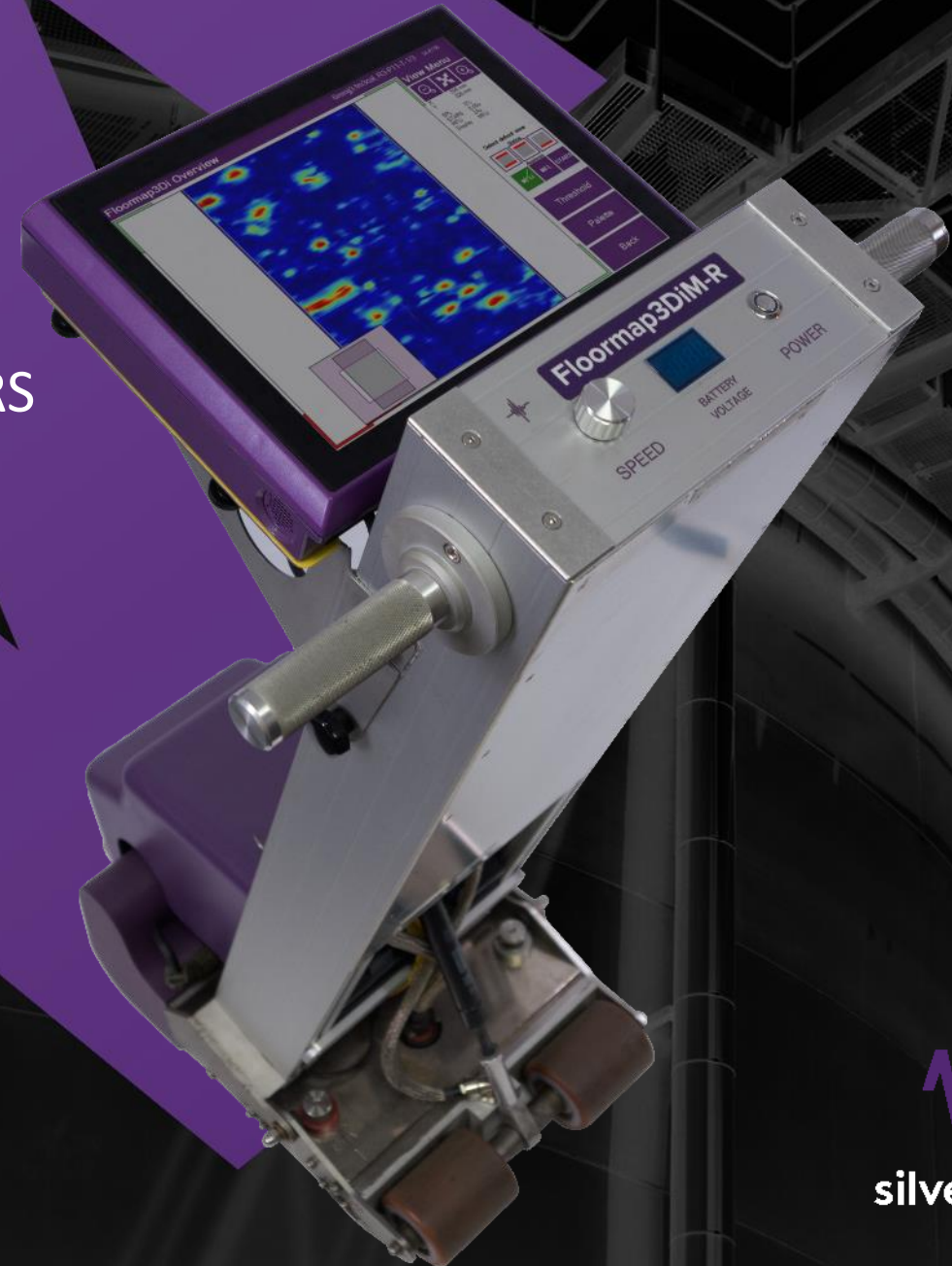


FLOORMAP

High-Speed MFL Floor Scanner with STARS
Technology for Top & Bottom Defect
Discrimination

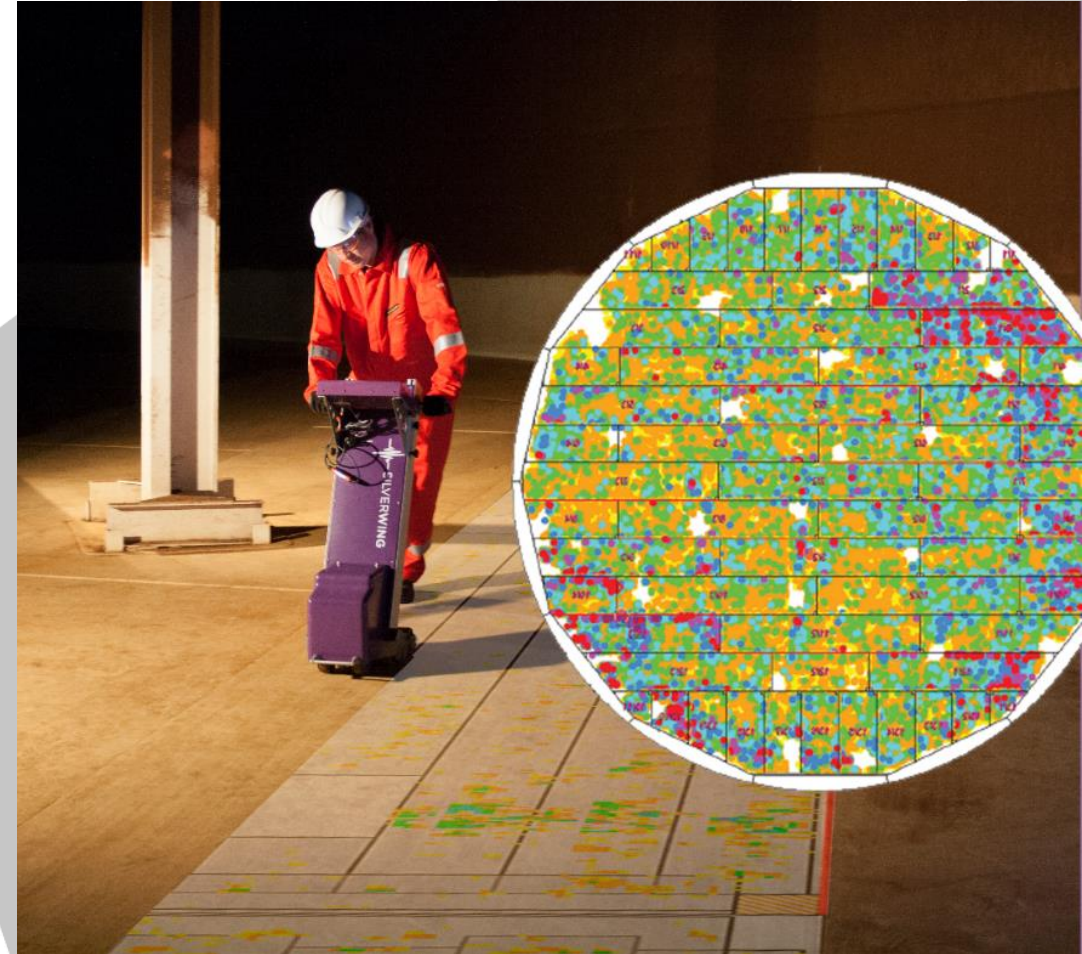


silverwing

FLOORMAP

High Speed MFL Floor Scanner with STARS Technology for Top & Bottom Defect Discrimination

- Inspection speed up to 1 m/sec (3.2 ft/sec)
- Tank floor mapping, free-scan or auto-stop modes
- Advanced defect sizing and classification tools
- Dedicated reporting software



