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| Overview | The client had a new, innovative lead acid battery design that incorporated significantly different components than a traditional lead acid battery. The uniqueness of this design required that new manufacturing methods be developed to build this product. |

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| Project Information | * Product: Lead Acid Battery Plates
* Industry: Energy / Automotive / Transportation
* Key Technologies: Liquid and Powder dispensing and mixing, Dipping, Robotics, Continuous Motion, Material Drying, Ultrasonics, Liquid level control
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| Background Information | * When Belcan’s Automation Group was contacted, the manufacturing process was still lab based and very low volume
* In order to manufacture this product at high volumes and consistency, new, creative processes had to be applied
* This startup company did not have the engineering or manufacturing staff required to quickly launch the development effort needed to create the manufacturing systems that were required
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| Belcan Automation Approach | * Since this was a completely new product that had only been made in a lab environment, it was determined that a disciplined phased approach needed to be implemented
* The plan that Belcan put before the client included the following:
* Conduct a rigorous requirements definition phase
* Generate concepts that meet the program / product requirements
* Identify proof of principle projects to test processes and technologies and reduce the risk of building a capital intense manufacturing system
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| Solution | * A phased approach was implemented
* Belcan’s technical team worked with the client’s product, manufacturing, and management team to conduct a rigorous requirements definition session. The results of which were used to the create process concepts.
* Belcan designed and built a proof of principle system that allowed the client to test a unique technology for this application and develop the manufacturing process parameters
* In parallel to the process development phase, Belcan proceeded to design and build the high speed manufacturing system, based on the results of the requirements definition work
* Throughout the entire process, Belcan and the client were in close communication, sharing progress with each other on the design and the process development work
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| Benefits to Client | * The client was able to quickly supplement its technical product development staff with an experienced engineering team capable of supplying practical ideas to manufacture their unique product
* The requirements definition phase enabled the team to quickly select the technologies with the highest probability of success to test and develop the manufacturing process around
* By parallel processing the efforts of process development and system design and build, the entire equipment development cycle was reduced
* The resultant production system significantly increased the manufacturing capacity of the client
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