



KONGSBERG

APPLICATION NOTE



HIGH-FREQUENCY FLEXVIEW AND M3 SONAR

Imaging Inspection Surveys

KEY FEATURES

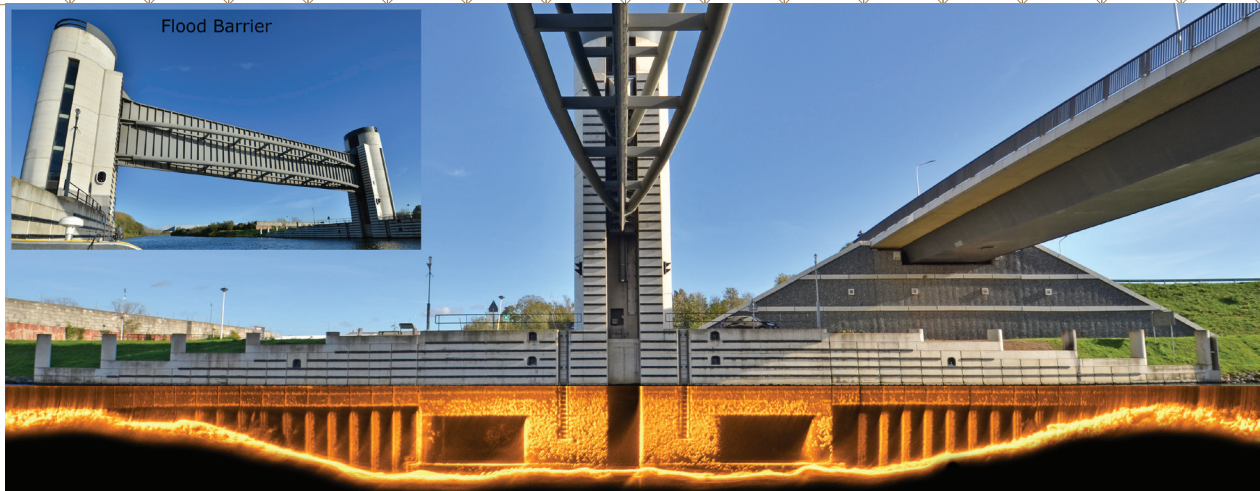
- High Resolution
- Low Cost
- Rapid Deployment
- Complete solutions available
- Output georeferenced images
- Compatible with Stand Alone Mosaicking Module (SAMM) and SoundTiles

The M3 Sonar HF and Flexview HF are powerful, affordable, entry-level turn-key sonars. These small, but high-performance, multibeam sonar heads require only a laptop and power supply to operate.

The M3 Sonar HF and Flexview HF deliver excellent quality data at a very low cost of ownership. They are designed for rapid installation, operation, and removal using vessels of opportunity.

Applications

- Engineering inspection of marine structures in ports and harbours
- Dams and water-intake inspections
- Bridge pier and dock inspections
- Outfalls and pipe inspections
- Hull scanning
- Seep / Leak detection

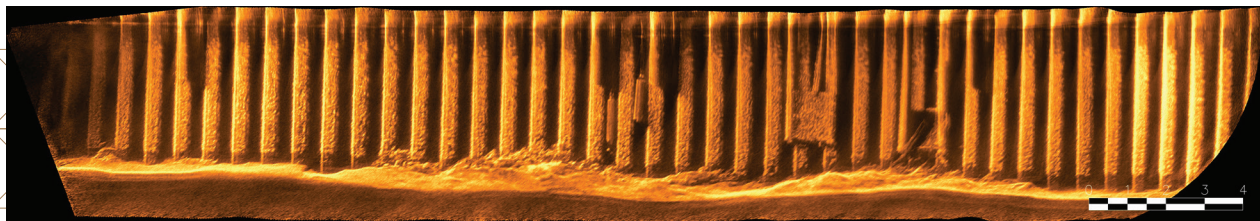


High Resolution

Imaging data gathered from the M3 Sonar HF and Flexview HF are high resolution, with cm-level feature detection capabilities that can be exported to a GeoTiff image. Features can be detected in imagery data that are not apparent in traditional bathymetric data.

Built on the proven M3-Sonar Series

The core of the M3 Sonar HF and Flexview HF is Kongsberg Mesotech's proven M3-Sonar Series MultiMode Multibeam Sonar. The M3 Sonar HF and Flexview HF are the only instruments in their price points that produce high-quality imaging records.

