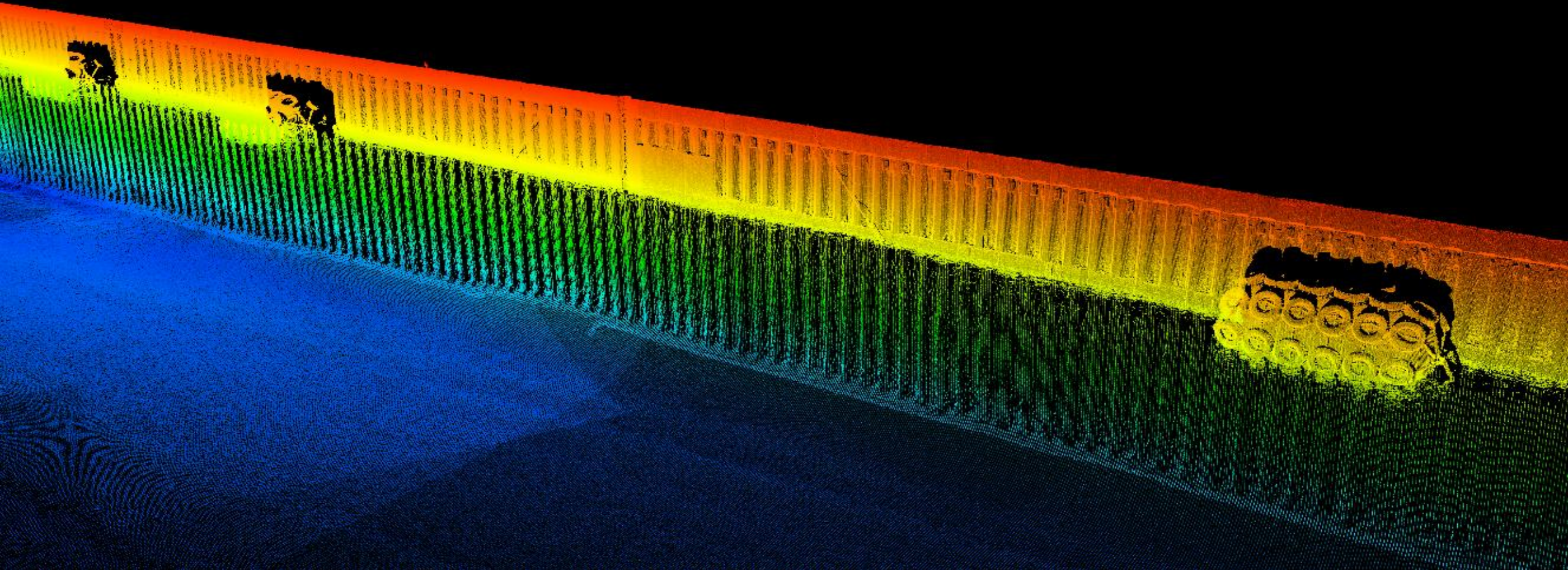




Unfolding Vertical Structures

Enhancing Port survey workflows with 3D Coordinate Transformations

Port surveying

Supports:

- Harbour master and pilots
- Dredging
- Engineering



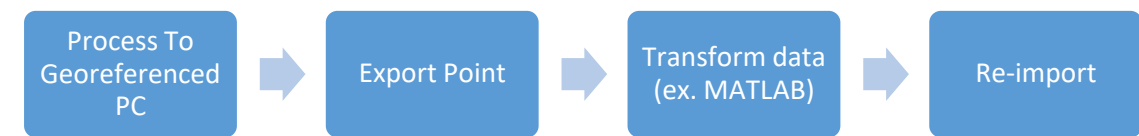
Current Options

CARIS EAM Workflow



- ☑ COTS Workflow
- ☑ Vertical Grid
- × Point Cloud not transformed
- × Disconnected from Original Project

Manual Transformation



- ☑ Point Cloud transformed
- ☑ Create several products
- × Extra Data handling steps
- × Disconnected from Original Project
- × Requires in house development

