

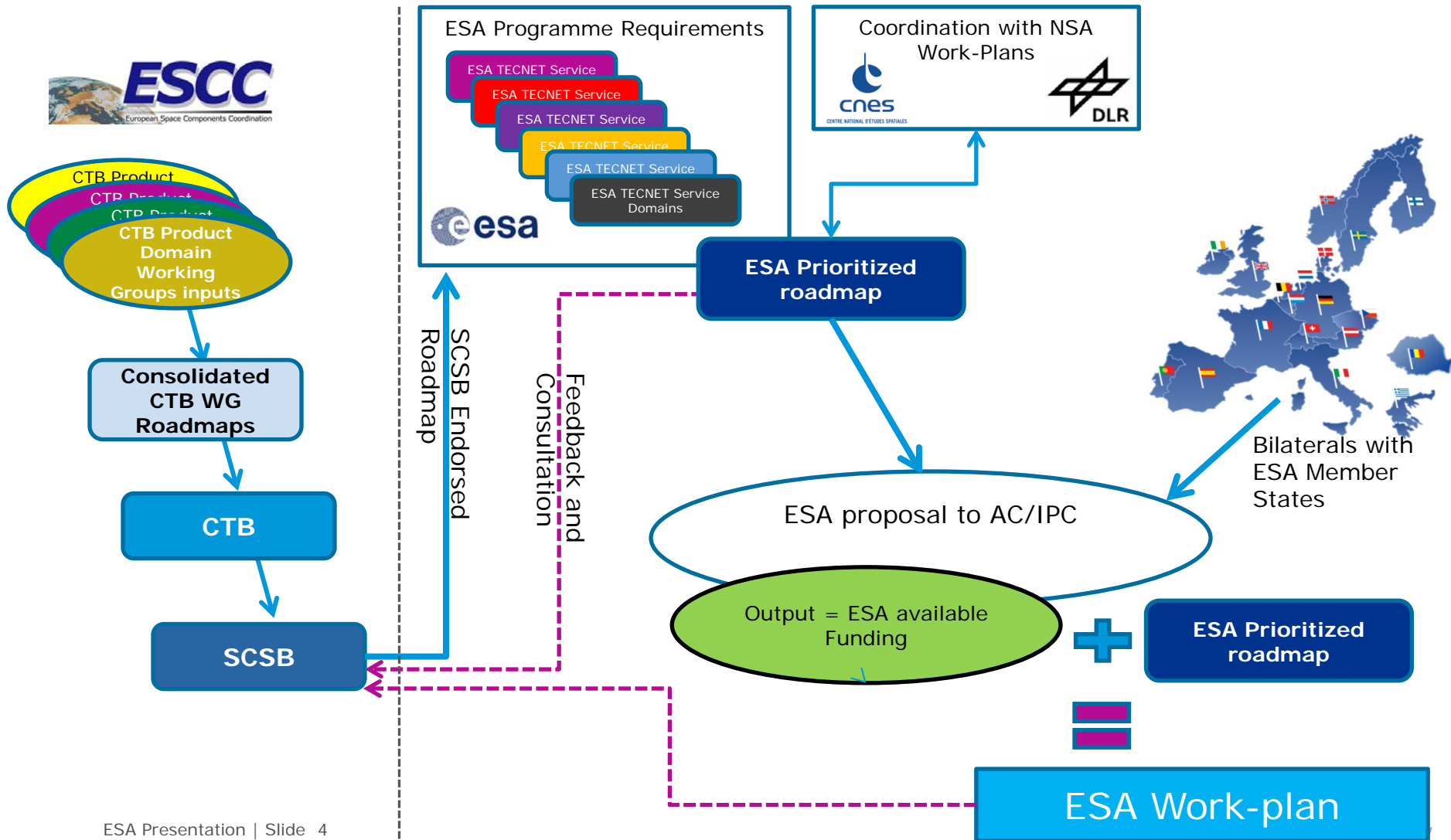
# ESCC Executive Support

ESTEC- ESCCON2013  
14/03/2013

1. From harmonization of needs to parts qualification
2. The European Space Component Coordination Executive Report
3. ESCC Statistics and achievements