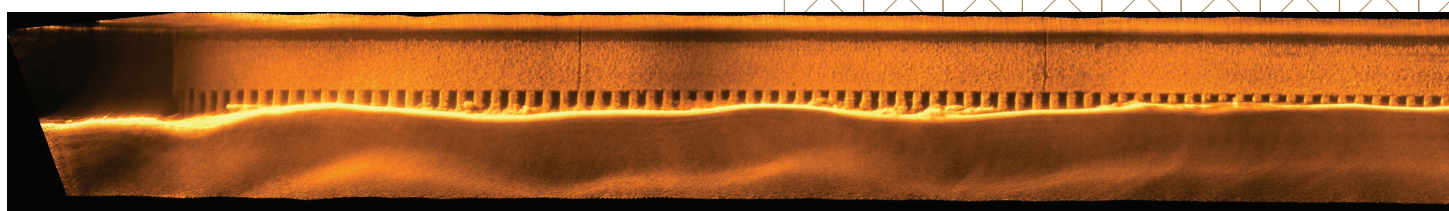
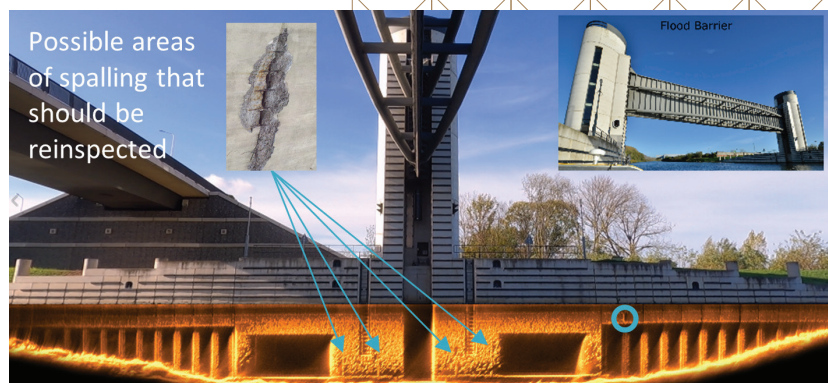


Imaging data can be captured in two main ways: Elevation View and Plan View.

Elevation View Mosaic

This view is for structures that are perpendicular to the seafloor, such as bridge abutments, sheet-pile walls, docks, and piers.

Data can be mosaiced automatically with third-party software, such as SoundTiles, an alternative to manually stitching the image using conventional image-editing software, such as Photoshop.



Plan View Mosaic

This view is for structures that are on the seafloor, such as pipe crossings, anchor blocks, and sunken objects.

Data can be mosaiced automatically using SoundTiles, SAMM, or other third-party software. If positioning data is not available, only SoundTiles can be used.

