

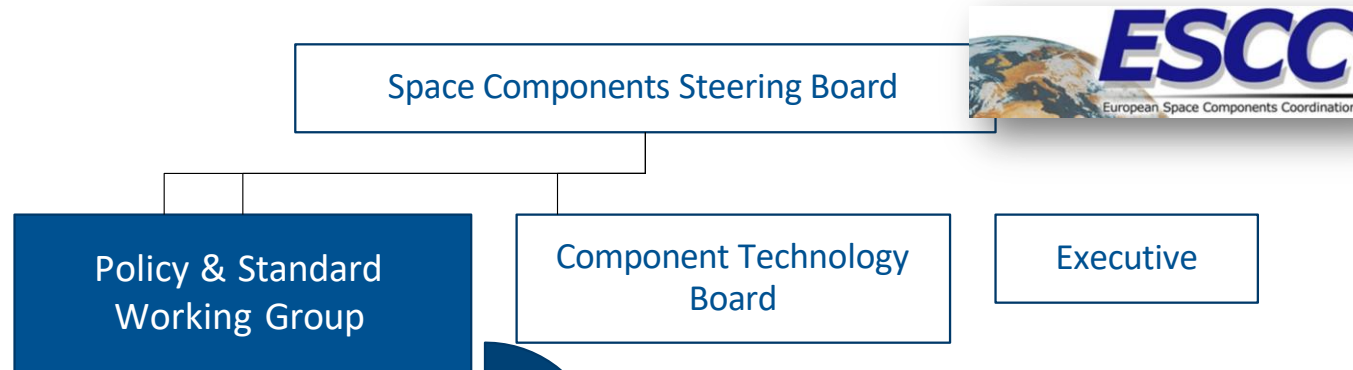
# **POLICY & STANDARD WORKING GROUP REPORT AND NEW CERTIFICATION LEVEL IN ESCC: ENHANCE GRADE**

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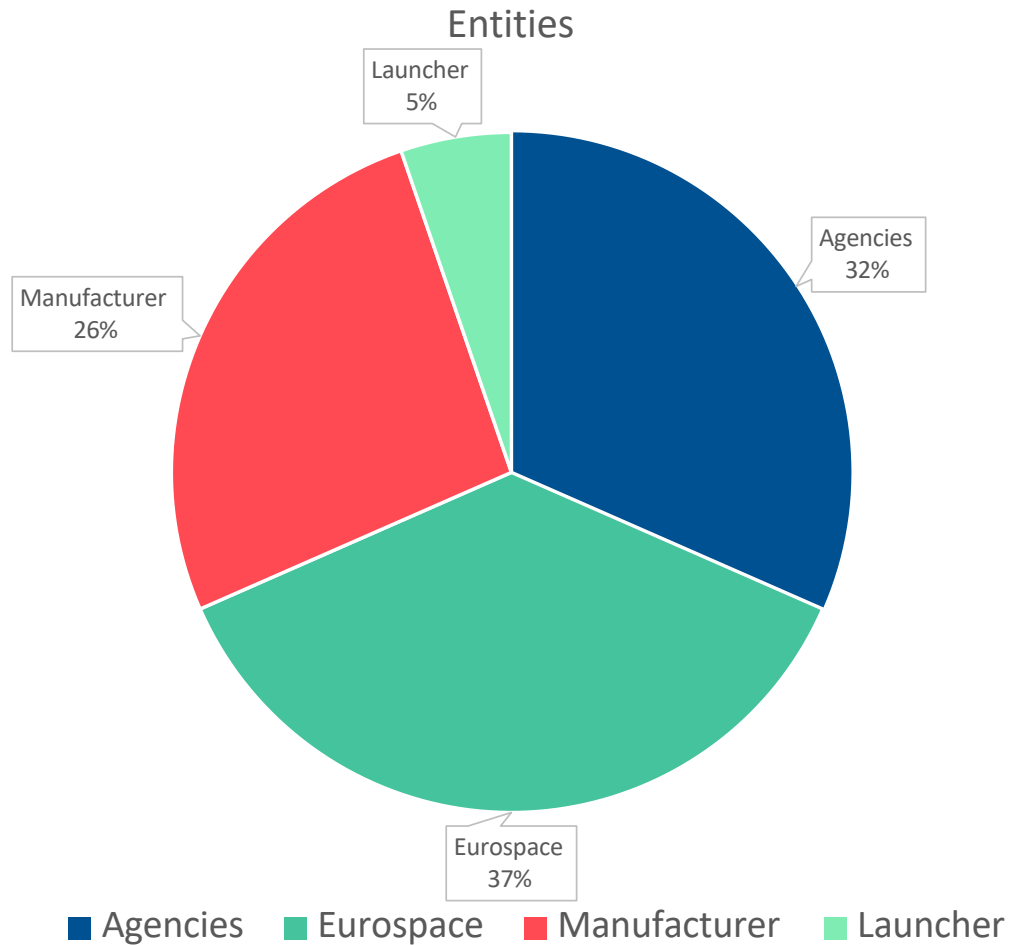
**26/03/2025**





