

The Altum Telescopic Pole

Patent Pending:
EP217030568
PCT/IB2021/061681

UTM-Module with grinder:

- Including grinding module for rusty/dirty surfaces
- Including coating thickness measurement

Ultralight UTM Module:

- Ultralight module to measure the remaining thickness of steel structures at height without grinding

Visual inspection Module:

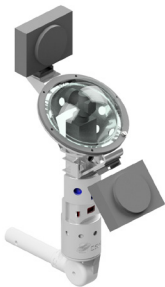
- Inspect your assets in close-up with a 64 MP gimbal controlled camera



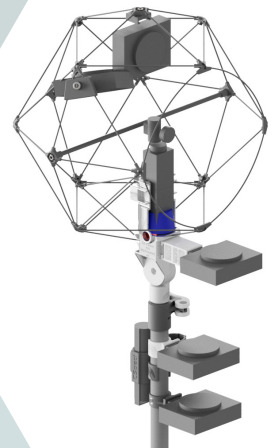
About us

Cspect started in 2018 as an engineering company with backgrounds in steel construction and ship building. They gained a lot of experience in the field of non destructive testing (NDT) and the restrictions going along with it. Over the years we learned that inspectors face many obstacles in the field of inspecting at heights or depths. To tackle these problems we decided to start with Cspect and to develop solutions for these challenges. With Cspect we created an environment to experiment, invent & test new and more efficient ways to perform NDT & Visual inspection. Today we are considered pioneers in new Remote Inspection Techniques. "Engineers reinventing remote inspection techniques". We have created the "Altum Telescopic Pole". The Altum pole allows UTM measuring up to 18 meters high and Visual Inspections up to a height of a mind-boggling 20 meters! As years of experience taught us, the operating conditions are never perfect. In most cases, rust, paint or dirt has to be removed before you can perform a valid UTM scan. Besides this there is scaffolding to be erected, cherry pickers that have to be used or rope access to be installed. To eliminate these difficulties we engineered the Altum telescopic pole, weighing only 5kg and extendable up to an incredible 20 meters. On top of the Altum we can fit interchangeable modules: The Grinding, The Visual and The UTM module. This approach is a game changer in performing UTM and Visual inspections. Last but not least, the man on the work floor can operate the system without being a robotic engineer or a licensed pilot. One man operation is possible.

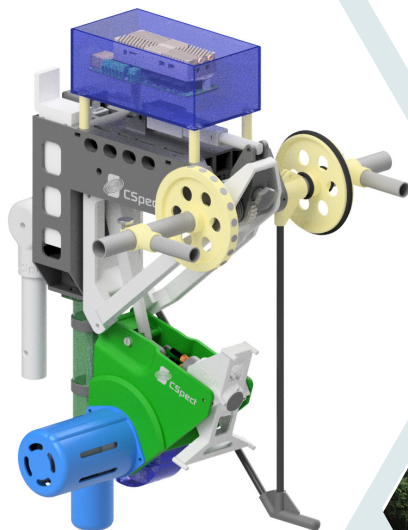
**"Engineers reinventing
remote inspection
techniques"**



