

## Detecting Corrosion Areas on Steel Plates and Structures

### Challenge

In a highly volatile and competitive market, maintenance planning and shorter outage times play a significant role in a profitable Oil & Gas operation. The capability of inspecting large areas in a shorter time, while still being able to collect reliable data needed for NDT inspectors to evaluate corrosion damage is in high demand in today's market. Most reliable tools available today are time consuming and complicated, involving long set-up procedures and highly trained technicians. The Oil & Gas industry needs to make efficient use of its trained inspectors and a tool that will help get tanks and structures evaluated quickly, anticipating costly damages and helping minimize out of service time.

### Solution



The Acoustocam™ by Imperium solves this challenge by providing instant, high resolution video images of subsurface corrosion damage without sacrificing quantification data. To use the system, an inspector quickly calibrates the system and scans over a suspected area of damage, while **real time C-scan and A-scan** data is generated. The total time to setup, calibrate, and scan a 12" x 12" area is under 4 minutes. The system requires minimal training. The result is an enhanced user experience, faster turnaround time, and increased uptime. This efficient use of resources permits more comprehensive data driven inspections to be completed each day. Inspections can be monitored in person or wirelessly in real time for remote collaboration with other personnel. Data can also be downloaded and reviewed in a computer, for a more comprehensive data analysis and exported to a spreadsheet application.

### Acoustocam™ i600

#### Benefits:

- ✓ Increase in-service time
- ✓ Decrease total cost of operation
- ✓ Quick diagnosis of damage
- ✓ Comprehensive quantitative information
- ✓ Fast to set up and calibrate
- ✓ Easy to understand, easy to operate
- ✓ Reduce training costs

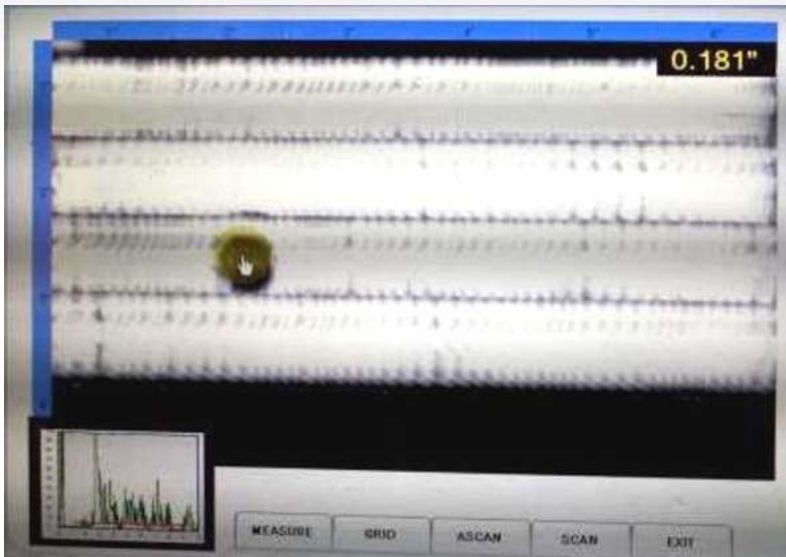
#### The Imperium Offline Analyzer Tool

- Scanned area map can be downloaded and analyzed by experienced inspectors remotely.
- Data can be exported to a Spreadsheet application, with all thickness readings and their coordinates.
- Interactive area map, with all A-scan data.

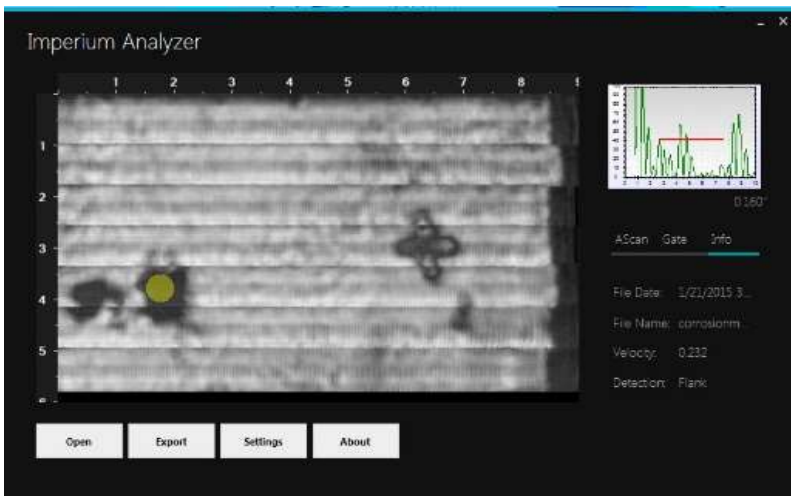
## Acoustocam™ Results

Powered by Imperium's patented Digital Acoustic Video (DAV™) technology, the Acoustocam™ is the NDT industry's easiest and fastest portable imaging device. It captures thickness readings and high-resolution ultrasound C-scan images at 30 frames per second. Pictured below are results of ultrasound C-scan images of a storage tank bottom and of a 1/4" steel plate, with simulated corrosion artifacts presented on Imperium analyzer software. Thickness reading with A-scan data is presented on the right side of the screen's image, relate to the yellow circle on the image.

### Storage tank bottom map screen presentation:



### Offline Analyzer screen presentation example:



## Acoustocam™ Features

- Faster coverage of areas – With a typical scan speed of 6"/second, a 12" x 12" area can be fully characterized in under 3 minutes.
- Reduced training costs – The training on the device is just 2 days, much less than other advanced techniques
- Rugged, battery powered design
- Compliant with ASTM E317
- Higher Probability of Detection (POD)
- User friendly touchscreen interface
- Flat or curved surfaces
- Built in delay line ideal for near surface defects up to several inches thick
- Sub-millimeter resolution
- Wireless remote monitoring connectivity
- 100% of the data can be exported to a computer for offsite analysis
- NDT and non-NDT folks love images - No more explaining away spreadsheets, send engineers an image they can actually understand!

Visit us at [www.imperiuminc.com](http://www.imperiuminc.com)

Schedule a demo today at (301) 431-2900 or [sales@imperiuminc.com](mailto:sales@imperiuminc.com)

© 2015 Imperium, Inc. Specifications subject to change without notice.  
Modification of this document is not permitted without written permission from Imperium, Inc.