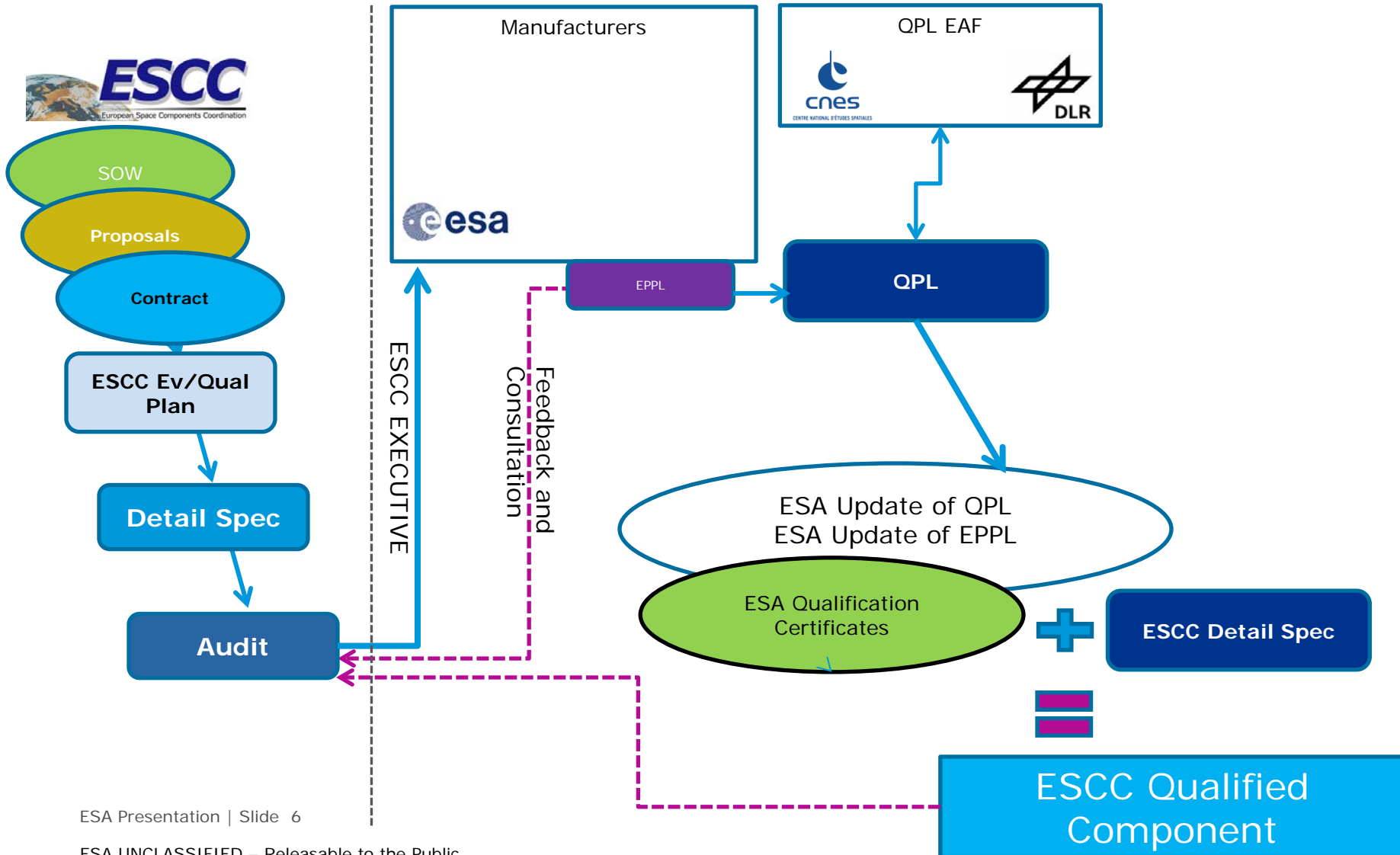
# THE HARMONIZATION PROCESS

# ESA : From Harmonization to Workplan



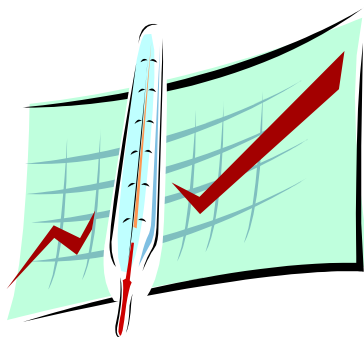
# THE QUALIFICATION PROCESS

# ESA : From Workplan to Qualification



# The QPL- The Major Outcome of ESCC

Components are addressed in ESCC from TRL 3 (development, rad-hardening) to TRL 5-6 (EPPL, QPL).





- Through the representation and involvement of **all principal stakeholders**.....
  - ESA and National Space Agencies,
  - The user community (TAS, EADS Astrium, Ruag, TUV Nord, Tesat)