Visual module for narrow spaces



Visual module



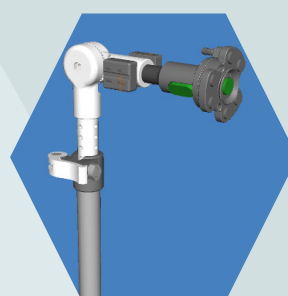
UTM module with grinder



Cspect



Hammering module

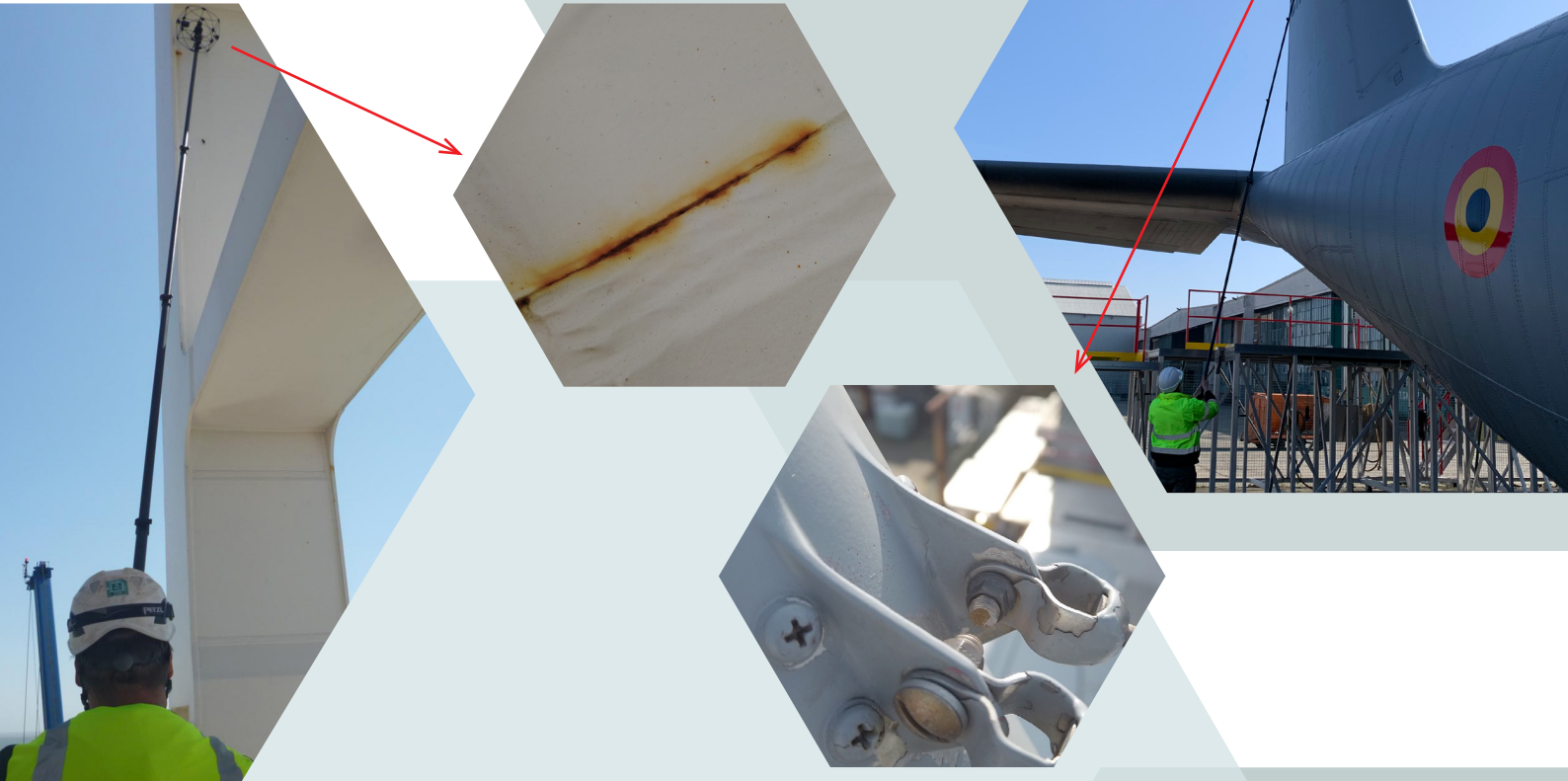


Ultralight UTM module

On top of the Altum we can fit interchangeable modules: The Grinding, The Visual, The Hammering and The UTM module. This approach is a game changer in performing UTM and Visual inspections.

Challenges

“In the field of Non Destructive Inspections at height we can identify many different challenges. The Altum Telescopic Pole tackles, almost, all of them”



Risks

- According the safety regulations act, Inspections and working at height have to be avoided as much as possible. The Altum makes this possible.

Costs

- Eliminates expensive climbing teams
- Avoids the erection of scaffoldings
- Minimizes the downtime of your installations
- One-man operation is possible
- The man on the work floor can operate the system, no robotic engineer or licensed pilot required

Time Pressure

- There's no battery stress
- Output is very high
- Easy set-up

Restrictions:

- Compared to drones: no pilot licenses required. Everybody can use the system!
- Flying drones are not always allowed and drones can fall from the sky
- The Altum is not restricted by regulations
- No need of a life-line
- Pipes or obstructions on the tank are no issue for the Altum
- Possible in narrow spaces, e.g. tanks positioned close together.
- Back to basic: The man on the work floor can use the system

Use Cases

UTM on chemical storage tanks

- Measuring points, in a vertical line from bottom to top
- No need for staging, rope access or cherry picker
- Very high precision
- Up to 20 meters high
- Possible in narrow spaces, e.g. tanks positioned close together
- Possible to grind & clean the surface
- UTM measurements with A-scan



UTM on industrial storage tanks

- Overall inspection of shell thickness
- When measuring the steel thickness, the paint thickness is measured at the same time
- Fast and easy setup
- Systematic charting of the silo's that are out of tolerance. This way the customer knows which silos needs replacement
- Detailed reporting

Use Cases



Internal inspection of storage tanks

- Visual inspection of the structure
- UTM inspection with A-scan point measurement, echo to echo measurement or “Through Coat” measurement possible
- UTM inspection on vertical walls, sloped walls and the ceiling are possible
- Works on carbon steel, aluminium, stainless steel, composite, rusted tanks...
- Dry film thickness possible on coatings