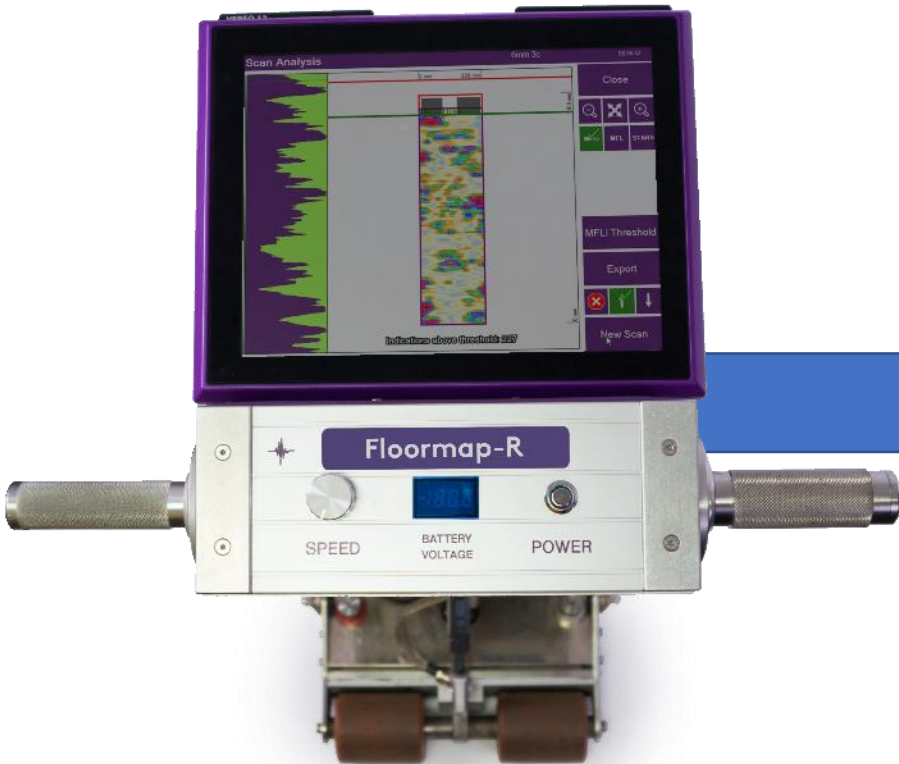
HISTORY OF FLOORMAP

Pre 1992	1992	2000	2006	2008	2011/12	2014/15	2017
TFT	TFT Floormap	Floormap 2000	Floormap VS2	Floormap VS2i	Floormap 3D	Floormap 3Di	Floormap 3Di-R



- Supplied more than 250+ tank floor inspection systems globally
- First 'mapping' system launched in 1992 – one of the first!!
- Move to more advanced platform + high resolution arrays in 2012
- Recent move to high speed scanner with uncompromised results

FLOORMAP-R



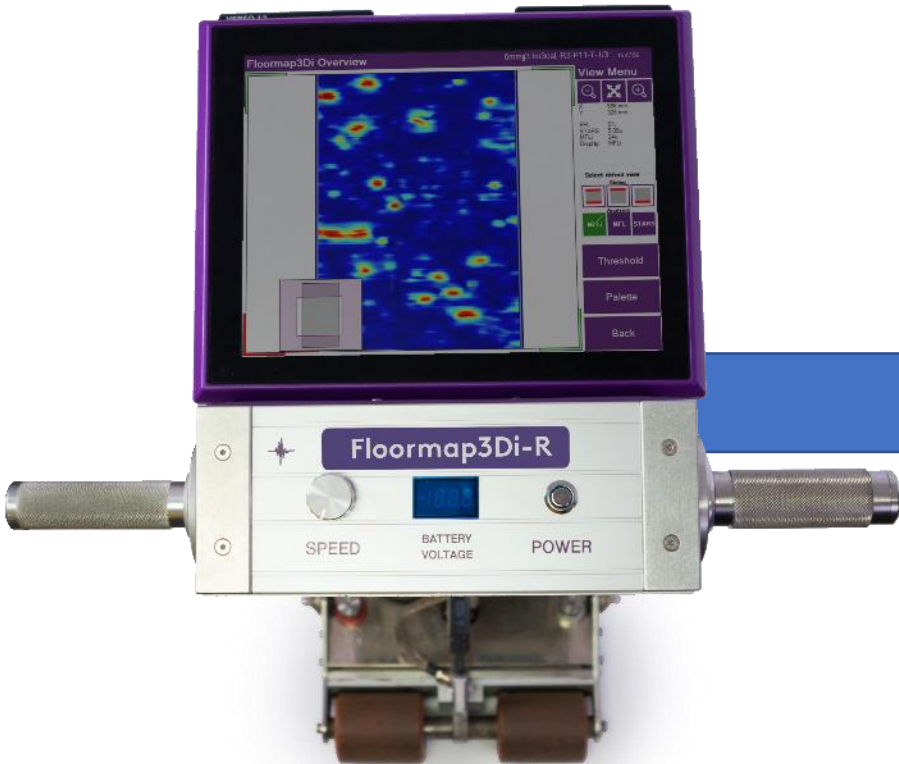
Free-scan and Auto-stop modes

Real time view software



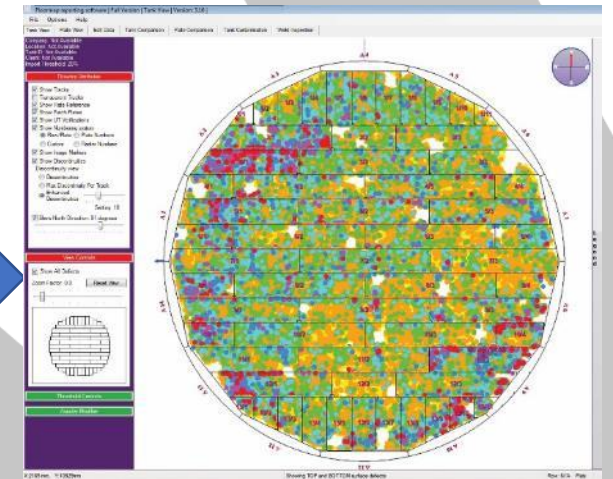
Export images to preferred manual reporting software

FLOORMAP3Di-R



Mapping mode

Acquisition and analysis with defect sizing



SIMS Reporting Software

FLOORMAP3DiM-R

- All of the benefits of Floormap3Di mapping
- Plus ability to perform fast, quality 'screening' scans
- Gives maximum flexibility
- Free-scan mode, very useful for minimising 'dead-zones' during an inspection.



MODEL COMPARISON

Floormap-R	
Type:	Screening only
Defect Sizing:	NO
Sensors:	MFL and STARS
Control:	Motor Driven
Views:	MFL-i RAW MFL STARS
Data Export:	Scan Image only

Floormap3Di-R	
Type:	Mapping only
Defect Sizing:	YES
Sensors:	MFL and STARS
Control:	Motor Driven
Views:	MFL-i RAW MFL STARS Defect Sizing
Data Export:	Full Data Export

Floormap3DiM-R	
Type:	Mapping & Screening
Defect Sizing:	YES
Sensors:	MFL and STARS
Control:	Motor Driven
Views:	MFL-i RAW MFL STARS Defect Sizing
Data Export:	Full Data Export + Scan image bitmap

FLOORMAP3DiM-R

- Complete tank floor mapping
- Top and bottom discrimination
- Enhanced probability of detection
- Faster inspection times
- Variable motor speed up to 1 m/s (3.2 ft/sec)
- Field proven durability & reliability
- Fixed sensor head for improved reliability
- Automated reporting with SIMS software
- Inspection traceability – calibration linked to the report
- 30 years MFL development in over 66 global locations



