

The Structured Approach to Asset Management™

The reputation of the PIMS team was founded in our ability to identify the appropriate, recommended practice to safeguard your Tank System. We take these practices and integrate Management Processes, Continuous Improvement Methodologies and Operating Reliability Systems to define The Structured Approach to Asset Management™. This approach is applied in a set of game-changing services that enable you to identify and execute a world-class Strategy for Above-ground Storage Tank Integrity Management (ASTIM).

We group the Elements of our ASTIM Services into four Components, described below; we complement these with Programme Support Elements described on the back cover of this brochure.

Strategic Planning

Our reputation was founded in the basics of identifying and planning robust Asset Management strategies. By implementing our set of Strategic Planning Services you can safeguard the performance of your Above-ground Storage Tanks and sustain their continued operation in compliance with a well defined and articulated ASTIM Functional Specification.

Our approach enables you to liberate the performance enhancing potential of your Tank Management team by permanently linking their day-to-day activities with your wider business strategy. The PIMS Strategic Planning Services help you practice continuous improvement within a stronger, more focused Tank Management regime.

Maintenance & Modernisation

PIMS have developed a series of Maintenance & Modernisation Services to support you with the integration of workflow, the supervision of task completion, the review of ASTIM Strategy performance and the adjustment of subsequent plans to suit. Our services underline the fact that we work to the rhythm of a continuous improvement cycle and wish to implant this rhythm into your Tank Management team with effective results.

Most of your budget is spent on the execution of your Maintenance & Modernisation activities. We have developed our Maintenance & Modernisation Services to ensure that this expenditure is properly targeted with an impact upon the execution of your ASTIM Strategy.

Risk & RBI Planning

PIMS have structured a set of Risk & RBI Planning Services to develop the most disciplined Testing & Inspection approach, coupled with the most effective Maintenance & Modernisation regime, for your Above-ground Storage Tanks. You can apply these Services to assess and evaluate Risk, then identify the most effective and efficient measures that will ensure optimum performance and compliance with your Functional Specification.

These Services comply with our Structured Approach to Asset Management™ and link strategic outputs with execution inputs. Fully consistent with AS National standard 3788, aligning with the Strategic considerations of your businesses, our emphasis is on keeping your Tanks online throughout whilst properly addressing risk and the integrity demands of your stakeholders.

Testing & Inspection

Our Structured Approach to Asset Management™ yields additional value from your testing & inspection regime; it frames it within context of your ASTIM Programme. We minimise the expense and disruption associated with testing and inspection by using our Risk-based approach; we optimise returns by fully exploiting all the information obtained to deliver the most appropriate and effective Fitness for Service evaluation. We distribute and utilise results in a manner that could radically reduce your future testing & inspection liability. With a proven heritage in Inspection and Integrity Evaluation, our engineers and consultants confidently deploy the appropriate skills, technologies, codes and processes to complete an effective testing & inspection regime.



The elements that comprise these four Above-ground Storage Tank Integrity Management Programme Components are described overleaf

Above-ground Storage Tank Integrity Management (ASTIM) Programme Elements

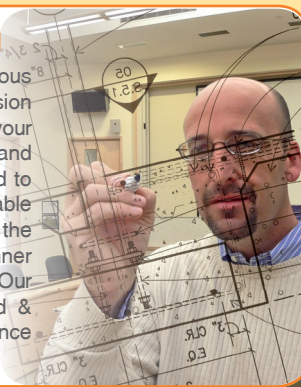


ASTIM Functional Specification

To enable you to manage the expectations of your stakeholders & demonstrate continuous improvement, we work with you, examining your Operating & Risk Philosophy, Strategic Plans, Financial Parameters and International Norms, to set relevant Key Performance Indicators. We also define the appropriate Goals relating to Client Satisfaction, Performance, Process Compliance and the Growth & Development of your Tank Management Team — equipping you with the metrics by which the progress of your ASTIM Programme can be measured.