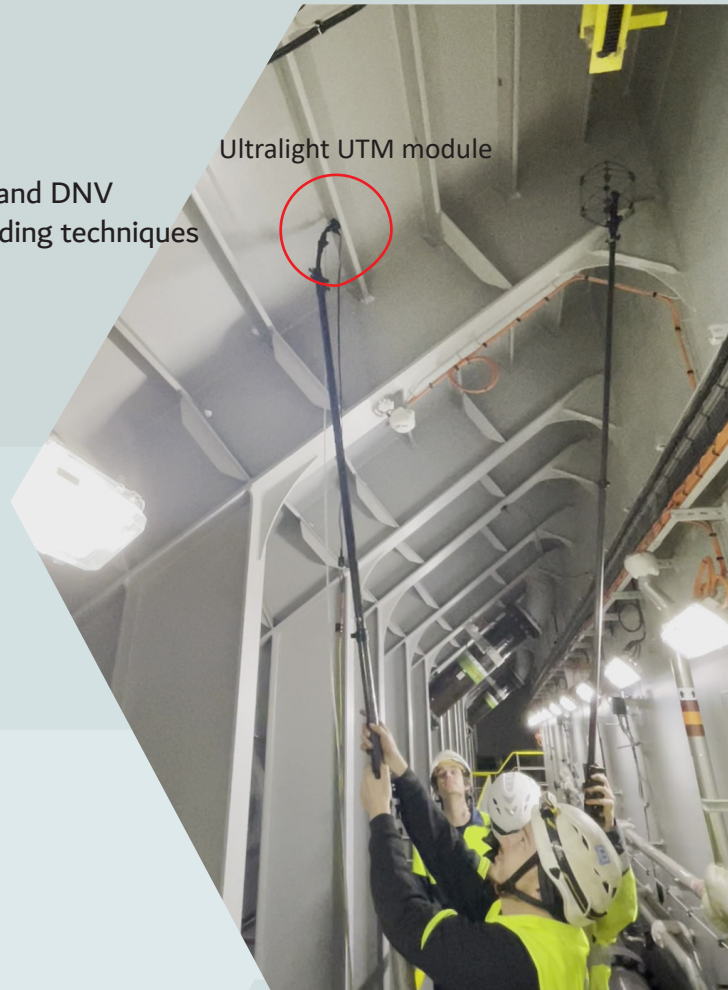
Visual inspection of pipe racks

- Visual inspection
- Works in total darkness
- No battery stress
- Works in GPS denied areas
- The Altum Telescopic Pole can be used in between structures without the risk of crashing;
- One-man operation possible
- Compared to drones, the Altum is not bound to any regulation

Use Cases

UTM & Visual Inspection of ships structures

- Visual & UTM inspection
- Grinding is possible prior to the measurement
- Hammering possibilities
- UTM inspection with A-scan
- Certified by Bureau Veritas, Rina, ABS, Lloyds' Register and DNV
- Our engineers have extensive knowledge about ship building techniques



See it in action!



Use Cases

Bridge inspections

- Visual inspection of the structure
- 64MP sensor for high resolution photos
- Zooming in is possible



Use Cases

Ultralight UTM

- UTM at height with A scan
- Without grinder
- Self-rightening
- Easy to inspect piperacks, can fit inbetween pipes
- Up to 18 meter high
- Can measure top, bottom and sides
- Water used as couplant
- Measures echo to echo



See it in action!



Altum Telescopic Pole vs existing solutions

	Altum	Drone	Rope Access	Scaffolding	Magnetic Crawler
Eliminates work-at-height risks	✓	✓	✗	✗	✓
Fast	✓	✗ Battery stress	✗ Very slow	✗	✗
Access to narrow spaces	✓	✗ Not for areas with a lot of obstructions	✓	✓	✗
Cost	✓	✗ Average cost	✗ High cost	✗ High cost	✗ Average cost
No special licence(s) required	✓	✗ Pilot license, drone license and local operating license required	✗ Approved rope access required	✗ Scaffolding to be approved for use	✓
The man on the workflow can operate the system. No need of specialized staff	✓	✗	✗	✗	✗
Can grind Remove dirt and rust	✓	✗	✓	✓	✗

Advantages

Know how

- If you choose for Cspect, you choose for inspections performed by engineers with know-how about all relevant NDT processes
- We have over 15 years of experience in the field of NDT
- Our people have followed all necessary courses and trainings and continue to update their knowledge every day

For Purchase or Rental

- As from the summer 2022, the Visual modules can be purchased or rented
- As from the summer 2023, the UTM modules can be licensed or rented

Certification - Companies that use our services

- Because we work in the offshore industry we obtained necessary certification



- A selection of companies that use our services



Custom engineering - Flexibility - Reporting

- When an inspection is impossible due to restrictions in space or other, we will always investigate other solutions. Co-engineering is what we love!
- We perform inspections when it suits the customer best
- Our commercial department is always stand-by to help you at any time
- Preliminary result of the inspections are delivered on the spot

Technical specifications

- Please visit our website www.Cspect.com or scan this QR-code