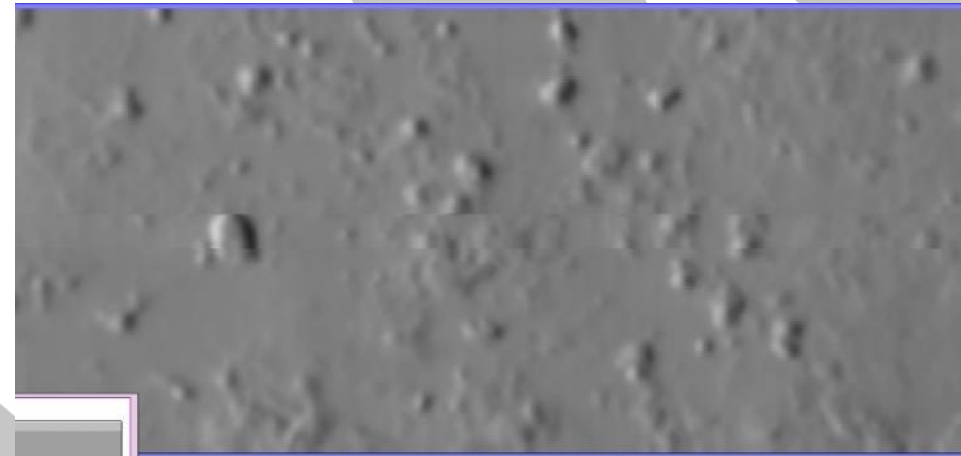
FLOORMAP3DiM-R

- Inspection of plate up to 16.0 mm (5/8 in)
- Through coating inspection up to 6 mm (1/4 in)
- Immediate plate view for defect assessment
- Battery powered, no external cables required
- High resolution 4.6 x 2 mm
- Defect classification tools
 - Dynamic cursor
 - MFLi view

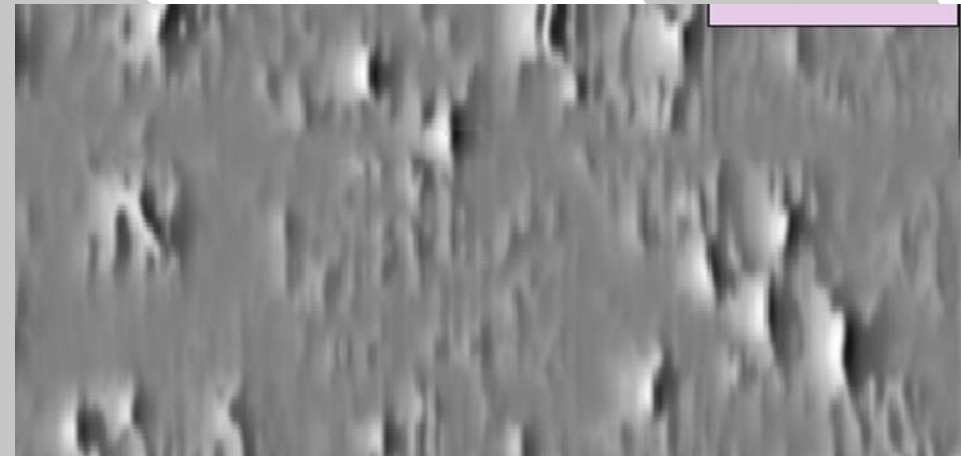


HIGH RESOLUTION SENSOR

- 2 x independent 64 channel sensor arrays
 - MFL
 - STARS
- Total 256 sensors
- Previous models contained maximum 36 sensors

