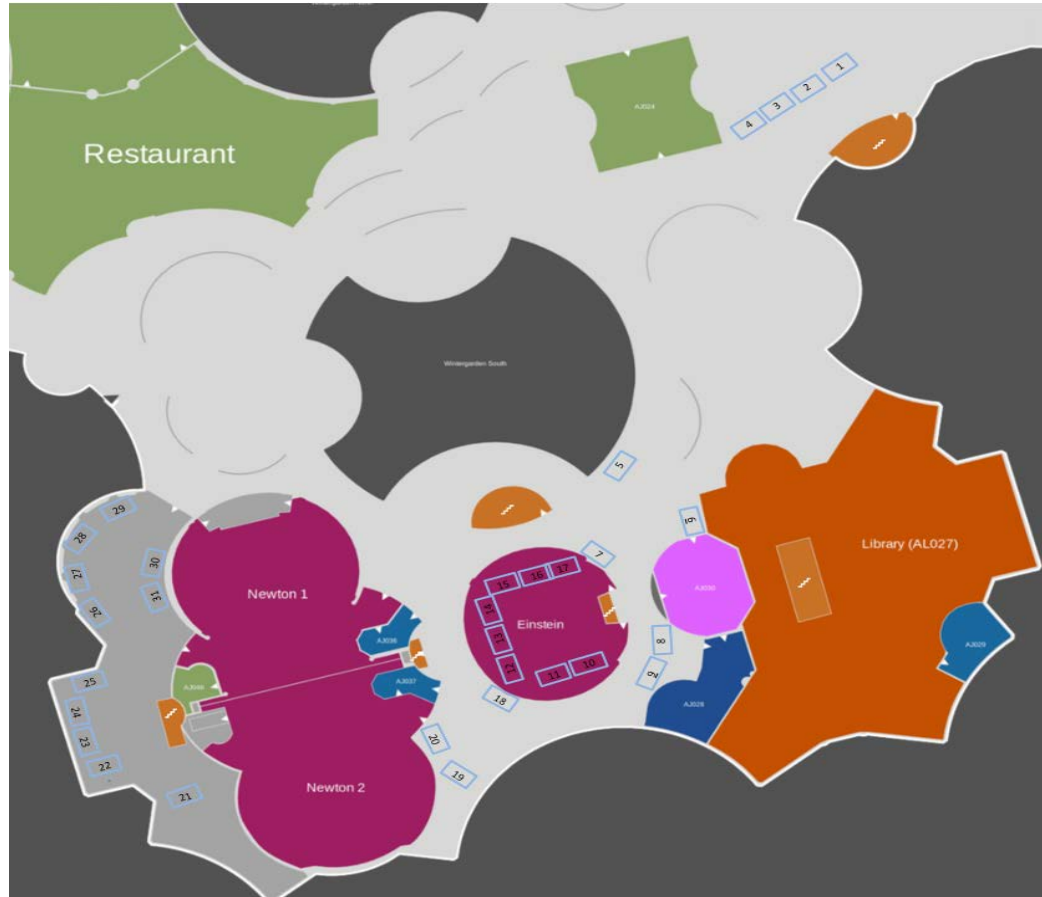
- Technology Roadmaps
- Normative System & Standards
- New Developments
- Materials and Processes
- Application, Trends & Needs
- Test, Reliability & Evaluation for space
- Evaluation & Qualification
- Lessons Learned and In-flight Experiences
- Technical Introduction of Components (TICs)

+ Interactive Panel session: "Impact of Digitalisation on Passive Components"

