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Opening Address

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Some Important Facts and Simple Realities

Product Assurance teaches us to make no assumptions.

So to some of you many of the things I will say will sound like preaching to the converted.

Apologies to those who have heard it all before.

Some Important Facts and Simple Realities

There is more recognition for the strategic importance of space components today than before but it remains difficult to obtain the required funding.

The time to market in the space sector follows it's own timescale, expectations and foresight have to match it.

High Tech niche markets have to cope with particular constraints.

Some Important Facts and Simple Realities

Competition for Engineering Resources.

Stability of design and manufacturing is of particular importance for space.

The European Component Initiative (ECI)

About 7 years ago the Director General of ESA established the European Components Initiative by allocating an initial 15 M€ to evaluate and qualify space components from European sources and invited member states to further contribute to this effort.

As a result today we have a fully coordinated ECI programme together with CNES and DLR. The harmonisation task performed through ESCC is an enabling factor for making this happen.

Obviously this was only the beginning of a continuous effort to secure the availability of an adequate portfolio of space components that meets the needs of space projects and supports the innovation of on-board electronics. This is necessary to deliver space systems that have high performance and are competitive.

The Vision for ECI Phase 3

Deep Sub-Micron CMOS technologies are an enabling technology for many digital and mixed signal components, future microprocessors, ADCs, DACs, ASICs, ASSPs; with present technology in the 0.18 micron to 0.13 micron lithography range, future designs target the 65 nm node deemed to provide the right balance of density, clock frequency and power consumption

The development of new medium range FPGA devices in Japanese – European cooperation is already ongoing; future higher capacity FPGAs based on improved architecture and benefitting from adapted design tools will depend on the availability of DSM technology

The Vision for ECI Phase 3

Both of the above also depend on adequate packaging solutions along with the associated PCB assembly processes; supporting pin counts well above 1000 to possibly later 2000 pins, for frequencies greater than 400 MHz and able to handle high power densities.

Building on the foundations laid with the GREAT² project GaN as the most advanced and versatile representative of Wide Band Gap Technologies will be further developed toward the provision of microwave / milimeter wave devices, power conversion devices, sensors and photonics.

The Vision for ECI Phase 3

Nano and Microsystems technologies have been the subject of intense worldwide R&D efforts which are starting to produce tangible and reproducible results. These are beginning to show a level of maturity which is a prerequisite for the development of space applications and products. For JWST the challenges of the micro-shutter arrays appear to be mastered and there are very encouraging results that lead us to proceed with RF-MEMS switches.

International Cooperation

The ESCC approach is a part of a global network. Technologies have a world-wide reach. Standards are most successful and effective with the broadest possible acceptance and specialty products like space components become more sustainable in larger markets. ESCC is open to international cooperation. For example, collaboration between Japanese and European Space Agencies has intensified and continues to expand in many areas including space components.

JAXA participates actively as an Observer in the SCSB and the first collaborative development and qualification programmes on space components are being implemented. We are all aware that there is more potential benefit in a broader international cooperation and are open to examine and take advantage of opportunities arising.

As said at the start, almost 9 years have passed and much has happened. Of course ESCCON 2011 will recall many important things that have happened to fill us in or to refresh our memory. Most of all we hope that this conference programme helps us deal with the present and to prepare for the future.

With this I will conclude looking forward to the many promising presentations and constructive discussions in the coming days. I hope this ESCCON can motivate us to hold it regularly and perhaps on a biannual basis.

Thank you and enjoy the conference