ESCC Qualification schemes

What is in it for you?
What are we going to address?

• What is ESCC
• How is it managed and what is its output
• Can ESCC Qualification fit in your plans, project
• ESCC as a system in evolution

Credit = Erik Johansson
What is ESCC about?

- EEE Component crowd-engineering (sort of...) for procurement and qualification testing, derating, radiation hardness assurance, test methods,....

- Helping channel scarce public resources for new EEE space components “made in Europe” to where there is a solid need, present or future

- Establishing a solid suppliers base of EEE parts for European space applications

- Maintaining and supporting the presence of European EEE space components in other markets (ASIA, AMERICA)

- Builds on decades of cooperation, first scc qualifications date back to the 70’s
How does ESCC work and how is it managed?
How is it managed?
Output of ESCC:

technology harmonization in EEE components and
certified qualifications for parts, manufacturers, technologies
Another output of ESCC = standards, specs
Do we have all the standards we need?

yes
and no (not yet)
What is ESCC Qualification about?

ESCC Qualification is highly valuable for manufacturers, users and agencies.

**Facts & figures**

- 38 ESCC Qualified Manufacturers
- 131 Active QPL Certificates
- 442 Qualified Part Types
- 681 ESCC Specifications
ESCC is an evolving system, adapting itself to the present in procurement and qualification of microcircuits for space applications:

- **Qualification methodology**
  - Revise evaluation
  - Adapted Qualification
  - Single stage

- **Product styles**
  - Wire bond hermetic
  - Flip chip
  - Die

- **Test methods**
  - Seal

- **Supply chain**
  - PCA A&T
  - PCA services?
Conclusions

- Parts chosen from the ESCC QPL, QML, are preferred because
  - parts included in these lists have been evaluated to demonstrate their reliability and operational margins for use in space applications
  - their technologies, design, manufacturing processed materials are defined and kept under configuration control
  - their manufacturer supply chains have been audited by the ESCC Executive, and any deviations are managed and corrected with the involvement of the ESCC executive through an ESCC non-conformance control process.

- The opportunity to rely on the ready availability of ESCC qualified parts from manufacturers with a quality management and product assurance system in place reduces mission risks, engineering and test efforts providing cost savings for the users.

- The ESCC system is in constant revision and re-design of its requirements. European suppliers, users and agencies can use this established cooperation forum to secure access to modern microcircuit technologies for European space applications. New opportunities have opened up recently with the addition of requirements for microcircuit product beyond the classic hermetic bond-wire construction.