

BIOGRAPHY



Sandy Munro Chief Executive Officer

A frequent speaker and advisor to some of the world's top manufacturing executives on implementing cultural change and integrated product development strategies, Sandy Munro offers his clients a wealth of perspective and a penchant for technology transfer. Although he began his career in the automotive industry and has worked extensively with global automakers and key Tier One suppliers, his experience and insight cuts across virtually every segment of the manufacturing industry.

With more than 30 years of experience in designing, building and processing components, Sandy brings clients an unmatched breadth of experience gained in the manufacturing and engineering environments. After beginning his career as a toolmaker, he worked his way up the ranks to designer and eventually became Engineering Manager at Valiant Machine Tool Company, a leading Detroit area specialty tool company. At Valiant Sandy and his engineering crew designed manufacturing lines spanning Automotive, Aircraft, Medical, Appliance, Dies, Molds, Fixtures, Assembly equipment. Munro's team even developed a fully automated whiskey barrel handling system, filling, draining, charring, stacking, and unstacking which won the Queen's Plate for Engineering Excellence.

In 1978, Sandy joined Ford Motor Company and shifted roles from machine tool and automation Chief Engineer to manufacturing engineer. After several projects where he helped increase productivity on several engine assembly lines, he was promoted to Senior Automation World Wide Specialist, where he supervised installation and development of new, more productive engine manufacturing lines and rewrote many of the Ford Machine Tool Specifications.

In 1982 Sandy met Dr E. Deming and everything in his carrier changed. Dr. Deming's phrase of "*As variation is reduced Quality will increase,*" resonated with Sandy and he became a zealot in reducing variation not only on the Manufacturing floor but also in product design. As Sandy professes, all variation stems from the design. His successful attacks on factory floor waste spread from Engine Division, to Transmission Division, to Body Shop and Final Assembly.

At Ford, Sandy was promoted to Finance Staff and named Ford Global Corporate Coordinator for Design for Automation (DFA) and in this new position, Sandy helped Ford utilize DFA to save billions of dollars, improve quality and reduce development cycles during the early 1980's by improving manufacturability at

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very early stages and eliminating factory floor waste. For his efforts Sandy was nominated for the Henry Ford Award twice for manufacturing improvements and once for innovative product designs.

In 1988 Sandy was convinced by Dr Deming to leave Ford and start his own company which became Munro & Associates, Inc. The Deming spirit and philosophy is evident in all the Munro products and services.

Evangelical in spreading the gospel of paradigms shifts, concurrent engineering and innovation, Sandy, a frequent speaker and advisor to some of the worlds' top executives on implementing cultural change, has chaired and spoken at numerous engineering conferences and symposia across North America and the World. He has also lectured at University of Michigan, Stanford, Purdue, University of Rhode Island and other universities. Sandy is the NASA Chairman of the Michigan Small Aircraft Transportation System (MI SATS), a board member for NCAM (National Council for Air Mobility), a member of the Society of Automotive Engineers, Society of Manufacturing Engineers and the Engineering Society of Detroit.

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