+ Dedicated Poster session

+ Private Roadmap session

Exhibition Floor Plan

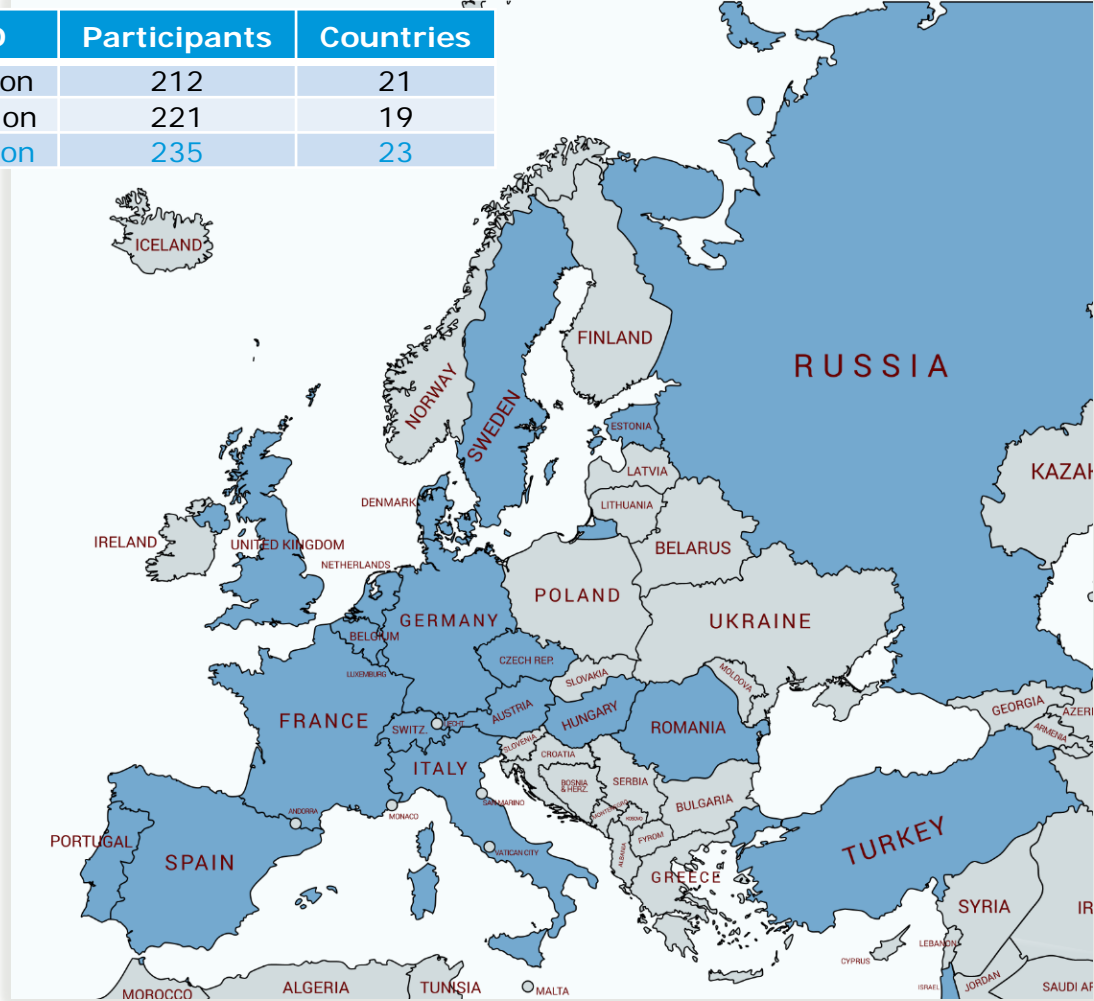


Exhibitors	#
esa	1
NASA	2
AXA	3
ALTER	4
AVX	5
PulseR	6
axon	7
VPG Foil Resistors	8
Clenair	9
FLUX	10
C&K	11
TIMES	12
GORE	13
ISE MAGNETICS	14
Microsemi	15
Rosenberger	16
SCHURTER	17
Esterline	18
SOURIAU	19
rakon	20
THERMOCOAX	21
smilms interconnect	22
Coilcraft	23
PRESIDIO	24
comtronic	25
COBHAM	26
VISHAY	27
Postronic	28
AEM	29
CARLISLE	30
Radiall	31
EXXELIA	31