  - Major European Space Component Manufacturers and
  - the European Commission as an observer
  - JAXA as an observer

ESCC has implemented and established a proven system with the appropriate level of governance that spans across the space technology and product life cycle **from low level TRL to readiness for flight (qualification)** including management of obsolescence.

ESA is the Qualification Authority.

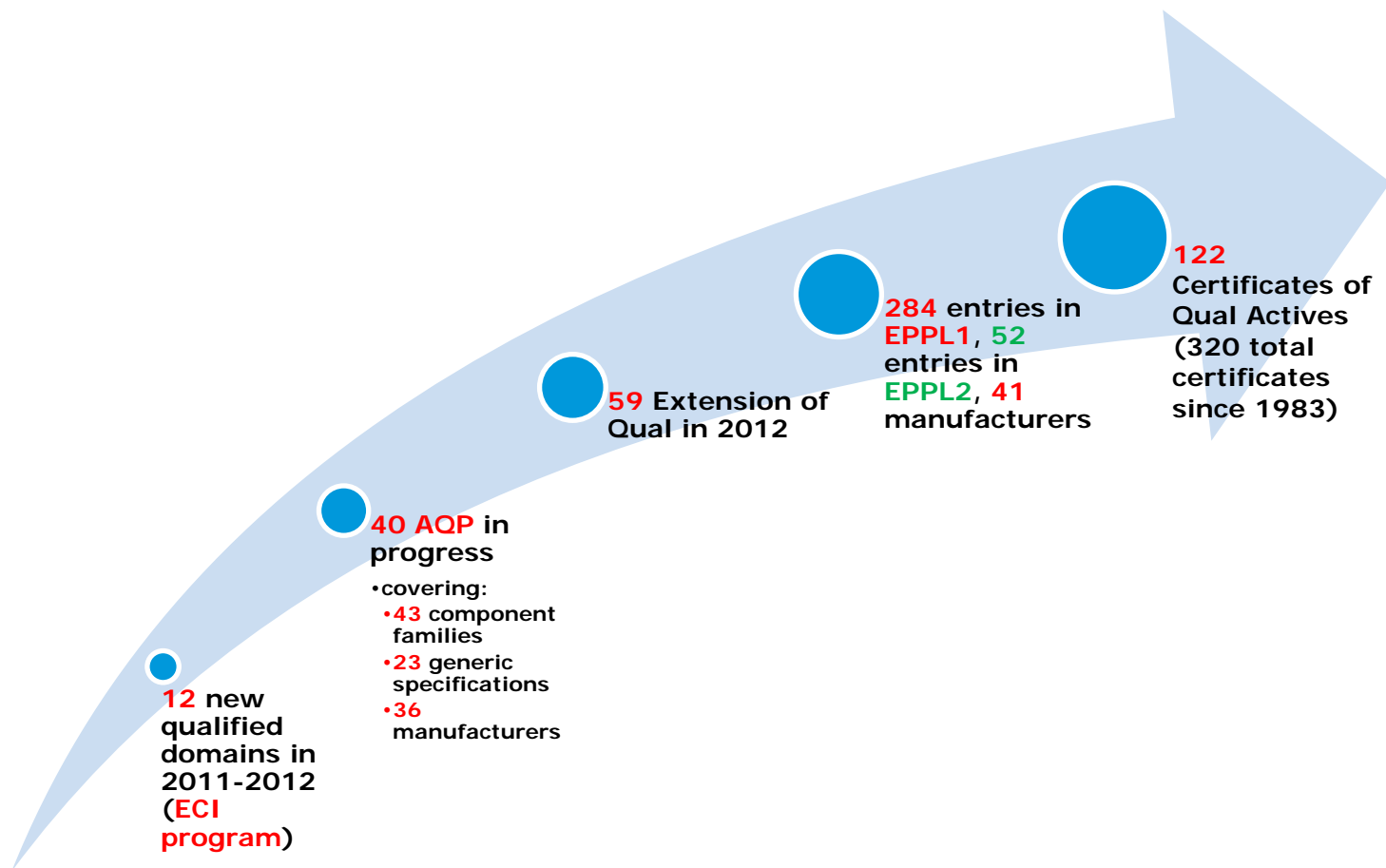
ESA UNCLASSIFIED – Releasable to the Public