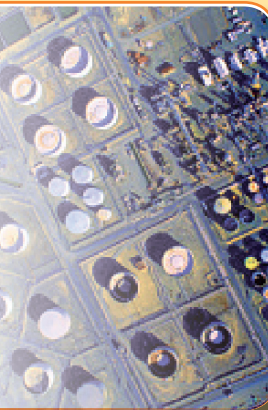
ASTIM System Design

We configure ASTIM Processes that are harmonious to the rhythm of your Tank Management Division and the other relevant Operations within your Business. We also define the interfaces and identify the Supporting Systems that you need to apply these Processes in a compliant, sustainable manner. We design the processes, specify the technology and identify the skills-sets in a manner that is tailored to suit your ASTIM regime. Our design shows you how each clearly defined & executable task integrates to ensure compliance with your ASTIM Functional Specification.



Susceptibility & Segmentation

We organise your Tanks according to common construction types, age & proximity; we examine product, incident, operating & maintenance history to identify Tank “regions” with comparable susceptibility to relevant damage & deterioration mechanisms. This Segmentation defines the groupings by which your Tanks will be processed through the ASTIM Programme. We complete high-level failure modes and effects analysis, using our own software in conjunction with our Subject Matter Experts (SME’s). By performing these works, we complete initial susceptibility studies in a manner that can be elaborated and verified.

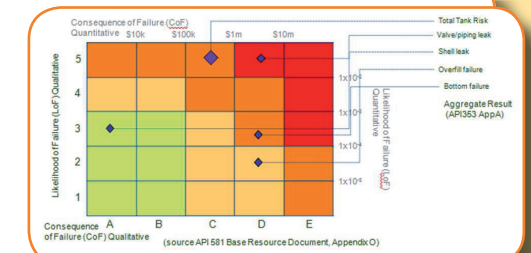


Data Gathering, Review & Integration

We gather all the available information, enabling us to analyse process hazards, determine the operational context, probability of occurrence and consequence of occurrence alongside duration considerations for each selected Tank. We review each data element to ensure that it is valid; we then integrate the data sets to ensure they are fully aligned to support subsequent choices. Finally, we organise this information for you: arranging uploading templates for subsequent risk assessment works, setting data management protocols, file hierarchies, updating procedures, storage & collaborative access arrangements. This gives you a powerful ASTIM Database, one that enables you to maintain and sustain the value of your information over the lifetime of your Tank System.

Risk Assessment

You need to focus your resources on those areas that are most effective in progressing your ASTIM Strategy, helping you to continue operating safely with the parameters of your defined Functional Specification. Our Risk Assessment service provides clarity for you to maintain this focus and make the right choices. We perform the Assessment by evaluating all the organised and available data to produce credible and validated results. By delivering results consistent with API National Standard 353 and 581, produced using our Risk Assessment tools and procedures, we ensure that our approach is consistent, replicable, transparent and auditable. Each assessment can be configured with Likelihood of Failure (LoF) and Consequence of Failure (CoF) inputs expressed in Qualitative or Quantative terms. In the spirit of continuous improvement, we can integrate the Assessment as a module into your ASTIM Process, for you to sustain thereafter. To ensure consistency with established engineering practice, we deploy selected multidisciplinary validation teams to perform data & result reviews. You can be sure that the results provided by PIMS, form robust and appropriate drivers for your ASTIM Strategy.



Tank Performance Evaluation

To express your Tank Management performance against the international norm, we benchmark the efficiency and effectiveness of your current ASTIM methodology. From this baseline, we then measure the real impact of your applied ASTIM Programme by tracking incremental achievements toward your ASTIM Functional Specification.



Maintenance & Modernisation Execution

PIMS assemble the finest world-class talent, best-practice processes and leading-edge technology required to maintain your Tank system in accordance with your ASTIM Functional Specification. Our industry position enables us to select and procure the most appropriate external resources to execute maintenance & modernisation tasks on your behalf. Successful execution is underlined by our ability to integrate and lead multidisciplinary teams in an effective manner — we can even integrate your own staff into our team on a project-by-project basis — ensuring that they can sustain your path to continual improvement after our participation is complete. From procurement through to final handover, we execute the works, supervise the completion of tasks and maintain our focus on the incremental execution of your ASTIM Strategy.



