

Name: **Adrian Wilkins**
 Birth Date: December 1953
 Nationality: British



Qualifications: Master of Business Administration Degree in Engineering Management (2001-2004)
 Post Graduate Course in Programme Management (1975-77)
 Higher National Certificate in Electrical and Electronic Engineering, Control Systems and Applications.
 Diploma in Mechanical Engineering, including Physics & Applied Heat / Thermodynamics

Institutes: 1) Corporate Member of The Institution of Engineering and Technology [MIET]
 2) Member of the Engineering Council UK.(IEng)
 3) Graduateship of the City & Guilds of London Institute (GCGI)
 4) Bundesverband der Berufingenieure Deutschlands (Federal Association of Professional Engineers' Germany) (B.Ing)
 5) Member of SAE Aerospace (MSAE)

Companies	ThyssenKrupp Components Technology Hungary Kft, Budapest, H	2016 - Present
	Cobham SATCOM A/S Lyngby, DK.	2016
	ESG Elektroniksystem- und Logistik GmbH, Fürstenfeldbruck, D	2016
	ILF Beratende Ingenieure GmbH (ILF Consulting Engineers), München, D	2015 - Present
	Marenco Germany GmbH, Höhenkirchen-Siegersbrunn, D,	2015 - 2016
	Siemens AG, Infrastructure & Cities Sector, Mobility & Logistics Division, Berlin, D	2014
	Alstom Transport Deutschland GmbH, Salzgitter, D	2013
	DLR Gesellschaft für Raumfahrtanwendungen (GfR) mbH Weßling, D	2012 - 2013
	Liebherr Aerospace Lindenberg GmbH, Lindenberg, D	2010 - 2013
	Telair International GmbH, Miesbach, D	2010
	Astrium Space Transportation GmbH, Friedrichshafen, D	2007- 2010
	European Satellite Navigation Industries GmbH, Ottobrunn, D.	2007
	Galileo Industries GmbH, Ottobrunn, D	2005 - 2007
	Becker Flugfunkwerk GmbH, Rheinmünster, D	2005
	Kayser-Threde GmbH, München, D	1996 - 2005
	Siemens AG. Defence Electronics, Unterschleißheim, D	1996
	NFS Navigations- und Flugführungs-Systeme GmbH, Ulm, D	1996
	FIAR SpA, Milano, I.	1993 - 1996
	M.T.U. GmbH, München, D	1987 - 1992
	Swiss Federal Aircraft Factory, Emmen, CH	1985 - 1987
	Microtecnica SpA, Torino, I	1983 - 1987
	Dornier Aircraft GmbH, München, D	1982 - 1983
	M.T.U. GmbH, München, D.	1980 - 1981
	Hunting Engineering Ltd, Ampthill, Bedfordshire, GB	1979 - 1980
	Westinghouse Brake & Signals Co. Ltd, Chippenham, Wilts, GB	1970 - 1979

Summary of Experience:

Project Manager / Electronics Systems Engineer with over 40 years' experience after qualifying, the last 38 years in the fields of System Engineer, Requirements Management & Verification (DOORS, TEAMWORK, EPOS), System Integration, Test Equipment, Product / Quality Assurance, System Reliability and Safety Management and Engineering, Project Management and Liaison on Major European Aerospace Projects for companies in Denmark, Germany, Italy and Switzerland.

Due to his experience, is capable of independent action and can handle most aspects of the work package from Project / Programme, Management / Resource Definition / Subcontractor Management / Hardware Import & Export Procedures for both military and space flight hardware (ITAR Regulations) / Scheduling & Costing, System Feasibility / Reliability / Safety Engineering and Component Selection, System Verification Management & Engineering, Test and Manufacturing Techniques, Qualification and Function Test Procedures to Military Standards for Complete Systems and Modular level.

Experience in setting up the various activities needed for a successful aerospace programme, by producing plans and procedures across all engineering disciplines, monitoring the progress within the various disciplines, performing risk assessment, analysis the problems, producing reports to the client with recommended actions or solutions.

