CREAN
Accelerating Performance
Hands-on Aerospace Engineering Services | Smart Factory Transformations

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David Alexander

EXPERIENCE

Director Advanced Systems Architectures-Advanced Development Group 2017 - 2020
OneWeb (WorldVu Development LLC)

Reported to the Vice-President of the Advanced Development Group (ADG). Responsible for the development of the second-generation satellite constellation and ground systems for the OneWeb next generation LEO constellation. Developed detailed system engineering requirements, architectural concepts and detailed satellite and payload concept designs to meet derived system requirements. Created detailed payload specifications and technical design for the next generation satellite. Developed the overall space segment and ground segment architecture. Generated detailed RF link budgets, power budgets, mass budgets and engineering performance analysis. Evaluated various orbital regimes including GEO, MEO and LEO solutions conducting detailed trade studies focused on performance and cost. Evaluated various RF frequency bands including, Ku, Ka, Q/V and E bands for advantages and disadvantages and technology maturity. Developed detailed technology roadmaps for the Chief Technology Officer.

Harris Corporation GCS 1983 - 2017

- **Commercial Space Antennas Senior Manager, Strategy and Business Development** 2009 - 2017

Provided daily direct support to the Director. Led the technical development of products and solutions for customer requirements. Led pursuit and capture teams in the development of the technical solution to meet requirements. Responsible for developing strategic technology guide plans for new business, based on market trends, technology developments and competitive analysis.

Led the Space Antenna Commercial and International business and US Government Department of Defense Space Reflector pursuits. Led teams of 10-20 individuals in the generation of technical proposals, customer briefings, and outreach. Developed and conducted detailed technical briefings to prospective customers.

Successfully introduced two new reflector products in the marketplace with both products achieving initial sales. Guided and influenced Internal Research and Development plans based on market needs and business case soundness.

Actively engaged in developing technology solutions to address the “New Space” markets, including the development of new and novel solutions for antennas and reflectors for small SAT missions.

Increased product awareness through journal articles, panel participation, and presentations at major satellite technical conferences. Results were very positive from community including both Primes and Operators, leading directly to new business sales and revenue.

- **Advanced Programs Engineer Space Programs Engineering** 2008 - 2009

Advanced Programs Engineer supporting the development of new products and solutions for commercial Space Antennas product line. Led engineering teams in the development of products and offerings that met or exceeded customer requirements and expectations. Leveraged extensive expertise in Systems, Mechanical and RF design to influence and lead the team.

Led Independent Review Teams (IRT) for the engineering review of critical space antenna programs. Reviewed detailed engineering data and tests for compliance to mission requirements. Provided Harris certification of flight worthiness for programs.

Led the review and inputs into Internal Research and Development projects.

Served as Senior Engineering reviewer for multiple programs. Supported Mission operations including the launch and on-orbit support for reflector deployment and IOT operations.

- **Program Manger Commercial Space Reflectors** 2005 - 2008

Led programs totaling over $100 Million and teams of over 200 individuals in the design, development, and execution of multiple configurations of unfurlable space reflectors for new customers and US government program. Programs successfully delivered all hardware and achieved mission success. The total business growth and quantity of hardware was unprecedented in the product line. Applied extensive product knowledge in support of engineering reviews and guidance on the programs. Key technical contributor to the pursuit and capture of these programs, as well as an additional $100+ million dollars of awards as part of the New Business Capture Team.

- **Harris Program Manager Innovative Space Based Radar Antenna Technology (ISAT) DARPA Study Program** 2004 - 2005

Program Manager for a team of 50 engineers and scientists for a $8 million-dollar study contract for the development of a Demonstration Reflector Based Radar Payload for the Space Based Radar Program office at DARPA. Successful led project team through the PDR phase with our Prime Customer and DARPA. Harris team was selected for next phase when prime contractors were reduced from 3 to 2. Highly involved in the engineering offering and technology solution for the design. Leveraged extensive radar experience with active antennas, and processed payloads.

- **Various Roles as Project Engineer, Chief Systems Engineer, IPT Lead for multiple US Government and Commercial Programs** 1983 - 2004

Managed and led teams ranging in size from 5 to 100+ engineers and technicians with budgets from $2 million dollars to over $50 million dollars. Projects developed sophisticated space hardware for critical mission requirements and were successfully executed and delivered. Highly involved in the engineering offering and technology solution for the design.

EDUCATION

BS, Mechanical Engineering
University of Alabama

MS, Mechanical Engineering
University of Alabama