

Parallel Workshop 4D: SME Perspectives on Standards Education: Vocational Training & Life-Long Learning

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Education on Standardisation in Europe

Delft, The Netherlands,

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- 7. IPC & ECSS Standards for Space Electronic Assembly**
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- 9. Case Study - The launch of the James Webb Space Telescope on Ariane 5**



Danny Gleeson
Chief Commercial Officer,
Réaltra Space Systems Engineering

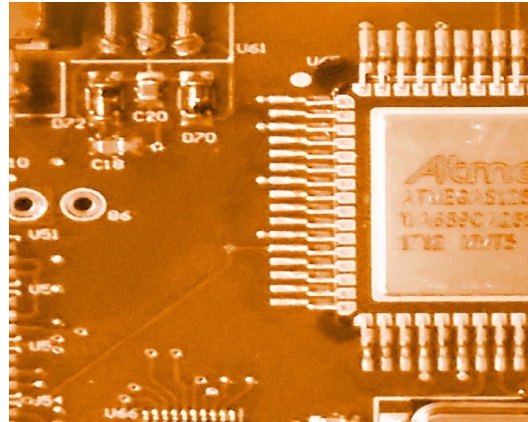
A physicist with more than 38 years' experience in both technical and business development roles in the space sector in the UK, Europe, USA and Ireland. He is responsible for the commercial growth strategy of Réaltra as well as the primary interface with customers, Government and ESA.

Danny is one of the founders and promoter of Space Industry Skillnet public/private training network in Ireland since 2006.



Réaltra is a Dublin based space technology company, leading the way in transforming ground based state-of-the-art Commercial Off-The-Shelf (COTS) electronics equipment into high performance systems used in space applications.





- The core skills within Réaltra are the design, build and integration of custom electronic hardware and software solutions for a range of space applications.

- The custom design is combined with the capability of Realtime to manufacture electronic assemblies to IPC, J-STD & ECSS manufacturing standards.

Challenge

- **Identifying accredited training providers in standards-based topics**
- **Achieving critical mass in numbers of trainees**
- **Time pressure for releasing key staff to attend training**

Response

- **Source accredited trainers from global best-in-class providers**
- **Use industry network training with like-minded SME's to achieve critical mass**
- **Use blended learning to deliver flexible training for staff**

RÉALTRA The role of Space Industry Skillnet



Space Industry Skillnet is a business training network for companies of all sizes in the Irish space sector.



The network's mission is to support businesses involved in the development and delivery of technology and services to the European Space Agency (ESA) and the global space market.

The network provides state of the art upskilling for employees at all levels.



Space Industry Skillnet is co-funded by Skillnet Ireland and network companies. Skillnet Ireland is funded from the National Training Fund and the European Union through the Department of Further and Higher Education, Research, Innovation and Science.



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IPC-7711/7721 CIT/CIS/CSE

This train the trainer program teaches industry approved techniques on through hole and surface mount rework, land conductor and laminate repair. It also provides...



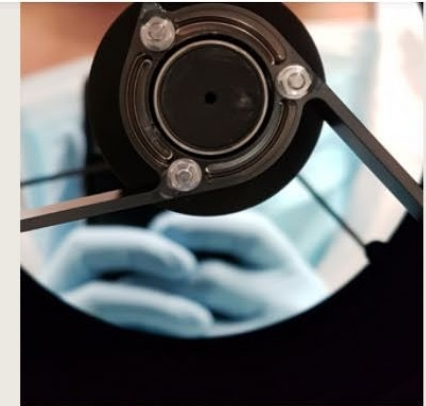
Doing Business With ESA

This training course introduces the fundamentals of how to successfully engage with the European Space Agency [ESA]. It includes all the practical information required to...