Presentations / Seminars on Programme Management and Project Control, System Engineering Requirements Definition (Logical Design Routes), Reliability & Safety Engineering Techniques, Procedures, Configuration Management and Quality Systems to a number of European Companies, with the idea to improve company efficiency and reduce operational costs.

10/2016 – Present, ThyssenKrupp Components Technology Hungary Kft, Budapest, H.

Consultant Safety Manager for the Advanced Development Department, for Steering Control Systems (Steer-by-Wire, Brake-by-Wire), Autonomous Driving Systems, IVDC and E-Mobility Projects. Definition of the functional safety process by tailoring the requirements of ISO 26262 for prototype systems for delivery to customers. Definition of the Functional Safety Concepts using Goal Notation for the steer by wire, autonomous driving systems and E-Mobility major systems, the definition of Functional and Technical Safety Requirements for the systems. Definition of Functional Architectures for the various systems and performing Functional Safety Analyses on the systems. Definition of Technical Safety Requirements for the running and testing of the systems on test tracks, release of test demonstrator vehicles to the test track, definition of specific safety measures and limitations for test track releases.

07/2016 – 08/2016, Cobham SATCOM A/S, Lyngby, DK.

Consultant Systems Engineer for the Light Cockpit System to be implemented in Airbus and Boeing aircraft, responsible for defining the System Level Configuration and Data Management (CADM) Plan and the necessary processes and procedures to be applied within the company to achieve ETSO for the system, complying to DO-178C and DO-254

03/2016 – 12/2016, ESG Elektroniksystem- und Logistik GmbH, Fürstenfeldbruck, D.

Consultant Systems Safety Engineer for the Drone Defence System. Performed the Risk Assessment and Safety Analyses of the various subsystems, along with the development of the overall safety concept and safety cases for the system. Definition of the safe operational requirements to fulfil international regulations

Produced the Safety and Environment Safety Case Concept for large Motor Generators for Maritime Propulsion Systems

Produced the Safety & Reliability Analyses for Aircraft Ground Power Units

02/2015 – Present, Beratende Ingenieure GmbH (ILF Consulting Engineers), München, D.

Systems Safety Manager for the TERRA Engine System S4000 EPA Tier 4f to be used in FRAC and Mining Applications. This involves managing of a team of safety engineers and technical specialists at the client in all project related safety activities. This also included personal health and occupational safety issues during manufacturing, installation, operational and maintenance of the systems.

Consultant Safety Specialist support to the Project Stage V Industrial Engines in identification of safety regulations and standards applicable within the EU and North America for the product and extracting the relevant Safety Related Requirements. Generation of the System Safety Requirements Specification and the definition of the Verification Methods to be applied for each requirement.

09/2015 – 06/2016, Marengo Germany GmbH, Höhenkirchen-Siegertsbrunn, D.

System Reliability Manager / Engineer for the SKYe SH09 Helicopter programme, responsibility to define and manage the Reliability Engineering / Assurance activities in supporting the project in achieving certification of the Helicopter (Version P3) by ensuring that the identified safety critical systems reliability requirements have been corrected defined, implemented, verified and that the results will support the certification process.

While the focus is on those safety critical systems, reliability engineering / assurance also encompasses all systems, subsystems and equipment on the helicopter in achieving the reliability, maintenance and logistic targets of the project and the company.

Independent review of the Aircraft and major systems Functional Hazard Analyses performed for P2 Helicopter recommending technical changes for the certification documentation.

Review of Subcontractors Reliability and Safety Analyses for compliance to requirements, with recommendations for changes to improve results

Definition of the equipment / systems to be subject to a reliability test campaign and the test parameters / criteria for each item

Produced a number of company RAMS Business Procedures defining the processes to be applied for both internal & external resources use.