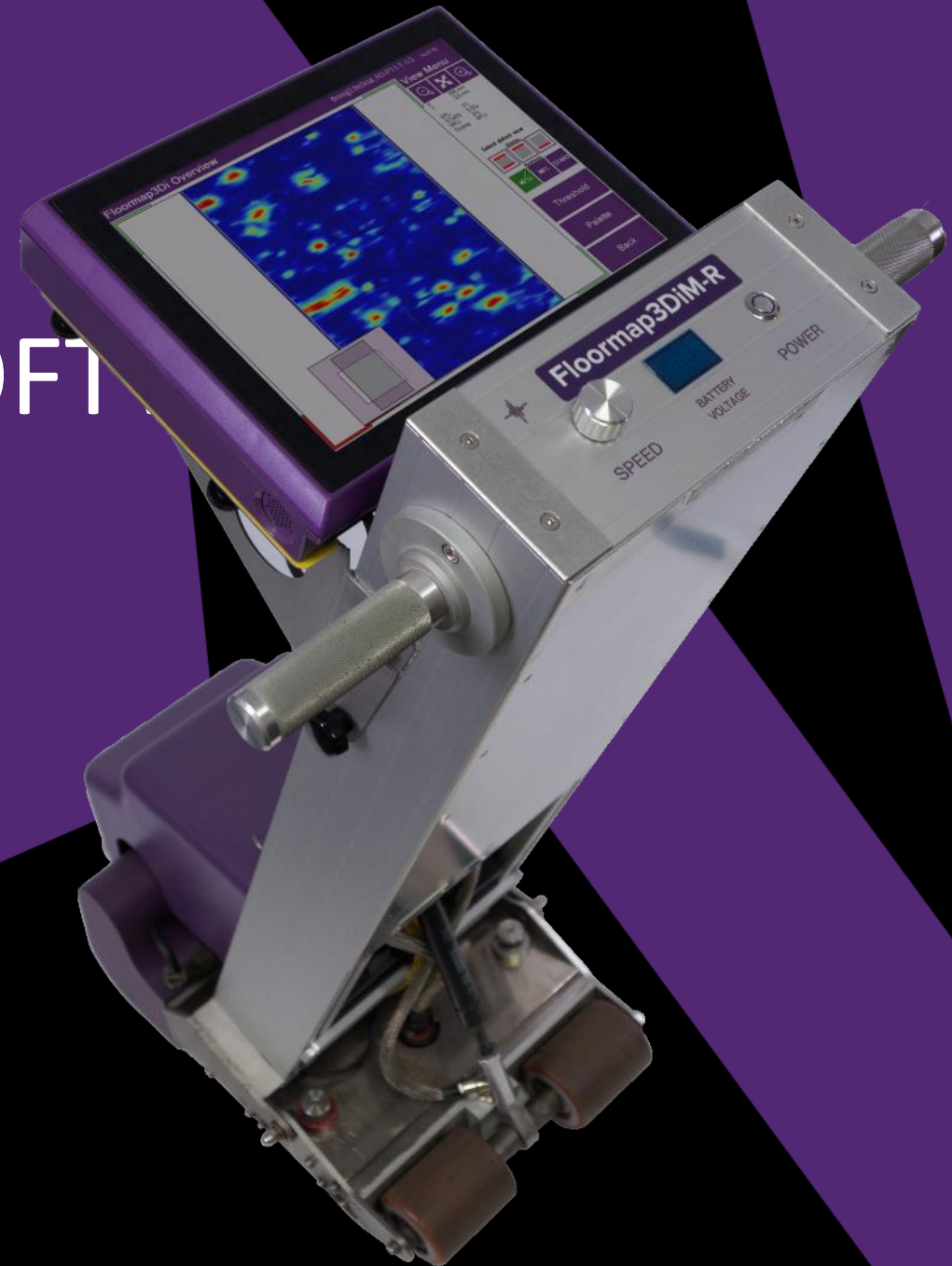


RAW STARS – Top surface view



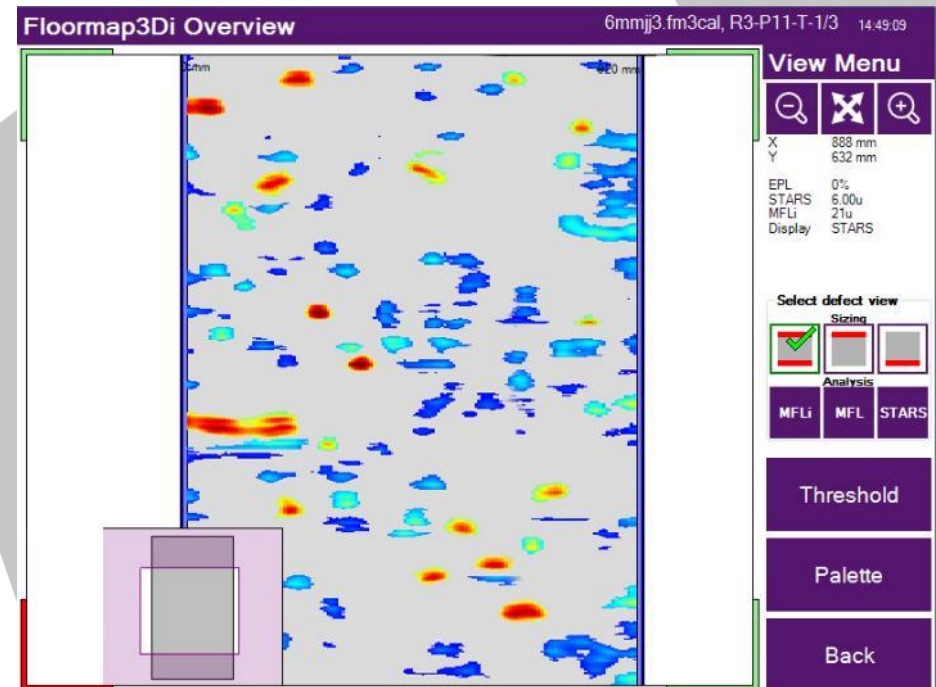
RAW MFL – Top & Bottom surface view

DATA ACQUISITION SOFTWARE



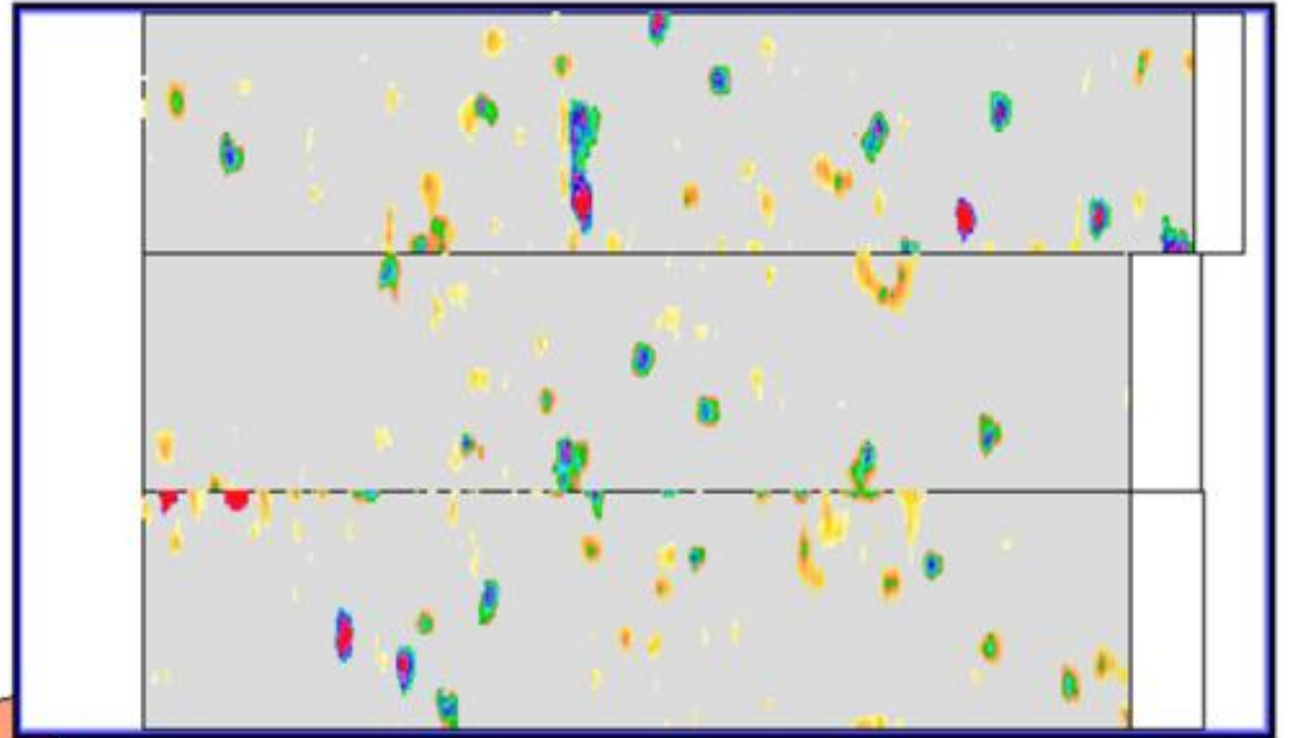
DATA ACQUISITION SOFTWARE

A powerful range of data review tools provide instant and clear feedback on plate condition during the inspection....



DATA ACQUISITION SOFTWARE

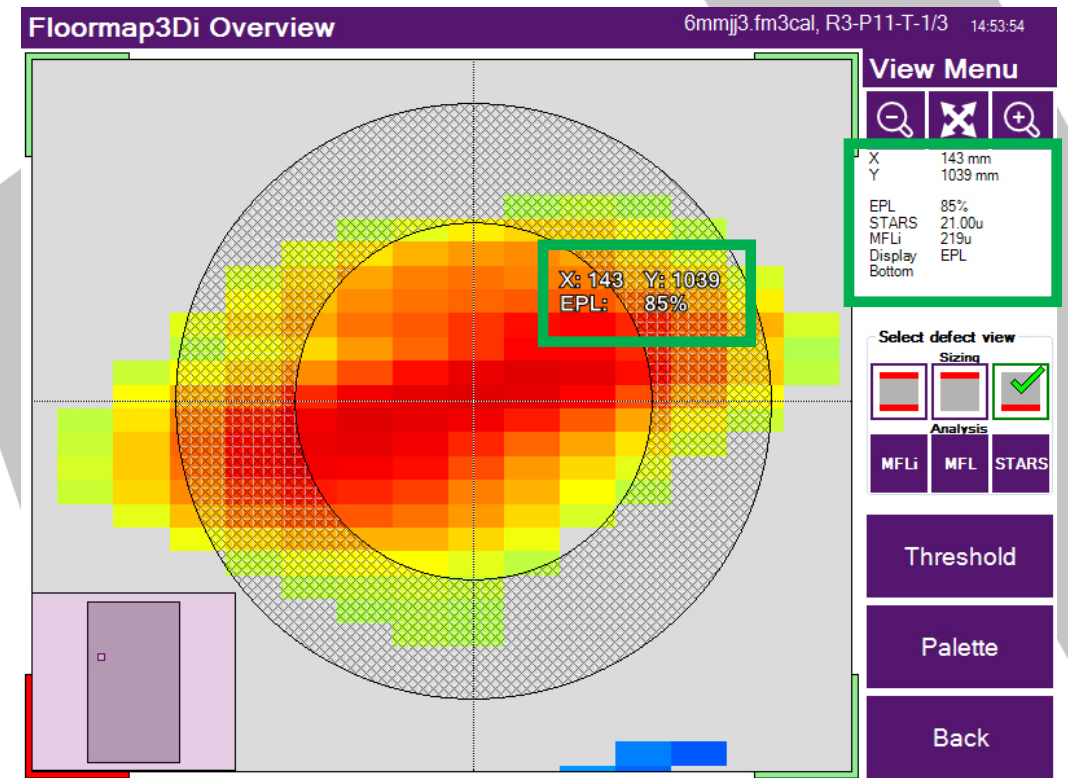
The default corrosion view shows a high resolution colour-coded map of the plate



DATA ACQUISITION SOFTWARE

Detailed information is displayed by hovering the cursor over a specific point of corrosion

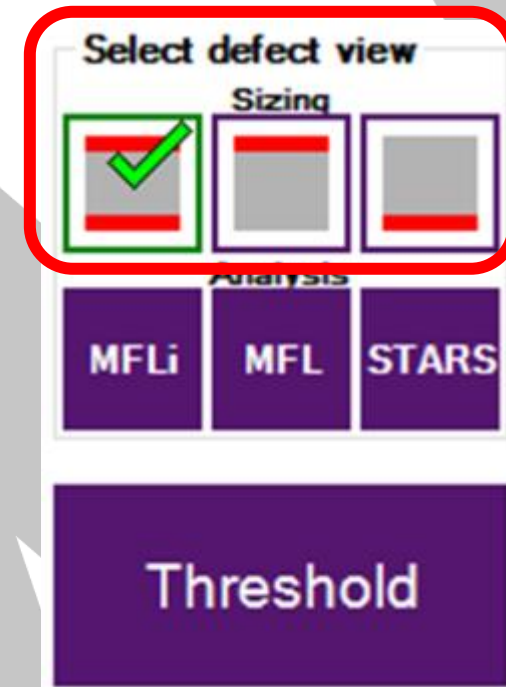
- X / Y position
- Percentage loss



DATA ACQUISITION SOFTWARE

Instantly change corrosion view to show

- Both top and bottom side corrosion
- Top side corrosion only
- Bottom side corrosion only



