

# The ESCC Components Technology

Board (CTB) March 3, 2016

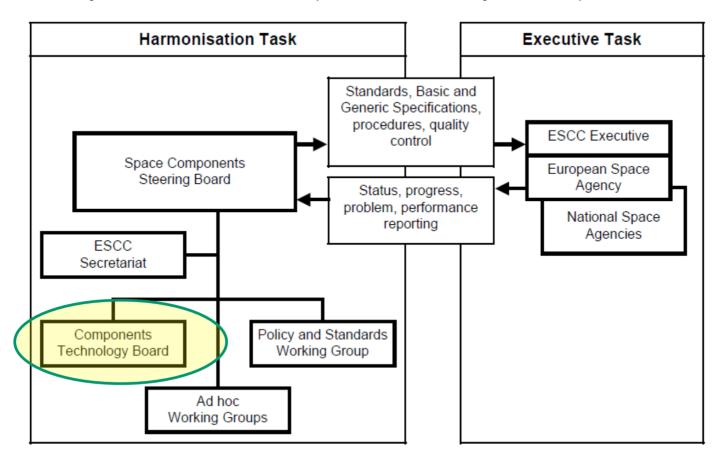
**ESCCON 2016** 

(Jean-Louis Cazaux)



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- CTB: Component Technology Board
- An ESCC body, subordinate to the SCSB
- Created in October 2002 according to ESCC Charter 00000
- Defined by ESCC 10400 (Issue 2, July 2003)



10/03/2016

Ref.:





The CTB is charged with the formulation of strategic programmes and work plans for technology research and development in the area of European EEE space components.

It **harmonises** the collectively funded component research, development, evaluation, qualification, standardisation and quality assurance activities.







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- According to ESCC charter, members belong to 3 categories:
  - the European space component user industries collectively represented by Eurospace
  - the European EEE space component manufacturers
  - the European national and international public space organisations.
- 3 meetings of 1.5 day per year





## The CTB Plenary

Function	Affiliation	Members	Voting right	Other members (deputy)
Silicon Manufacturers	STM	Thibault Brunet		
				Yves Gilot
	ATMEL	Bernard Bancelin	X	
GaAs Manufacturers	UMS	Ulf Meiners	X	
Passive Manufacturers				
Hybrid Manufacturers	THALES ALENIA SPACE Belgium	Pascal Delporte	X	
	e2v	Jean-François Bruyeres		
Eurospace - CTB chairman	THALES ALENIA SPACE	Jean-Louis Cazaux	X	
Eurospace	ADS	Klaus Hirche	X	
				Richard Wiest
	THALES ALENIA SPACE	Ulisse di Marcantonio	X	
	ОНВ	Burak Gökgöz		
	RUAG Space	Andreas Billström		
	Alter	Gonzalo Fernandez	X	
		Romero		
				Augustin Coello-Ver
DLR	TESAT	Ottmar Heger	X	
ASI	IMT	Giovanni Cuccinella	X	
CDTI				
UKSA	EEE Components Quality and Reliability Consultancy Ltd	John Wall	Х	
CNES - CTB Dpty-Chair	CNES	Michel Labrunée	X	
CNES	ONLO			Pierre Tastet
ESA	ESA	Laurent Marchand	Χ	
ESCC technical secretary	ESA	Ralf de Marino		



## CTB's Internal Organization

CTB Plenary
Chair: Jean-Louis Cazaux (Eurospace)
Vice-chair: Michel Labrunée (CNES)

9 thematics Working Groups (WG) reporting to the "CTB Plenary"

In total, and as for today, CTB WGs involve 155 individuals from 46 different organizations

Materials issues now dealt by MPTB (Chair: Thomas Rohr, ESA) which directly reports to SCSB Silicon WG
C: Rok Dittrich (ESA)
Processing
Power (incl. GaN)

Microwave
C: Marie-Geneviève Périchaud
(ESA)

Photonics
C: Mustapha Zahir
(ESA)
(incl. Detectors)

MNT C: Nicolas Saillen (ESA) (incl. RF MEMS)

Hybrid & Packaging C: Liam Murphy (ESA) Passives
C: Jean-Paul Bussenot
(CNES)

RF Passives C: Denis Lacombe (ESA)

> Radiations C: Ali Zadeh (ESA)

Splinter WG PCB & SMT C: Stan Heltzel (ESA)





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#### The CTB Roadmap: most wanted!!!

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- Previous version is dating from 2012
- Current task: updating / revisiting. / completing Goal: May 2016 for 45th SCSB
- To be easily and frequently updated: a living document
- It will provide visions up to 2020 (mid-term) and 2025 (long term)
- It is expected for ECI-5 but also for GSTP, TRP and hopefully to define future EC (H2020) priorities
- Eurospace members will be asked to give volume estimates and expectations.
- And after the roadmap? We will finalize the workplan to monitor all on-going and expected actions, and technical dossiers to document these actions.









### CTB Roadmap – Early inside trends

- 1st Draft is compiled: 137 actions listed (out of Radiation WG): 57 P1 (total budget: 46 M€), 42 P2 (33 M€), 33 P3 (27 M€), 5 Px (7 M€)
- Priorities expressed concern several funding scheme: ECI-5 is first target, but GSTP, TRP are in the radar. H2020 may select some actions for next calls.

Microwave: Advanced GaN for mmW; SiGe

Next step of DSM: 28 nm or beyond – and related packaging and

passive actions

GaN for Power supplies – and related packaging actions

Advanced PCBs for High Data Rate, higher freqs

Photonics components. CMOS Sensors. MOEMS Switchs. And more...

- Very next tasks
  - Budgets to be consolidated
  - Prioritize the priorities in a single list





All what precedes is important but maybe there is something at least, as important...

Team spirit Respect Loyalty Friendship



**Common sense of common interest** 





#### **CTB** at work



