

Michael G. Fulton

MEM, BSET, SDRM, SCPM, PMP, GCPC, CET

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Aircraft Engineer & Management Profile

Electrical Engineering ~ Product Development Leadership ~ Project/Program/Portfolio Mastery

Summary: Steadfast, venture-driven, results-oriented professional with over 25 years of experience in avionics, engineering, research, development, manufacturing, and sales of specialized products and equipment installations mostly for FAA part 121 operators and Part 145 avionics repair stations, but also includes professional digital audio products for TV and Radio broadcasters. Demonstrates strong capabilities in managing resources while leading new capability development, implementation, and optimization. Excels in inspiring, training, and mentoring.

Roles & Positions: Maintenance Director, Operations Manager, Project Engineer, Avionics Technician.
Non-profit roles: VP Public Relations, VP Education & Certification

Product Design: Highly-experienced electronics product design engineer, hardware and software, who's worked well into the 100's of projects delivered. Creative confident and passionate about translating back-of-the-napkin concepts and well-defined customer requirements into successful products. Known for delivering unyielding high-quality work while still meeting tight deadlines. Builds excitement with clients by using rapid-prototyping at the early stages and then iterates through feedback and design changes. Technique avoids heading too far in the wrong direction.

Aircraft Experience: Seven years of STC development and installation experience with EGPWS/RAAS on B727s & B757s, A300s & A310s, and MD10s & MD11s. Aircraft wiring, electrical load analysis, and avionics. EGPWS/RAAS requirements development for B767 and B777s. Eleven years of component-level avionics repair. Six years in US Navy as avionics flight line mechanic and avionics shop supervisor. Proven at tackling the toughest problems and chronic issues.

Project Leadership: Ambitious, ethics-driven PMI certified Project Management Professional (PMP). Stanford University trained & certified in Advanced Project, Program, and Portfolio management (SCPM). Spearheaded growth of revenue and expansion of programs at PMI Memphis.

Decision Leadership: Stanford University trained & certified Decision Professional (SDRM). Executes for a quality-driven focus on decisions by leading team analysis of information and team development of alternatives to gain insights needed for decision-makers to make the best choice in uncertain and dynamic environments. Driven towards excellence through frequent social contact and learning exchanges with leading pioneers, practitioners, academics, scientists, and founders in the decision sciences community.

Specialized Skills: Design Think, Lean, advanced QDM, predictive modeling, probabilistic-based scheduling, risk analysis, feasibility analysis, decision tree, value stream, strategy table, influence diagramming, Gantt chart, critical path analysis, scenario analysis, building maintenance, commercial & residential property management, negotiating, leasing, contracts, budgeting, finance, accounting, marketing (working on persuasion skills where facts don't matter)

Software Expertise: AutoCAD, SolidWorks, Chief Architect, Protel PCB Design, Analytica, @Risk, MS Excel, MS Word, MS Access, MS Project, SharePoint Designer, Captiva, Camtasia, Photoshop, Adobe Acrobat Pro, Xilinx FPGA/CPLD developer applications, Microchip developer applications, various 3D printer slicers, various software developer platforms

Project Engineer at FedEx Air Operations: Strategic Projects, Avionics & Electrical Engineer, Configuration management of avionics, and component maintenance. Domestic and international experience.

Strategic Project Engineer (2015 to present) – Principal team member, strategist, and technical focal on FedEx Express' 30 x 30 Alternative Jet Fuel Goal. Member of ASTM D02J subcommittee. Engaged in the continuous development of jet fuel standards – those specifically needed to advance commercialization, testing & certification, and global acceptance of alternative jet fuels. Research engineer for identifying, analyzing, and developing alternatives for a Lower Deck Fire Protection system.

Program Leader (2007 – 2014) - Technical focal for EGPWS and RAAS on FedEx's fleet of aircraft including: Boeing 727s, 757s, 767s, 777s, the Airbus A300s, A310s, and McDonald Douglas MD10s, MD11s.