HIPS and SIPS – EVRT Engine

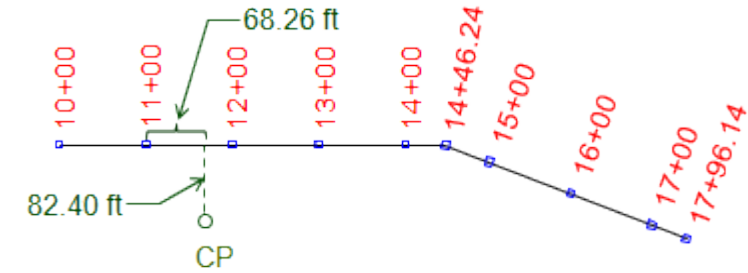
Align – Process - Grid

- Draw alignment along the edge of vertical structure
- Transform data into horizontal plane (offset from alignment becomes Z)
- Process data into quantitative products
 - Surface to Surface comparison
 - Detect damage and deformation.

Benefits

- Works directly on HIPS data
- Transforms complex vertical structures into a strip of data
- HIPS process work directly on the vertical wall, (subset, filters, gridding, differencing)

Example Alignment with stations and offsets

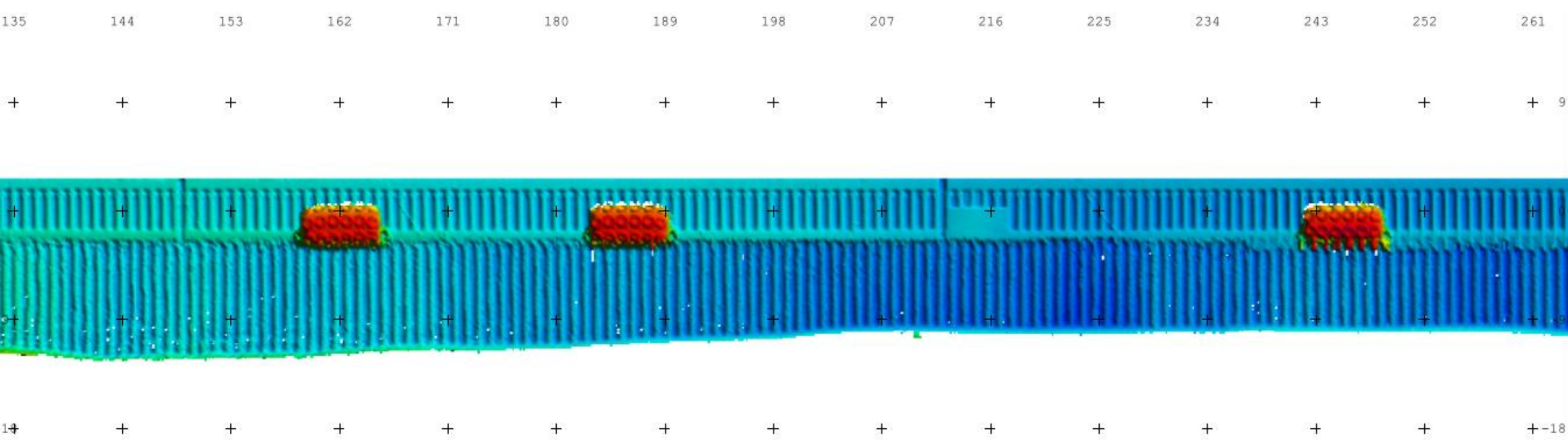


New workflow: create alignment

- Draw Alignment Along the edge of the Vertical Feature
- Alignment Saves as external file for use in subsequent projects
 - Always comparing to the same reference



