



MICHAEL JOHANSON

SENIOR VICE PRESIDENT CORPORATE STRATEGY/BUSINESS DEVELOPMENT

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Cleveland, OH

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AFFILIATIONS

Mr. Johanson is an adjunct member of the State's legislative Ohio Aerospace and Aviation Technology Committee (OAATC), supports the Ohio Aerospace and Aviation Council (OAAC), assisted with the development of the Aerozone Alliance and serves as Chairman of Ohio Aerospace Day 2017-2022. Additionally, he serves on the Board of Directors for the Keystone Space Collaborative that supports and serves the growing space industry in Ohio, Pennsylvania and West Virginia. Through these organizations Mr. Johanson serves as an advocate to state and federal representation on topics ranging from state aerospace ecosystem, microgravity science, space exploration, aeronautics, advanced power, communication, and electric propulsion technologies.



Ohio Aerospace & Aviation Council



EDUCATION

B.S. MECHANICAL & AEROSPACE ENGINEERING

University of Tennessee | Knoxville
1982 - 1987

M.S. MECHANICAL ENGINEERING

University of Tennessee Space Institute | Tullahoma
1987 - 1989

NCAA Varsity Men's Basketball Program Letterman under coach Don DeVoe: Four-year scholarship student athlete at the University of Tennessee. NCAA Tournament 1983, NIT Championships 1985. Co-Captain 1986. Graduate Assistant Coach 1987.



SUMMARY

Mr. Johanson has more than 30 years of progressive responsibility in the Aerospace and Defense industry possessing exemplary expertise and background in management, operations, and business development. His career spans numerous positions as an engineer, engineering manager, project manager, program manager, and corporate executive inclusive of P&L responsibility on significant aerospace programs working for both large and small specialized high-tech businesses. Mr. Johanson's experience includes managing the development of complex spaceflight systems through all phases of the system life cycle, from concept design through deployment and operation. He has played important roles in a wide variety of successful spaceflight programs and missions supporting five NASA centers that encompass ground test facilities, launch vehicles, satellites and satellite systems, operations centers and scientific payloads (roles on contracts of more than 350 microgravity research payloads and instruments) for the Space Shuttle, MIR, the International Space Station (ISS) and Commercial Payload Services. He has developed new partnerships leading to efforts supporting Artemis (Space Launch System (SLS), Orion, Human Lander, Scientific Missions, Commercial Lunar Payload Services (CLPS), the Habitation and Logistics Outpost (HALO) and Commercial LEO Destinations (CLD - Starlab, Axiom, Orbital Reef, Dream Chaser) programs.

EXPERIENCE

Senior VP Corporate Strategy/Business Development

ZIN Technologies, Inc. | Cleveland | 2018 - Present

Mr. Johanson leads all corporate business development (BD) activities for ZIN and maintains a healthy BD pipeline of opportunities. Throughout his 18-year career at ZIN, Mr. Johanson has played a pivotal role in expanding ZIN's business base from \$10M in annual revenue to \$60M in annual revenue. He has developed win strategies and led efforts in the winning of prime contracts including commercial ventures/partnerships with Aerojet (Electric Propulsion), Voyager (Starlab Space Station), Sierra Space (Dream Chaser) and many others.



ZIN Technologies

- Facilitates government and commercial partnerships, growth opportunities, corporate marketing, and government relations.
- Provides strategic planning, business development, capture management, and organizational management.
- Serves as representative to industry associations and organizations and the support to their activities.
- Plans, oversees, achievement of ZIN mission through capture of select opportunities aligned with capabilities in key markets.

Director, Engineering Services Division

ZIN Technologies, Inc. | Cleveland | 2005 - Present

Mr. Johanson manages a portfolio of engineering services contacts with P&L responsibility with as many as eighty scientists, engineers, and technicians performing a wide range of multi-discipline engineering, research and technology development, and operations services at four NASA centers (KSC, MSFC, JSC and GRC) and the Space Force Space Systems Command. (Continued)



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SKILLS

- Program Management
- Business Development
- Account Management
- Strategic Planning
- Quantitative Analysis
- Business Operations
- Budgeting Control
- Contract Negotiation
- Engineering
- Integration
- Mission Operations
- Procurement
- Finance
- Entrepreneurship
- Partnerships

AWARDS

NASA GROUP ACHIEVEMENT AWARD^(s) PhASE, PCS, SAMS-MIR, FCF, LMM, MDCA, CIR, FIR, SAMS, MAMS, FLEX, LMM Development Teams 2007-2015