- Developed an upgraded EGPWS and RAAS configuration for FedEx 757s. Affected engineering solutions needed to integrate EGPWS with Flat Panel display System, Weather Radar, and TCAS. The final design was branded and FAA certified as FedEx's iTAWS – *Integrated Terrain Awareness and Warning System*. Fully engaged in the STC development, flight testing, simulator testing, and STC installations. From 2007 through 2014, FedEx converted over 100 previously owned B757-200 passenger aircraft into freighter versions. Each and every aircraft had a unique, custom EGPWS installation (STC) to study. One by one, developed the engineering documents needed to reconfigure each aircraft to FedEx's STC at an average rate between 2 to 3 per month.
- Developed a solution to integrate HUD with EGPWS on 757s. Planned a cut-in to 757 conversions already underway at 3 different heavy maintenance facilities. Issued the engineering orders to modify 53 post-conversion 757s currently operating in revenue service.
- Created a planning tool that predicted human resource constraints. As a result was able to consistently meet 757 production goals, even when production dates became moving targets due to aircraft swaps, delays, and accelerations.
- Managed inflight alerts, technical operations, and maintenance related issues through resolution.
- Provided front line support for anything and everything integrated with EGPWS & RAAS including RADALT, Flight Management Systems, Air Data Systems, Stall Warning, Wind Shear, Navigation Systems (HUD, WXR, TCAS, GPS, INS, ILS), Display Systems, Alerting Systems, Flight Instruments, and Ground / Air logic. Provided flight simulators support.
- Received numerous FedEx recognition awards: for guiding a strategic decision-making process at LAC, for developing an engineering solution for integrating 757 EGPWS with Weather Radar, for developing a computer-based training module for a new engineering business process, for involvement in a Fleet Team process mapping event, and for developing the team's engineering website on a new IT platform.

Project leader (2008 - 2010) – Collaborated with Honeywell. Developed and installed an STC needed for integrating the HT9100 GPS system with EGPWS. This was necessary to resolve a RAAS configuration issue on fifteen legacy B727 aircraft.

Project leader (2012-2013) – Collaborated with Boeing and Honeywell to standardize EGPWS and RAAS on production 767s and 777s. Developed engineering orders needed to modify 3 post-production aircraft.

Project Engineer, Avionics Component Maintenance: Provided engineering services and support to FedEx mechanics involved in avionics component repair and testing, which are repair activities typical of a FAA CFR14 part 145 Repair Station

Avionics Component Support (Nov 2013 to March 2015)

- Provided research and analysis support to senior management at FedEx's Avionics Repair Service Center in Memphis. Developed technical, economic, and business insights needed for replacements and upgrades of test equipment. And, developed predictive economic models for avionics shop business alternatives.
- Assisted with reliability improvements identified by FedEx's component reliability team
- Advised shop technicians and authorized component repair procedures
- Researched alternatives, facilitated communications, and applied use of engineering resources that were crucial to overcoming migration issues, parts obsolescence, and supply chain constraints

Decision Quality (DQ) Thought Leader:

Decision Coach, Strategic Decision Project, FedEx Latin Americas (2011) – Served as internal consultant on a marketing driven strategy aimed to guide growth in the LAC region. Recruited internally by FedEx's LAC marketing group in Miami. Coached cross-functional team members on a decision-making process and set of techniques that was unfamiliar to them. The resulting initiative built their senior leader's confidence to select a decision analysis project instead of their conventional business case method. The Miami event produced seven strategic alternatives for analysis. The insights enabled a DA modeling engineer, who was not highly experienced in the industry, to build a robust model that accurately reflected the complexities relevant to the high-stake decisions the business team was trying to make.

ABCs of Decision Quality (2013 to present) – Built an open-community web platform on FedEx's Purple Hub social network. Champion discussions on the topic of Decision Quality (DQ). Mission: Advance continuous learning and collaboration between professionals and decision-makers facing important and complex decisions. Includes building front line insights into the use of tools and techniques that support FedEx's Quality Driven Management (QDM) program.

