JAMES E. BREYER

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Summary:
Versatile Entrepreneurial Executive with global product R&D expertise in full lifecycle new technology product development from ideation to commercialization to drive profitability through technology leadership and delivery execution. Comfortable in enterprises from start-up through mid and large footprint companies. Created 3 startups with delivered growth. Experience leading product R&D planning, execution, and validation at the vehicle, system, sub-system, and module levels from research through launch. Technical innovator with significant contributions in advanced EV and Hybrid vehicles as well as high visibility customer appeal products, and transformative new technology introductions in ADAS, Connectivity and electrification. Experienced presenting to executive steering committees (CEO, CTO, CFO, Vice Presidents), including road maps, new products introductions, Global Material Cost Optimization results, and strategic initiative rollouts. Experience building and leading high performing teams in Systems Engineering, Software Engineering, Hardware Engineering, Cost Engineering, and Advanced Engineering teams resulting in increased revenue and profitability.

EXPERIENCE

HERCULES ELECTRIC MARINE, Inc, LIVONIA MI **DECEMBER 2018 – PRESENT**
Chief Executive Officer, Chief Technical Officer, Chairman & Founder

- Created Hercules Marine and Hercules Electric Vehicles divisional enterprises.
- Public champion and visionary leader of Hercules Electric Mobility and Hercules Marine
- Created Electric Hercules Alpha Pickup & SUV, Electric Pontoon Drive, Solar Pontoon, Hybrid Solar pontoon & water-taxi platform, Electric mini-boats and amphibious vehicle launchers.
- Executive leadership, Fundraising, Technical Product Management, Partnership management Raised over $4M in investment and non-dilutive funding
- Created $500M sales pipeline and secured $60M is purchase orders for new product line
- Created SW defined universal powertrain for Marine, RVs and off-road vehicles.
- Executed $5M EV Pickup and SUV Partnership Project with Nissan Motors.
- Technical architecture creation, New product creation development
- Created Hercules development system based on hybrid Agile for Hardware methodology
- Patented Marine SW defined powertrain integrated electric drive system.
- Developed Voice-Ai control system for remote control EV Hercules Alpha Pickup
- Developed new powertrain architecture proposals for diversified product offerings in robotic controlled boats, trucks, RVs, Busses, and Aero vehicles
- Founder

XL Hybrids, Inc, Boston MA **May 2018 – January 2019**
Chief Technical Officer

- Developed and implemented multi-dimensional technology and product roadmaps, spanning new product development, capabilities and tools, core technology, and advanced R&D.
- Developed new powertrain architecture proposals for diversified product offerings with global OEM partners, for product in North American and China markets.
- Analyzed and pursued strategic partnerships and M&A opportunities globally and regionally; Achieved MOU to hybridize 10k vehicles from partner OEM.

- Led strategic improvement actions in telematics and cloud computing for integrated trouble-shooting and service alerts as well as compliance tracking for Truck and Bus Partner.
- Built and delivered Hybrid Electric Airport Shuttle busses with solar roof integration.
- Created supply agreement for Chinese designed electric refuse trucks and PHEV busses partnership for US Imports
- Managed IP portfolio and new Intellectual property creation process.
- Championed product improvement, service, and compliance actions for product robustness improvement.
- Investigated field issues such as vehicle fires, safety related failures, and FMVSS non-compliance.

INNOVATION STRATEGIES, LLC **December 2017 – Present**

Principle Consultant

- Created Architecture for solar integrated electric municipal bus and created upfit proposal for European city bus conversions to refit from Diesel to Electric or Hybrid with integrated solar roof.
- Created Open source EV Bus operating system upgrade proposal for Miami Dade County, to rehabilitate EV busses where OEM has closed, and retrofit plan.
- Management consulting in Systems Engineering, Agile Development, ASPICE Assessment, training
- Staff Augmentation, Lean Organization Optimization, Engineering Cost Optimization, Strategic Initiatives
- Product & Innovation Road-mapping, Innovation lifecycle management, Electrification, ADAS, V2x, IoT
- Market analysis, Technology Trend analysis