DLR Mission Award Spacelab D (German)-2 1994

ZIN BUZZ Lightyear Award Outstanding Efforts, 2008

NASA OUTSTANDING SUPPORT AWARD^(s) Spacelab SLS-1, IML-1, SL-J, USML-1, IML-2, 1991, 1992, 1992, 1993, 1994

SPACEFLIGHT AWARENESS AWARD Human Spaceflight 2010

SILVER EAGLE AWARD for Innovation, McDonnell Douglas 1995

EXPERIENCE

Director, Engineering Services Division (Continued)

Oversaw ZIN efforts (SAIC prime) for the development of the Reverberant Acoustic Test Facility and the Mechanical Vibration Facility, the world's most powerful spacecraft shaker system as part of the NASA Armstrong Space Environments Complex. The Engineering Services Division has managed:

- KSC Expendable Launch Vehicle Integrated Support 3 (ELVIS 3)
- MSFC Marshall Operations Systems, Services, and Integration (MOSSI II)
- MILSATCOM Systems Engineering, Integration, and Test (MSEIT)
- GRC Glenn Engineering and Scientific Support (GESS-3)
- Armstrong (Plum Brook) Vibro-Acoustic Test Capability.

Vice President Corporate Strategy/Business Development

ZIN Technologies, Inc. | Cleveland | 2005 - 2018

Mr. Johanson led efforts for strategy capture, proposal, and marketing to support all operating units' opportunity pursuits. Responsibilities included developing business relationships to support BD activities, maintaining a healthy opportunity pipeline, and ensuring adherence to the company's BD Process. Major efforts included diversification of the ZIN contract portfolio leveraging core capabilities in the definition, design, fabrication, assembly, integration, test, and operation of a broad array of space flight projects including ISS flight investigations; medical devices; computational modeling; and advanced technology development in the areas of power, in-space propulsion, space communications; SLS and Orion systems and subsystems. Examples of new contracts captured include:

- GRC Advanced Electric Propulsion System (AEP -Aerojet)
- GRC Evolutionary Xenon Thruster-Commercial (NEXT-C -Aerojet)
- Sierra Space Dream Chaser Vehicle Power Systems
- GRC Artemis SLS Universal Stage Adapter (USA -Dynetics/Ruag)
- JSC Research, Engineering, Mission, and Integration Services (REMIS)
- GRC Engineering Scientific Support III (GESS III -Vantage Partners)
- JSC Specialized Engineering, Aeronautics & Manufacturing (SEAM)
- KSC Exp. Launch Vehicle Integrated Support (ELVIS-3 -ai Solutions)
- MSFC Mission Operations and Integration (MO&I -Teledyne Brown)
- JPL Multi-divisional Eng., Design, Analysis Lab-wide Support (MEDALS)
- GSFC Magnetospheric Multiscale (MMS) Mission Satellite Guidance and Navigation System.

Director of Engineering

ZIN Technologies, Inc. | Cleveland, OH | 2012 - 2015

Director of Engineering for the NASA GRC Engineering Scientific Support III contract responsible for leadership and direction of more than three hundred multi-discipline researchers, engineers, and technical specialists working in support of space and aeronautics programs and projects conducted at GRC.

- Managed key organizations aligned with NASA GRC counterparts (Codes D, M, R, K, F, and Q), resulting in a horizontally integrated collaborative view of GRC program/project requirements.
- Provided for engineering support aligned with NASA Missions, and Mission Specific (Space Flight Program/Project or Aeronautic Program/Project) R&T Development requirements, Space Technology Roadmaps, and the National Aeronautics R&D Plan.
- Supported world-class research and technology; revolutionizing aeronautical travel; space exploration, and advanced space missions and aeronautics by leveraging GRCs core competencies to deliver engineering products ranging from initial concepts through complete flight systems.



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PROGRAMS

- Space Shuttle
- Spacelab
- SpaceHAB
- MIR
- ISS
- Dream Chaser
- Launch Services
- Parabolic Flight
- SLS, ORION
- MMS, OSAM-1, DART
- HALO
- Starlab

INTERNATIONAL

Mr. Johanson has worked throughout his career in collaboration with international partnerships including projects with the German Aerospace Center (DLR), Russian Space Agency (Roscosmos), Canadian Space Agency (CSA), European Space Agency (ESA), Japan Aerospace Exploration Agency (JAXA) and the country of Israel through the Ramon foundation.

Mr. Johanson piloted efforts to establish ZIN Aerospace that is a wholly owned subsidiary of ZIN Technologies, Inc., registered in the Abu Dhabi Global Market with a goal of providing solutions to key Gulf Cooperation Council Region challenges (i.e., sustainability) utilizing space/microgravity-based science & technology transfer opportunities through start-ups and academia.