07/2014 – 12/2014, Siemens AG, Infrastructure & Cities Sector, Mobility & Logistics Division, Berlin, D.

Systems Integration Manager for Iconic Stations, which is the engineering management of the Integration of Transit System aspects into Riyadh Metro Transportation Project Iconic Stations KAFD and Olaya. Guiding and supervising the partners Design and Construction Works for Iconic Stations in order to thoroughly ensure the integration of the Railway Transit System.

Advised for personal health and occupational safety for manufacturing, installation, operational and maintenance for the systems

This was not only for the transportation systems, but also on building regulations for personnel safety and fire protection systems.

06/2013 – 12/2013, Alstom Transport Deutschland GmbH, Salzgitter, D.

System Safety Manager for the CORADIA Nordic X60-B Train System for Sweden. RAMS / LCC Workshop to discuss and agree process, and activities to be performed along with allocation of responsibilities for the various Train Systems, within the X60-B RAMS Team. Specification of RAMS Requirements in DOORS for the various systems, major systems design review, potential sub-contractors evaluation and selection. Involved with System PDRs and Business Awards for Suppliers.

09/2012 – 03/2013, DLR Gesellschaft für Raumfahrtanwendungen (GfR) mbH Weßling, D.

Safety and Certification Manager / Engineer to support the Air Navigation Services Provider (ANSP) CNS Certification of DLR GfR according to EU Regulation 1035/2011 and the implementation of the company's Safety Management System (SMS) in support of the ANSP CNS Certification.

Interfacing with both National and European Air Navigation Certification Authorities for the ANSP CNS Certification. National ANSP CNS Certification (Conditional) achieved in February 2013.

Performing GAP Analyses on the EU Regulations and defining the processes, procedures and documentation to close the gaps. The generated of the EGNOS Certification Plan for obtaining the Pan-European ANSP CNS Certificate to operate EGNOS as a Safety of Life (SOL) Service, and to maintain certification when in service.

Definition of activities / tasks for a number of supporting systems required for ANSP Certification including Organization Management Handbook/Manual, Configuration Management System (CADM), Software Management System (SQAP), and Risk Management System.

11/2010 – 05/2013, Liebherr Aerospace Lindenberg GmbH, Lindenberg im Allgäu, D.

System Reliability & Safety Manager / Engineer for the AW189/AW149 Helicopter Landing Gear System, responsible within the development team to coordinate and cover all LG System R&S aspects and to lead the team of suppliers to provide the requested support for the R&S as per schedule, in close relationship with both project management and lead technical engineer. Coordination with the customer (Agusta Westland) for all R&S aspects and resolution of technical issues influencing R&S requirements as required.

Complete functional hazard assessment of the system to ensure the failure conditions to the lower level systems, sub-systems and equipment are correctly defined generation of all the critical reliability and safety requirements for such items.

Review of lower level systems, sub-systems and equipment FMECA and Safety Analysis including FTA, for compliant to overall system reliability and safety requirements so that the overall SSA (ARP 4761 & ARP 4754) is finalized to support certification of the Series Production Helicopter.

System Engineering support activities for design, manufacturing and testing for Electrical, EMC, Hydraulics and Thermal technical issues, resolution / discussions with the customer, and producing detail technical reports (ECMs).

Review / Inputs to requirements specifications for LG System Components, review of System and Component level Manufacturing and Qualification Test Procedures for compliant to system level contractual technical requirements / standards i.e. DO-254.

Performed Audits of manufacturing process / procedures at suppliers in compliant to DO-254.

Review of CS-29 requirements versus the LG System design for compliance and definition of verification method.

Supported as safety specialist a number of technical proposals for future LG Systems design and develop.

07/2010 – 10/2010, Telair International GmbH, Miesbach, D.