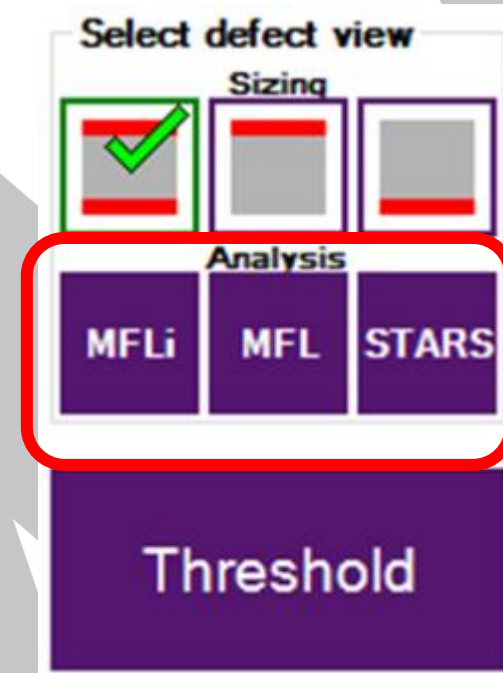
DATA ACQUISITION SOFTWARE

Advanced analysis capabilities using high resolution views of:

- MFLI view
- MFL raw data view
- STARS raw data view

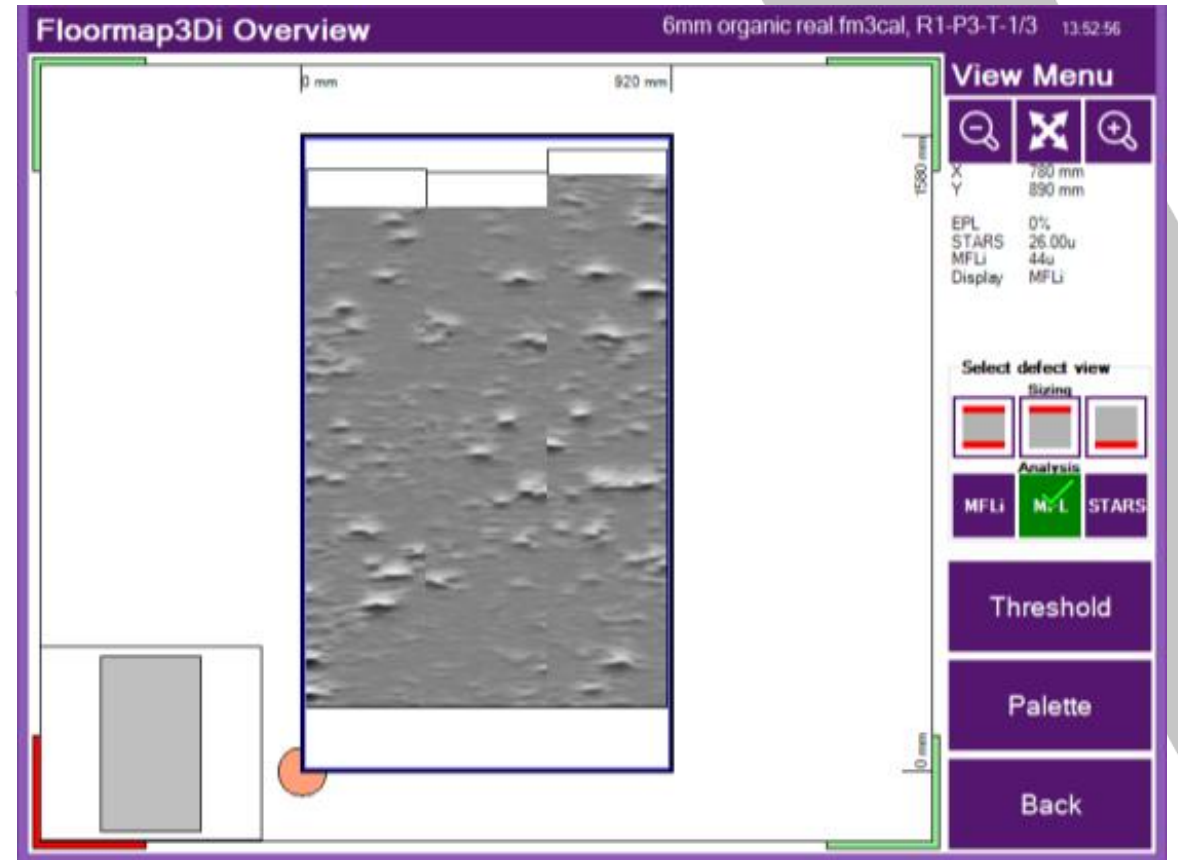
For improved data verification and defect classification

Only one option with previous models!



