Dan D. V. Bhanderi

Senior Systems Engineer, PhD

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Profile

Technical manager on the largest Danish space project to date, ASIM - an external observatory for the International Space Station, at the industrial prime contractor. I have been the technical authority from the early definitions of the project to the detailed design, manufacturing, and verification phases, as well as coordinator of the engineering integration from sub-contractor levels, up to the ESA, NASA, and SpaceX stakeholder levels. Currently working as sustaining engineer for the on-going mission as well as technical manager in the Terma Star Tracker program. This work has given me experience in working with R&D in an international environment, with highest levels of quality assurance, and stringent process requirements. Experienced user of DOORS, IFS, Matlab, and general programming in C, Java, SQL, VBA, HTML/PHP. Highly skilled in multiple other tools and platforms (e.g. UNIX/Linux, Office, KeyShot, STK).
My career has given me the opportunity to work in many projects with national and international recognition, and stays abroad as stagiaire at the European Space Agency in The Netherlands, and as visiting researcher at Stanford University in the U.S.

Skills

Technical Manager
Cross-disciplinary coordination of system development, design control, change management, trade-offs, engineering integration, root cause investigations, and non-conformity resolution. Sub-contractors and supplier management and configuration control. Chairing technical interchange meetings, issue tracking, and follow-up. Definition and execution of project milestones (SRR, PDR, CDR, QR, AR). Coordination with project management and quality/product assurance. Strong communication skills.

Requirements Management
Requirement analysis and tracing of requirements to lower level specifications, design control, verification and test plans, analytical verification and overall verification control documentation.

Integration and Test Manager
Definition of manufacturing, assembly, integration, and test plans. Integration procedures, test specification, and test procedures. Coordination of test readiness and post-test reviews.

Experience

Terma A/S 2007-present

Currently: Senior Systems Engineer

Engineering Manager on ASIM at the prime contractor project office. Requirement management of stakeholder requirements, definition of sub-contractor baseline specifications, and verification control at all levels. Technical management of sub-contractors. System integration and test management. Engineering integration with International Space Station, SpaceX Dragon vehicle and Falcon-9 launcher. Safety engineering, coordination with project management, risk management, configuration management, and product assurance management.

Aalborg University 2004-2007

Assistant Professor

Research and teaching within estimation, hybrid systems, and intelligent autonomous systems. Supervision and coordination of the AAU CubeSat development program for engineering education. Coordinator of the master program Intelligent Autonomous Systems (8^{th} to 10^{th} semester).

Selected publications

1. Mooney, C., Persson, J., Bhanderi, D. V. B., Mikkelsen, O., Davidsen, P., Hartnack, O., Tacconi, M., The ASIM Mission - A Contamination Control and Thermal Approach, 50th International Conference on Environmental Systems, July 2021.
2. Chanrion, O., Neubert, T., Rasmussen, I. R., Stoltze, C., Tcherniak, D., Jessen, N. C., Polny, J., Brauer, P., Balling, J. E., Kristensen, S. S., Forchammer, S., Hoffmeyer, P., Davidsen, P., Mikkelsen, O., Hansen, D. B., Bhanderi, D. D. V., Petersen, C. G., Lorenzen, M., The Modular Multispectral Imaging Array (MMIA) of the ASIM Payload on the International Space Station, Space Science Review 215:28, April, 2019.
3. Neubert, T., Østgaard, N., Reglero, V., Blanc, E., Chanrion, O., Oxborrow, C. A., Orr, A., Tacconi, M., Hartnack, O., Bhanderi, D. D. V., The ASIM Mission on the International Space Station, Space Science Review 215:26, March, 2019.
4. Nielsen, J. D., Bhanderi, D. D. V., The Engineering Space Workforce of Tomorrow - The Integrated Space Engineer. In AIAA Space 2007 Conference and Exposition Proceedings, Long Beach, California, 2007.
5. Bhanderi, D. D. V., Modeling Earth Albedo Current on Sun Sensors for Improved Vector Observation. In AIAA Guidance, Navigation and Control Proceedings, Keystone, Colorado, 2006.
6. Nielsen, J. D., Alminde, L., Bisgaard, M., Laursen, K. L., Bhanderi, D. D. V., A Large Scale Problem Based Learning InterEuropean Student Satellite Construction Project. Contributions to the International PBL Conference in Lima, Peru, 2006.
7. Bhanderi, D. D. V., Bisgaard, M., Alminde, L., Nielsen, J. D., A Danish Perspective on Problem Based Learning in Space Education. IEEE Aerospace and Electronic Systems, Vol. 21(7):S_19 - S_23, 2006.
8. Amini, R., Larsen, J., Izadi-Zamanabadi, R., Bhanderi, D. D. V., Design and Implementation of a Space Environment Simulation Toolbox for Small Satellites. In 56th International Astronautical Congress, Fukuoka, Japan, 2005.
9. Bhanderi, D. D. V., Bak, T., Modeling Earth Albedo for Satellites in Earth Orbit. In AIAA Guidance, Navigation and Control Proceedings, San Francisco, California, 2005.
10. Nielsen, J., Bisgaard, M., Alminde, L., Bhanderi, D., Space Related Education at the University of Aalborg, Denmark. Nordic Space Activities, Vol. 13(No. 2):pp. 8-14, 2005.

Education

Aalborg University 2001-2005
PhD, Control Engineering
Thesis: Spacecraft Attitude Determination with Earth Albedo Corrected Sun Sensor Measurements

Aalborg University 1996-2001
Master of Science in Engineering, Control Engineering
Thesis: Attitude Estimator for Rømer