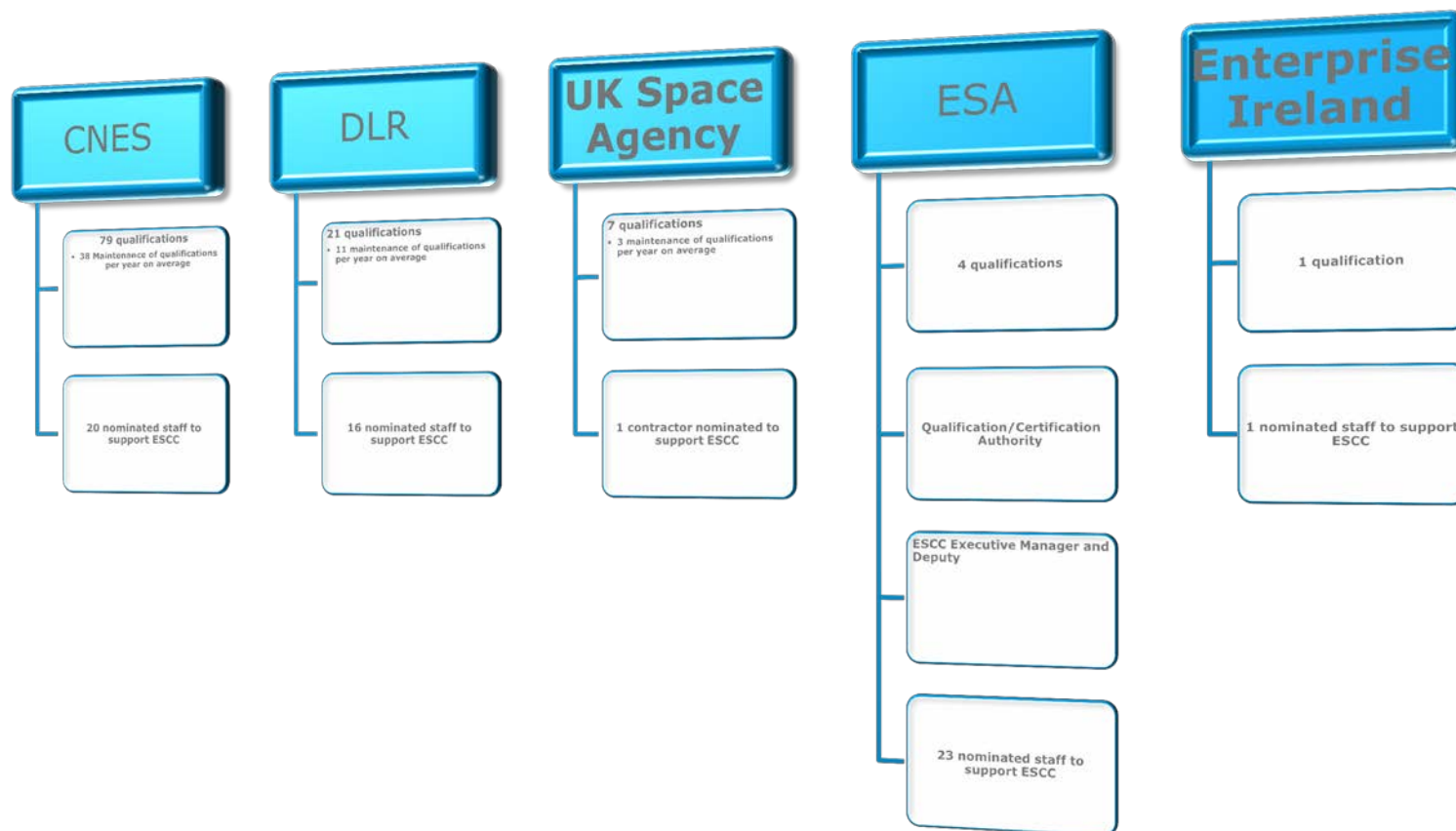
Maintenance Of ESCC Qualifications - MICROWAVE TECHNOLOGIES MARCH 2013																												
COMPONENT	MANUFACTURER	*2012*												*2013*												NSA	VALIDITY	CERTIF.
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D			
DIODES																												
Schottky, BAS70	Infineon (D)																									DLR	1403	227D
PIN, BXY42	Infineon (D)																									DLR	1403	224E
PIN & Fast Switch	CHELTON T&M (F)		X																							CNES	1202	259C
PIN, BXY43/44	Infineon (D)																									DLR	1403	236E
PIN/Varactors	Cobham MAL (GB)																									UK	1211	200E
DH 267	CHELTON T&M (F)																									CNES	1402	225E
DH76*	CHELTON T&M (F)																									CNES	1306	273C
TRANSISTORS																												
BFY 193	Infineon (D)																									DLR	1403	230E
BFY 450	Infineon (D)																									DLR	1403	245E
BFY640	Infineon (D)																									DLR	1409	320
BFY6*0B	Infineon (D)																									DLR	1409	321
BFY740B	Infineon (D)																									DLR	1409	322
CFY67, HEMT	Infineon (D)																									DLR	1403	213E
MISCELLANEOUS																												
Loads .86	RADIALL (F)	L1																								CNES	1403	185F
Attenuators .86	RADIALL (F)																									CNES	1403	178G
Filters, SAW	Norspace(N)																									ESTEC	1308	313
<div><div>LEGEND :</div><div><div><div>L1</div><div>Kick off maintenance activity (option)</div></div><div><div>L2</div><div>Manufacture LAT lot</div></div><div><div>L3</div><div>Precap in-process inspection</div></div><div><div>L4</div><div>Final production tests</div></div><div><div>L5</div><div>End of burn-in</div></div><div><div>L7</div><div>End of life test / storage</div></div><div><div>L8</div><div>LAT report</div></div><div><div>L9</div><div>Application for extension of qualification</div></div><div><div>Lx</div><div>Event in "Bold Blue" is achieved</div></div><div><div>Lx</div><div>Event in "Blue" is planned</div></div></div><div><div>&gt;&gt;</div><div>postponed</div></div><div><div>X</div><div>stopped</div></div><div><div>##</div><div>caution</div></div><div><div>M1</div><div>Level 1 MRB</div></div><div><div>M2</div><div>Level 2 MRB</div></div><div><div>Q</div><div>Q numbers indicate re-qualification programmes</div></div><div><div></div><div>Certificate Revision Due</div></div><div><div></div><div>Certificate issued</div></div></div>																												