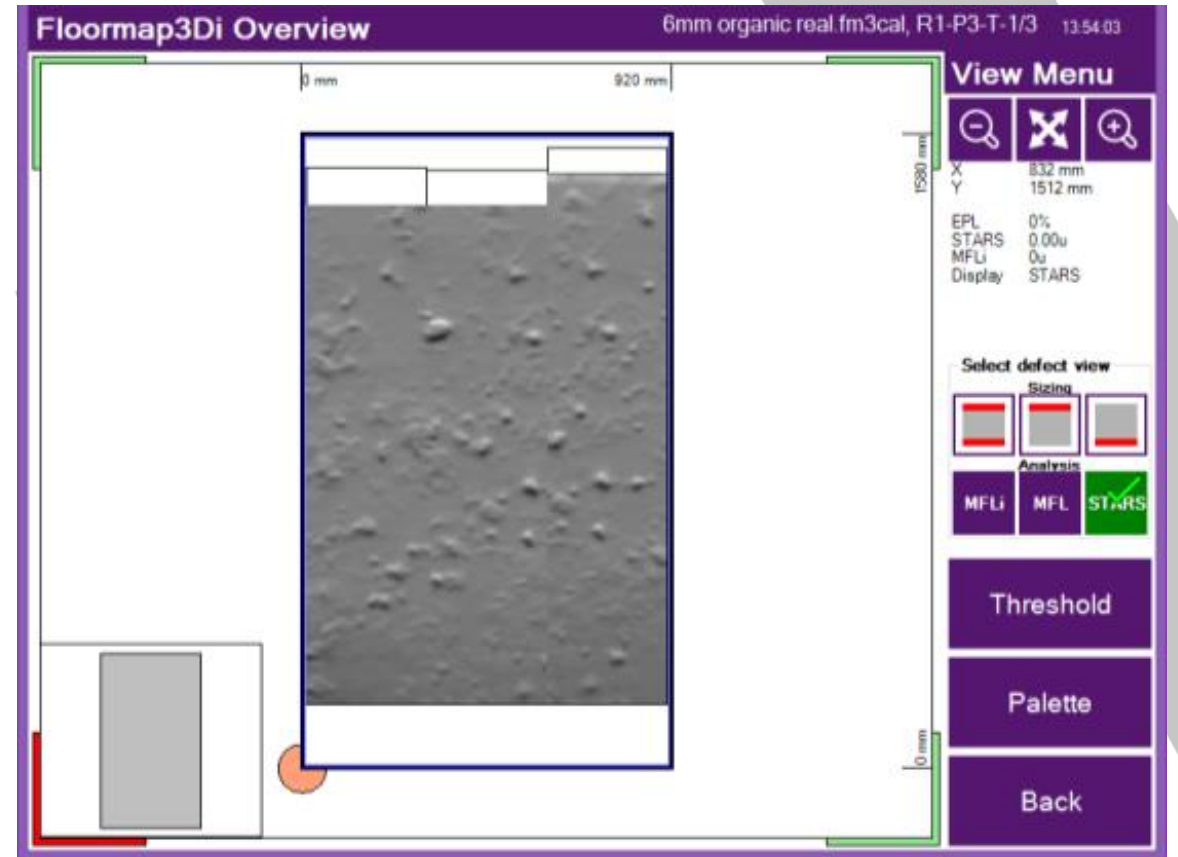
DATA ACQUISITION SOFTWARE

High Resolution MFL raw data view



DATA ACQUISITION SOFTWARE

High Resolution STARS raw data view



DATA ACQUISITION SOFTWARE

High Resolution STARS raw data view

Seen by an inspection company in USA

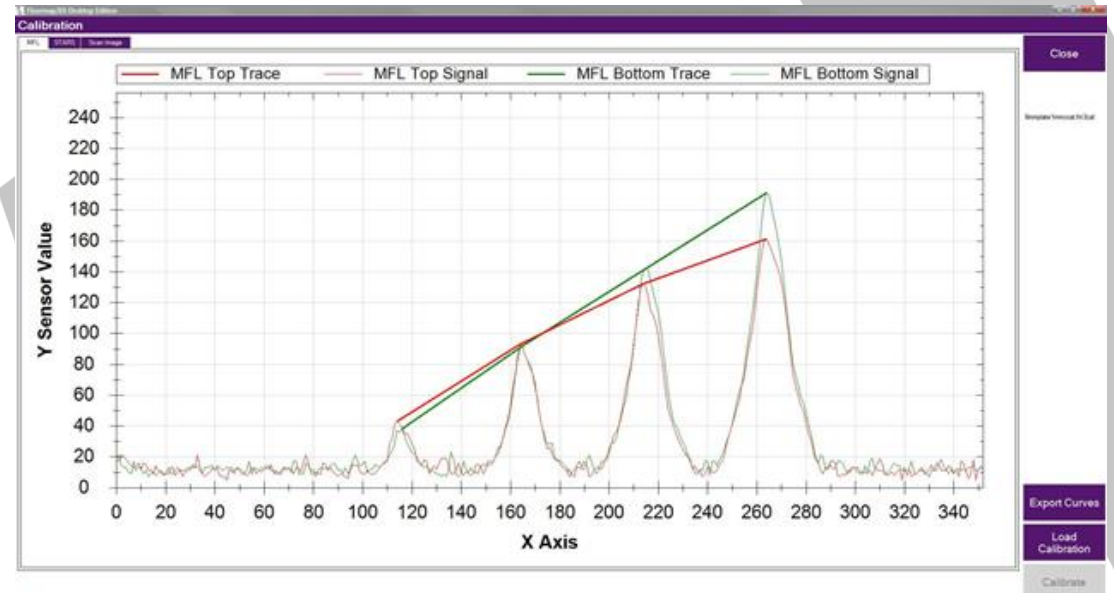
Writing in weld detected under tank floor coating



DATA ACQUISITION SOFTWARE

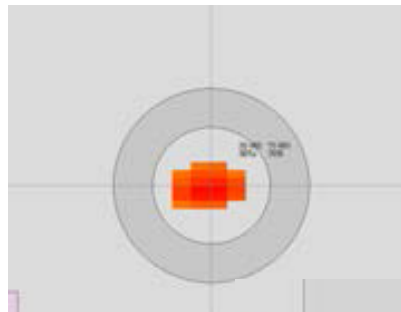
Calibration trace

- Linked to the individual inspection
- Provides an auditable inspection data archive

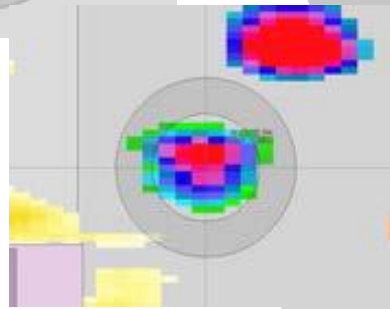


DATA ACQUISITION SOFTWARE

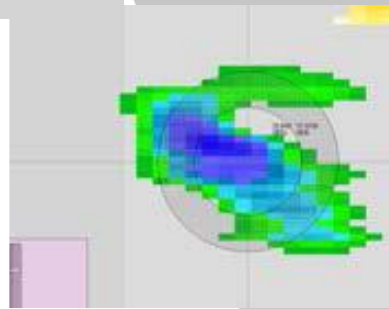
Dynamic Cursor:



UNDERSIZED
Indication inside Dynamic Cursor



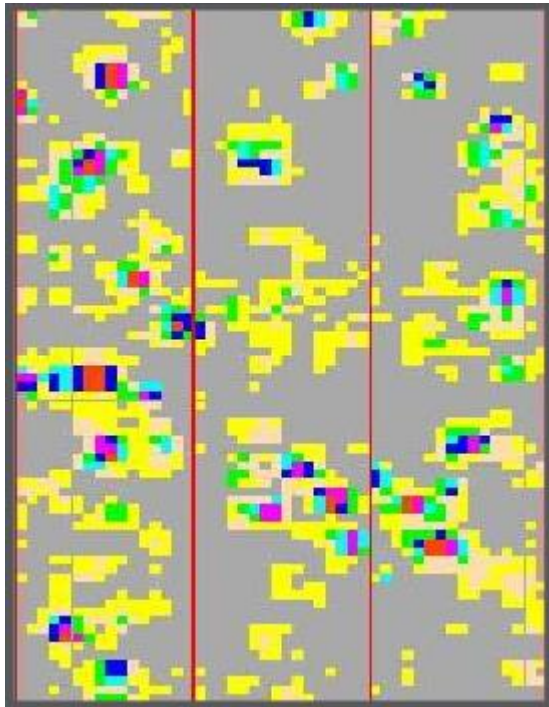
CORRECTLY SIZED
Indication within Dynamic Cursor



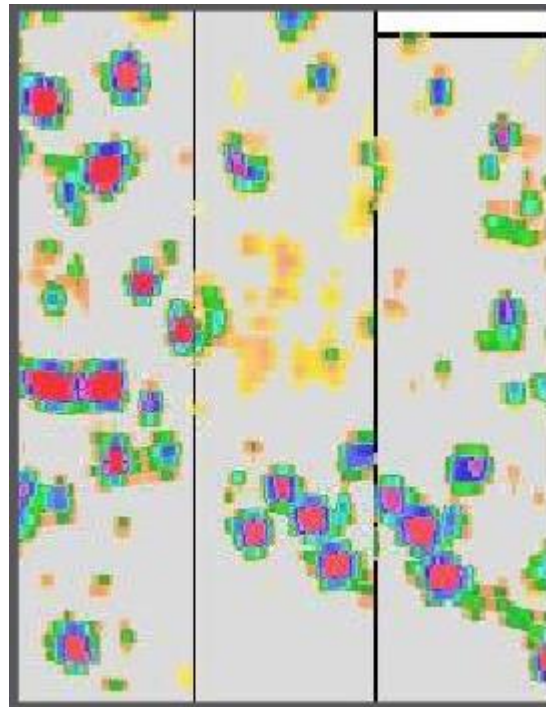
OVERSIZED
Indication outside Dynamic Cursor