System Safety Engineer – Performing System Safety Assessment (FHA, PSSA, SSA) in accordance to SAE ARP 4761 on the Boeing 747-8F Main and Lower Decks Cargo Handling (Electrical) Systems to support the overall certification of the systems in accordance to ARP 4754 / ED79. Interfacing with Certification & Airworthiness Officials at Boeing on safety issues

12/2007 – 04/2010, Astrium Space Transportation GmbH Friedrichshafen, D.

PA & Safety Manager / Engineer for Atomic Clock Ensemble in Space (ACES)

PA & Safety Manager for the Overall System, Chaired System Test TRR, PTR (ESA, CNES, Industry), all MRBs, Subcontractors CDRs, PA & Safety Management of Subcontractors

Review & approval of engineering design & manufacturing documentation for compliance to PA/QA requirements, review, approval and release of system test plans, procedures and reports with respect to compliant to requirements in DOORS.

Preparation of PA and Inspection Plans, Procedures & Safety related Documentation for the ACES System CDR and the FM Proposal. Flight Safety Data Packages, attendance at Safety Reviews and MRBs with ESA/NASA/JAXA

PA & Safety Manager / Engineer for a number of ISS Payload Projects for BIOLAB

Chaired / ran all MRR, TRR, PTP, FAR for flight hardware at both prime and subcontractors, NCR Management and processing, PA Management of subcontractors, Subcontractors Audits, review / commenting documentation at all levels of the projects. Flight Safety Data Packages, Re-flight Assessments, ESA PSRB Safety Reviews & MRBs

Safety Manager / Engineer for MSL Solidification and Quenching Furnace

Produced the Phase III Flight Safety Data Package and attended the Phase III Safety Review at ESA.

PA & Safety Manager / Engineer for FSL EC B1 CIMEX-1 (Experiment for ISS)

Prime PA Management, PA Management of subcontractors, subcontractors Audits, review / commenting documentation at all levels of the projects, prepared Flight Safety Data Package, FMECA, Verification Documentation and PA & Inspection Plans for System PDR. Review and commented Subsystems PDR data packages from a PA / QA point of view with respect to ensure all PA / QA including safety requirements have been correctly addressed.

Verification Manager / Engineer for FSL EC B1 FASES (Experiment for ISS)

Management and generation of FASES System Requirements Verification database, verifying the traceability of the requirements into lower level documentation, recommended changes to FASES System Specification with respect to defined verification method.

01/2007 – 10/2007, European Satellite Navigation Industries GmbH, Ottobrunn, D. Consultant - Safety Assurance Manager

Company name changed in January 2007, but activities & tasks as below

07/2005 – 01/2007, Galileo Industries GmbH, Ottobrunn, D. Consultant, - Safety Assurance Manager

Responsible for ensuring that the overall Galileo Global System has been designed, developed, manufactured, integrated and tested according to all the contractual safety requirements both functional and physical requirements.

Verify the design with respect to safety by performing safety analyses and assessments at system level and the review of lower level (Segments) subcontractors engineering design documentation using DOORS and safety analyses, and to identify any technical risks at each level which could affect Safety, assess them and propose mitigation plan.

In particular to perform the follow-up Safety activities with respect to the launch sites Safety Regulations for the Space Segment, by reviewing the Satellite Safety Phase I, II, & III Safety Data Packages for both flight and ground (provided by the Space Segment)

Review System & Segment Level Qualification & Acceptance Test Documentation with respect to safety aspects / issues and verify the results Review any non-conformance or waiver / deviation, which can affect the applicable Safety requirements or safety critical functions and items. Attending and contributing to project meetings / reviews and NCR/NRB regarding Safety.

03/2005 – 06/2005, Becker Flugfunkwerk GmbH, Rheinmünster, D. Consultant - Airworthiness Manager

Responsible for producing Qualification Plans and Procedures, Safety Assessments for company's airborne products such as Transponders, Transmitters, Receivers, etc., to support the Certification Process of the items with the LBA (German Government Certification Authority).

