

Innovative Solutions for Non Intrusive Inspecting of Insulated Objects

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Applus RTD



- ⊕ Introduction Applus RTD
- ⊕ Non Intrusive Inspection
- ⊕ Principle of RTD-INCOTEST[®]
- ⊕ Top 5 Applications

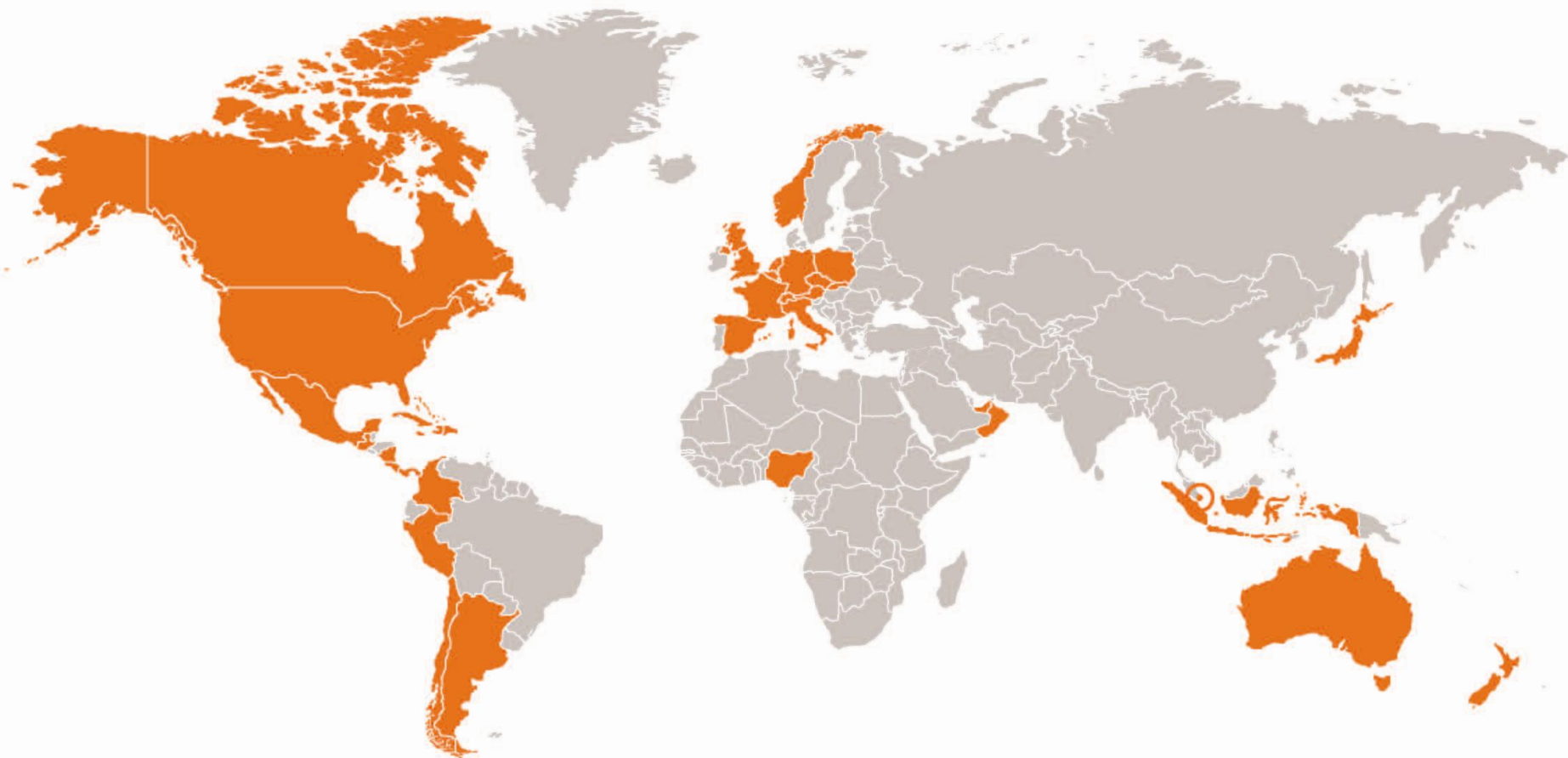
- ⊕ RTD was Founded in 1937 in the Netherlands
- ⊕ Part of the Applus Group in 2006
- ⊕ Specialized in Non-Destructive Testing (NDT) and Inspection Solutions



