

# Marcus J. dos Santos

VICE PRESIDENT, CHIEF OPERATING OFFICER



## BACKGROUND SUMMARY

Structural and mechanical engineer, responsible for complete management, design and implementation of a variety of materials handling projects. Chief operating officer handling operation of business ranging from basic accounting functions to personnel management and top level financial decisions, as well as various process improvements. Extensive computer skills employed in optimizing company software for advanced analysis and project development.

## PROFESSIONAL BACKGROUND

### DOS SANTOS INTERNATIONAL

Marietta, GA, 1997 – 1998, 2004- Present (Partner, Co-founder, VP, COO)

Co-founded company on worldwide experience, specializing in materials handling and engineering. Responsible for company operations including personnel matters, financial tracking, and management of multiple projects at once. Structural and mechanical engineering functions include executing a wide variety of materials handling projects.

Engineering projects have included:

- Engineering and design of Sandwich-Belt High Angle Conveyor Systems throughout the world, with angles to 90°, lifts to 35m, and rates to 4000 t/h.
- Overland conveyor analyses utilizing DSI proprietary software, “ExConTec” The Expanded Conveyor Technology
- Development of improved software interface for ExConTec and other internal software tools
- Complete supply of overland conveyor system, including seven (7) flights, both uphill and downhill, with soft start and stop by VFD. Three (3) units with horizontal curves. Optimized in-house software to analyze conveyor forces.



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- DEM analyses for chute, bin, and transfer applications
- Various rigging, reeving and hoisting studies and executions.
- Conveyor system start-up and inspection advisory services.
- Conveyor inspections and repair reports.
- Preparation of budget and firm quotes for projects including:
  - Sandwich Belt high angle conveyors
  - Long overland conveyors including horizontal, vertical, and compound curves
  - Material handling system upgrades and modifications
  - Plant, port, and terminal upgrade projects
- Prototyping of Sandwich Belt concepts, using 3D design and 3D printing technology

Operations (COO) accomplishments have included:

- Rationalization of computer systems to simplify IT management
- Implementation of company communications systems to ensure efficient routing of calls to personnel whether in-office or traveling
- Consolidation of company contact storage systems
- Improvement of various company processes including:
  - Proposal development - gathering/archiving quotes from suppliers and developing complete pricing for clients, including automatically generated 3D models and sketches
  - Project tracking
  - Financial management
  - Time tracking methods
- Complete management of bookkeeping, accounting and payroll in early years of company
- Management of outside accountants and payroll services as company grew
- Development of standard operating procedures and processes for company operations
- Employee manuals
- Training/onboarding manuals

## MIDE TECHNOLOGY CORPORATION

Medford, MA 2001 – 2004, (Aerospace Engineer)

- Developed various approaches to use of smart materials for military and civilian applications.
- Developed communication system for data transmission through sealed containers.
- Researched and tested new methods of fuel injection for jet and diesel engines.
- Developed programmable tester for research of new piezo-actuated device.
- Designed and assembled mechanical test beds and electronic devices.
- Involved in high-tolerance machining work and CAD design for prototyping and actual product manufacturing.

## MIT OCEAN ENGINEERING TANKS

Cambridge, MA 1999 – 2004 (UROP)



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- Made electrical and mechanical improvements to Robo-Pike robotic fish and began mechanical design and development of Robo-Muskie for propulsion research.
- Involved in computer aided design, assembly, testing and purchasing for projects.

## EDUCATION

Massachusetts Institute of Technology, Bachelor of Science Aerospace Engineering with Information Technology – 2002

## ASSOCIATIONS/MEMBERSHIPS

ASME B20.1 Conveyor Safety Committee Member since 2014  
 SME (Society for Mining, Metallurgy and Exploration) Member since 2006  
 TWIC (Transportation Worker Identification Credential) card holder  
 Licensed FAA Section 107 drone pilot  
 CEMA (Conveyor Equipment Manufacturer’s Association) member  
 President of HOA

## ACHIEVEMENTS/PUBLICATIONS

- “Adder Snake: Low-Angle to High-Angle with No Transfers” presented at BeltCon, Sep. 2019, Centurion, South Africa
- “Adder Snake: Low-Angle to High-Angle with No Transfers” presented at SME Annual Conference and Expo, Feb. 2017, Minneapolis, MN
- Received patent number US9815627B2 in November 2017 for Adder Snake invention
- “Proven Performance, Lost Opportunity” in Mining Magazine, September 2008, Vol. 199, No. 3, Mining Communications LTD
- Developed original web page for Dos Santos International, and managed major updates by third-party developers

Other:

- Co-authored “Fast-Starting and Maneuvering Vehicles: Robopike and Robomuskie” sent to International Symposium on Unmanned Untethered Submersible Technology (UUST)
- Designed and built structure and interfaces of ARGOS for the MIT CDIO project
- Led three major renovation projects to improve living quarters at Phi Delta Theta Fraternity.

## TECHNICAL/LANGUAGE SKILLS

- AutoDesk Inventor, AutoCAD, NavisWorks, SolidWorks
- ChuteMaven (DEM analysis software)
- Microsoft Excel/VBA
- JavaScript/CSS/HTML
- Proficient in Spanish
- Read and write Portuguese and Spanish