12/1996 – 02/2005, Kayser-Threde GmbH, München, D. Consultant Aerospace Engineer

Kayser-Threde's Reliability and Safety Assurance Manager, responsible for the definition and production of new Kayser-Threde operational procedures / working standards Reliability / Safety Engineering and Assurance to comply with NASA/ESA, FAA, CAA & Military Requirements.

Instructing engineers in the techniques / procedures involved with reliability and safety engineering.

Company's Safety Specialist for ISS & Shuttle Payloads at NASA & ESA Safety Reviews.

Project Manager for a number of ISS Projects

- Sub-contractor Manager - Material Science Laboratory (MSL) Pyrometer Electronics (Litton USA)
- Project Manager - MELFI C/D Phase
- Project Manager – ISS & Columbus Phase E Spares Contracts.
- Project Manager – A number of small experiments, optical instruments, power units for payloads to be deployed on the ISS.

The above projects included all project management activities associated with managing an ESA project, including interfacing with a number of customers, partners (industrial and scientific communities) and / or subcontractors including arranging the necessary import / export paperwork for the utilization of specific components from the USA following ITAR Regulations.

Definition and Management Coordination of all relevant deliverable data packages required for the projects.

Project Manager for the following satellite harnesses projects:

- Herschel / Planck SVM Harness
- SMOS PLM Harness
- L-Band SAR Harnesses
- ADM-AEOLUS Platform & BAS-HAR Harnesses,
- Planck Special Test Harnesses

PA & System Safety Manager / Engineer for the following space projects:

- Minus Eighty Laboratory Freezer for the International Space Station (MELFI),
- Space Exposure Biology Assembly External Payload
- Materials Science Laboratory Electrical Subsystem
- A number of smaller projects.

Proposal Manager for approximately 12 space and civil aircraft proposals either as prime or in partnerships, of which 80% were won, these proposal values are from 600K€ to 45M€. Responsible for ensuring that all requirements have been correctly addressed within the proposal, generation of work packages definition of all activities, schedule and costs.

11/1996 - Siemens AG, Defence Electronics, Unterschleißheim, D. - Consultant Engineer

System Reliability Engineer on the EFA MIDS Interface Unit (MIU), reviewing and commenting on technical inputs from Partner Companies. System Level FMECA using the Failmode for Windows FMECA Tool.

04-10/1996, NFS Navigations- und Flugführungs-Systeme GmbH, Ulm, D. - Consultant Engineer.

Involved in the development of a GPS based navigation and landing aid to be installed in aircraft and helicopters as the **System Safety Verification Engineer** (V-Model) supporting the full System Safety Life Cycle to SAE ARP 4761.

01/1993 - 04/1996, FIAR SpA, Milano, I. - Consultant Systems Reliability & Safety Engineer

System Reliability & Safety Engineer for the EFA Pirate Forward Looking Infrared (FLIR) and Prime Contractor's System Management Team for the project. Also involved in producing safety assessments and attending safety reviews for the EFA ECR-90 Radar and EFA Head-Up display (helmet) projects.

End Customer's (NAFMA) Independent System Safety Assessor for resolving system safety issues between consortiums involved with EFA projects

09/1987 - 12/1992, M.T.U. GmbH, München, D.

Consultant Systems Project Engineer / Manager and Reliability & Safety Engineer.

Project Engineering Management

- Involved in defining the Programme Management Activities / Tasks for the EFA Aircraft Engines Engine Control and Monitoring Systems to meet Technical and Payment Milestones on the overall EJ200 Engine Development Programme.
- Definition all the engineering design and development activities to be performed by Eurojet (Rolls Royce, MTU, FIAT and ITP) (including the necessary resources) to meet / achieve these milestones including reliability, safety, maintainability, quality assurance, etc.
- Involved in the definition of the contractual requirements for the EFA Aircraft Engines Digital Electronic Control Unit programme and then with the chosen Supplier contract negotiations.
- Monitored the progress of the activities defined by Project Engineering, risk assessment / analysis of problems or delays, produced reports to the Programme Management, Department Head and MTU Board with recommended actions / solutions.
- Project Manager – Subcontractor Manager for the DECU Programme based at the Prime Facilities (Dornier GmbH FHN), heavily involved in all aspects of the project at the subcontractor, chairing all management, technical and quality meetings with the consortium for the customer (MTU), chaired DECU PDR and CDR attended by NAFMA and the Eurojet Companies and DASA.