SCANNER COMPARISON

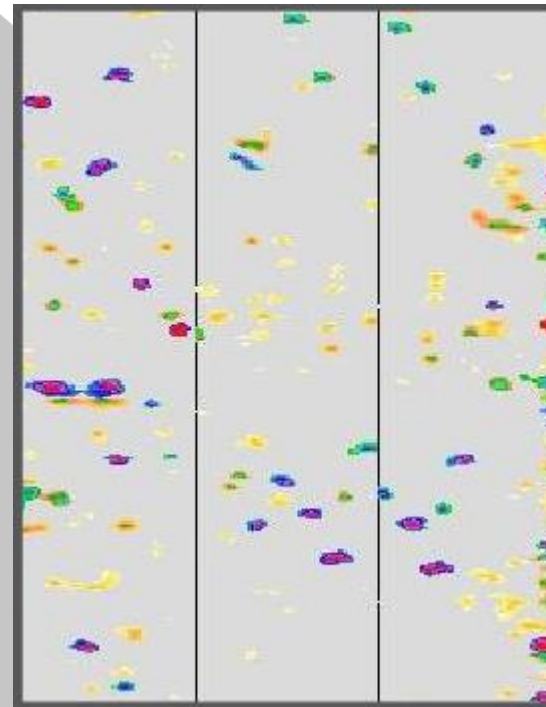
Defect representation



FloormapVS2i



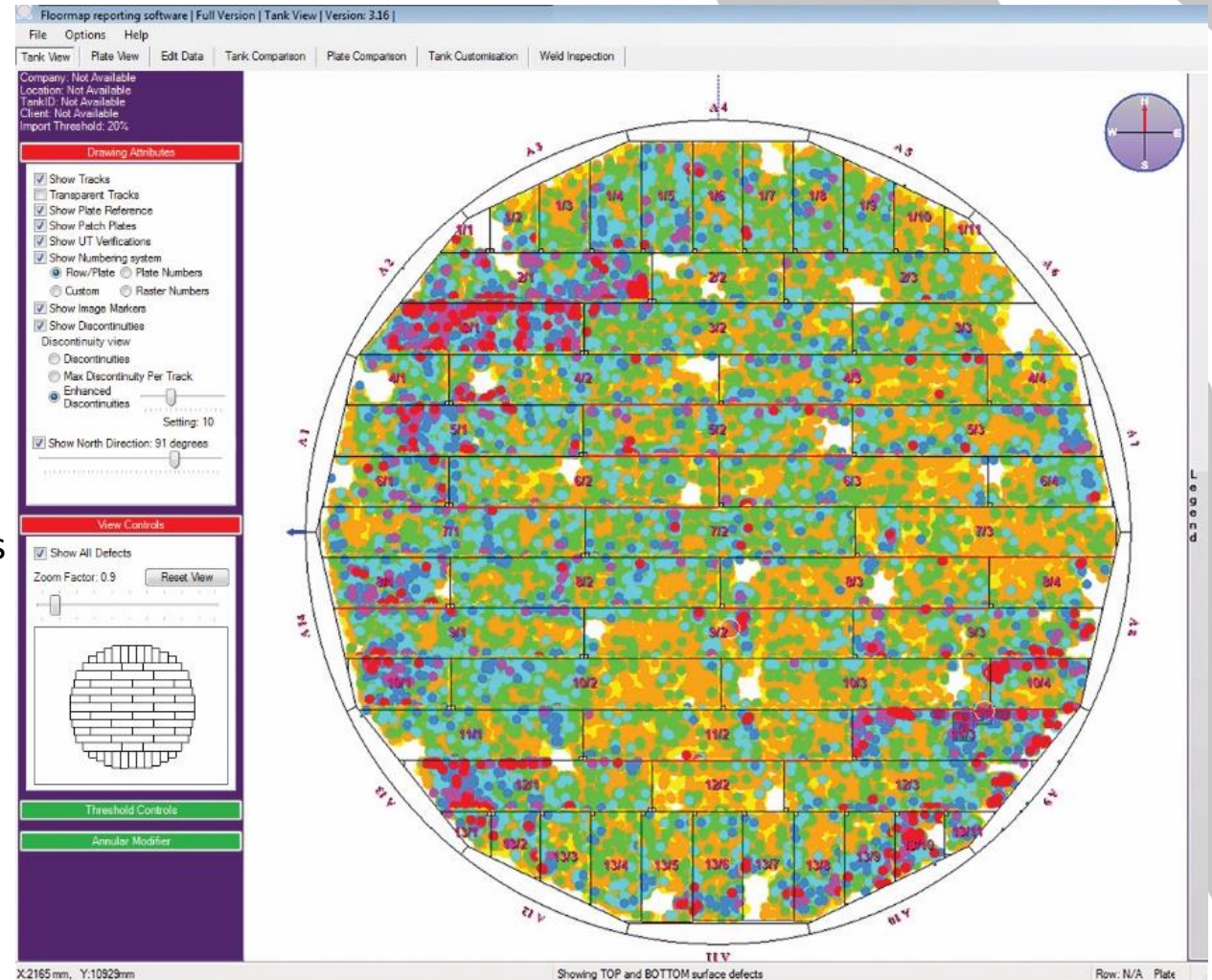
Floormap3D



Floormap3Di-R

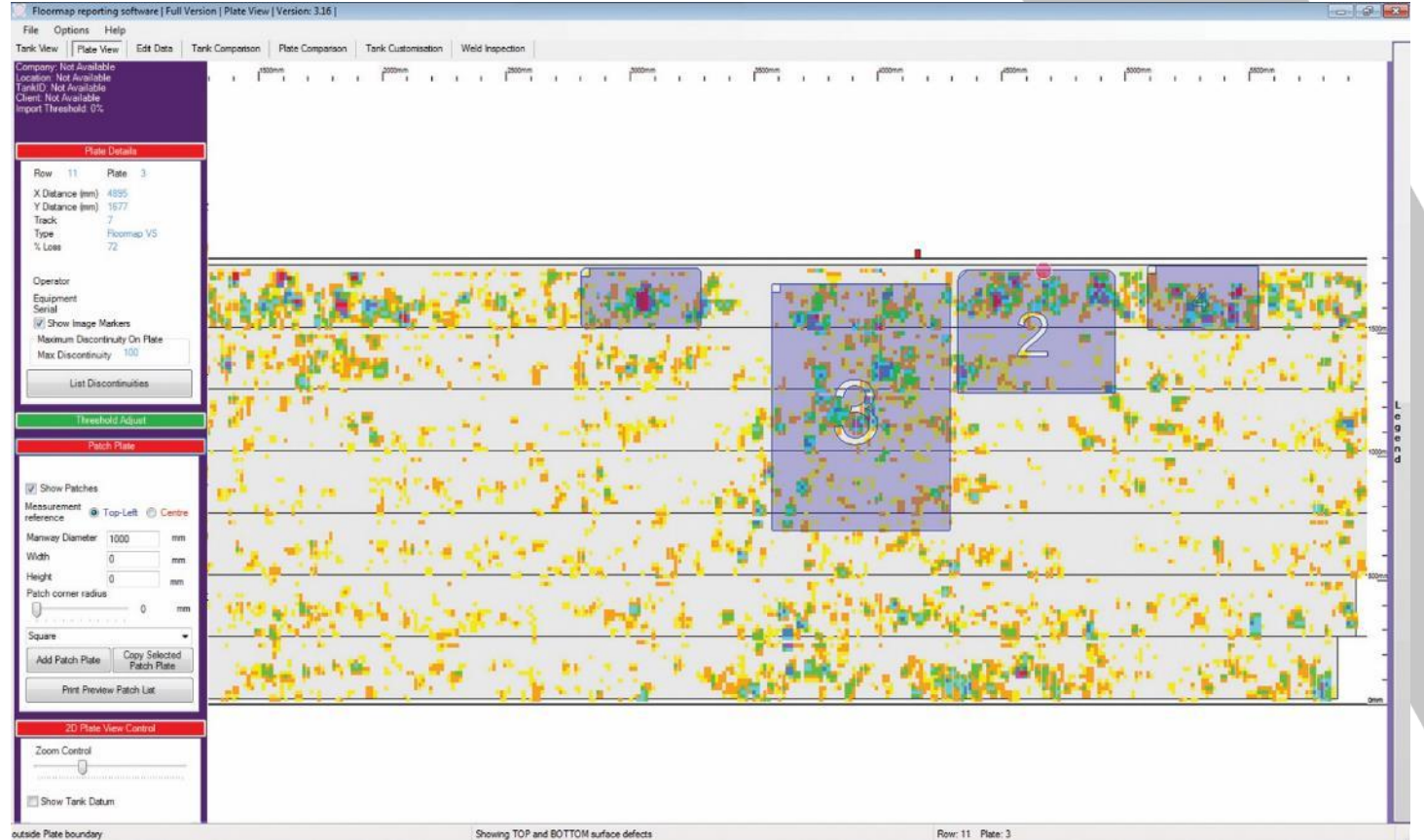
KEY FEATURES

- Full tank floor analysis
- Automatic CAD layout of floor plate
- Tank and Plate views
- Patch plate design to API requirements
- Extensive report printing options
- Incorporate Manual MFL, Vacuum box, MT, UT test results as well as visual observations
- Top/Bottom defect views
- Comparison of historic inspections
- Add areas for further verification
- Free viewer for report distribution



