

APPLICATION OF
HYBRID ACOUSTIC TECHNOLOGY SYSTEM (HATs)



HYBRID
ACOUSTIC
TECHNOLOGY™

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MRA INTERNATIONAL SDN BHD

ABOUT US

MRA INTERNATIONAL SDN BHD is incorporated in Malaysia providing specialised inspection and asset integrity assessment solution utilizing Hybrid Acoustic Technology system (HATs) and other advance inspection techniques.

Our vision is to be an internationally recognized professional diagnostic and inspection solution provider through development and application of Hybrid Acoustic Technology system (HATs) and other advance inspection techniques.

Current workforce of more than 50 personnel consisting of expatriates, local engineers and management & support services

ASSET INTEGRITY MANAGEMENT (AIM) TOOL

Keep plant always fit for purpose, with production target at maximum, as expected by design

For existing installations, extend life in a reliable, safe and cost effective way

Comply with applicable HSE regulation

Anticipate plant ageing

MRA was granted **MSC MALAYSIA STATUS** in December 2014 allowing technology access and international market

MRA has been awarded IMS certification:

- ISO 9001:2008 QMS
- ISO 14001:2004 EMS
- OHSAS 18001:2007 HSMS



Complying with International codes and standard for Acoustic Emission Testing e.g (ASTM,ASME,EWGAE & ISO STANDARDS)



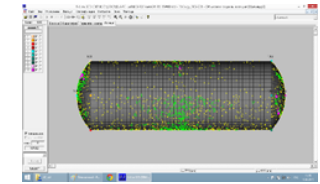
HYBRID ACOUSTIC TECHNOLOGY SYSTEM (HATs)

ADVANTAGES OF HYBRID ACOUSTIC TECHNOLOGY SYSTEM (HATs)

HATs primary function include identifying active defect by providing:

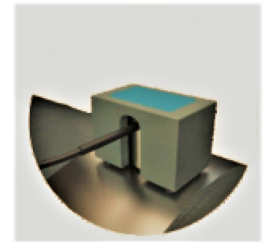
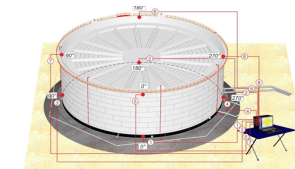
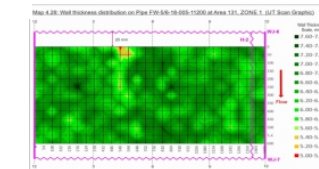


- The location of defect
- The number of defect
- The type of defect
- severity of defect
- size of defect

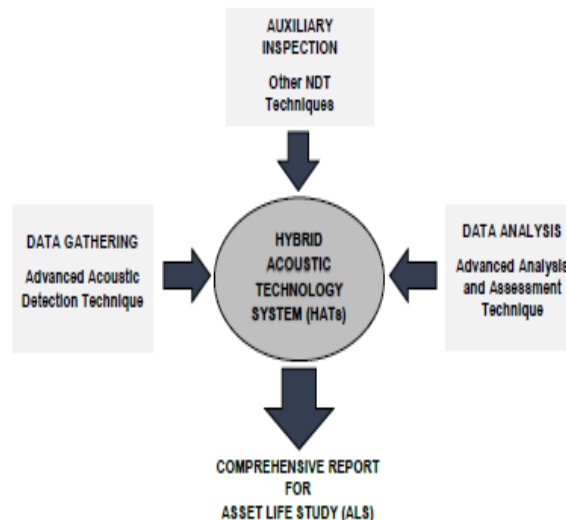
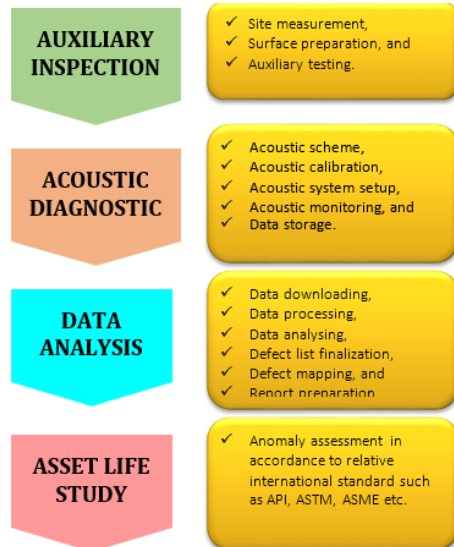


Auxiliary Inspection may includes:

- Visual Inspection
- Soil Study
- Stress Vision Study
- CP Study
- Thermal Diagnostic Study
- Hardness Testing
- UT Measurement
- Metal Magnetic Study
- Magneto-strictive Study



Is the **PREMIER** integrated non-intrusive diagnostic method for **ASSET INTEGRITY ASSESSMENT**
An integration of Acoustic diagnostic, Auxiliary inspection, advance analysis and assessment enables HATs to provide Quantitative results for Asset Life Study (ALS)



HATs ADVANTAGES

Allow screening or diagnostic of any metallic object

Monitoring/data gathering can be done without plant shutdown or production interruption

Provides real time data acquisition which can be utilized for assessment up to Fitness for Service (FFS)

Environmental, HSE & Operational friendly

Requires no modification to the material and operation parameters are maintained during monitoring/data gathering

Operable on wide temperature range (-40°C to 500°C depending on wave guide capability

Reduce the volume & labour of monitoring, repair and test

Technical assessment and remaining life calculation according to specific codes and standards e.g ASME,ISO,ASTM, API and etc

HATs VALUE PROPOSITION



ZERO SHUTDOWN & COST EFFECTIVE