DQ for Leaders (2015) – Lead contributor in the evaluation of *DQ for Leaders* as an addition to the training curriculum used by FedEx's Managing Directors at Air Operations for their professional development.

Project Management Leadership: One of FedEx's "go-to" coaches on project management.

Project Management 'Best Practices' Champion and Coach (2010 to present) – Earned reputation as one of FedEx's experts on project management. Recently served 4 years on PMI Memphis' Board of Directors. Directed a diverse education team consisting of over 50 Memphis area professionals. Provided career guidance, education, and training to PM professionals in the mid-south region. Inspired my all-volunteer team to achieve year-over-year growth in PMP training: 38% (CY'11), 63% (CY'12). Led expansion of training programs into new growth areas including AGILE, SCRUM, Risk Management, and Business Analysts. Personally structured and closed a deal with US Navy (NPRST/BUPERS-1) NAS Millington that delivered onsite PMP prep training to 27 military and government employees.

Aircraft Electronics Industry – 1999 through 2006, and 1985 through 1995

Project Engineer at Avionics Specialist (ASI): Product Development - Specialized Test Equipment - Avionics & Electrical Engineering – Printed Circuit Board Design – Part 145 Avionics Repair Station – Manufacturing.

Have extensive experience in reverse engineering, designing specialty products, and developing test solutions. Enjoyed complex challenges requiring deep thought and collaboration with customers to create new products. Created product designs that incorporated microprocessors, programmable logic, complex state machines, mixed-signal, PCB design, embedded software, cabling, and wired enclosures.

- Piloted numerous product innovations and managed a myriad of customer’s build-to-print projects
- Guided technicians and engineers through undefined manufacturing and innovation processes
- Expert in digital circuits. Coached peers and assisted technicians with difficult troubleshooting and repairs. Often called upon to crack coded data and interpret proprietary protocols.
- Selected, managed, and maintained relationships with key suppliers and service providers

Operations Manager at Harbin Electronics: Part 145 Avionics Repair Station - Product Development - Specialized Test Equipment - Manufacturing

Avionics Bench technician, calibration technician, engineer, and avionics shop manager for Harbin’s product development team and production workers. My team created and manufactured the HTS product line. Developed and manufactured numerous specialty products for our customers. Creative confidence flourished as Harbin’s blue line brand strengthened over a 3 year period – Harbin Test Systems (HTS). Demand increased for our blue line products and custom manufacturing. Harbin needed an investor to grow and merged with a silent business partner. Ultimately cash flow constraints and investor disagreements eventually led to Harbin’s end game. Shortly after closing, ASI (above) acquired Harbin’s intellectual property and tangible assets. It was 4 years later when ASI hired me to support expansion of their product line.

Flight Line Avionics in the U.S. Navy: 6 year Navy veteran - Persian Gulf War - Avionics Technician First Class (E6) – VP10 Brunswick Maine – Shop Supervisor - P-3C anti-submarine warfare

Broadcast Electronics Industry – 1995 through 1999

Project Engineer at Auditronics: Lead for Product Development – Professional Audio Equipment – Radio and TV Broadcast

Product Development Leader (1995 – 1997) - Recruited as design researcher and product leader for the NuStar™ Audio Mixer System.

- Product owner, managed creation of the control board used for live on-air by radio show hosts
- Set design strategy crucial to maintaining brand and market leadership in the radio and TV broadcast industry
- Deployed rapid prototyping of concepts by modeling user prescribed features prior to hardware designs. Used findings to influence selection of standard features and influence marketing decisions for scalable upgrades.

- Designed the circuits, selected components, and created PCBs.
- Created a full-duplex communications layer and set the interface protocol used for remote control. Wrote embedded software and designed programmable logic.
- Guided manufacturing and built relationships to reduce sourcing costs. Provided live product demonstrations at NAB and technical sales support.

