



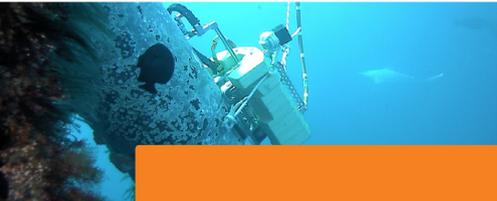
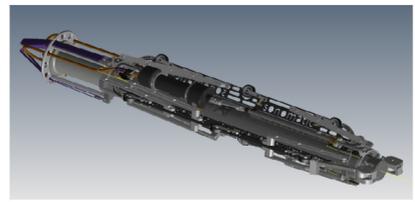
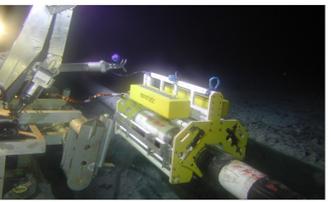
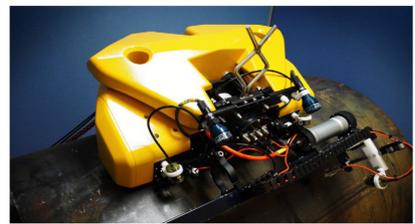
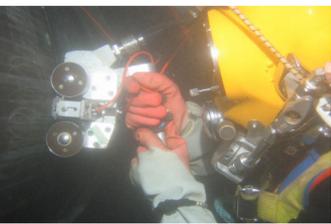
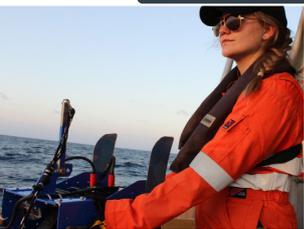
SONOMATIC

DATA SHEET

NON-INTRUSIVE INSPECTION (NII)

THE PURPOSE

This document is composed to assist our clients and the supply chain with a high-level understanding of the benefits and services associated with our Non-Intrusive Inspection (NII) capabilities.



NON-INTRUSIVE INSPECTION

For pressure vessels, Non-Intrusive Inspection (NII) for pressure vessels is increasingly being utilized as an alternative approach to the traditional Internal Visual Inspection (IVI), with some bodies aiming to eliminate vessel entry by 2026.

NII offers several advantages, including:

- 🔍 Reduced shutdown time, leading to increased production.
- 🔍 Reduced personnel requirements.
- 🔍 Removal of hazards associated with personnel entry.
- 🔍 Removal of internal cleaning requirements.
- 🔍 Does not affect the vessel integrity.
- 🔍 Inspection data can be used as input for Fitness for Service (FFS) calculations, where required.
- 🔍 More quantified and accurate results.

Sonomatic has pioneered the formal industry approach for NII and are leaders in the implementation of the developed NII approaches. Our clients include many of the major international operators and our involvement at the assessment, planning, inspection and evaluation stages, covers over 1100 major process vessels worldwide. Sonomatic's ability to offer the full range of NII campaign services, ensures that clients get the maximum benefit while retaining full confidence in equipment integrity.



DETAILED NII PLANNING

Each vessel considered for NII will be assessed according to the NII Recommended Practice, developed by Sonomatic. A detailed assessment and work scope will be produced that will assess inspection history, operating parameters, process, and potential degradation threats of each vessel to determine whether NII is possible, provide a definition of inspection type and required coverage. A work scope will be generated, detailing appropriate techniques, procedures, and inspection locations. Sonomatic use the findings of the corrosion risk assessment together with knowledge of technique capability and allowable defect sizes to define an effective inspection plan for each equipment item considered.

INSPECTION

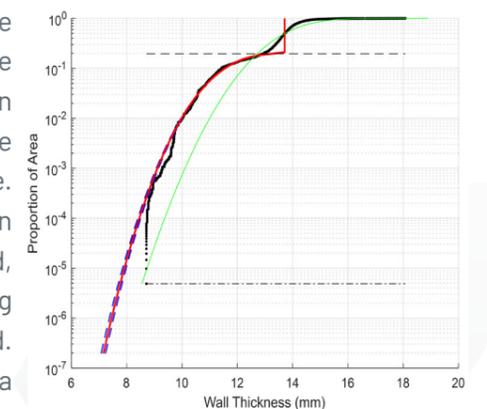
During any inspection, seamless interaction between the integrity and inspection teams is vital to ensure an efficient and accurate inspection. During an inspection, the Sonomatic Integrity Team would have direct access to interrogate all data (from raw waveform, to processed thickness data) and fully ensure quality along with a quick turnaround of data. Integrated inspection and engineering teams, coupled with an auditable trail to guarantee independence, ensures expert review of work scopes for suitability and attainability also ensuring that any substitute areas or techniques are appropriate, and that sufficient follow-up or inspection modification is performed should any indications be found.