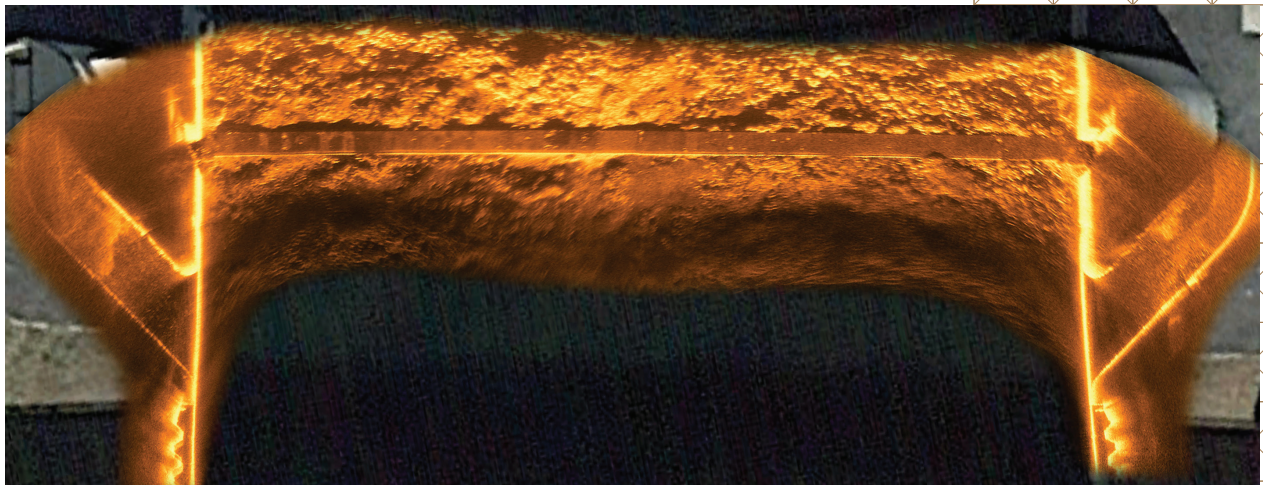
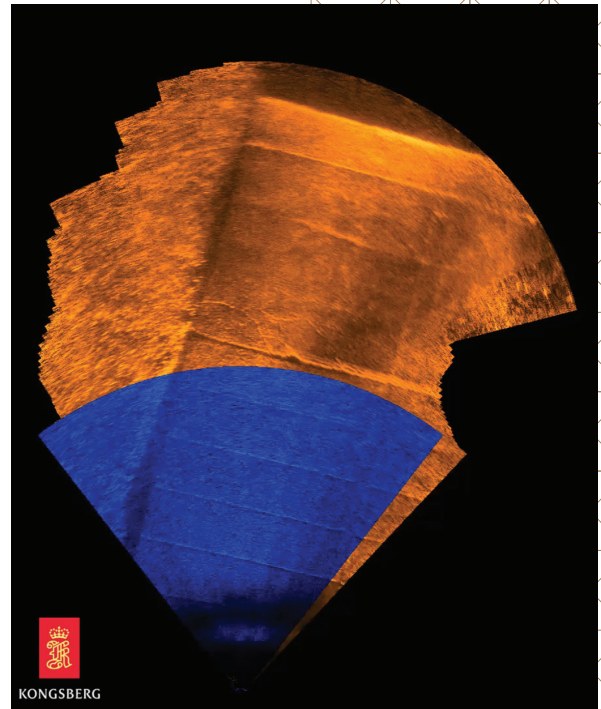
Infrastructure Inspection

Underwater inspection of man-made structures is vital as they age.

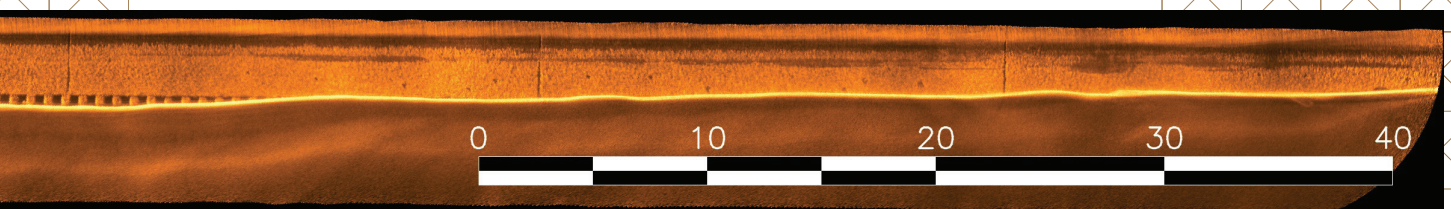
In addition, water currents, corrosion, and damage from storms and vessels may impact structure integrity.

Diving inspections can be costly and dangerous due to a lack of visibility and extreme current conditions. These factors may also result in inconsistent or ambiguous report findings.

The M3 Sonar HF or Flexview HF on an ROV or USV provides higher definition images, and the compact size and portability of the equipment enables quick, frequent monitoring.



All mosaics in this Application Note have been processed using SoundTiles (an IQUA Robotics product).





RAPID DEPLOYMENT

The M3 Sonar HF and Flexview HF are ideal for rapid deployment.

The additional sensor data required is Heading/ Position (No need for MRU), eliminating the need for complex lever-arm measurements.

In addition, if third-party software is used, such as SoundTiles, only sonar data is needed to produce an image mosaic.

System Configuration

If SoundTiles is used, the Positioning/Heading input is not required. However, SoundTiles can use this input to produce high-quality Plan View mosaics.



Deployment Options

Ideally suited for ROVs and USVs. Can also be deployed on a Pole Mount.