Independent Licensed Insurance Agent: **March 2018 -December 2019**

- Life & Health: Resident: MI, Non-resident: OH, TN, IA, AR, NE, VA, SC

FICOSA **NOV 2016 – DEC 2017**

DIRECTOR, ADVANCED ENGINEERING & NEW TECHNOLOGY

- Increased new technology portfolio in NAFTA region. Identify new product opportunities through advanced engineering and product innovation work-streams. Developed new IP and product opportunities across multiple business units.
- Develop new business opportunities through technical engagement of customer engineering staff and leadership. Developed $275M in new customer opportunities, in RFI & RFQ phases. Developed new sales channels for after-market product penetration of traditional OEM based products. P&L for new technology product group in NAFTA region.
- Developed Strategic Growth Plan for Advanced Engineering & New Technology Products groups, utilizing systemic growth model to maintain organization efficiency while implementing stepped growth. Developed plans to enable engineering team size to expand from 10 to 56 over 24 month business plan period, in SW, Systems Engineering, Product Engineering, RF engineering, and vision systems.
- Implemented Systems Engineering methodology in NAFTA region, aligned with other regional engineering teams to implement common and best practices globally.
- Product leadership across multiple business units for NAFTA Region, including: Camera vision systems, Advanced Driver Assistance Systems (ADAS), Video-based rear view and side view mirror replacement systems, Advanced Vehicle communication systems, DSRC, V2x, hidden antenna systems, camera & sensor cleaning systems, Shift-by-Wire systems, and High-Voltage power management systems.

MAGNA ELECTRONICS **NOV 2015 – NOV 2016**

SENIOR MANAGER – GLOBAL ELECTRONIC COMPONENTS ENGINEERING

- Manage, recruit, hire and train global engineering staff, consisting of functional engineering managers and reports in Systems Engineering, Software Engineering, Electrical Engineering and Mechanical Engineering group.

- Responsible for project deliverables for multiple concurrent programs, including, engineering deliverables, program cost, quality, P&L, staffing, and quoting.
- Provide technical leadership and management of electronic module design and project deliverables for Automotive OEM and Tier1 programs in Intelligent Chassis Controls, Hybrid Battery Controls, Intelligent Pump Controls, connectivity and other body control modules and smart actuators.
- Leadership of global Engineering Product Development team of 86 engineers, technical managers, and program managers, located in 4 global locations (Germany, Mexico, USA, and China).

AM GENERAL **JUL 2015 – DEC 2015**

CONSULTANT – SENIOR ENGINEERING MANAGER – SYSTEMS ENGINEERING, ARCHITECTURE & SOFTWARE

- Strategized Common architecture for common scalable vehicle architecture to support a multiple variant, family of vehicles to improve product develop process efficiency and cost optimization.
- Built model-based systems engineering, software engineering and architecture teams from ground-up. Recruit, hire and train Systems Engineering staff consisting of 25 engineers and 3 group managers
- Instituted Voice of Customer analysis processes to derive technical requirements from market conditions, competitive intelligence, and product strategies.
- Created enablers to improve process robustness and efficiency of systems engineering through adoption of model based systems development, including hardware-in-the-Loop integration, embedded software development, including cyber security, functional safety, and CMMI level-3 compliance.
- Lead transition of requirements engineering to Team Center Requirement s Manager, integrated with Team Center PLM tool.

FIAT CHRYSLER AUTOMOBILES **MAR 2014- JUL 2015**

MANAGER, EMBEDDED SYSTEMS ENGINEERING & QUALITY

- Global leader for Supplier Engagement and Purchasing strategy for software quality engineering initiative
- Executive liaison with key strategic suppliers in engineering software quality and A-SPICE implementation. Act as single point of contact to resolve systemic issues, to expedite sustainable improvements in software development and delivery.
- Global manager for embedded systems quality process rollout. Led sharing and implementation of newly developed processes with global teams from Asia-Pacific, Europe, Brazil, and North America
- Developed real-time library of A-Spice capabilities for supplier business units, to be referenced for future sourcing decisions. A-Spice Provisional Assessor.
- Developed and implemented strategy and tactical deployment plans for incorporating initiative into core software engineering processes. Developed training materials and hosted training sessions globally
- Created processes and evaluation tools to assess new products development projects for software maturity and technical of innovation and advanced technologies, including cyber-security, functional safety, Infotainment, and Advanced driver safety systems.