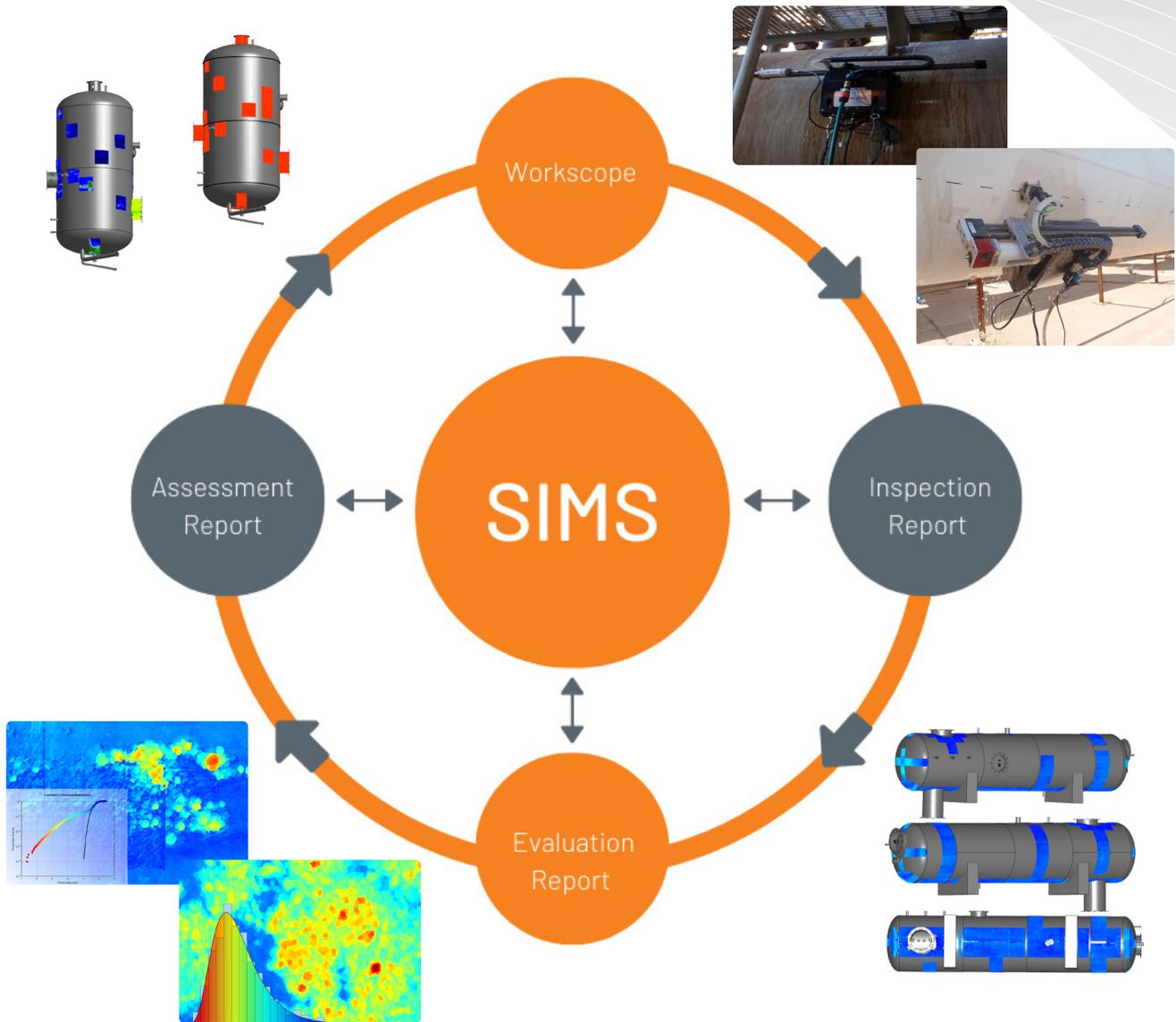
SOFTWARE

Sonomatic Integrity Management Software (SIMS) is at the heart of the NII process. Where NII is applicable, a 3D model of the vessel is created during the assessment phase. The model is then used to illustrate the inspection plan. The model used for the inspection plan is also used during the inspection phase allowing accurate recording of inspection locations and results, along with live 3D maps produced at collection. This ensures conformance to the scope, increases reliability, repeatability and provides an accessible way to view the data.

EVALUATION

On completion of an inspection by NII, it is important to evaluate the work carried out to ensure that the requirements of the inspection plan have been met and justify applying the inspection interval. Where degradation is found, an assessment of the implications regarding continued integrity should be made. Sonomatic are able to review NII campaigns including evaluation of work achieved by comparison to the work scopes specified, review of inspection reports and appraisal of results, including fitness for service assessment where degradation is found. Sonomatic also offer statistical analysis of corrosion results as a means of justifying inspections carried out with less than full coverage, and are leaders in the application of statistical methods for analysis of inspection data.