Introduction Applus RTD

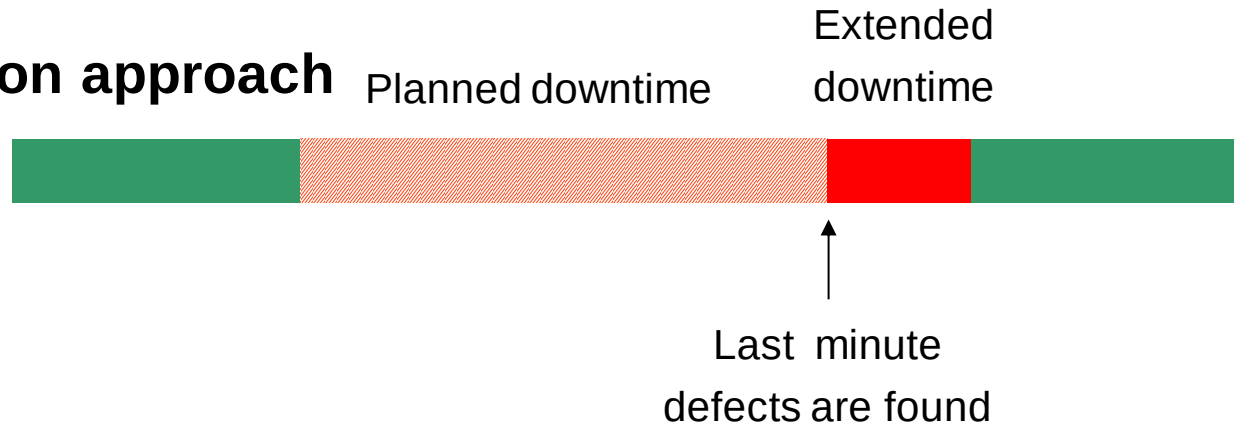
Applus RTD Group worldwide locations

Applus RTD has offices in 32 countries

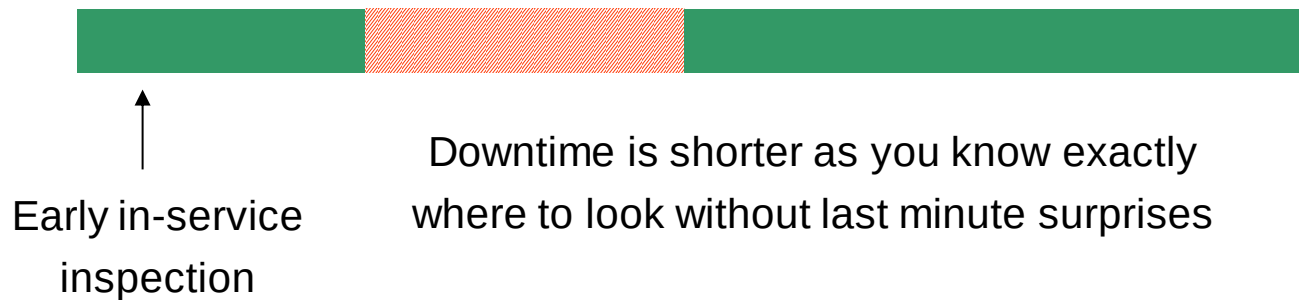


- ⊕ Examine installation parts whenever you want while in-service
- ⊕ No unnecessary destruction of insulation or other
- ⊕ Status on interior/exterior of equipment
- ⊕ Know what is happening before a maintenance shutdown

Common approach

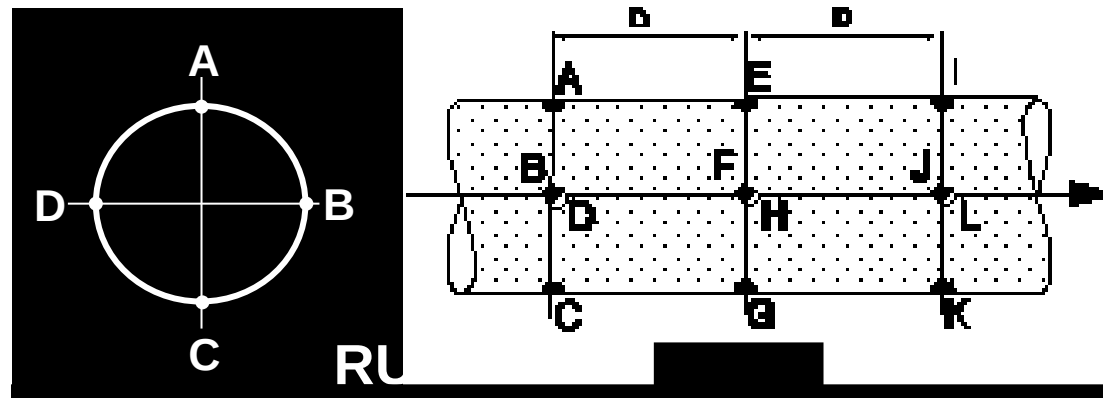


The Applus RTD approach



What is UT spot check?