GENERAL MOTORS COMPANY **MAY 2007- MAR 2014**

ENGINEERING BUSINESS MANAGER, MATERIAL COST OPTIMIZATION SYSTEMS & OPERATIONS

Engineering Business Manager, Material Cost Optimization Systems & Operations
June 2013 – March 2014

- Delivered $2.5B in long term contracted savings direct material cost savings, utilizing business analytics machine learning optimization system(Big Data) to drive results.
- Developed internal material cost optimization data analytics system to collect, analyze, and manage cost saving data for initiatives from concept through contract change, utilizing machine learning and SQL, implemented utilizing agile methodology.

- Provide Consultation to senior engineering and finance leadership (Executive Directors, VP, CEO levels) members to ensure consistency of performance reporting, operation system requirements, and IT systems needs for global operational adherence.
- Developed Global Material Optimization Strategy, including operational guidelines, organizational structure, and IT systems requirements. Developed training material and delivered training to senior product and finance teams.
- Built analytics cost engineering team, including recruiting, training, and direct management. Incorporated distributed team approach, embedding individuals into functional team locations to act as local expert.

Global Lead Development Engineer & Hybrid Systems Engineer, MAY 2007 –JUN 2013
Global Electric Vehicles & Chevy Volt

- Subject matter expert for propulsion system development, and system integration for global electric vehicle propulsion systems, hardware, and software (High Voltage Battery, powertrain, power electronics, charger, and control system)
- Created and executed powertrain product development plan to reduce test assets by 50% and remove 38 weeks from standard timing. While introducing 100% new vehicle with all new hardware and software
- Hybrid Operating System model based software debug and code modifications for new vehicle operating modes and control requirements. C-code line level analysis and editing. Rewrote code for new methodology required for pure electric vehicles from hybrid vehicles no longer requiring transmission or engine controllers
- Developed control models for EV motor thermal performance and protection. Developed and coded controller emulators for advanced technology concept vehicles and HIL benches.
- Established new company process to re-deploy integrated data collection modules from embedded controllers from sequential vehicle development phases, saving $3.4M, and reduced vehicle update time by 15%.
- Control System development responsible for calibration performance, and new concept SW & controls integration constructing and modifying base SW utilizing C/C+ code modification and integration.

SIEMENS VDO (FORMERLY BALLARD POWER SYSTEMS) **JUL 2006 – MAY 2007**
POWER ELECTRONICS PRODUCT MANAGER

- Managed custom power module engineering and build team for prototype manufacturing. Including staff and build schedules, maintenance and technical issue resolution projects
- Implemented x-ray imaging process to identify substrate to silicon die voids and screen out near infant mortality prior to integrated module builds. Reduced module losses to die voids by 85%\

FORD MOTOR COMPANY **MAR 2000- JUL 2006**
Advanced Hybrid Controls, Lead Systems Engineer MAY 2005-JUL 2006
(Research & Advanced Engineering)

- Developed and Implemented new systems engineering control systems development process for advanced Hybrid controls, being applied an all future hybrid vehicle programs
- Developed EV Electrical Architecture for Full Size SUV, Turck and mid-size SUVs across 5 brands. Built
- Lead electrical & communications architect, responsible for CAN network topology and owner of vehicle controls CAN list. Developed electrical I/O and related interface schematics.
- Utilized model based systems engineering to link requirements, control models, test results, and ensure traceability, utilizing Use Cases, Boundary Diagrams, Interface analysis, P-Diagrams, Noise Factor Management Strategies, FMEA, DVP&R tools

Lead Product Engineer/ Project Manager MAY 2003- MAY 2005
(Mustang Program Management)

