



Accelerating  
the future  
of aerospace

AEROSPACE VEHICLES DIVISION

STRUCTURES TESTING & EVALUATION

# Non Destructive Inspection

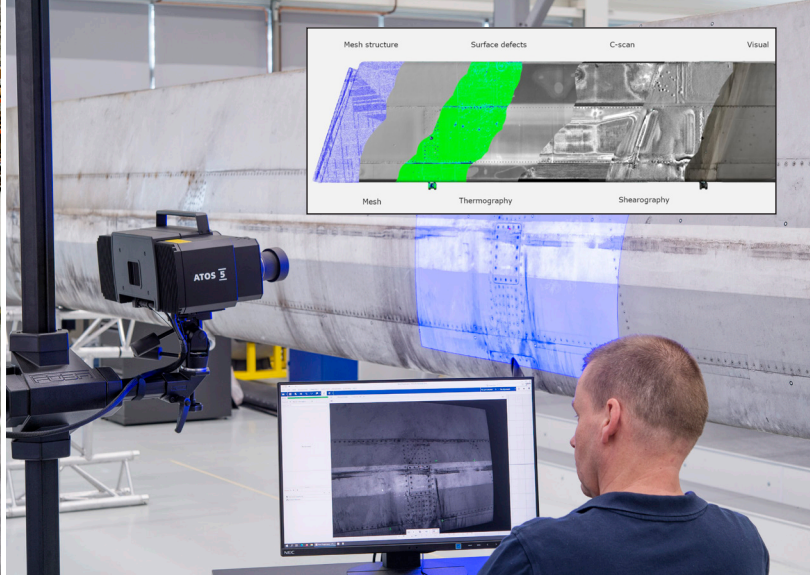
PRODUCTS & SERVICES



We combine manufacturing inspection and  
in-service experience.  
We perform, improve and develop inspection.

Do you need fundamental inspection method studies, development of inspection solutions, or just your components inspected? We have the personnel, experience and hardware to get you further. Whether that concerns inspection after (or during) manufacturing, or in-service inspection or even a complete tear down inspection.





## WHAT YOU NEED

Quality assessment of your asset in a cost effective way.

The following stages in the NDI process are covered:

- Development and evaluation of new NDI techniques
- NDI of composite, metals and Fibre Metal Laminates materials
- In-service inspections
- Teardown inspections
- Investigating the reliability of NDI
- Structural Health Monitoring (SHM)
- Certification support
- Failure Analysis

## WHAT WE DELIVER

Solutions for your inspection tasks, which can range from low TRL regarding new novel NDI techniques to high TRL certified NDI processes.

## OUR CAPABILITIES

**Visual:** Visual inspection is a economical and widely used inspection technique. Besides human eye, photo film and digital optics are available.

**Ultrasonic C-scan facilities:** Automated ultrasonic inspection (C-scan) is an effective NDI solution for components and other lightweight aircraft structures. Ultis software environment enables automatic defect detection and characterization.

**Phased array ultrasonics:** Phased array ultrasonics (PA-UT) is a very promising technique for the in-service inspection of composite structures.

**Eddy current:** Eddy current inspection (ET) is a primary technique for the in-service inspection of metallic aircraft components.

**Eddy current array:** Eddy current array (ECA) inspection is a relatively new development in eddy current inspection. It implies the simultaneous use of a large number of EC coils which are integrated in a single probe.

**Resonance Testing:** This technique can be used for test the cohesion quality of adhesive bonded joints and to detect delaminations.

**Smart portable equipment:** New generation of smart portable NDI equipment.

**Penetrants:** Liquid penetrant inspection (PT) is used to detect small cracks or discontinuities.

**Lock in Thermography:** Optical Lock-in thermography (OLT) is a non-contact NDI method that monitors the heat radiation pattern on the surface of a test part.

**Shearography:** Shearography is a non-contact NDI method that can determine the out of plane deformation of a subject under load by use of light interference. The technique is ideally suited to detect skin-to-core disbonds.

**Computer Tomography:** AVIZO software is available in order to perform analyses on externally scanned components.

**Multi Domain Scanning:** By combining NDI techniques with optical scanning a complete 3D representation of an object including the NDI-data can be made.

**Augmented Reality used in NDI:** Augmented Reality is used to display NDO-images onto the hardware.

**Acoustic emission:** The acoustic emission technique (AE) is based on the principle that acoustic emissions are generated when defects initiate or grow in a material under stress.

**Comparative vacuum monitoring:** CVM is a technique that can be used for monitoring areas of a component where damage is expected. It's principle is that a small volume maintained at a low vacuum is extremely sensitive to any ingress of air, triggered by that damage.