

Contact

www.linkedin.com/in/cmtalbot
(LinkedIn)

Top Skills

Communication
Stakeholder Engagement
Product Lifecycle Management

Certifications

Business Acumen Workshop
Leader Accelerator Program
Graduate
Executive Presence Workshop
Strategic Thinking Workshop

Craig Talbot

VP of Engineering | Autonomous Transportation | Aerospace
Professional | GN&C Principal
San Francisco Bay Area

Summary

With over 20 years of engineering leadership and management experience, I am a seasoned professional who delivers innovative and disruptive solutions in the high-tech aerospace industry. I have a master's degree in mechanical engineering, with a focus on feedback systems control, and a deep technical expertise in guidance, navigation, and control (GN&C) systems engineering and product management.

Currently, I am a senior consultant to stealth mode startups developing next-generation smart transportation systems. I perform high-level engineering architecture trades, provide path-forward solutions, and outline required resources to bring the products to market. I leverage my skills in operations, anomaly resolution, and complex systems integration and testing to ensure the quality and performance of the products. I also build and maintain strategic partnerships with internal and external stakeholders, and support new business acquisition and proposal development. My passion is to learn and incorporate new technologies, and to lead and mentor top-talent teams to achieve product, operations, and business success.

Experience

Swyft Cities

Vice President of Engineering
September 2023 - Present (1 year)
United States

Stealth Mode Startups

Senior Consultant
January 2022 - September 2023 (1 year 9 months)
Mountain View, California, United States

Senior Consultant to stealth-mode startups developing disruptive solutions in autonomous transportation services. Performed high-level engineering architecture trades, including trading control system architectures, for next generation smart transportation system. Provided path-forward on architecture solution to appropriately balance performance, cost, modularity, scalability, risk and safety. Provided program phased development plan to outline required resources to develop and bring to market.

Lockheed Martin

19 years

Department Head of Guidance, Navigation & Control (GN&C) Products
2017 - 2021 (4 years)

Sunnyvale, CA

I directed both strategy (roadmaps, investment plans, tech insertion) and operations (technical integrity and delivery of all GN&C products across LM platforms) for GN&C products incorporated within spacecraft. I led, coached, and mentored a team of 12 direct reports, including 4 first-line leaders, with total oversight of 50+ product engineers. I managed a direct budget of \$25M and an indirect budget of over \$250M, and drove alignment of GN&C products across LM Space platforms. Notably, I:

- ❖ Played instrumental role in setting up common products for GN&C, including common hardware sensors, actuators, and software/simulation models.
- ❖ Reshaped the GN&C product roadmaps to create a consistent forward strategy for GN&C, earning recognition from senior leadership for efforts. Identified different cost/performance tiers of GN&C products and created revamped roadmaps to address these differing tiers that served a broad range of LM missions.
- ❖ Fostered and revamped operational/strategic partnerships with GN&C Hardware suppliers (Honeywell) at the top leadership levels. Adopted a standard Failure Review Board (FRB) process that cut the time to initiate an FRB by 50%, as well as streamlining communications between both organizations. Additionally, launched a joint Quality Audit that unified efforts of LM Space and Honeywell.
- ❖ Contributed substantially to GN&C employee growth, development, and retention by driving reengineering and modernization of the GN&C training curriculum for the department. Recruited over 12 LM Fellows and Subject

Matter Experts (SMEs) to build and teach new courses while refreshing existing courses. Achieved high ratings in course surveys from students.

❖ Led team engineers and Steering Committee of SMEs to deliver prototype in 12 months for a micro-electrical-mechanical (MEMS) inertial measurement unit (IMU). Secured \$3M in R&D funding for prototype development/testing, along with capturing follow-on funding to develop qualification unit.

Guidance, Navigation, & Control (GN&C) Principal

2016 - 2018 (2 years)

Sunnyvale, CA

I directed GN&C teams and activities supporting WorldView-4 spacecraft launch and mission operations. I led and coached a team of over 20 direct reports. I provided mission-critical launch and operations support for WV-4 spacecraft, including certification of GN&C subsystem post Final Integration Spacecraft Test (FIST) that supported launch rehearsals (half a dozen), actual launch, and on-orbit spacecraft checkout and initialization. I trained customers on the subsystem, including monitoring the health and status of the vehicle. Among my achievements:

❖ Led the spacecraft investigation team in early identification of on-orbit anomalies, including the successful resolution of difficult-to-find bugs that inhibited successful spacecraft initialization. Guided the team in replicating anomalies profiles in simulation and demonstrating a successful software workaround.

- Enabled continuation with full spacecraft operations, with all accomplished on days 3 to 6 post-launch.

