

BIOGRAPHY



Mark L. Ellis

Associate, Munro & Associates, Inc.

Mark Ellis is a versatile and seasoned operations and engineering manager with over 20 years of executive leadership experience. Mark has expertise in international negotiation, supplier consolidation, automation and machine tool systems, and cost reduction practices. Recognized for lead-time reductions, cost savings, and improvements in manufacturing efficiencies, Mark Ellis offers Munro & Associates' clients extensive expertise in manufacturing, process development and operations management.

As an associate at Munro & Associates, Inc., Mark has worked on 2 battery pack costing programs, one for the BMW i3 and one for the Ford C-max Energi. Additional costing programs have included a series of torque converters and the cost analysis for a BMW 328i and the BMW i3.

Prior to joining Munro & Associates, Inc., Mark held a position as an independent consultant providing services in the area of battery and battery pack production, equipment, process development, and manufacturing cost models. His projects have consisted of developing manufacturing cost models for two different HEV Systems from the battery to the final battery pack configuration, Trade Show consultation, NiCad battery manufacturing facility design, and Machine Tool processing for wind generator components.

Companies that have benefitted from Mark's knowledge and expertise are:

GREAT WESTERN TECHNOLOGIES, INC., a wholly owned subsidiary of Great Western Minerals Group Ltd. (GWMG), a mining exploration company focused on developing strategic and unique minerals, especially rare earth elements (REEs). The company processes specialty metal alloys and powder products, including materials that utilize rare earth elements (REEs). As President and CEO, Mark managed all operations of the organization and developed the company into a player in the specialty alloy and milled metal powder industry for the Aerospace, Hydrogen storage, battery manufacturing, and magnet industries. Mark also lead the acquisition of Less Common Metals which was a company located in the UK doing similar work as GW Tech. This allowed for a doubling of production capabilities, and a global reach to the customers of specialty alloys.

COBASYS, a company that provides advanced energy storage systems and solutions for the transportation and stationary markets. Mark was a design leader in developing the processes, products, systems, and application solutions for

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Cobasys' main customer base in the EV and HEV markets. Mark's position was Group Manager, Sr. Process Engineer for the implementation of new and automated manufacturing processes, and introduction of new equipment for the fabrication of NiMH battery cells, packs, and modules.

OVONIC BATTERY CO., The original developer of NiMH batteries for the transportation, stationary, telecommunications and other prismatic battery applications. Cobasys is a spin-off of Ovonic Battery. Mark managed the plant design, operations, and installation of all production equipment, product and manufacturing engineering for the development of mass-produced NiMD cells, modules, and packs. This involved a manufacturing plant in Inner Mongolia China, and Mark also co-managed the building of a negative electrode alloy processing plant. This was a green field turnkey project for the production of NiMD batteries and battery pack assembly systems in the Mongolia plant. His efforts saved \$12.9M of \$35M budget through efficiencies in equipment purchase and installation, staff training and start-up, and implementation the plant ISO 2000 quality system.

RD SYSTEMS, an automation technology company utilizing innovative mechanical designs, custom machining, and control system integration. As Executive Vice President Mark managed the international sales and engineering departments and helped build the infrastructure of the organization including project management, software development, and customer service. RD provided customized manufacturing systems internationally to Asia, Europe, Middle East and North America. Working in Asia, 19 production plants were established, the production plans, equipment and staffing requirements were implemented based on Marks direction.

A client in China employed Marks services to establish a plan to privatize 3,000 state run manufacturing facilities. New products and equipment requirements, which included the fabrication and assembly lines needed to produce the new products, were developed with Marks leadership. This evolution from state to private companies got the attention of the manufacturing leaders in China.

Battery customers: Duracell, Energizer, Ray-O-Vac, Johnson Controls, Boulder Battery, Saft, Varta, Tadiran, Electric Fuel, Moli Battery, Alexander Battery, Samsung, LG, Five companies in Taiwan, 17 in China.

Mark attended Rockford College - American Management Association, leadership degree program, as well as University of Wisconsin for Business Administration and Mechanical Engineering. He has also received extensive professional training including Failure Mode & Effects Analysis (FMEA), Lean Manufacturing Practices, and Taguchi Design of Experiments. Mark has been a member of the Board of Directors for Great Western Minerals Group and RD Systems. He has had several papers published in the Batteries International, and presented papers at several international battery conferences including the China International Battery Conference.