IPC-A-610 CIT/CIS/CSE

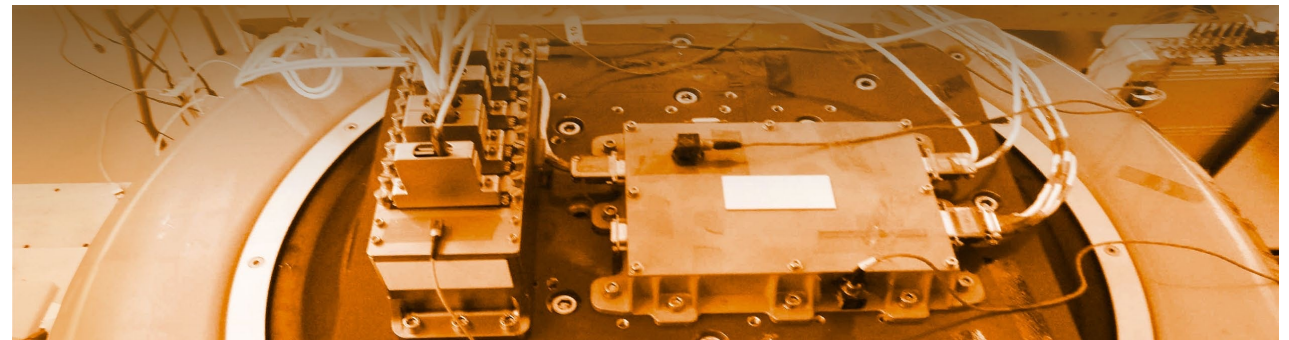
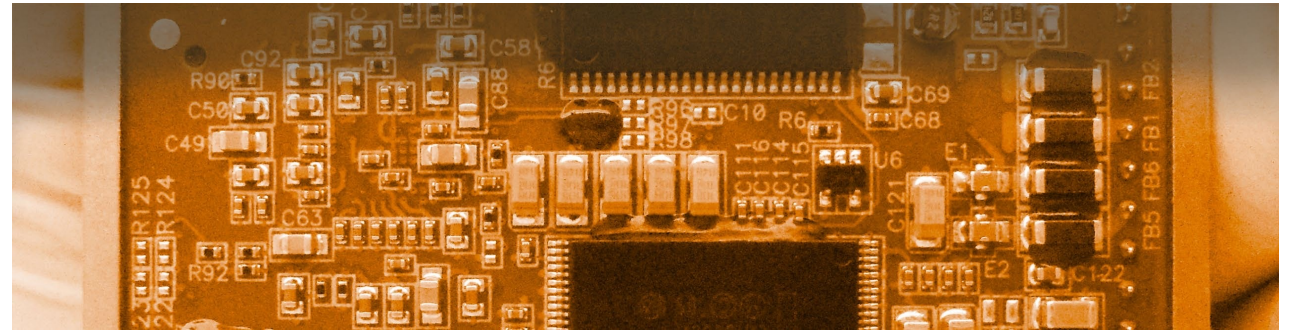
This course is designed to help electronic manufacturers achieve the highest quality, productivity, and cost-effective production by ensuring that personnel can correctly apply the acceptability criteria of the IPC-A-610 "Acceptability of..."



Quality Assurance For Space Projects

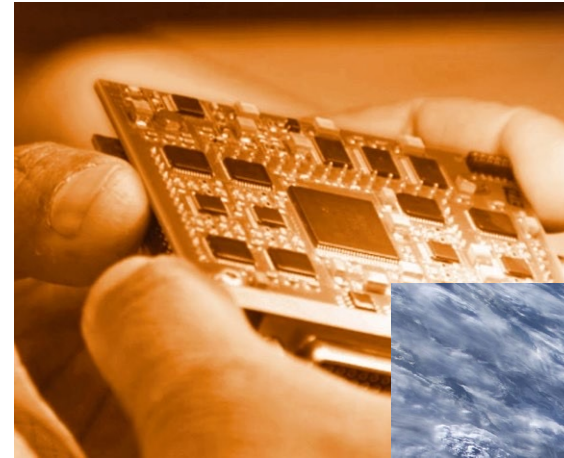
An introductory course in Quality Assurance for managers and engineers new to quality principles and processes and for QA practitioners with no previous space projects...

The key high-level activities in the training programme supported by Space Industry Skillnet are designed to be congruent with the emerging challenges of the space sector in Ireland and aligned with the opportunities that exist in the global space market.



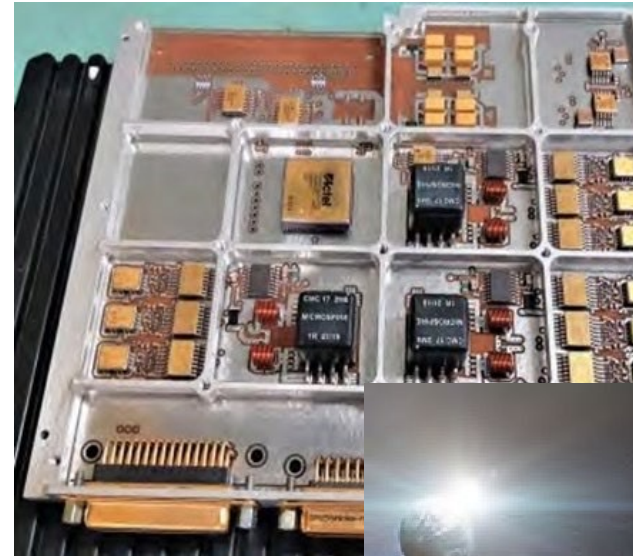
The IPC series of standards covering “Requirements for soldered electrical and electronic assemblies” has emerged as the pre-eminent authority for Electronic assembly manufacturing worldwide for COTS space electronics.

The standard describes materials, methods and verification criteria for producing high quality soldered interconnections. The standard emphasises process control and established industry consensus requirements for a broad range of electronic connections.