- Wall thickness measurement at one single point
- Mapping according to grid
- Only global degradation; detection of local corrosion is sheer luck



Alternative RTD-INCOTEST[®]?

- Average Wall Thickness screening in one single area
- Mapping according to grid
- Only global degradation; detection of local corrosion is sheer luck

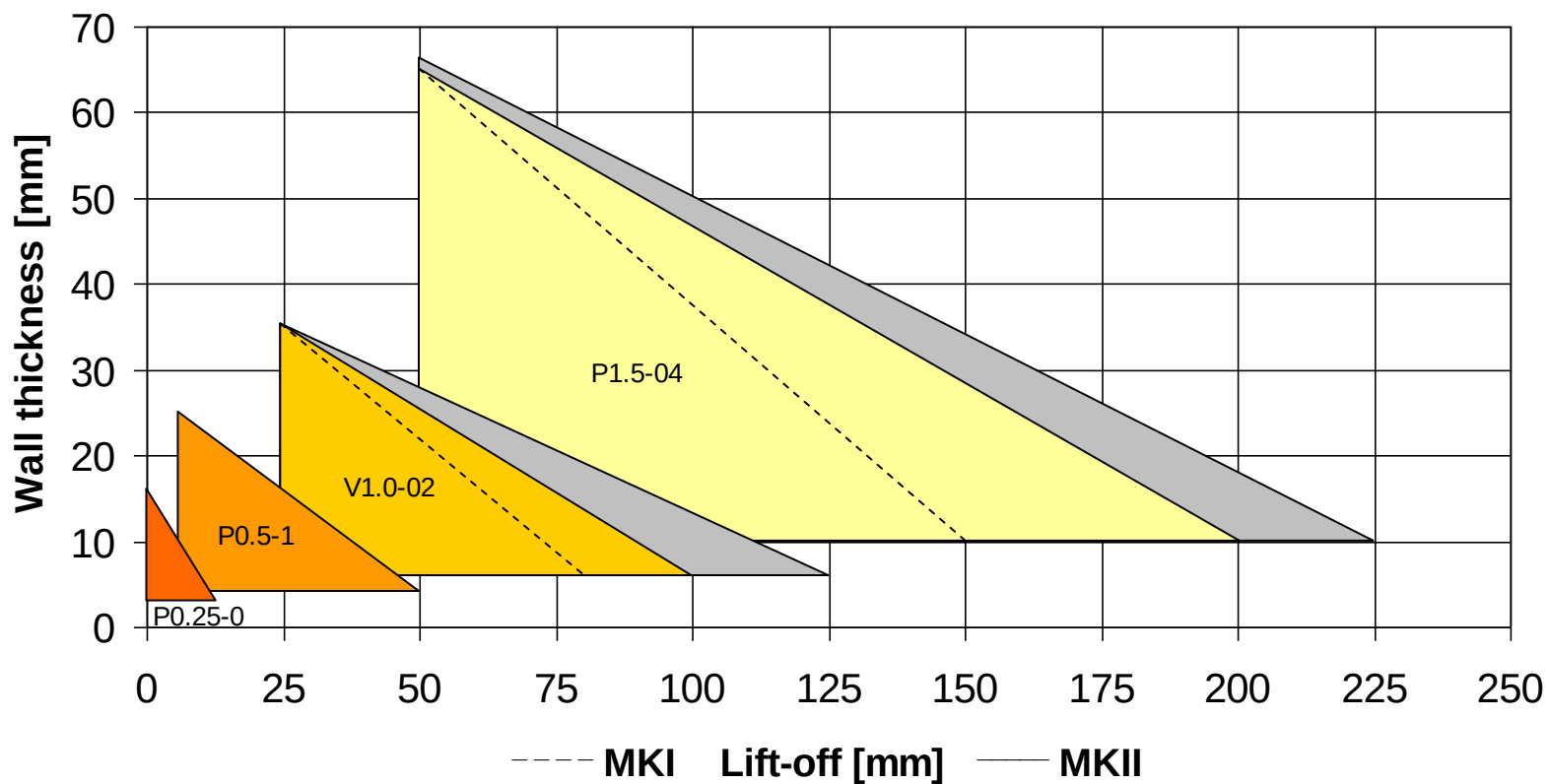
⊕ **INS**ulated **CO**mponent **TEST**ing, by means of Pulsed Eddy Current (PEC)



- ⊕ Low Alloy Carbon Steel (ferromagnetic)
- ⊕ Wall Thickness 6-65 mm
- ⊕ Insulation Thickness <200 mm
- ⊕ SS, Al or Fe Sheeting Types
- ⊕ Temp. -150°C to 500°C
- ⊕ Minimum Pipe Diameter 50 mm (2")