Reliability & Flight Safety Engineering

- Involved in the preparation of the Requirements Specification in the EPOS Requirements Management Tool for the EFA Aircraft Engines Digital Electronics Control Unit, in the following areas reliability, safety, maintainability, qualification, acceptance and documentation.
- Definition of activities / tasks / resources to perform Safety Hazard Analysis on the EFA Aircraft Engines Engine Control & Monitoring System to be undertaken by Rolls Royce, MTU, FIAT and ITP.
- Engine Control System Design, in defining the safe operation philosophy for the software of the system in case of failures.
- **Safety Manager for the EJ200 Engine System** 1990-92, responsible for 50 engineers in the four engine companies (MTU, Rolls-Royce, FIAT & ITP)
- MTU's Electronics hardware and software representative on the Eurojet Reliability and Flight Safety Working Group. Definition of the detailed procedures and processes for the design and development of Risk Class 1 flight critical software for the Engine Control System
- Represented the Eurojet R&S Group at meetings with the customer for Software Safety

1985-1987, Swiss Federal Aircraft Factory, Emmen, CH. Consultant Engineer.

Project management and lead system engineer to provide the detailed requirement specifications to ESA Standards for a Dynamic Cooler System, (Shuttle Payload). Also leading a team of 6 engineers in performing the safety analysis and assessment according to NASA Regulations

1983-1987, Microtecnica SpA, Torino, I. Consultant Electronics Systems Engineer.

Reliability & Safety Engineer for Aerospace Electronic Equipment produced by the Client (10/1984-07/1987)

Complete Reliability and Safety Analyses (FMECA's, FMEA's, PSA's, etc.) to the relevant contractual requirements (MIL, ESA or NASA standards) on the following:-

- Air Data Computer & Navigation Sub-system (AM-X)
- Electronic Control Unit for Flight Control Systems (AM-X),
- Flap and Slat System (AM-X),
- Thermal Control Unit for EURECA (Space Programme),
- Torpedo Training Head, Fin Control and Battery Back-Up,
- Electronic Control Unit for the IRIS Spin Table (Space Programme)
- GP-180 Flight Systems Electronic Control Unit,
- Air Data Transducer Unit (EH101)

Senior Project Engineer / Manager for the AM-X Aircraft Air Data Computer for the Navigation Subsystem (10/1983-09/1984).

04/1985-06/1985, Cram SA, Geneva, CH. Consultant Engineer.

Feasibility Study for the Design and Development of a Ship to Satellite Communication System (Standard "A" Class 1 Ship Earth Station (SES) for INMARSAT Operation).

1982-1983, Dornier Aircraft GmbH, München, D. - Consultant Electronics Systems Engineer.

Electronics Production Planning and Time Scheduling for Electronic and Electrical Systems on the Canadair Challenger Aircraft.

Quality Assurance Engineering for the E-3A "AWACS" aircraft for Test / Acceptance of Electronic and Computer Systems

Supervised and performed pre-flight checks / tests of all electrical, electronic systems / instrumentation and authorized release for test flights.

1980-1981, M.T.U. GmbH, München, D. - Consultant Electronics Engineer.

Development of Automatic Test Equipment for the use on the Main Engine Control Unit for the MRCA / TORNADO Aircraft

Test Engineering support for Aircraft Electrical Ground Equipment to test Aircraft Engines. Supervised the modification, calibration and acceptance testing of all ATE associated with the Engine Programme.