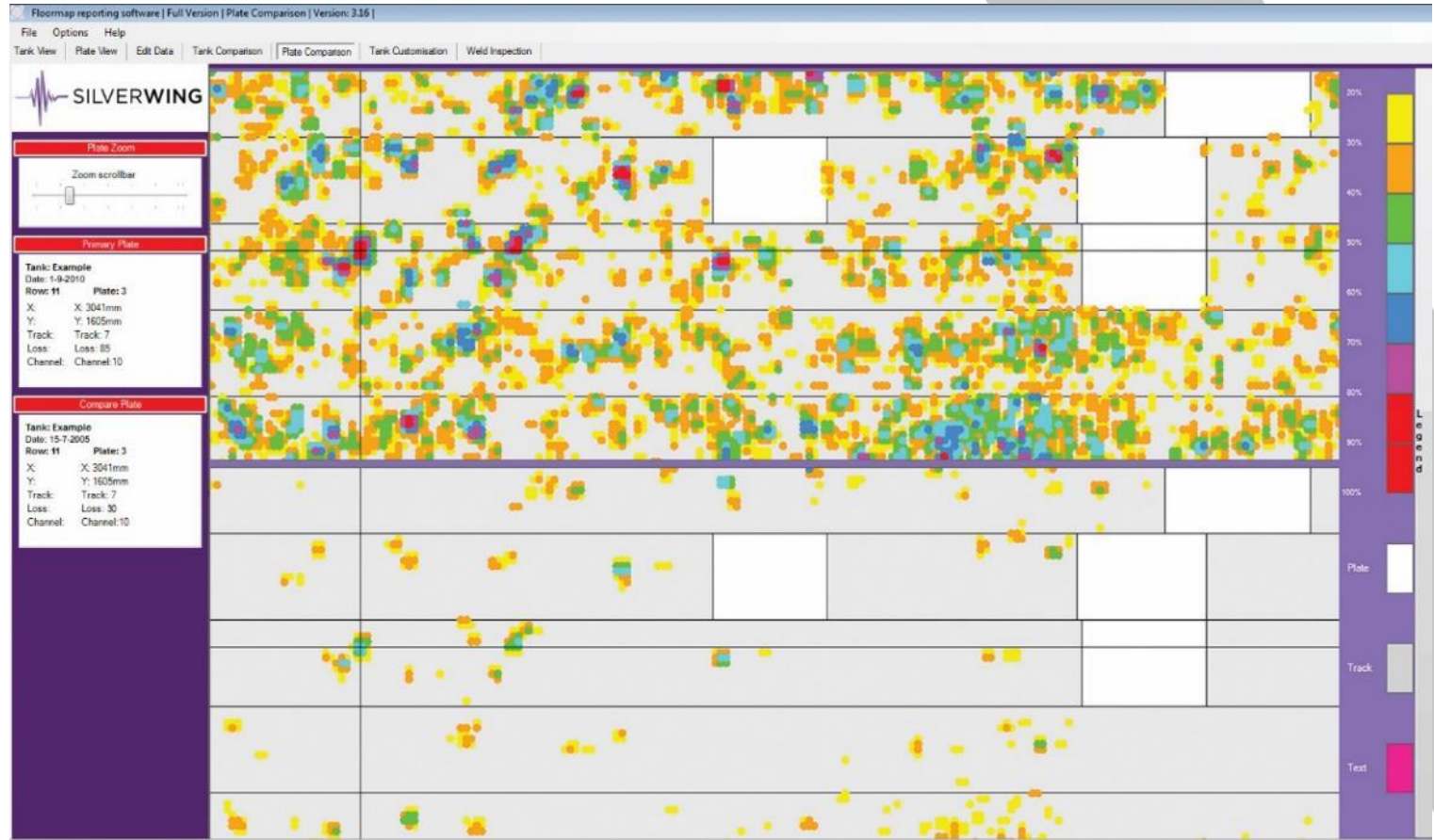
KEY FEATURES

Repair Work Scope Development



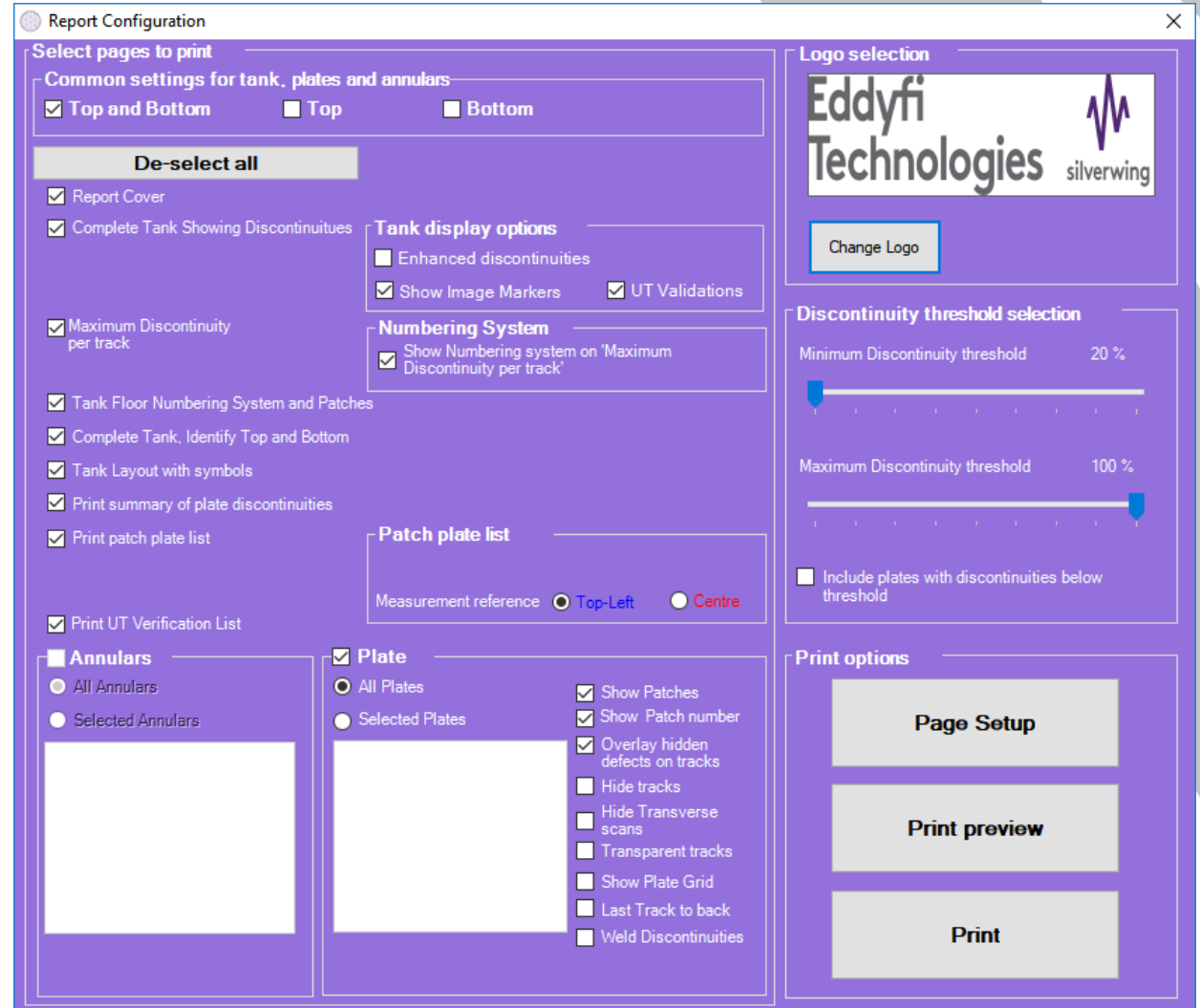
KEY FEATURES

Future Reference / Comparison



KEY FEATURES

Automated Reporting



TRAINING



TRAINING OPTIONS

- Silverwing provide a 5 x day system familiarisation - either based at Swansea HQ or at customer office
- SNT-TC-1a
 - Based at Silverwing HQ – Swansea, UK
 - Combined Level 1 and Level 2
 - 80 hour course
 - Qualification and Certification
 - Validated by the British Institute of NDT
 - In collaboration with SWS of NDT





QUESTIONS /
COMMENTS?