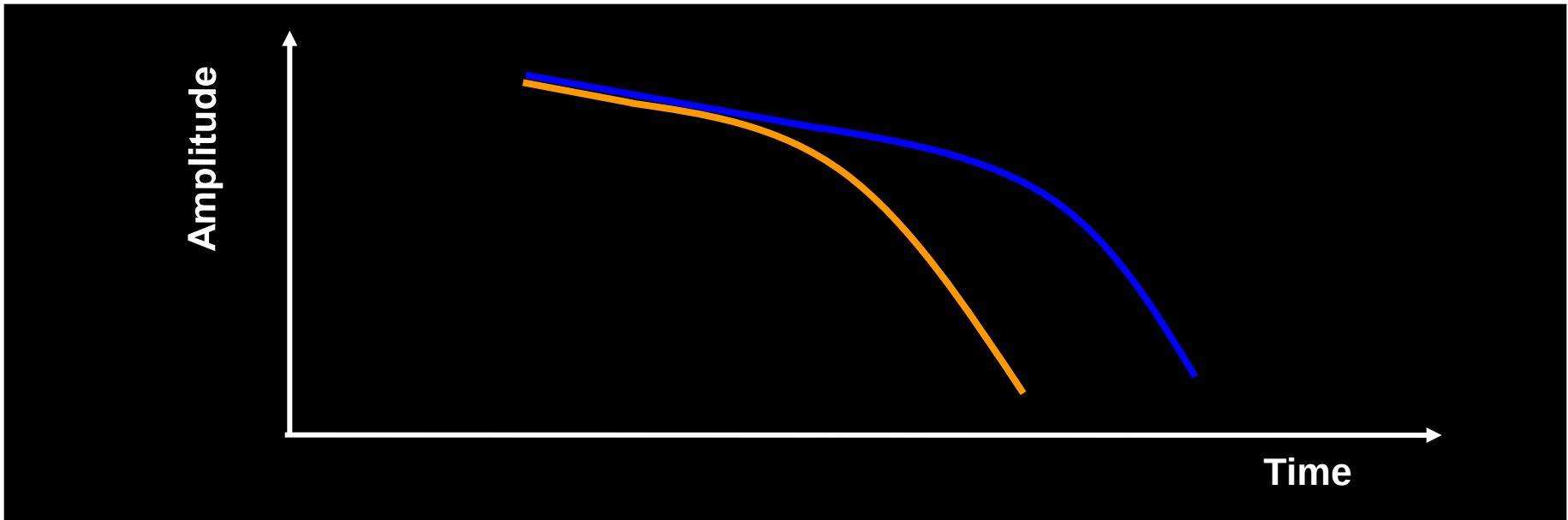
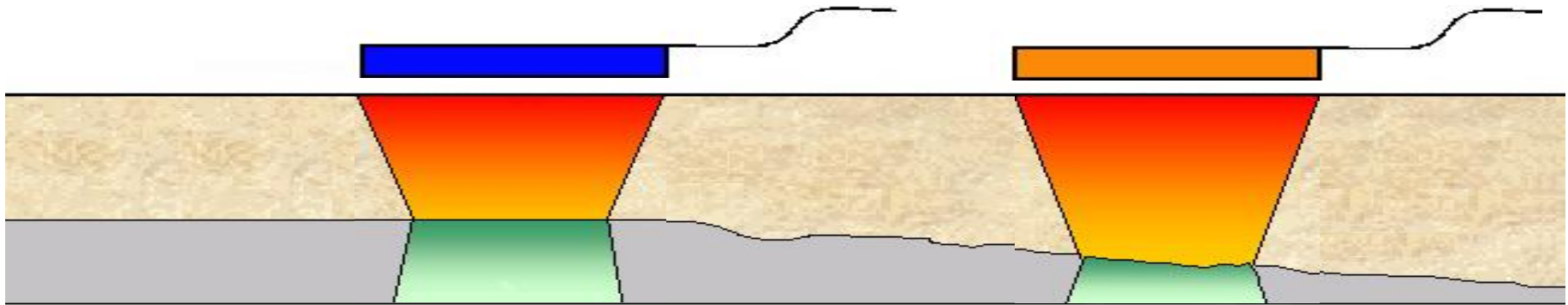
Note: certain combinations may limit application range