- Earned commendations from the customer's CEO and CTO for leading the investigation and resolution.

❖ Led an exhaustive 6-month investigation (including multiple programs and a key supplier) into a critical hardware failure with WV-4 main actuators after 18 months on-orbit, guiding a team of over 30. The team ultimately presented the root cause and corrective action for current and future builds.

- Enabled an enterprise initiative for product engineers to assess "reach-across" to their products.

- Facilitated enterprise corrective actions to ensure review and approval of process changes by the Engineering Board at both LM Space and the supplier.

- ❖ Directed efforts in developing FSW builds post-launch to resolve multiple issues, including sensor sampling/timing issues for the on-board Kalman Filter. Led the team to develop, regression-test, and uplink to the spacecraft within T +90 days post-launch under intense pressure.

Research Principal

2015 - 2016 (1 year)

Sunnyvale, California, United States

I served as the Precision Pointing Control Lead for the Fast Steering Mirror (FSM) product, overseeing the development of the simulation architecture. I managed a team of 6 and a \$10M annual budget, as well as bringing in SMEs as needed. I built the team upon an internal research project to develop and deliver a fully qualified flight product for a Special Programs platform. Past successes:

- ❖ Directed precision pointing control effort for the FSM product through key stages, including Preliminary Design Review (PDR) and Critical Design Review (CDR)/Qualification. Drove successful build-out of simulation architecture, enabling demonstration of line-of-sight (LOS) performance and compliance with critical requirements.

- ❖ Led demonstration of design, compensation, and control factors, as well as leading the risk reduction testbed demonstration of FSM technology, the Engineering Development Unit (EDU), and flight control certification.

Product Strategy & Strategic Partnerships Manager

2014 - 2015 (1 year)

Sunnyvale, CA

I transitioned to this position to establish LM Space's strategic engagement and partnership model with tech companies and small businesses (focusing on outside technologies that could be brought in for various purposes, such as streamlining processes or integrating within platforms as flight hardware). I managed a team of 6 direct reports and a \$5M annual budget. I am proud to have:

- ❖ Enabled identification of new technology partnership opportunities with tech companies in adjacent industries by launching a pilot strategic alliance initiative. Additionally, fostered a partnership with the internal Corporate Engineering group to integrate the product strategy alliance across all business units.

- ❖ Revamped and led the LM Space engagement within the USG Small Business Innovation Research (SBIR), including the development and release of a Concept of Operations (CONOPS) Guidebook for this type of engagement in both SBIR and strategic partnerships.

- ❖ Drove a 200% increase in SBIR engagements and key LM partnerships through leading Directors and Chief Engineers in the successful deployment and partnership integration strategy across all lines of business.

GN&C Engineering Product Manager & Technical Lead

2010 - 2014 (4 years)

Sunnyvale, CA

I directed the WorldView-4 (WV-4) GN&C subsystem through the entire product lifecycle, including development, integration/testing, qualification, certification, and delivery. Managed a team of 12 direct-report engineers and a \$50M annual budget. Key highlights:

- ❖ Achieved on-time, on-budget, and qualified completion of a \$50M pointing control system, leading all facets of design, analysis, production, and integration.

- ❖ Drove successful PDR/CDR and delivery/integration of qualified GN&C software (precision altitude reference and control, position reference, momentum management, command generator, and antenna pointing), leading GN&C analysis team efforts.

- ❖ Led and coached a team of 4 senior subcontract managers in overseeing subcontract procurement of GN&C hardware, ensuring compliance with design and delivery milestones.

- ❖ Facilitated the GN&C integration with Systems, including: design of GN&C Protective Measures autonomous software checks and responses; design and execution of the test suite for qualifying algorithms and software; development and certification of GN&C flight database; and certification of GN&C command/telemetry database.

GN&C Staff Technical Lead

January 2007 - December 2009 (3 years)

Sunnyvale, CA

I served as the Technical Lead of GN&C / pointing control for next-generation new ventures. Performed GN&C architecture trade studies, established

performance budgets, requirements, and architecture, and held strategy sessions with the customer and subcontractors on next-gen technology insertion.

Senior GN&C Engineer

December 2002 - December 2006 (4 years 1 month)

Sunnyvale, CA

I functioned as the Senior Engineer and Analyst for a high-precision, remote sensing spacecraft system within Special Programs. I developed GN&C software simulation models and integration with flight software, and designed and executed a test suite for verification of embedded system, including end-to-end polarity.

Education

Massachusetts Institute of Technology

Bachelor of Science (BS), Mechanical Engineering · (1996 - 2000)

University of California, Berkeley

Master of Science (MS), Mechanical Engineering, Feedback Systems Control · (2000 - 2002)