The ECSS-Q-ST-70-08C (European Co-operation for Space Standardization) standard defines the technical requirements and quality assurance provisions for the manufacture and verification of manually-soldered, high-reliability electrical connections for space applications.

The Standard defines acceptance and rejection criteria for high reliability manufacture of manually-soldered electrical connections intended to withstand normal terrestrial conditions and the vibrational g-loads and environment imposed by space flight.

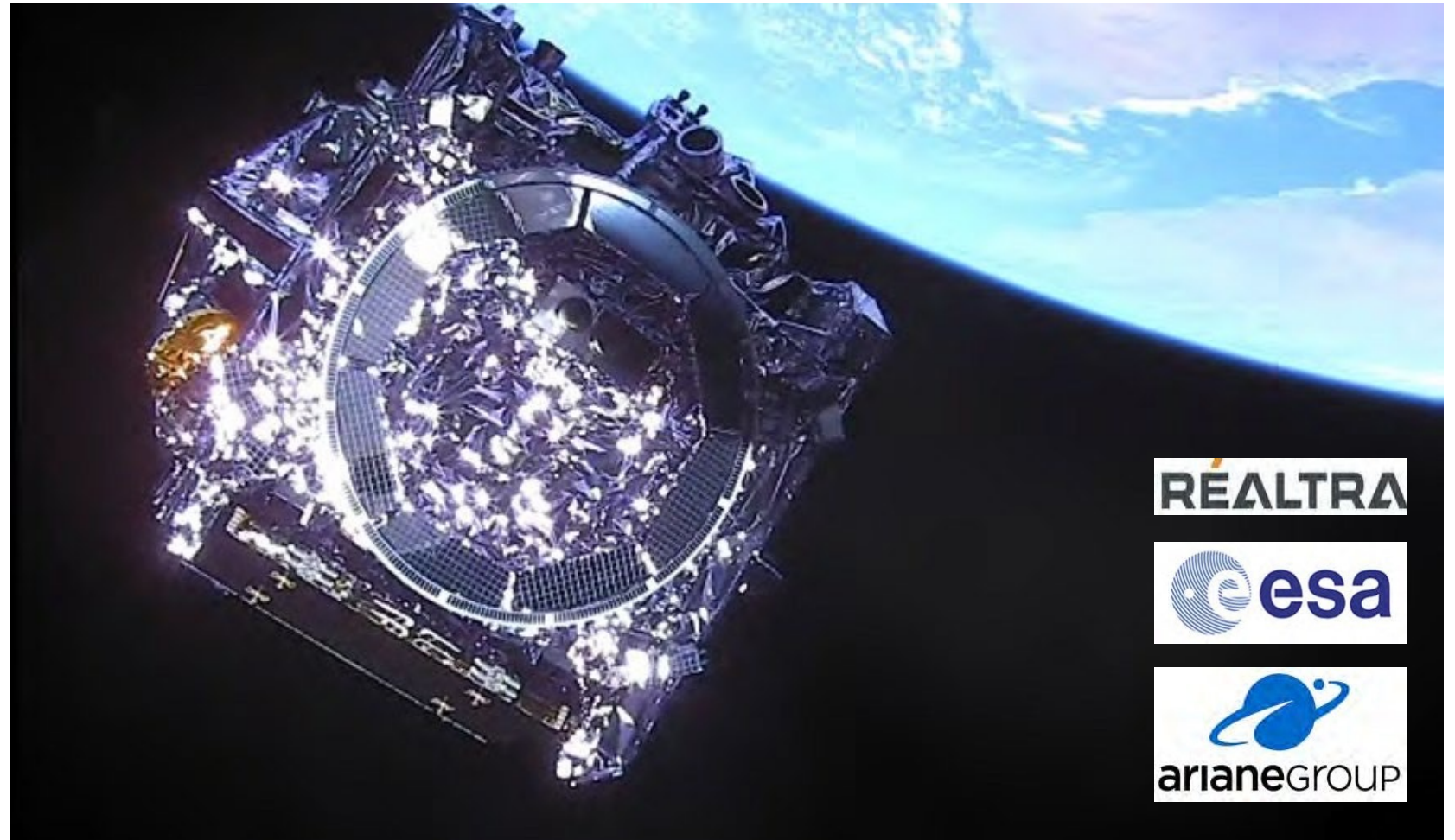


The iconic HD video images of the James Webb Space Telescope as it separates from the upper stage of Ariane 5 to begin its historic space science mission on Christmas Day 2021.

Provided by the Video Telemetry Kit (VIKI) system designed and manufactured in Dublin by staff in Réaltra and Realtime Technologies. Training supported by Space Industry Skillnet

Credit: ©ESA/NASA/CNES/Arianspace

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Thank You!