SUMMARY

Sonomatic works closely with customers to ensure rapid and effective communication of information. Our ability to offer the full range of services needed in carrying out an NII campaign enables the benefits of NII to be maximized while retaining full confidence in equipment integrity.

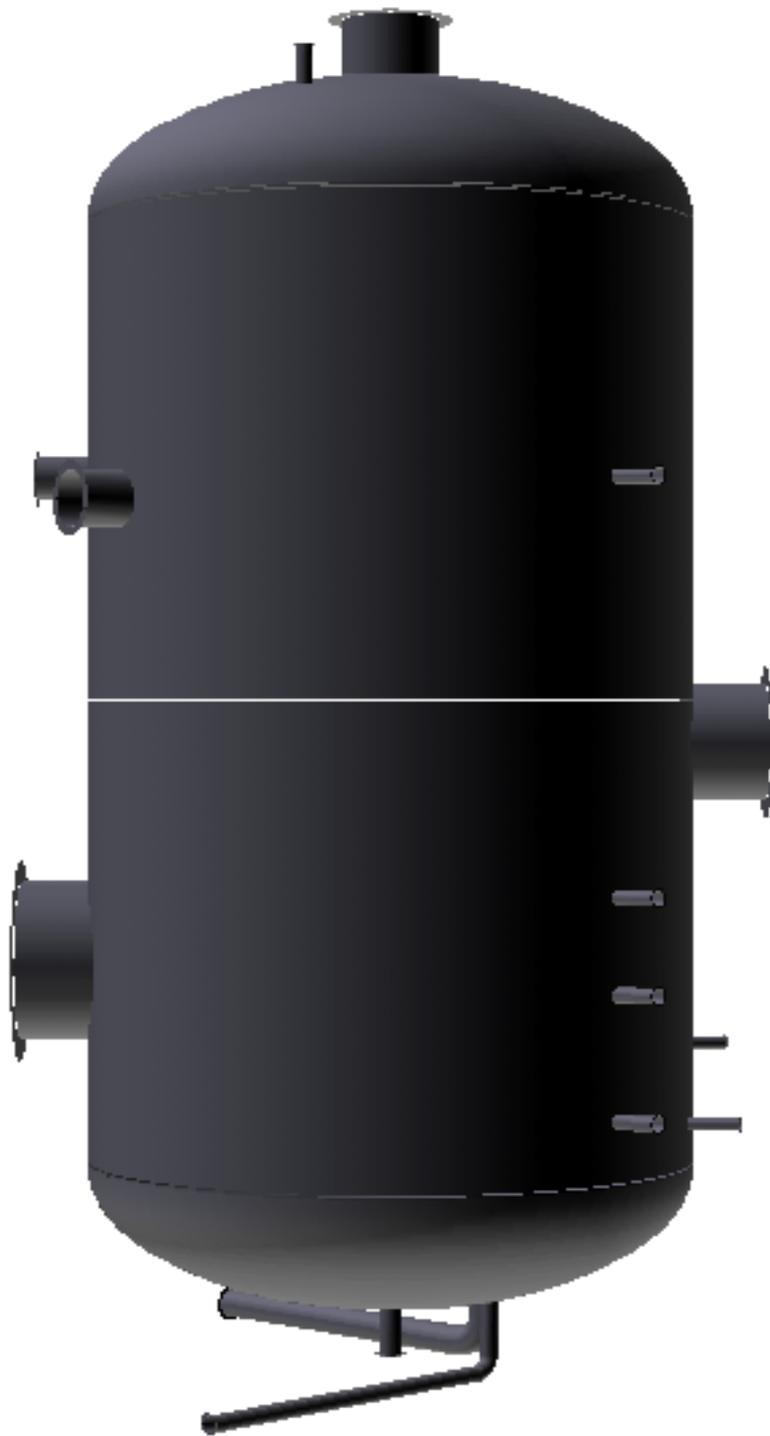
We would be happy to discuss your NII requirements with you. For further information please visit our website: www.sonomatic.com

QA AND HS&E

Sonomatic operate under an integrated QHSE management system and are committed to the highest quality and safety of service provision | ISO 9001: 2015: 00007140 | ISO 14001:2015:00037371 | ISO 45001:2018:00037372 | ISO 17020: 2012: 4276 | Achilles FPAL Verified: 076712 | SEQual 1988 | British Safety Council Member: S0388440 |



GEOMETRY



This 3D model is interactive
when opened in Adobe Acrobat
or Reader

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