EXPERIENCE

Area Manager ISS Facilities/Deputy Program Manager

ZIN Technologies, Inc. | Cleveland, OH | 2005 - Present

Deputy Program Manager on the Spaceflight Development and Operations Contract (SpaceDOC) and continued support as Area Manager for ISS science facilities and operations on SpaceDOC-2 with specific responsibilities for the development of complex spaceflight systems through all phases of the system life cycle, from concept design through deployment and operation.

- Managed final integration, launch, on-orbit commissioning and initial operations of the ISS Fluids and Combustion Facility (FCF) and its initial payloads including the Light Microscopy Module (LMM) and Multi-user Droplet Combustion Apparatus (MDCA).
- Led the design, development, operations, and sustaining engineering for the NASA GRC ISS Payload Operations Center (formerly the Telescience Support Center) that has provided over 90,000 hours of ISS payload science operations since 2001.
- Played key roles in the developed and operated over 350 ISS technology, medical, and physical science payloads (SpaceDOC-1 and 2 (and predecessor contracts)).
- Managed commercial contracts that included support for Space Launch System (SLS/ARES), the Multi-Purpose Crew Vehicle (MPCV/ORION), and other commercial spacecraft.

Director of Engineering/Project Manager

Northrop Grumman | Cleveland, OH | 2000 - 2005

Managed efforts associated with ISS science facility development including ground systems, flight systems, environmental/ functional testing, launch vehicle and on-orbit carrier integration and operations under the Microgravity Research, Development and Operations Contract (MRDOC) with responsibility for over one hundred and fifty engineers, and technical specialists.

- Manager of the ISS FCF Fluids Integrated Rack and Light Microscopy Module Payload with responsibilities for the development, test and certification of ground and flight systems through all phases of the system life cycle, from concept design through deployment.
- Managed the development of ISS scientific payload hardware and software including systems engineering, design, manufacture, test, verification, certification, parabolic test, logistics and maintenance planning, and on-orbit carrier and payload integration, and operations.
- Responsible for manifesting, payload planning and mission integration for all GRC-developed scientific payloads operated on the space shuttle, other transport vehicle (i.e. Soyuz, Progress) and the ISS.

Section Manager ISS Science Facilities/Project Manager/Lead

NYMA, Dynacs, Federal Data Corporation | Cleveland, OH | 1995 - 2000

Managed the development of complex spaceflight systems through all phases of the system life cycle, from concept design through deployment and operation. Specific efforts include:

- Led payload operations of the Physics of Colloids in Space (PCS) on Spacelab missions MSL-1 and MSL-2.
- Supported the Space Acceleration Measurement Systems (SAMS I/II and free flyer) development, deployment, and operations activities, FCF design, development, utilization, and integration activities, GRC payload planning, management of the Critical Fluids Laboratory and the Multi-Phase Flow Test Facility.
- Supported the Canadian Space Agency with the development of microgravity research program and pipeline construct towards future ISS payload development.





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REFERENCES

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EXPERIENCE

Senior Engineer/Lead, Spacelab Engineering and Analysis

McDonnell Douglas | Huntsville, AL | 1989 - 1995

Supported eight successful Spacelab Module and 6 pallet/igloo laboratory space shuttle missions including serving as Integration/Thermal/Fluid Engineering Lead for the First International Microgravity Laboratory, the First United States Microgravity Laboratory, and the first Shuttle/Mir (SL-M) joint docking mission to the Russian Space Station.

- Provided analysis and hardware development efforts in support of ongoing Shuttle, Spacelab, and SPACEHAB programs.
- Certified console operator for Spacelab from the MSFC Huntsville Operations Support Center and JSC Mission Control Center.
- Supported advance environmental control and life support systems (ECLS) development and integration of regenerative carbon dioxide removal system within the space shuttle orbiters.
- Engineering lead for Extended Duration Orbiter (EDO) development team to extend Spacelab mission durations including ECLS and technology demonstration for the planned space station.
- Engineering lead for Orbiter Docking System (ODS) development team with responsibilities for active and passive thermal control and environmental compatibility between Spacelab (-M), MIR, and orbiter.
- Directed efforts in new business and advanced technology studies including development of technical solutions, work breakdown structures, budgets and schedules.
- Served as Chair for the McDonnell Douglas Spacelab Engineering Analysis Computer Resource Panel and the Business Unit Information Resource Management Team.



PROFESSIONAL DEVELOPMENT

CAREER DEVELOPMENT PROGRAM – MANAGEMENT, LEADERSHIP

McDonnell Douglas | Huntsville/St. Louis
1994 – 1995

PROFESSIONAL DEVELOPMENT PROGRAM

Northrop Grumman | Cleveland/Virginia
2004 – 2005