# ESCC QPL/QML/MOQ Statistics

## Dec 2012 figures



# ESCC Executive Support



# Quartz Crystals



## TO-5 Can

Rakon (F)

- CNES, 1979

**KVG (D)**

- **DLR, 2011**

## TO-8 Can

Rakon (F)

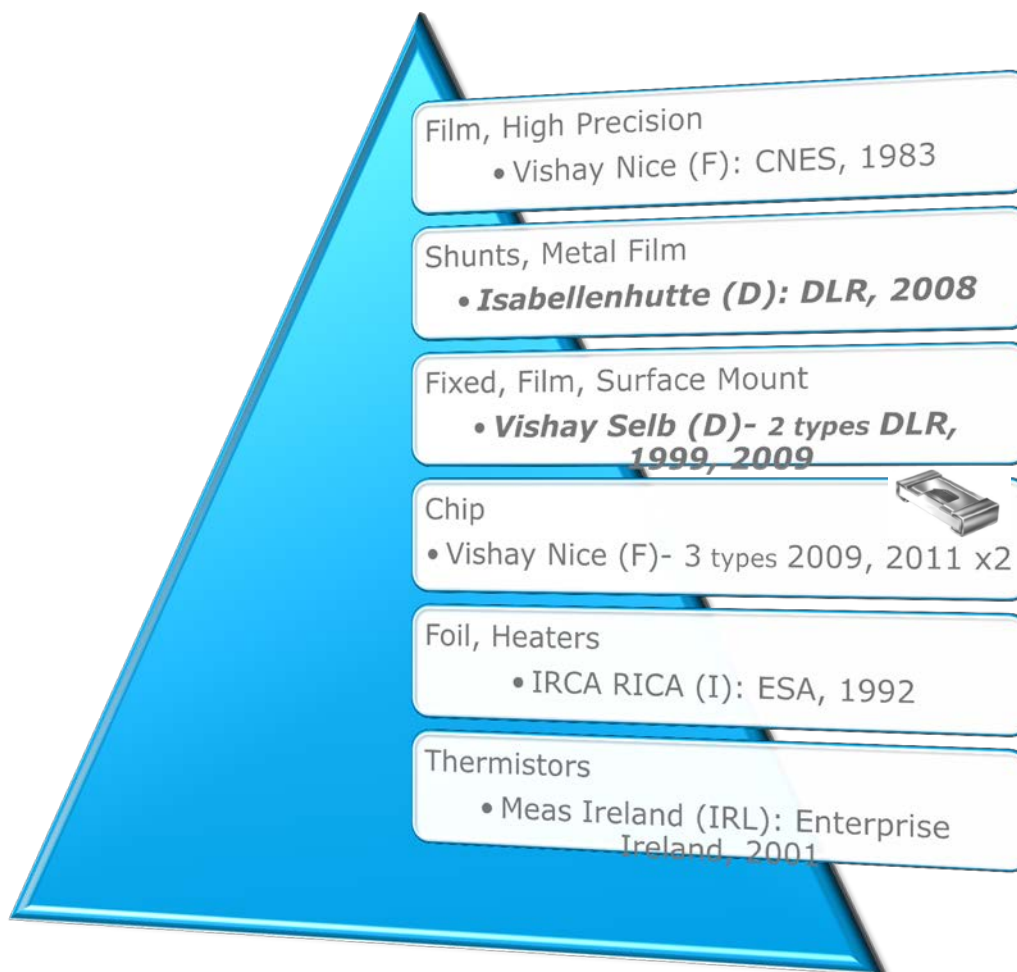
- CNES, 1979

**KVG (D)**

- **DLR, 2011**



# Resistors / Thermistors



# Transistors





# Support to the ESCC Executive Running Activities



1. **ESCC SPECIFICATION SYSTEM:** Secretariat, Spec editing, technical review, configuration management, publication, archive, management of DCRs and implementation of changes, policy - **651** ESCC Specs currently in system (including new specs in progress)
2. Management of QPL, + tool+ publication (**EVERY MONTH**)
3. Management of EPPL tool, TA chairman + tool+ publication (**every 6M- to be changed to every 3M**)
4. Follow on Non-conformances to ESCC QPL parts (**currently 5 in progress, need MRB, Survey, Follow up**)
5. ESCC Audits (part of Ev/Qual, +/- every 2 y for MOQ)- **20 MoQ/Y+ 10 New Qual/Y**
6. ESCIES: web master, escies registration and publication, updates (**800 registered users/only**)
7. Spacecomponents.org: groups ownerships, documentation exchange, DCR tool, code application tool, EPPL tool (**32 ESCC active WG**).
8. Meeting preparation, follow-up, representation in PSWG (**5/y**), SCSB (**3/Y**), CTB (**3/y**), AdWG
9. Representation and recognition at G12, JAXA, NEPAG, NASA, CASC-CAST
10. ESCC training course (**target: 2 courses/year**) (customers: new manufacturers, new member states, cooperative countries as China, Japan, Russia, India, etc). Last one on October 2012 (ASI) and on March 11, 2013. Next one in September 2013.