**PSWG** mainly aims at :

- ✓ Approving new ESCC generic specifications
- ✓ Improving the ECSS standards regarding EEE



- Eurospace:
  - ✓ Airbus D&S & TESAT
  - ✓ ALTER
  - ✓ TAS
  - ✓ OHB
- Agencies:
  - ✓ ESA
  - ✓ DLR
  - ✓ CNES
  - ✓ ASI
- Manufacturers:
  - ✓ ATMEL-Microchip
  - ✓ ST Microelectronic
  - ✓ Exxelia
  - ✓ Isabellenhütte
  - ✓ Gore
- Launcher:
  - ✓ Ariane Group



### 1. **Readability – trustworthy:**

ESCC is a kind of brand. Confidence in the ESCC parts quality shall be high.

### 2. **Parts manufacturer oriented:**

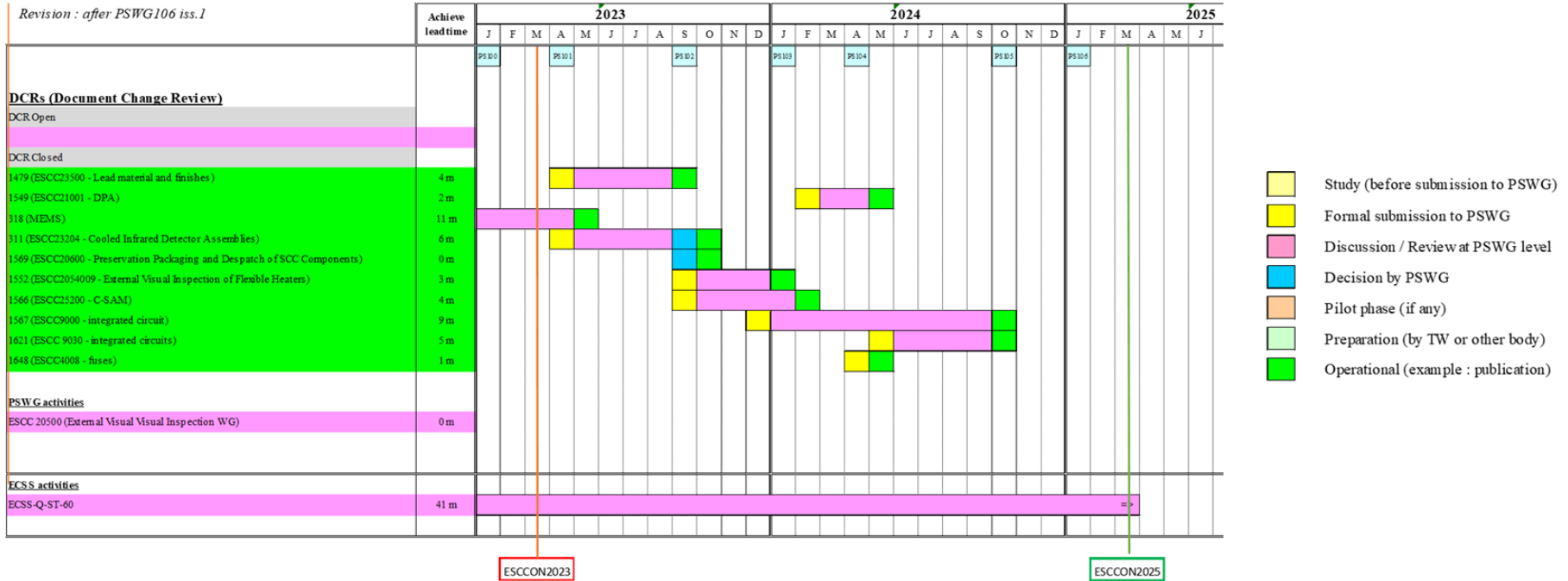
ESCC shall support European component suppliers