New workflow: Transform to new X/Y/Z system

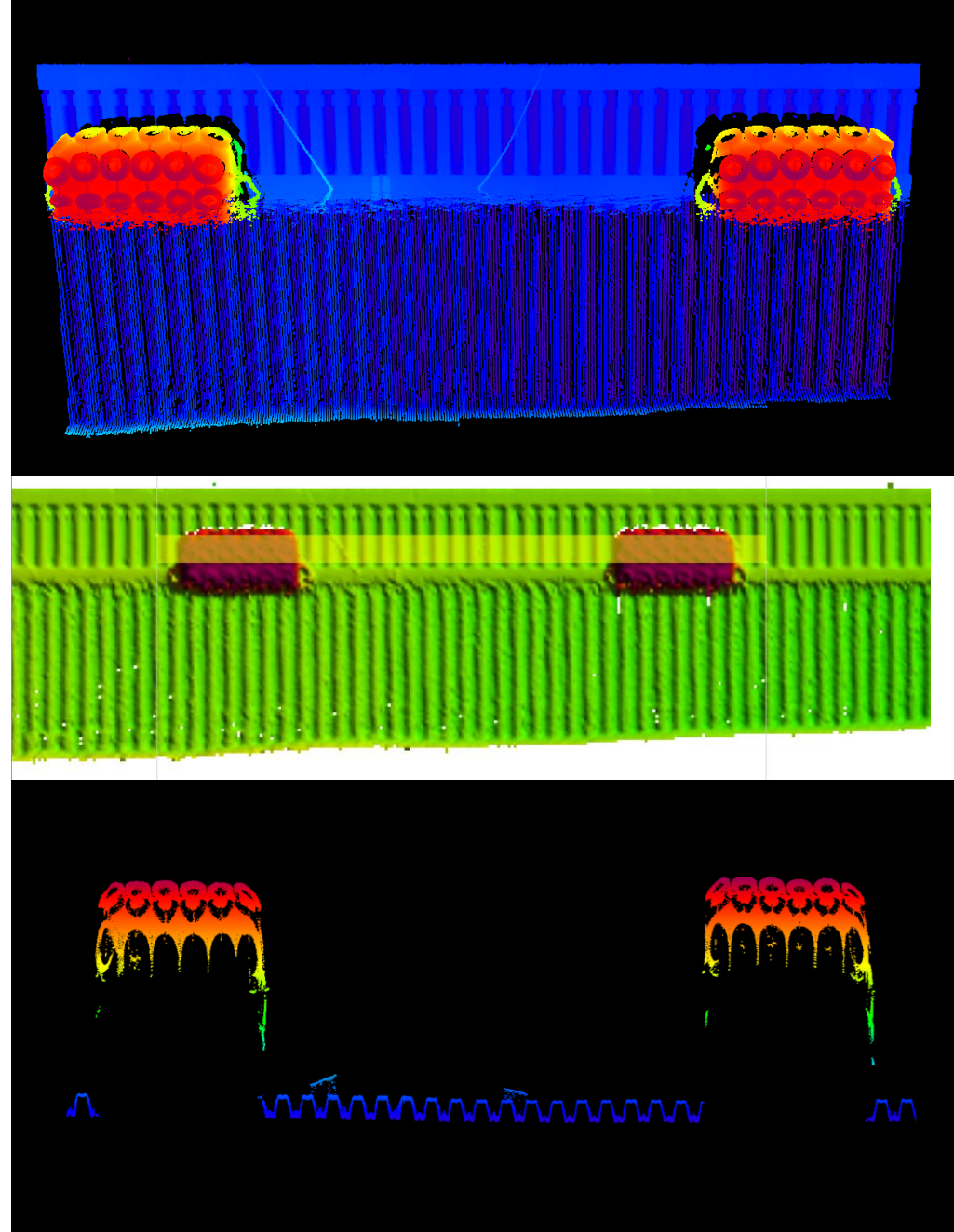


- Transform Data from UTM into Alignment's Coordinate System
- Workspace and products converted