- Spec editing, technical review, configuration management, publication, archive, management of DCRs and implementation of changes, policy coherence

- Statistics for the 2012:

**651** Specifications are currently **published** in the ESCC System (see REP001 on [escies.org](http://escies.org))

34 Generic Specifications

33 Basic Specifications

60 Sectional Basic Specifications

524 Detail Specifications

**530** Specifications have been **retired** (see REP002 on [escies.org](http://escies.org))

ESCC Documents and Basic and Generic Specifications to be approved by SCSB – nil  
Drafts and DCRs received – 12 and 81 respectively.

DCRs approved and published by the Executive –23 (+35 withdrawn/rejected)

DCRs fully implemented –21

DCRs in review – 56

Draft Specifications issued and published -12

Generic and Basic Specification upissued –2 and 4

Detail Specifications upissued – 24

120 Specifications converted to MSWord 2010

# Summary of 2012

## ESCC Secretariat achievements



- ✓ MSWord2010 migration of 120 specs and retirement of GV
- ✓ Statistics for ESCC specs : 530 retired, 651 published, 81 DCRs
- ✓ IWP on DCR process to e shared with other NSAs
- ✓ HPCA draft completed Draft 102 and new PCA approaches prepared draft 101
- ✓ Conversion to periodic testing (production of revised Generic Specs) on going
- ✓ DCR processing has been much accelerated as a result of revised review process and improved tool support
- ✓ +/- 200 obsolete / inactive Detail Specifications have been retired
- ✓ Re-introduction of the Master Spec concept (templates for Detail Specs)
- ✓ Conversion of ESCC document editing to MS Word platform decided and progressing. All the specs published with the old GV S/W are going to be replaced by new .pdf based on word files by the end of 2012.
- ✓ Fix most of ESCIES bugs, ESCIES survey, registrations and groups

# Summary of 2012

## ESCC Executive Achievements



- ✓ Positive ESCC Qualification trend is continuing thanks to the ECI program
- ✓ 122 certificates ( 1 to 10s of types covered per certificate)
- ✓ Very good schedule adherence of manufacturers in maintenance of qualification
- ✓ Monthly update of QPL, regular update of EPPL, QML
- ✓ Follow up on QA and audits
- ✓ Presentation at SPWG2012, AMICSA 2012, ESA/JAXA/NASA Trilateral
- ✓ ECSS-Q-ST-60 and ESCC training
- ✓ ESCIES.org improvement
- ✓ Preparation for ESCCON 2013

# Summary of 2012 ESCIES.org Improvements



Search Function- Implemented

All ESCC specs are now searchable also by Google, etc..

Addition of new Tabs:

Notices (ESCC executive notices)

Link to ESA IP cores and to ESAMAT

Added list of ESA Capability Approved Hybrid and MCM



# On-going and planned activities in support to the ESCC



- ❑ Definition and drafting of new specs on new qualification/certification approaches (Hybrids PCA and generics, Optoelectronics, Foundries certification, ATH, Certification of suppliers, etc.).
- ❑ Support to new ECI activities (Coordination of all ESCC Ev and Qual plan, including audits).
- ❑ Mil/ESA/JAXA EEE parts requirements/Specification comparison and impact of changes in the ESCC specs.
- ❑ Periodic review of ESCC Specs (generic and basics) and preparation of new specs (shared with PSWG)
- ❑ EUROCOMP Newsletter and /or ESCIES News.
- ❑ ESCC Training .Next one on September 2013.

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<https://ESCIES.ORG>

<https://SPACECOMPONENTS.ORG>