

Report showing "STEP 2." Edited interview notes, ready for review

Company Information:

Company Name:	Metso Automation
Location:	Shrewsbury, MA
Contact Name:	
Title:	
Phone #:	
Email:	

Job Shadow Information:

Job shadow's name:	Bob Boulay
Title:	Manager, Manufacturing Engineering Flow Control

1. What are your current job responsibilities?

"I'm in charge of manufacturing engineering, facilities engineering, maintenance, tool design and the tool crib room.

The manufacturing engineers that report to me are responsible for the machine programming for all of the manufacturing equipment. They work with the product engineers who use Solid Works software modeling program to design new products or to make modifications to current products. The manufacturing engineer takes their design to bring their model into ESPRIT to program our CNC machines. It is a computer-aided manufacturing (CAM) system for our machine tool applications.

I also get involved with long term strategic planning, reporting to the V.P. of Engineering for Metso. This could be equipment planning to meet performance improvement goals such as plant layout changes for work efficiencies across the plant.

I'm also responsible not only for this facility but also engineering support for the Lithia Springs, GA production facility."

2. Please describe what a typical day or week would be for your job?

"For any given week, I work with many of the other functions in the facility including marketing, sales, and engineering about long term strategic direction. But I am primarily involved coordinating manufacturing's role in achieving the goals and I work with many departments in support of these department goals.

We have concurrent engineering teams that include the product designers and manufacturing engineers. This team looks at customer needs and the design around the need.

For example, we make a "zero leak" valve. To make sure it is designed and manufactured so that it meets customer demand and has high quality, my group will work on projects to make sure the equipment and processes used in production meet the operational requirements. The

manufactured valves have to perform optimally so the engineers look at its operational environment where it will be used as a part of the design and consider the manufacturing processes for components.”

3. How has your education and other kinds of learning (classes, on the job) prepared you for this job?

“After I graduated high school, I headed straight for a full time job, working as a machinist. But pretty quickly, I felt that I had hit the ceiling in the progression of my career. I wouldn’t be satisfied doing the same job for the rest of my life and knew the only thing separating me from the Engineering Group was my lack of formal education.

Another employee at Metso had encouraged me to go to school instead of leaving for another job. I started with an Associate Degree from Central New England College and that let me take the leap from Set Up and Process Control to Manufacturing Engineering.

I worked as a manufacturing engineer for 12 years then as a mechanical engineer for 7 years, getting involved with facility engineering and doing layout to improve throughput and work flow through the facility. It’s all about steps like that, you do something for a while, then you train to do something else that interests you and you move up.

I have enjoyed going to school and to continue a career path into management you need to get a background in business and finance so I continued my education to earn my Masters Degree from [Clark University](#).

As a member of the [Society of Manufacturing Engineers](#), I’m able to network with other professionals are involved with manufacturing in this region. It’s a way to learn how other technology or processes are applied and will possibly get good ideas that would be possible for implementation at Metso. It’s important to learn about new technology and how other organizations are implementing other technologies.”

4. Why did you choose the field you are in now?

“Basically, I have mechanical aptitude and am a hands-on person; doing carpentry, working on cars. I liked the engineering perspective where taking it apart and making it work better was appealing. I’m good with numbers and math.”

5. Describe the types of technology that you work with to accomplish your job?

“For machine tooling, we work with [solid modeling](#) technologies to design and then set up the programs for the [CNC machines](#). The manufacturing engineers are involved with this technology. Programs like Esprit take the design and with program, show the tool path to machine the part. It is used to create the [G-code](#) for our machines.

We are also bringing on [robot technology](#) which is a welding robotic system implemented to helped with the quality of the welds and achieve a higher production volume. Our plant personnel who have had the welding experience learn how to use [automated welding systems](#).

We also implemented a new rust proofing process which required use of new computer controller.”

6. What advice would you give to students exploring a career in your industry and your field?

"Two areas that work hand-in hand are manufacturing and product design. The manufacturing engineer would have a production path whereas the design engineers would have more of a research and development understanding. Each group needs to understand both areas.

I would recommend students focus on math and technology courses. Need exposure from both areas. Manufacturing engineers are hands on, can assemble and put things together.

Computer skills are very important. For example, finite part analysis would be something you would need to understand to be a product design engineer. Manufacturing engineers would need to understand about automation systems."

7. What has been the most challenging for you in this role?

"Bob likes that you have to be dynamic and stay ahead of the curve. Worcester was a large industrial town. Metso stays competitive because they continue to stay dynamic. The nature of our working environment doesn't stay static, no sitting around. Continuous change needs to happen to stay competitive. Customers demand just in time, being more flexible to produce parts faster.

Understanding how to compete globally is also challenging to be able to make decisions about what production should be kept here, or what should be done by external vendors."

8. What do you predict about the future of your industry 1 year from now? 5 years from now?

"The industry will continue to change. Production in one country will eventually leave for another country that has a labor advantage since we are in a global market. This makes it more important for our workforce needs to be more educated, to be able to use new computer technologies. Our production personnel will need to be more than just production operators, but able to interpret, analyze and make decisions so that we can be more competitive. Examples are technologies we're adopting like bar coding, RFID technology which makes it faster and more accurate to control how the production moves through our facility."

9. Where do you see yourself in 3 to 5 years?

"I would like to continue working in manufacturing, maybe teaching and giving back through involvement in education."

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