1979-1980, Hunting Engineering Ltd, Ampthill, Bedfordshire, GB. - Electronics Design Engineer.

Instrumentation Design on a Multipurpose Test Equipment for monitoring the performance of Weapons Systems.

1970-1979, Westinghouse Brake and Signal Co. Ltd, Chippenham, Wilts, GB. Electronic Systems Design Engineer

Other related experience includes the following:-

From 1982- 2014 worked on number of proposals, studies and analyses for Avionics and Space Programmes for the following Companies:

- 2013-2014 Provided project management / system engineering support on a number of proposals for clients in the aerospace/space industry within Germany, definition of activities, resources and costs, to comply with aerospace regulations and standards i.e. DO-178C, DO-254, etc.
- 2008-09 Zeiss Optronics GmbH, Oberkochen. D. – Project Management and System Safety Consultant for the Laser Altimeter System implemented on the BepiColombo Mercury Probe (Satellite) initial phase up to PDR.
- 2008 – Proposals for Safety Engineering activities for renewable energy applications, wind farms and solar systems.
- 2001-04 Inova Computers GmbH, Kaufbeuren. D. – Reliability analyses for computer systems
- 1999 Inova Computers GmbH, Kaufbeuren. D. – Reliability analyses for a computer system.
- 1998 MAN Technologie AG Karlsfeld, D, Satellite Navigation Division - Proposal for EGNOS Equipment, Software Plans and associated documentation to RTCA-DO-178B.
- 1997 Contraves Space AG, Zurich, CH. - Technical proposal reliability and safety study for a laser system communication satellite, produced detail RAMS Plan along with resources and costs.

- 1997 MAN Technologie AG Karlsfeld, D, Satellite Navigation Division - Proposals (6) for EGNOS System, Subsystems and Equipment, produced PA, RAMS, Design and Development, Verification Plans, also included identification of necessary resources and costing.
- 1996 Rohde & Schwarz GmbH, München, involved in producing project specific RAMS, Configuration Management, and VV&D Plans for airborne military communication systems.
- 1991 Deutsches Airbus GmbH Hamburg - Definition of the work, resources and costs for Airbus A320 Passenger Indication System Software Packages to be contracted out.
- 1991 DASA München, Definition of the work, resources and costs for EFA Attack and Ident Software Packages to be contracted out.
- 1988 Nord Micro, Frankfurt, Technical Proposal, Reliability & Safety Studies for Flight Control System for Eurofighter.
- 1987 TELDIX GmbH, Heidelberg Definition of the requirements for a worst case analysis (subcontracted out) of an electrical system for a space programme.
- 1986 Nord Micro, Frankfurt, Reliability Study for the SAAB SCANIA JAS Aircraft Data Computer to fulfil the contractual requirements.
- 1982 Computer System Engineer in arranging a complete data collection system (as a package) for the European Southern Observatory.

Liaison Engineering between various firms including Rolls Royce, MTU, FIAT, BAe, Smiths Industries, MBB, Astrium S.A., Astrium GmbH, Astrium Ltd, Alenia Spa., Alenia Spazio, Boeing, AgustaWestland Spa., Canadair and Dornier.

Writing of many specifications, procedures and supporting documentation for aerospace / space items worked on, definition of a number of companies process / procedures for manufacturing, integration, quality, qualification in accordance with regulations / standards..

Also produced user manual for spacecraft solar array drives (simulator) for ESA / ESTEC (1982)

Defined various Companies Reliability Engineering Policy and Requirements for Aerospace Electronic / Electrical Systems, including MTU, and Nord Micro (1988)

Ran a one week course on Safety Engineering & Assurance techniques and methodology for Product Assurance Engineers at Contraves Space AG, Zurich, CH. (1998)

Involved in the Definition and Implementation of Configuration Management Systems for the following companies, MTU GmbH, Microtecnica Spa, FIAR Spa, MAN Technologie AG, Kayser-Threde GmbH, & Cobham SATCOM A/S.