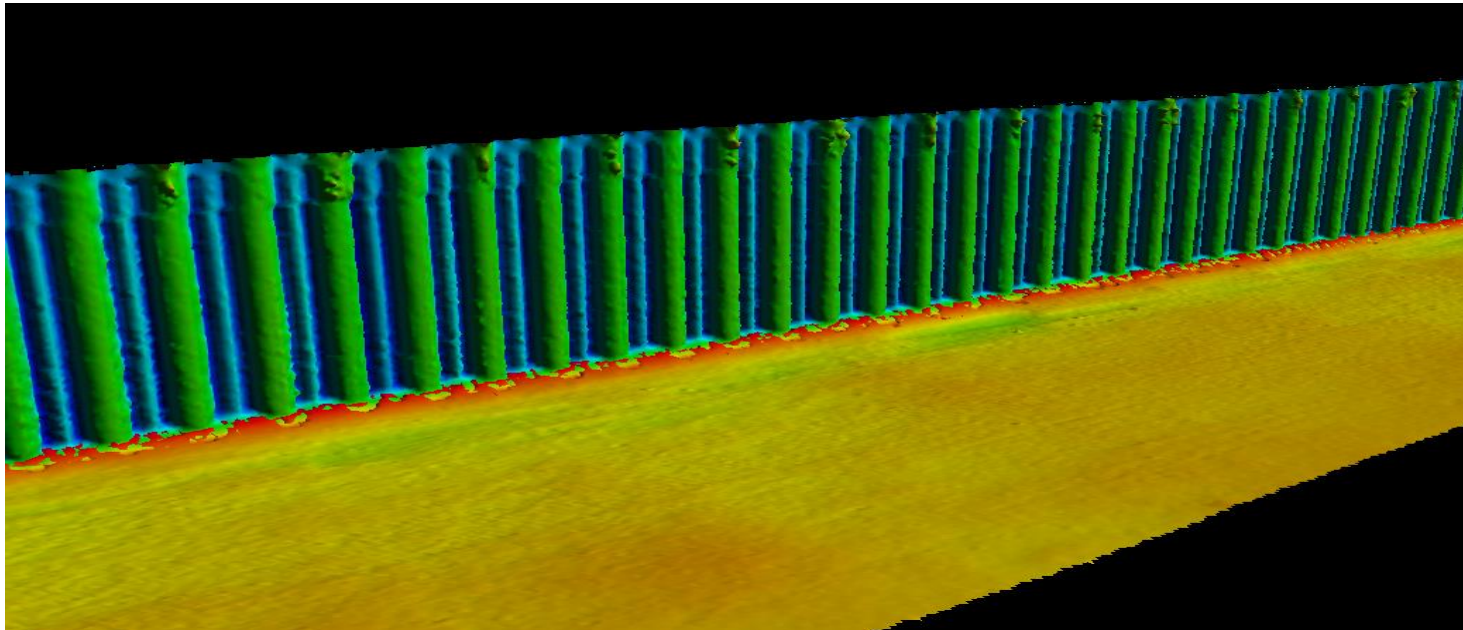
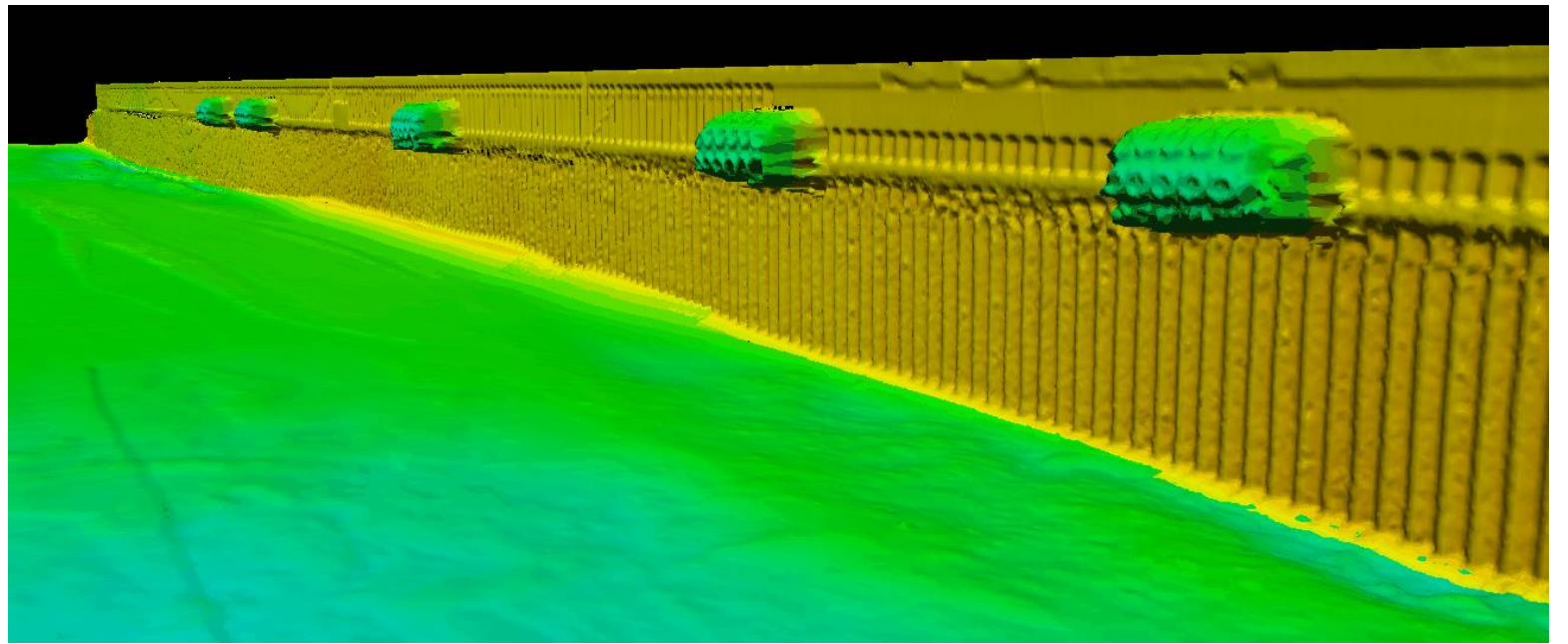
New workflow: Process Data