Sensor selection diagram - none, alu & SS sheeting



⊕ Standard probes





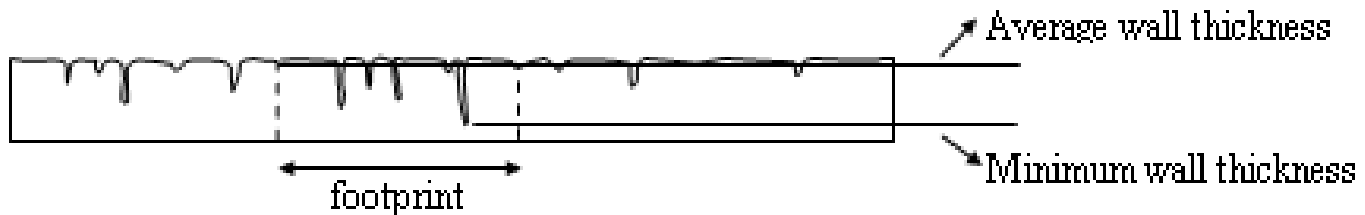
✓ *General wall loss*

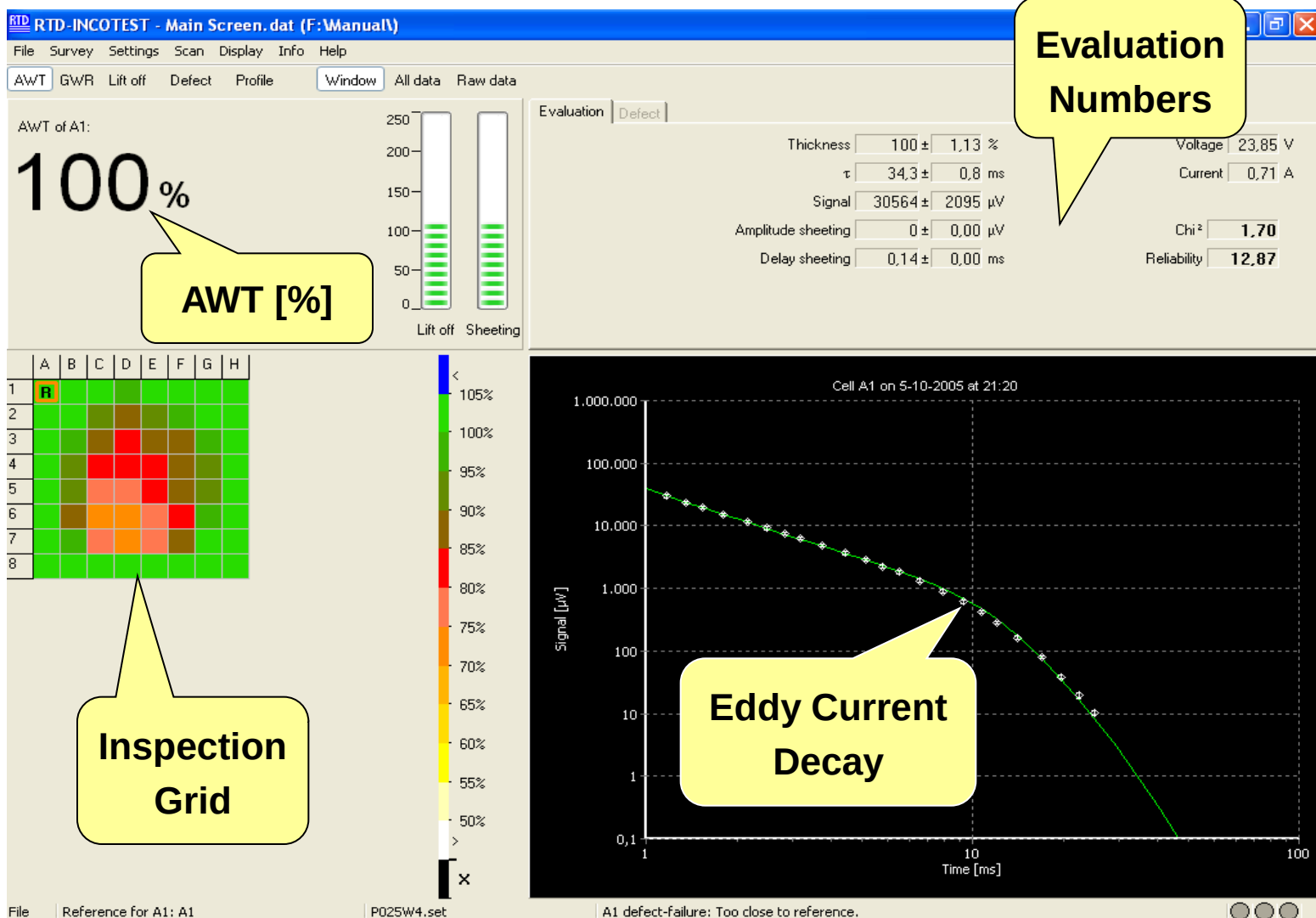


✓ *Irregular wall loss (like corrosion under insulation)*



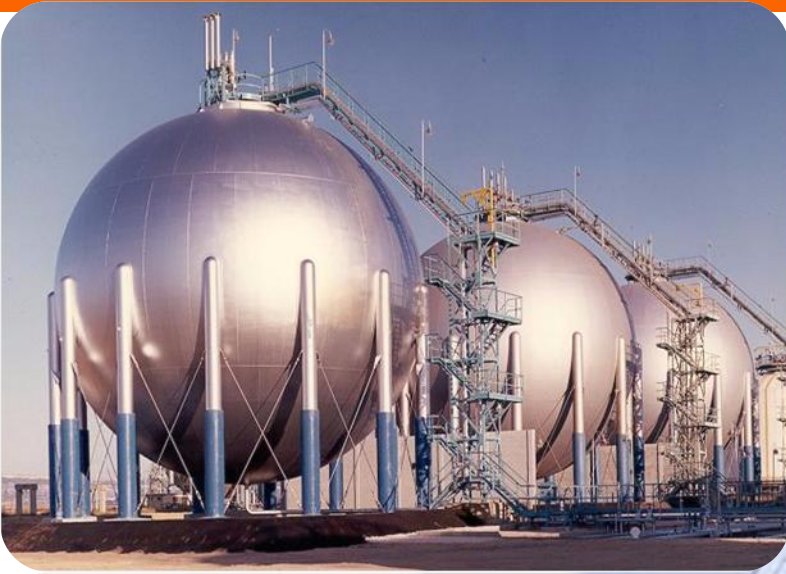
✗ *Very localised corrosion (like pitting)*