### 3. **Parts customer oriented:**

ESCC shall support space projects by providing innovative and competitive parts and bring added value in the supply chain

To find the right balance between these drivers is a challenge

To continue to produce a consistent set of standards



DCR are generally implemented within 4 months  
 2 Working Groups decided :  
 - DPA (ESCC 21001)  
 - External Visual Inspection (ESCC 20500)

## Rev.4 update in April 2025

### Rev.4 update to :

- ✓ Update on FPGA and forbidden families
- ✓ Update on level tables:
  - ✓ Addition of applicable standards
  - ✓ Addition of photonic families
- ✓ Consistency of the different classes to our projects
- ✓ ...



**ECSS NewGen project will bring a new perspective to our standards**



Full Digitalisation

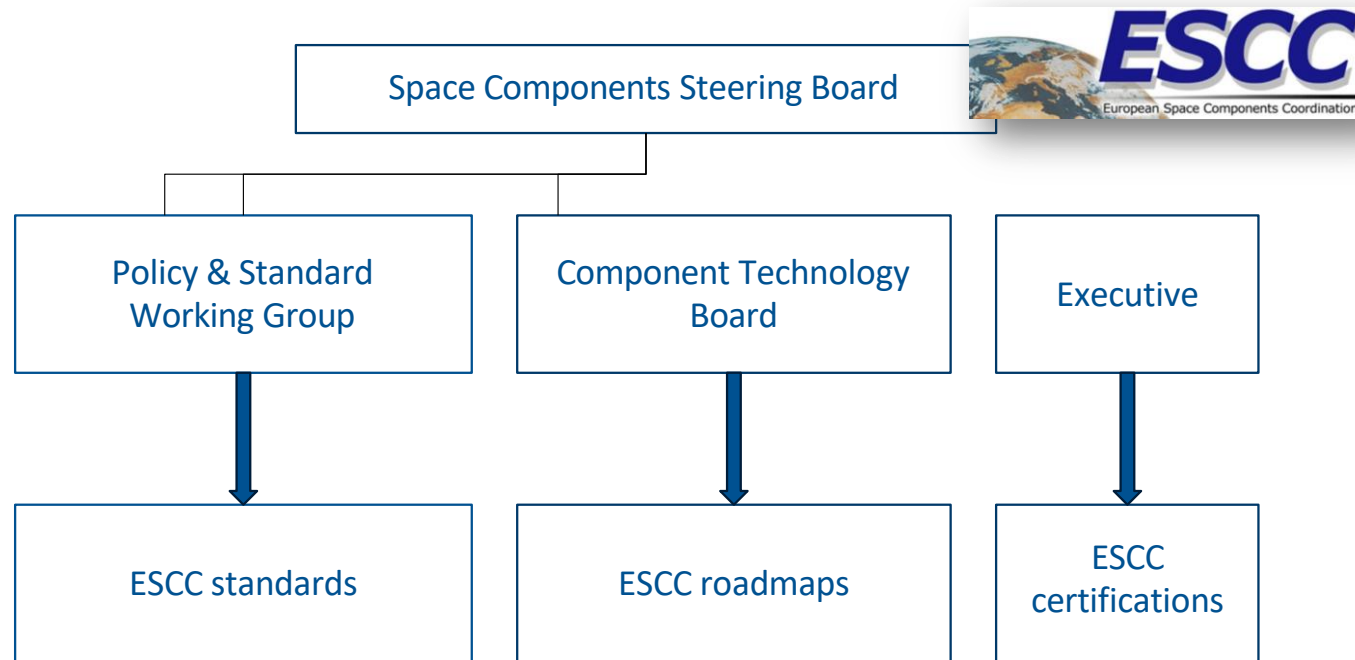


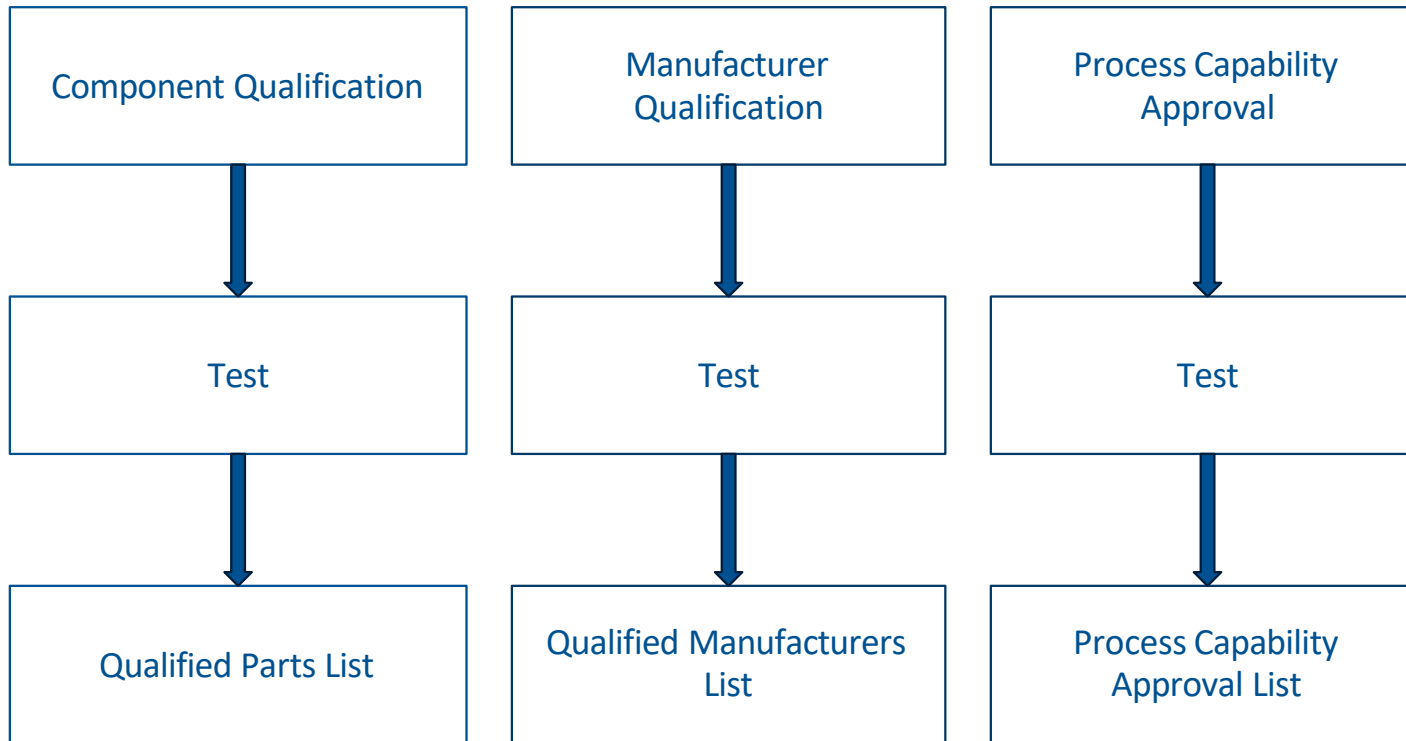
ECSS Issue D



Multidimensional Tailoring

The goal of the ESCC is to improve the **availability** of **strategic** EEE space components with the required **performance** and at affordable **costs** for institutional and commercial space programmes.





