STEPHAN BILLER

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Driving digital transformation via education and creation, implementation, & commercialization of innovation

EXPERTISE

Product Management | Innovation | Strategy | Strategic Partner Development
Global Organizational & Cultural Change Leadership | Innovation Leadership | Design Thinking
Analytics | Artificial Intelligence | Internet of Things | Decisioning | Industry 4.0 | Smart Manufacturing| Digital Twin

PROFESSIONAL EXPERIENCE

PURDUE UNIVERSITY, West Lafayette, IN **2022 – present**

Harold T. Amrine Distinguished Professor of Industrial Engineering and the Purdue Business School
Lead Digital-Industrial Research & Innovation across schools and colleges. Teach undergraduate, graduate, and professionals.

ADVANCED MANUFACTURING INTERNATIONAL Inc., Clearwater, FL **2020 – 2022**

CEO & Chief Strategy Officer
Drive digital transformation for Small and Medium Manufacturers (SMMs). Create world's foremost manufacturing innovation ecosystem for SMMs. Direct 50 people, $100M revenue.

- Developed strategy and business plan and received $4M in funding. Hired key personnel for technology, product management, sales, and innovation ecosystem. Received two DOE grants.
- Develop national strategy for AI and Manufacturing for National Science & Technology Council.

INTERNATIONAL BUSINESS MACHINES CORPORATION, Durham, NC **2017 – 2020**

Vice President Product Management for AI Applications & Watson IoT
Led Watson AI & IoT software products (IBM Maximo, TRIRIGA) directing 500 people and $400MM P&L responsibility. Drove differentiation through commercialization of innovation to enable clients' Industry 4.0 and Digital Twin solutions using Hybrid Cloud, Edge, IoT, AI & Analytics. Extended innovation portfolio commercialization to Industry Verticals.

- Increased revenue 17% while main market grew 4% (2019 IBM earnings call). Achieved "Leaders of Leaders" rating in Gartner Magic Quadrant by establishing market, execution, and strategic leadership of core software products differentiation through analytics and AI.
- Commercialized innovation and reduced time to market. Installed CTO to drive architectural design consistency and reuse. Aligned innovation pipeline with IBM Research, Development and Design.
- Created digital transformation blueprint, asset performance management, and operations optimization strategy.
- Consolidated product portfolio eliminating non-profitable offerings and duplication. Launched new SaaS offerings including 4 AI/AR solutions targeted at technician productivity, unplanned downtime, throughput maximization, and on-time delivery. Devised Go-to-Market strategy, sales plays, and playbooks for new innovative offerings.
- Crafted acquisition and partner strategy. Created strategic alliance with major PLM vendor; created Service Lifecyle Management and Digital Twin offerings for manufacturing engineering and operations.

GENERAL ELECTRIC CORPORATION, Niskayuna, NY **2012 – 2017**

Senior Technology Director & Chief Scientist for Manufacturing
Founder and leader for GE-wide Brilliant Factory initiative using industrial analytics and cross-functional real-time data to increase productivity and speed of GE's industrial assets and processes. Directly managed global team of 100 scientists and engineers. Formed cross-organizational teams; established matrixed technology leaders. Hired and indirectly managed corporate Brilliant Factory Executive team which grew to 500+ employees.

- Saved $708MM cost across GE by reducing inventory through analytics and AI, increasing throughput via simulation, improving quality and costs through sensor-enabled automation, and accelerating product development speed and decreasing cost via digital manufacturing tools. (2015/16 GE Annual Reports.)
- Developed and deployed scalable, reusable technologies in showcase factories across 6 major businesses in US, Europe, India, and China. Built facility to demonstrate Brilliant Factory technologies for 1K+ visitors per year, including investors, board members, Chairman, CEOs, and media.
- Shaped winning proposal for National Institute on Digital Manufacturing & Design Innovation**.** Served as Chairman of Executive Committee directing GE's external Brilliant Factory technology and SME supplier strategy.
- Defined Digital Additive Manufacturing strategy driving acquisition and partner strategy of new GE business.

GENERAL MOTORS CORPORATION, Warren, MI **1997 – 2012**

Group Manager for Sustainable Manufacturing Systems and GM Fellow 2009 – 2012

- Developed cross-functional, real-time Overall Equipment Efficiency (OEE) constraint identification system for throughput, tool-changes, and quality. System integrated into standard work processes yielding 15% throughput and 12% quality improvements. Implemented in 26 plants resulting in $120MM annual benefit. Team won highest corporate innovation award.
- Created corporate manufacturing strategy for batteries, electric motors, and sustainable manufacturing. Integrated corporate product, manufacturing, and remanufacturing strategies.
- Wrote stimulus funding proposal and received $10MM in government funding for advanced battery manufacturing development (part of a $106MM award).

Group Manager for Plant Floor Systems and Controls 2005 – 2008

- Achieved 9% throughput increase, 14% first-time quality improvement, and 12% preventive maintenance cost decrease through industry-first, real-time plant floor system. Reduced development time 50% through onshore-offshore model. System implemented in 18 powertrain plants with more than 1K users. Team won highest corporate innovation award.
- Saved $215MM in maintenance labor and $200MM in material handling using state-of-the-art simulations, innovative, real-time throughput models, and wireless technology. Team won highest corporate innovation award.
- Reduced plant automation launch time from 3 weeks to 4 hours through math-based control validation. Enabled 100% testing of potential plant floor fault conditions, eliminating 100+ errors in logic, conveyor, and HMI design. Team won highest corporate innovation award.
- Transformed department into highest performing organization within entire R&D division. Organization received most patent and recognition awards in the company from 2005 to 2008.

Various Research and Management Positions 1997 – 2005

- Reduced P&E $200MM through resilient supply chain design balancing risk and profits.
- Redesigned outbound supply chain resulting in $100MM savings in negotiations with railroads.
- Increased net income $100MM by optimizing profitability while complying with fuel economy law.
- Developed strategy, business processes, and organizational matrix structure to manage global advanced manufacturing technology portfolio, resulting in 10 global innovation programs.

EDUCATION

Master of Business Administration (MBA), High Distinction, University of Michigan, Ann Arbor, MI

Doctor of Philosophy (PhD), Analytics & Decisioning (Industrial Engineering and Management Sciences),
Thesis: Optimizing design of decentrally managed supply chain networks, Northwestern University, Evanston, IL

Master of Science (Dipl.-Ing., B.S., M.S.), Electrical Engineering, RWTH Aachen, Germany

AWARDS & HONORS

- Member of the National Academy of Engineering for “Leadership and advancement of manufacturing technologies and innovations based on the Internet of Things and digital data.”
- IEEE Fellow for “Leadership in the applications of Internet of Things & Artificial Intelligence in manufacturing industry.”
- Recognized by Society of Manufacturing Engineers as one of 30 visionaries for manufacturing (2016).
- Testified before House of Representative’s Committee on Science, Space and Technology (2013).
- Founding board member of Smart Manufacturing Leadership Coalition.
- Leader of five Boss Kettering Awards, highest GM innovation award, four Charles McCuen Research Awards, highest GM research award. Two GE CTO Awards.
- Six Sigma Master Black Belt.
- Eleven patents. 23 trade secrets, 80+ publications in books, journals and conference proceedings.
- Executive committees of National Manufacturing Institutes: Digital Manufacturing and Design Innovation Institute (Chair), America Makes, and the National Center for Manufacturing Science, BoD: MTConnect.