- ⊕ Sphere Legs
- ⊕ Piping
- ⊕ Vessels and Tanks
- ⊕ Columns
- ⊕ Sub Sea Applications

Top 5 Applications – Sphere Legs



Top 5 Applications – Sphere Legs



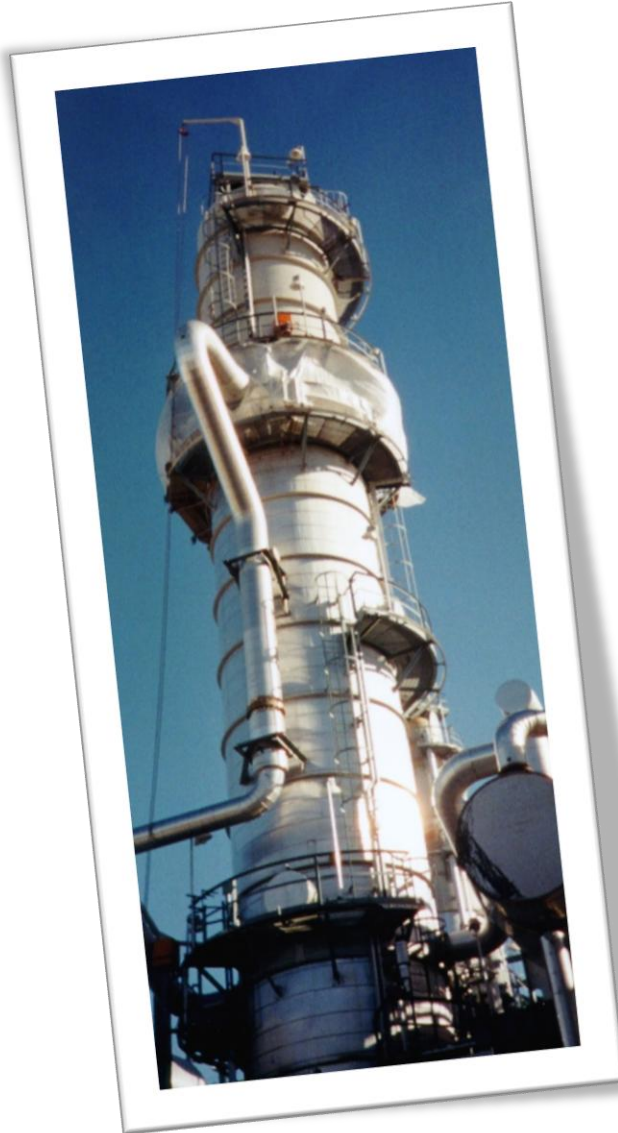
Top 5 Applications – Piping



Top 5 Applications – Vessels and Tanks



Top 5 Applications – Columns





Off-shore = On-shore for RTD-INCOTEST[®]