Wall is flipped to be relative to the horizontal plane: Result = standard processes now work relative to the wall

- Subset slice moves up and down the wall
- Noise filters
- Gridding
- Profiles
- Differencing

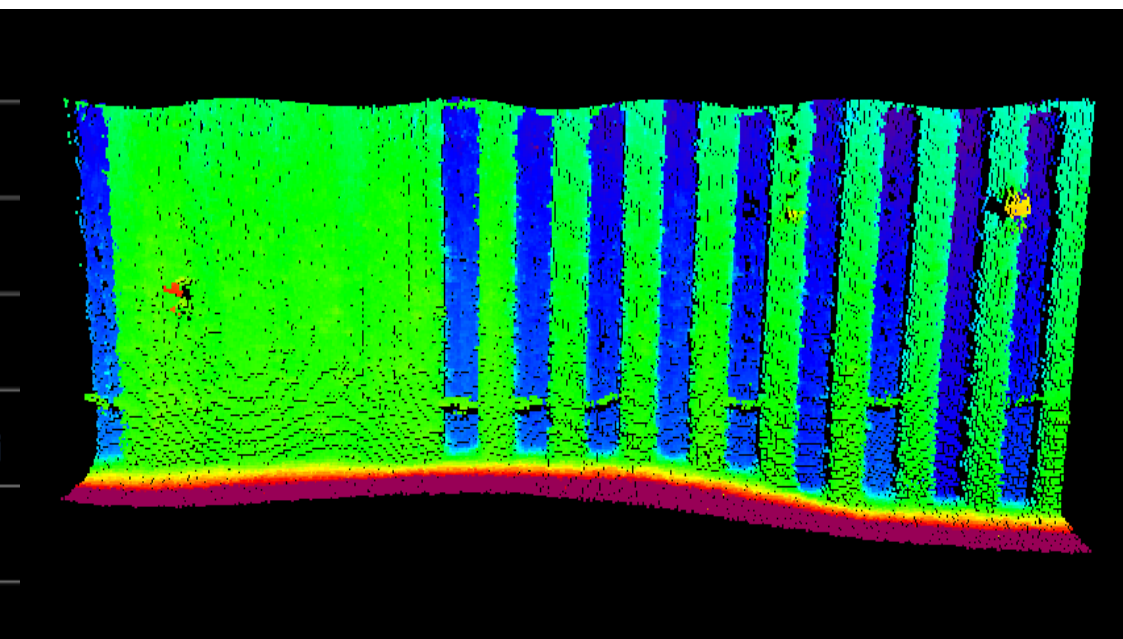
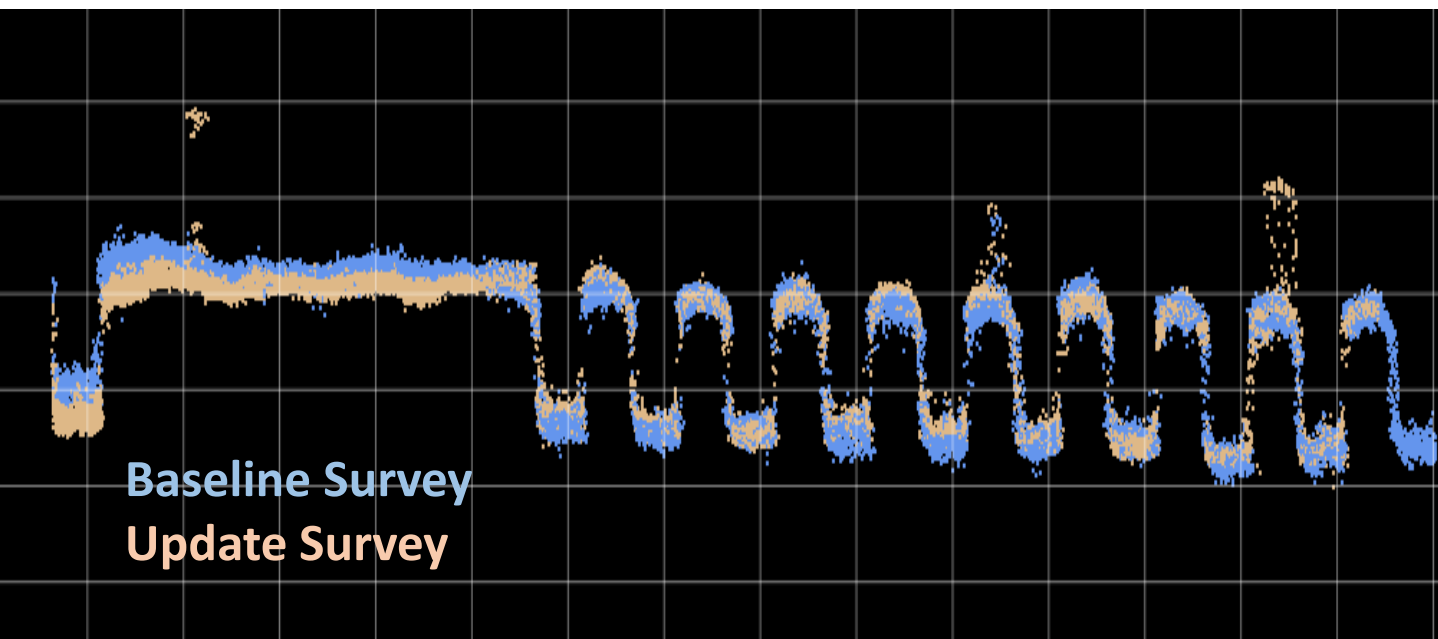
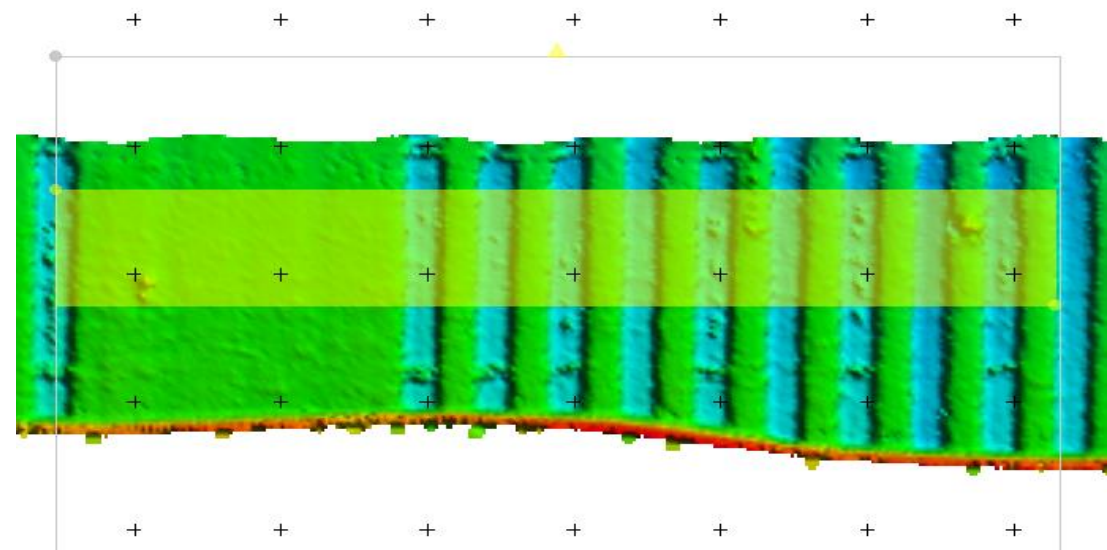