SPCD Statistics

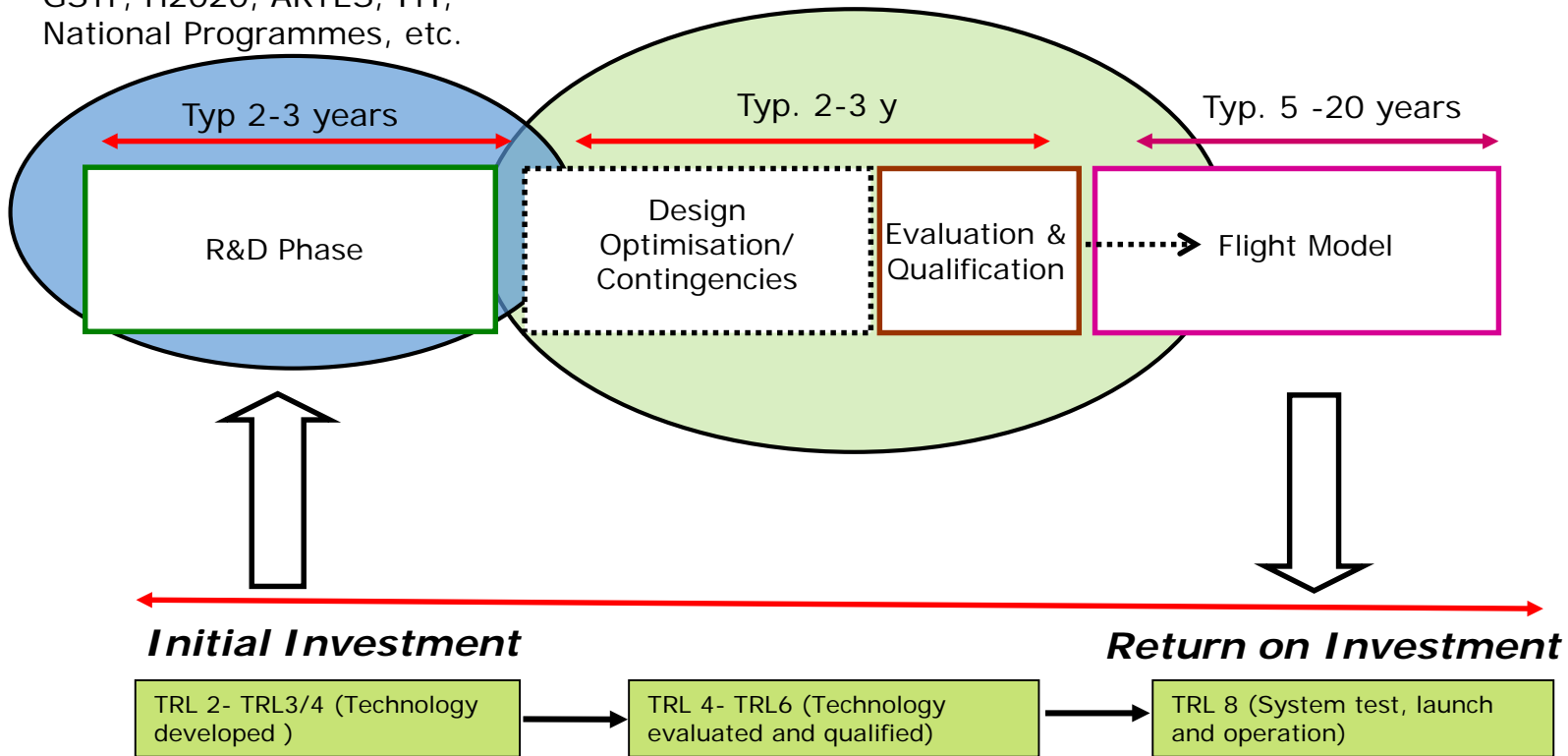
SPCD	Participants	Countries
1 st edition	212	21
2 nd edition	221	19
3 rd edition	235	23



Timeline From R&D to Commercialization



ESA funding Programmes: TRP, GSTP, H2020, ARTES, ITI, National Programmes, etc.



Success story: from TRP to the sky...

One example of building up the Space passive component supply chain in Europe:



Versatys® MMC Micro Modular Connector



- ✓ MMC originally developed in the frame of an ESA funded TRP activity:
 - « Miniaturisation of Power/Coaxial Connectors »
- ✓ Budget : 250 K€
- ✓ On-going ESCC Qualification
- ✓ Currently selected on Mega-constellation program



Versatility, Fast-locking, removable, double insulation

Conclusions



In the last years, we have seen exiting evolutions in the industrial landscape:

- Mega-Constellations
- “New Space” with new entrepreneurs and new risk taking
- Cubesats with limited mission duration and reliability requirements
- Terrestrial demand towards high-rel components (safety critical automotive, energy applications etc.)

The observed changes often require new programmatic and normative approach towards the development, qualification and use of EEE-components.

Passives EEE Components are key to this change. The SPCD therefore represents a great venue to discuss new technologies and challenges ahead.



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