

Interview with Espen Røstum Austheim, level II inspector at Aker Solutions

Before steel meets the North Sea

In Verdal, Norway, at Aker Solutions' large fabrication yard, massive steel jackets and production topsides for offshore platforms take shape for the North Sea.



Here, precision is not optional; it is expected.

Every weld and joint must meet stringent non-destructive testing requirements before the structures move on in the construction process.

Espen Røstum Austheim and his colleagues are responsible for verifying the integrity of these critical components. Using advanced Comet X-ray EVO 300DS and EVO 225D/1200 systems across multiple NDT methods, they inspect parts destined for the Valhall PWP–Fenris development, a joint project between Aker BP and Aker Solutions on the Norwegian continental shelf. The inspections support prefabrication work in Verdal before final assembly takes place at Aker Solutions' facility in Stord, where topsides are prepared for offshore installation.

The inspection team combines decades of craftsmanship with modern NDT technology. Tradition, innovation, and safety go hand in hand. At the center of this work is Espen, a 26-year-old technician who never planned a career in NDT, yet found a profession that connects technical understanding with hands-on work.

From sports science to NDT

How did you end up in this field?

"It's a bit of a coincidence, really. I had never heard of NDT before. I met someone who worked here in Verdal, and through the local gym, I got to know more people from Aker. They told me about their work, and it sounded interesting. I have a bachelor's degree in sports science, but I wanted to move into a more technical field. So, I applied here, got the job, and started my training and certification. Today, I'm Level II certified in X-ray, penetrant testing, and visual testing. This year, I'm also completing eddy current testing, with Level I in October and Level II in November.

With several certifications already completed, I like that the work keeps pushing me to learn new things. What I enjoy most is the balance between theory and practice. I don't just sit and read or calculate - I also use my hands and move around. But at the same time, I need to understand the math and the theory behind the methods. That combination suits me well."



At the Verdal fabrication yard, jacket elements are assembled on the ground for offshore use.

"The good thing about X-rays is that you can use them on almost any weld. You don't have to worry much about geometry"

Espen Røstum Austheim, level II inspector at Aker Solutions

Technology and equipment

How do you choose the right equipment for each inspection?

"It depends on the NDT method and what we are testing. In radiography, for example, we choose between isotopes (gamma ray) and electronic X-ray systems depending on the material, the weld type, and accessibility. The goal is always the same - to achieve reliable inspections with the best possible image quality.

Sometimes customer requirements also play a role. Certain projects demand specific documentation formats. I've heard of cases where all analog films had to be digitized for insurance purposes, which meant the department needed to invest in specialized equipment.

Espen and his team primarily work with Comet X-ray EVO systems, which deliver clear and detailed images. The adjustable power range allows them to fine-tune settings for different materials and welds, ensuring consistent image quality across many applications.

There are also practical considerations. The equipment can be heavy when it needs to be moved or used in confined spaces, which is why isotopes are still used in some situations. The X-ray units can also be noisy due to the cooling fans - something that could be improved to make the working environment quieter. The pipe sample examined during our visit is part of the PWP topside project and will be sent to Stord for final assembly. In Verdal, the focus is on prefabrication and preparation. At the same time, the team is also supporting work on the Fenris and Hugin V projects."

The future of X-ray inspection

Do you think X-rays will remain important in the future?

"Yes, I do. Some methods might replace certain applications, but not everything. Other techniques often require more space around the weld. X-ray works better in tight areas, which is why I don't think it will ever disappear completely. It may be used less in some cases, but it will always play a role.

At Aker Solutions' Verdal facility, Comet X-ray systems are part of that long-term perspective, supporting consistent image quality and reliability as inspection requirements continue to tighten."

Closing thoughts

Do you see yourself staying in NDT long term?

"I hope so. I would be happy to build my career in NDT. I want to continue developing, gain more experience, and maybe reach Level III one day. It would be interesting to work more in-depth with inspection procedures and really understand how everything fits together.

I turn 27 this December, so I still have time to grow and learn. What I like about this work is that it's a mix of learning, doing, and improving every day. I get to use both my mind and my hands - and what I do contributes directly to safety for both people and large industrial projects."



**"The Comet systems we use
provide very clear, detailed results,
and you can adjust the settings for
different welds or materials. That's
what I like most about them"**

Espen Røstum Austheim, level II inspector at Aker Solutions

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