## **What should be an ESCC Enhanced Grade Component?**

- 1. It is integrated in the ESCC system**
- 2. But it is not a ESCC qualified component according to ESCC 12100**
- 3. The selection is under the responsibility of ESCC Executive from CNES, DLR, ESA and UK Space Agency**
- 4. It relies on available reliability data and manufacturers' procurement specifications**
- 5. The Enhanced Grade will be defined in a dedicated ESCC Basic Specification ESCC 12xxx**

## **What are the minimum requirements for ESCC Enhanced Grade Component? (still under discussion between ESA and National Agencies)**

- 1. The manufacturer shall be listed in QML or PCAL**
- 2. The component shall be manufactured according to an ESCC approved PID and procured according to a manufacturer's procurement specification**
- 3. ESCC executive will review and guarantee the available reliability data**
  - Reliability test data
  - Outgassing according to ECSS-Q-ST-70-02C
  - Radiation test
  - Component with matte pure tin finish, >97% tin shall pass the JESD-201A class 2 requirements or meet the GEIA-STD-0005-2/Level 2B requirements
- 4. ESCC executive will review and guarantee the maintenance test plan**
- 5. ESCC executive will perform periodic audit to assure the correct implementation of the ESCC Enhanced Grade in the manufacturer quality system**

## **ESCC Enhanced Grade Component for ESCC Qualified Manufacturers (QML)**

### **ESCC Qualified**

### **ESCC Enhanced Grade**

**1. Technology Flow Domain**

**2. Evaluation, Qualification and procurement according to ESCC**

**3. Maintenance of Qualification every 2 years according to ESCC**

**4. Management of changes and Non-conformity according to ESCC**

**Technical  
Review  
Board  
(TRB)**

**PID**

**1. Component family procured to a manufacturer specification**

**2. Test data**

**3. Maintenance plan according to manufacturer requirements**

**4. Management of changes and Non-conformity according to manufacturer quality system**

# ESCC Enhanced Grade Component for ESCC Process Capability Approval (PCAL)

## ESCC Certification

(Not component certification)

## ESCC Enhanced Grade

1. Process Capability Domain

2. Evaluation and Qualification test according to ESCC

3. Maintenance of Certification every 2 years according to ESCC

4. Management of changes and Non-conformity according to ESCC

Technical Review Board (TRB)

← Process PID

Component PID →

1. Component covered by the PCA domain or another domain procured to a manufacturer specification

2. Test data

3. Maintenance plan according to ESCC PCA or manufacturer requirements

4. Management of changes and Non-conformity according to ESCC PCA or manufacturer quality system

## **Where will you find ESCC Enhanced Grade Component list?**

- 1. ESCC Qualified component are listed in European Preferred Parts List part 1 (EPPL 1)**
- 2. ESCC Enhanced Grade component will be listed in EPPL 2**
- 3. EPPL 3 will list component for which the potential capability to satisfy space application requirements has been demonstrated but which have not yet achieved space qualification and are not listed in EPPL 2**
- 4. For ESCC Qualified Manufacturers ESCC Enhanced Grade component family description with available reliability data and maintenance plan will be included in the QML**

## In summary

1. ESCC Enhanced Grade component are under the responsibility of the Technology Review Board of the manufacturer
2. ESCC Enhanced Grade component family is described in an ESCC PID and procured according to a manufacturer specification
3. ESCC executive will review and guarantee the available reliability data, the maintenance test plan, the PID and the management of ESCC Enhanced Grade component family by the TRB
4. ESCC Enhanced Grade component will be listed in EPPL 2

**CNES, DLR and ESA are in discussion with their ESCC qualified/certified manufacturers about potential part types for enhanced grade components**