New workflow: Endresult



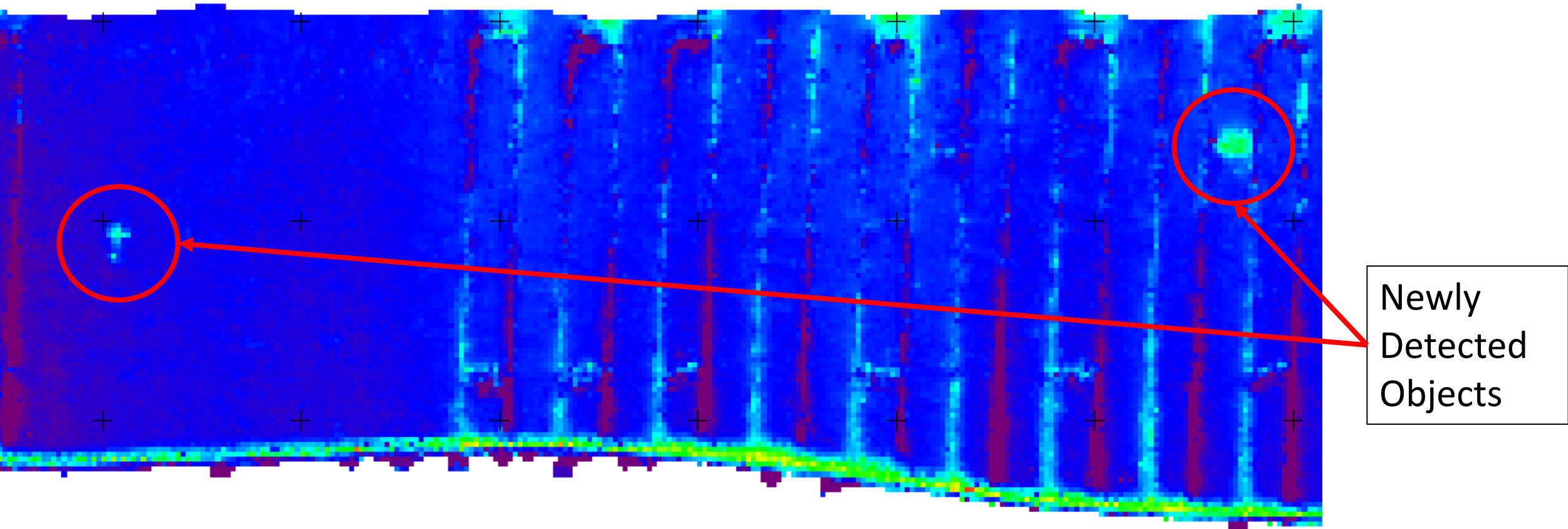
Detect Foreign Objects

Simplified workflow to compare baseline with update surveys

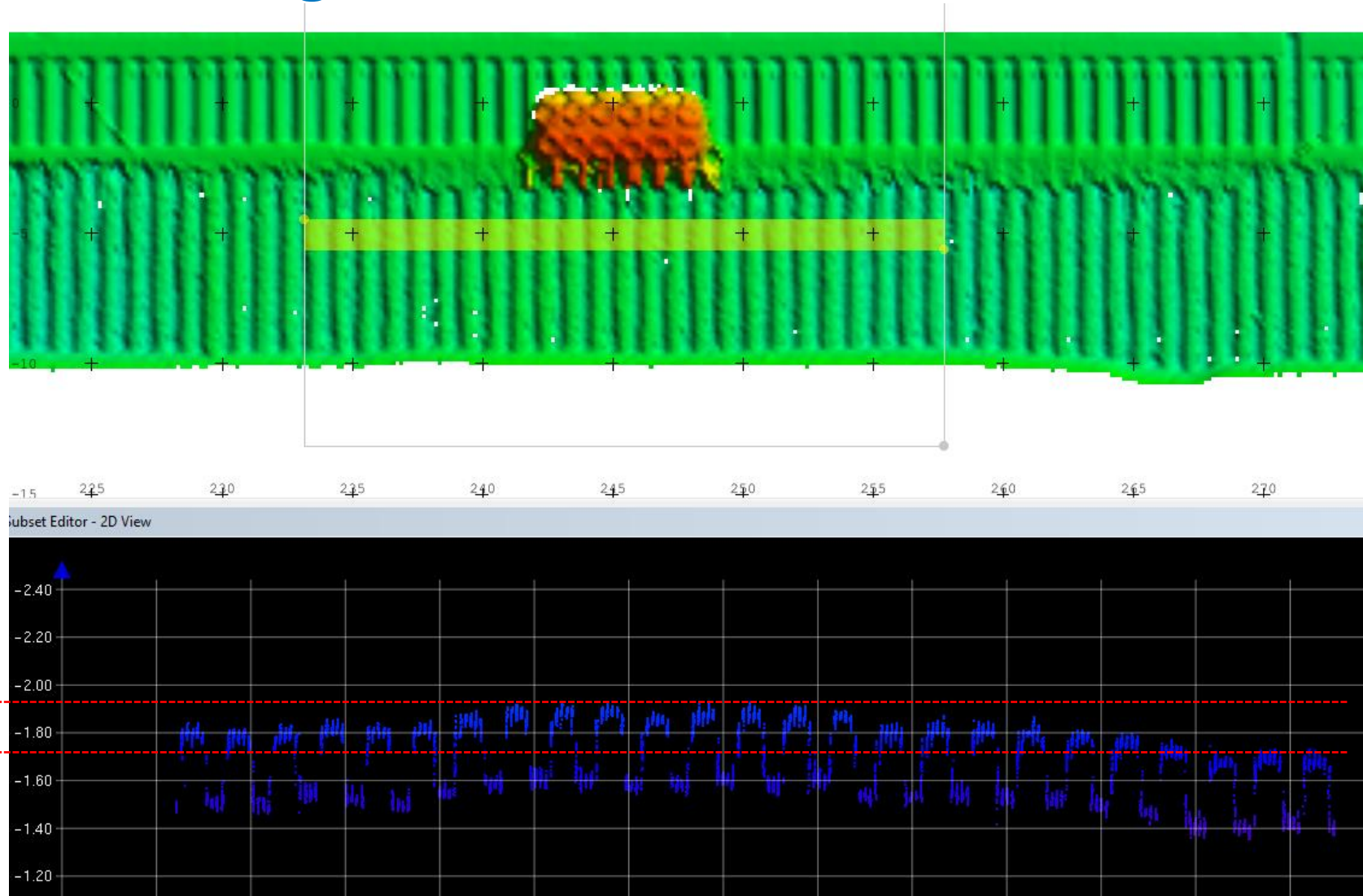


Surface Differencing

- Difference = Baseline Survey – Update Survey



High Precision Insights



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Questions