Special Projects Leader (1995 – 1999) – Research leader who guided realization of interface products and system control products including synchronized clock systems, event control circuits, event timer, audio router-multiplexer, A/C monitor panel, and future-focused products including a curious aim at aviation and marine products.

Commercial Property Management –1979 through 1984

Maintenance Director at White Oaks Mall: Property Maintenance - Earliest Professional Experiences

Promoted to Maintenance Director at age 19. Planned and directed maintenance needs for a 1,100,000 sq. ft. shopping mall. Delegated activities and managed about 33 employees including managers, supervisors, maintenance technicians, landscape professionals, and custodians. Details oriented setting high performance and quality standards. Empowered with full accountability for tenant relations, public relations, local government relations, vendor contracts, building maintenance (structural, electrical, plumbing, and roof), internal/external landscaping, parking lot maintenance, snow removal, exterior lighting, emergency equipment, HVAC, security, equipment maintenance, utility services, supply logistics, and housekeeping. (References are available)

Residential Property Management –1997 through present

Fulbrook Enterprises: Owner/Operator – Real Estate Investor

Strategic investor in Memphis area real estate. Not a Flip or Flop program. Manage a thriving but modest portfolio of 13 single-family residential properties offering non-qualifying, lease/purchase agreements. Built this business from the ground up as a future retirement plan, and 20 years later still operating that way by reducing debt, by building cash assets and equity, and by maintaining a client focus on long-term residence. Decisively downsized from 19 to a manageable 13 properties such to remain hands on while working an enjoyable, fulltime career in aviation. Further growth required a transition to a new business model and trust in a management company to run day-to-day operations.

Farm Land Management –1998 through present

Own and co-manage a 150 acres farm in Chester County, Tennessee. Currently planted for selective tree farming. Huntible land with open fields planted with grasses used for hay, and occasionally planted with seasonable tracts of row crops grown used as feedstock for cattle and used to attract wild game.

Education / Professional Licenses / Certificates

MEM - Masters in Engineering Management

Christian Brothers University, 2009, GPA 4.0

BSET - BS in Electrical Engineering Technology

University of Memphis, 2004, GPA 3.85
Summa cum laude

SDRM - Strategic Decision and Risk Management

Stanford University, 2011, Advanced Professional

SCPM – Stanford Certified Project Manager

Stanford University, 2013, Advanced Professional

PMP - Project Management Professional

Project Management Institute, 2005

GCPM - Graduate Certificate in Project Management

Christian Brothers University, 2007

CET – Certified Electronics Technician

Electronics Technicians Association (ETA-I), 1990

FCC License – General with Radar Endorsement

USA Federal Government, 1990

FAA Repairman Certificate

USA Federal Government, 1993

Professional Training - United States Navy

Millington, TN – Moffett Field, CA – 18 Months

Community Activities / Awards

Professional Community Leader – PMI Memphis

Board of Directors 2011, 2012, 2013, 2014
www.pmimemphis.org

Professional Community Leader – ETA-I

Board Officer 1992, 1993
www.eta-i.org

Member – Society of Decision Professionals (SDP)

www.decisionprofessionals.com

Member – Decision Analysis Affinity Group (DAAG)

www.daag.net

Honorary Member - Epsilon Mu Eta 2009

Engineering Management Honor Society

Featured Engineer Award – MJEC 2011

Memphis Joint Engineers Council

Summary of Employment History

Aircraft Project Engineer - Federal Express, Memphis TN
R&D Project Engineer - Avionics Specialist, Memphis TN
R&D Project Engineer - Auditronics, Inc., Memphis TN
Operations Manager - Harbin Electronics, Memphis TN
Avionics Shop Supervisor AT1 (E6) - U.S. Navy
Managing Director - Simon & Associates, Springfield, IL

Nov 06 to Present
April 99 to October 06
May 95 to April 99
May 91 to April 95
May 85 to May 91
May 79 to May 83