

NDT WOW (Words of Wisdom) Erica Schumacher



This new series will draw upon the collective knowledge of NDT professionals across industries, sectors, and locations to provide tips, tricks, lessons learned, and words of wisdom to those currently working in NDT and those trying to break into the industry.

Name: Erica Schumacher

Company: Extende Inc.

Manufacturer, Distributor, Service Company, etc.?:

Distributor & Services Company

Years in NDT: 16

1) Why did you enter the field of NDT?

In 1998 I was offered NDT training as part of my role as a quality engineer for a Navy contractor. I liked what I was learning, and our senior NDT guy encouraged me to become certified as an NDT Examiner in their program. He seemed to really like what he did, had more autonomy than other engineers in the building, and took pride in his work. I thought that if I gained similar job satisfaction out of working in NDT that it would be a good field to be in. In March 1999 I gained my first certification as an Ultrasonic NDT Examiner.

2) What advice were you given when entering the NDT workforce that has stuck with you over the years?

Be willing to rock the boat, because if you do your job well, which at times involved audits of other NDT personnel, you will rock the boat. At some time you will find either an indication that causes manufacturing delays to remove and repair a critical flaw, discover someone making an error in their inspection process significant enough that the inspector has their qualifications suspended, or both.

3) Did you face any significant challenges over the years? What did you learn from it?

My main challenge has been keeping current as technologies improve and new inspection methods are developed. It has taught me that learning is a lifelong process.

4) How has the industry changed during your career?

The technology is much more high tech. When I started, I took my ultrasound qualification tests using an analog scope, and my radiography exam was strictly film based. Now UT uses digital scopes and phased array is becoming more and more popular. Digital and computed radiography continues to replace film based radiography in many applications. NDT simulation software becomes increasingly

more powerful and complex. When I started working with CIVA in 2007, the only two methods that could be simulated were ultrasound and eddy current. Now there are also modules for radiography, computed tomography and guided wave testing.

5) What specific advice do you have for people entering your section of the industry (manufacturer, distributor, service, etc.)?

There are numerous opportunities to do exciting, state of the art work in NDT these days. Companies both big and small have some great career opportunities. Recognize when someone is giving you the opportunity to do something you might really love. If the company looks like it has both good people and a decent business plan, be willing to learn new skills, even major ones such as using NDE simulation software for the first time. Additionally, regardless of the industry sector, I think that building solid relationships both within your company and with others in the industry is a key element to success. I'm pleased that the majority of our customers renew their software maintenance and support contracts with us each year. To me this means that they recognize the value of good technical support as well as in a good product.

6) For those starting their careers in NDT, what is the best advice that you could give to them?

Find someone that has been in the field a long time and ask them questions. An experienced NDT specialist can teach you tips for better techniques in your inspections, and help you better understand why you would use a particular method and technique. They may even be able to explain why certain specification requirements exist. For example I used to work with a specification that included maximum x-ray energy limits for specific material types and thicknesses. I learned that years ago a part had been inspected at one vendor after a circumferential weld had been made, that the radiographs showed the correct penetrameter hole and that the weld was determined to be acceptable. Later in the manufacturing process at a machining vendor a problem occurred which required repair and re-radiograph of the part. This time the radiograph was taken using a lower energy level x-ray machine

than the first time (using the only available on-site x-ray equipment) and lack of fusion was found in the weld. The entire weld was re-radiographed using the lower energy level x-ray, the extent of lack of fusion was investigated and determined to be 360 degrees around the circumference of the part. Specification changes were made after this occurred to limit the energy level allowed whereas it has previously been based solely on the ability to see the correct penetrameter hole.

7) What advice do you have for those currently in the industry?

Continue to learn as new inspection methods and improvements on existing methods are developed. Whether it is via formal training classes, attending technical conferences or reading technical articles in industry publications such as the CINDE Journal, the key is to stay current in your field.

8) What do you look for in a new hire?

I look for someone that has the technological background for the job, good written and oral communication skills, the integrity to do the right thing, and both an interest and ability to work well with others. As a company that provides training, consulting and technical support services, it is very important to communicate clearly, effectively and with integrity. These traits will help build effective relationships with clients and co-workers.

9) What will NDT look like in 20 years? How should those entering the field get ready?

The field will continue to become more heavily reliant on computer processing. Techniques that require large amounts of data such as computed tomography and phased array ultrasound will be able to get more complex as computers improve. As mobile internet options increase in speed, it is likely that more data will be reviewed remotely in real or near real time. Inspection apps for smart phone and tablets are likely to be common 20 years for now. Some already exist such as eNDT, the free app our company released in 2014 which includes an interactive Snell's Law calculator with graphics and other helpful options.



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