Top 5 Applications – Sub Sea

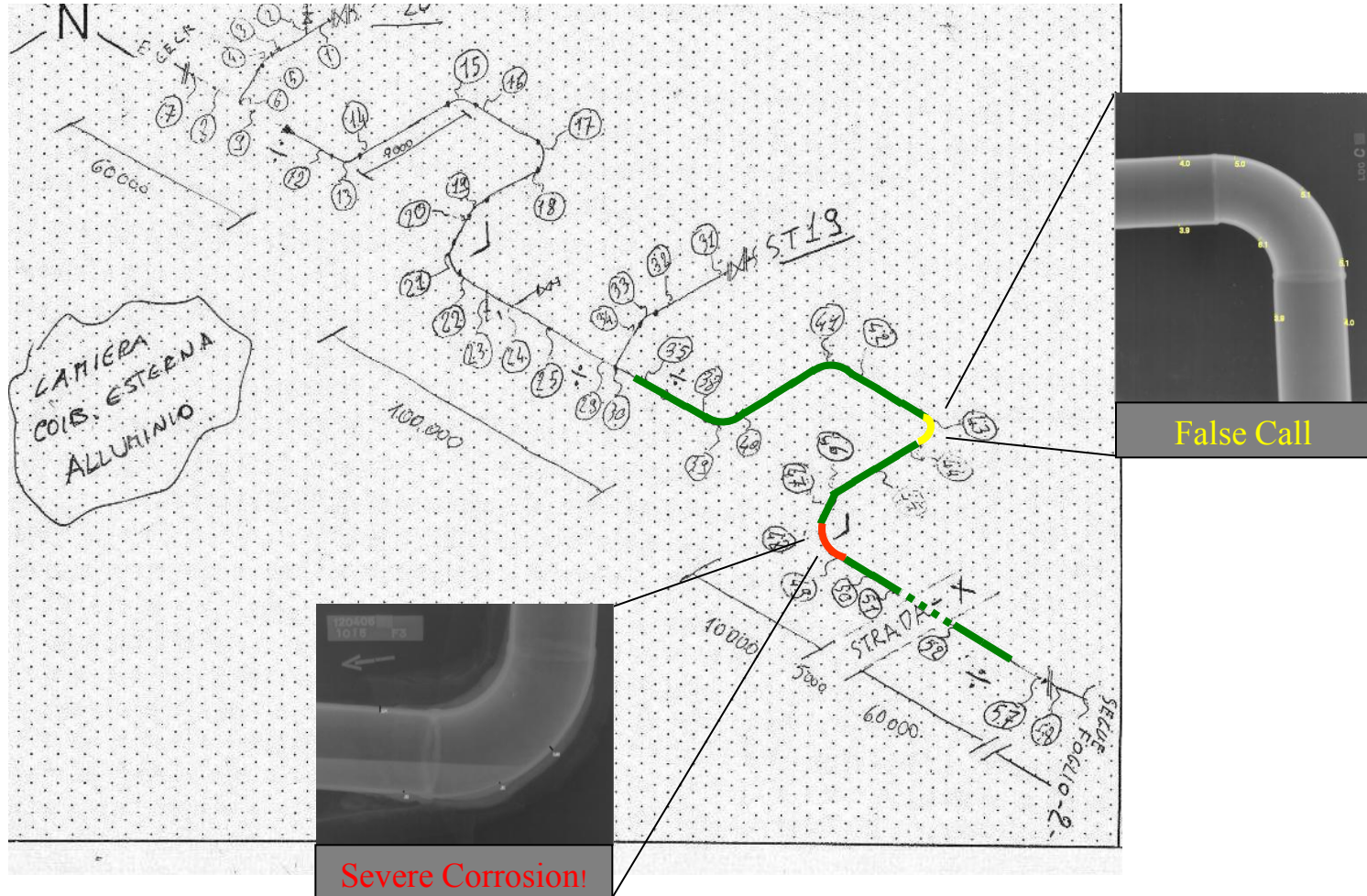


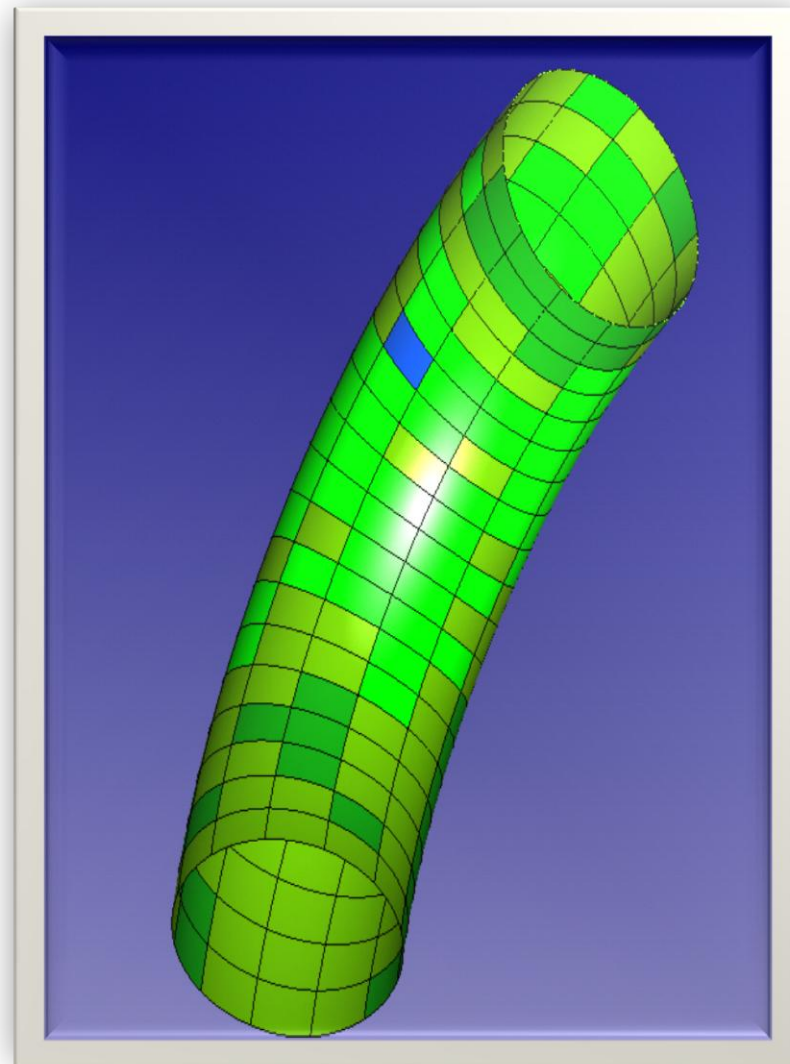
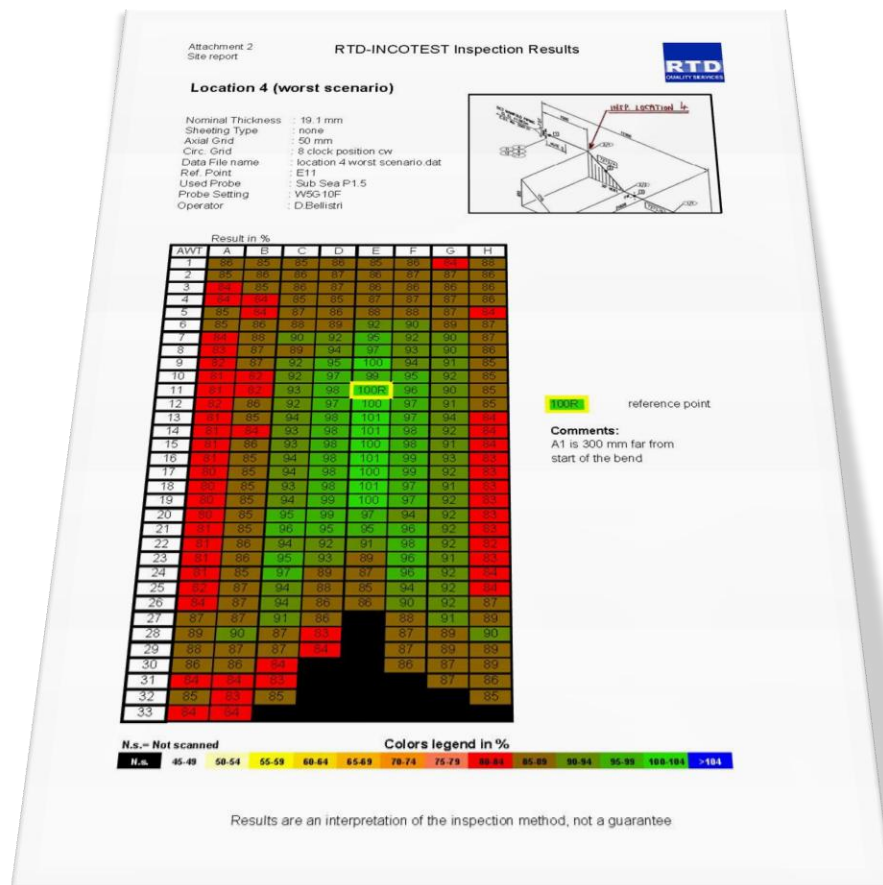
⊕ Conventional

- Down time
- Scaffolding
- Insulation Removal
- Surface preparation
- Inspection
- Apply Insulation

⊕ RTD-INCOTEST®

- On stream
- Rope Access or Extension Tool
- Directly on Insulation





 **RTD**
The Applus+ logo consists of the word 'Applus' in a grey sans-serif font, followed by a superscripted plus sign '⊕' in a blue square, and the letters 'RTD' in white inside a blue rectangle.

RTD-INCOTEST®

The cost saving alternative

Corrosion *Detection*

Screening Tool

No Direct Surface Contact Needed

No Surface Preparation Needed

On-Stream

Saves Time, Costs* and Risk

*NOTE: RTD-INCOTEST® examination is part of integral inspection approach, never stand alone.