- Appearance Steering Team Leader

- Lead weekly senior management and executive level reviews of appearance related content changes (Group Vice President, Vice President, Director, & Studio Directors)
- Delivered appearance improvement cost savings of $23.50 per vehicle ($3.5M annual savings based on volume), while enhancing customer satisfaction and value
- MY2009 Program Management Interim Appearance Supervisor
- Pilot project manager for new Global Product Development System into MY09 Mustang program for more efficient product delivery, as pilot program for all future product programs
- Responsible for "concept-in" of new Glass-back product feature for MY08+ Mustang line-up. Single point of contact for multiple suppliers. Organized design competition with suppliers for first in class feature. - Performed QFD, cost/benefit analysis, and business case comparison for supplier sourcing decision, including multiple senior management cross-functional supplier reviews.

Research & Advanced Engineering MAR 2000 – MAR 2003
(Advanced Brake System and Fuel Cell Vehicle Development)

- Lead Regenerative Brake-by-wire engineer for C264 Fuel Cell Focus program. Responsible for developing and calibrating Regenerative brake system controls, for increased fuel economy, reduced load on fuel cell system, and reduced cost and size of foundation brake components.
- Headed cross-functional driveline oscillation task force, for direct coupled hybrid-electric powertrains with Electro-hydraulic series regenerative brake systems. Developed and validated oscillation avoidance control strategies with ABS and Powertrain suppliers
- Lead contact H2 facilities improvement project at remote Ford and supplier test locations. Interfacing with facility maintenance and testing operations personnel regarding
- Developed Simulink control models for auto-generating C code and hand crafted C/C+ code for various Hil plants and vehicle controllers to emulate fuel-cell operation in BEV platform.

Robert Bosch Corp **1998 – 2000**
Resident Program Engineer

- Resident Design and Release Engineer and onsite Program Management Ford Motor Company ABS/TCS programs
- Managed major axle shudder resolution taskforce
- Resident Engineer for GM ABS/TCS/IVD programs.

Certifications/Training:
DFSS Greenbelt Ford Motor Company 2006
DFSS BlackBelt Leader GM 2013
ASPICE Provisional Assessor - MethodPark 2014
Functional Safety ISO 26262
Licensed Health Insurance Agent: MI, OH, IA, TN, VA, SC, NE, AR

Skills:
DFSS Greenbelt Certified, DFSS Black Belt Leader, A-Spice Provisional Assessor 12/2014, Behavioral Index training for Management, SQL, SharePoint, HTML, Web security administration, Project Management, Business Strategy Development, Training Material Development, Embedded software development, embedded controller calibration (Engine, Transmission, Power Electronics), CAN, Network topology development, C/C+, MS Project, MS Office, DFMEA, PFMEA, Requirements development, MATLAB, Simulink, Requirements development, Systems Engineering, Digital Signal Processing, Control Systems design, DOORS, ETAS, CANAlyzer, Cardaq+, NeoVi, Vehicle Spy, Instrumentation systems, PASCAL, FORTRAN, Visual Basic, Systemic problem solving techniques (8D, Red X, DFSS, Tear-down analysis, Statistical Analysis, 5Y), High Voltage Safety, SDLC Development in AGILE & waterfall, CMMI, A-SPICE, Full V-Model Systems Engineering practitioner, Product development lifecycles, Leadership, Program Management, IP development, Innovation, Research & Development, Electronics Engineering

Education

2002 - 2005 REGIS UNIVERSITY, DENVER CO
MASTERS OF BUSINESS ADMINISTRATION
Capstone: Management & Marketing of disruptive custom consumer products.

1993 - 1998 UNIVERSITY OF DETROIT MERCY, DETROIT MI
BACHELOR OF ELECTRICAL ENGINEERING (COMPUTER ENGINEERING FOCUS)
Capstone: Navigation & Guidance systems for Autonomous Electric Vehicle.

1991 – 1993 MICHIGAN STATE UNIVERSITY, EAST LANSING MI
NON-DEGREE Software Engineering & general studies (C+, Fortran, English, Chemistry, Etc.)

1987 - 1991 DETROIT CATHOLIC CENTRAL HS, REDFORD MI