Maintenance & Modernisation Planning

Integration is the key to the success of your ASTIM Strategy. Our Maintenance & Modernisation Planning Services include the integration of FFS outputs with both the outstanding Risk & Performance-driven outputs and those existing, valid scheduled Maintenance activities that you regularly apply to your Tank. We ensure that you have a well defined ASTIM Strategy, to which these Maintenance & Modernisation Plans comply. It is the ASTIM Strategy that drives the programme forward, so a disciplined & structured approach is required. This is the approach that PIMS applies, as an integrity management company committed to the performance of your Aboveground Storage Tanks.

Fitness for Service (FFS)

We perform Fitness for Service (FFS) assessments that examine your Tank’s history, design and operating parameters; this elaborates our susceptibility conclusions with preliminary and detailed testing & inspection results to produce Integrity Evaluations. We determine whether your Tank is Fit-for-Services, whether corrective actions are required, or whether further offline testing must be performed. In addition, we identify the remaining life of your Tank together with any scheduled predictive and preventative actions that are required to maintain Tank integrity during this period or even extend asset life. By choosing PIMS, to complete both your Risk Assessments and subsequent FFS’s, you can be sure that the inputs to your Maintenance & Modernisation Plans are current, valid and balanced.

Testing & Inspection

We can manage your Testing & Inspection programme as part of a turn-key service that executes our Testing & Inspection Plan. PIMS can count upon visual, magnetic and ultrasonic testing technicians certified up to Level III. We even provide inspection crew training services using our subject matter experts (SME’s) who have countless man-years experience in planning, supervising and processing Tank testing & inspection campaigns around the world. We have proven pedigree and an established network throughout both the traditional and contemporary inspection industry. Couple this network with our unique ability to frame testing & inspection within the context of an ASTIM Programme and you will understand why PIMS is the intelligent choice for outsourced testing & inspection services.



Testing & Inspection Plans

We use initial Susceptibility conclusions, together with developed Risk Assessment outputs, to support the selection & scheduling of appropriate response actions. The approach progressively builds three levels:

Visual Testing & Sampling Plan: We locate & schedule the appropriate techniques required to confirm the presence of damage and deterioration mechanisms. The Plan includes a determination of visual tests, including Geodesy options, and sampling techniques as diverse as slurry & rainwater electrolyte examination; even considering directional drilling to determine foundation leakage, should the benefits associated with the insertion of impressed anode currents justify this.

Ultrasonic Testing and Magnetic Scanning: We specify the technique that allows plate thickness measurements to be taken in the roof & shell, together with remote data capturing floor plate and annular ring measurements at the required locations. We even specify where sediment can be profiled using proven sonar techniques. This progressive approach provides an unparalleled opportunity to develop a Fitness for Service assessment while you benefit from the continued online operation of your Tank.

Offline Testing Plan: Our Risk-based Inspection (RBI) approach optimises your uptime by working to exhaust online testing available before developing offline testing recommendations. Where Offline Testing is required, we demonstrate this to you and develop the appropriate schedule, complete with predicted discovery reports, to ensure that contingencies are properly planned and accounted within your long-term Operating Rhythm.

As part of your overall ASTIM Programme, these Testing & Inspection Plans are integrated into collaborative workflow management tools and tracked as part of our Tank Performance Evaluation service.



Direct Assessment

Tank & Ancillary Direct Assessment (TADA), designed by PIMS, is a powerful technique that applies our Structured Approach to Asset Management™. We start by validating your ASTIM Strategy, then Segment your asset, issuing preliminary susceptibility reports and selecting the representative Tanks. This enables us to target and apply preliminary inspections; we use these results to elaborate interim susceptibility reports and design detailed inspections. Progressively, the execution of this detailed inspection enables us to complete the works by delivering a robust Integrity Evaluation to you — including mitigation plans and re-evaluation programmes. The whole approach elaborates the segmentation & susceptibility services that we provide — helping you to manage damage and deterioration mechanisms in a realistic, structured and progressive manner.

ASTIM Strategic Support Elements

Our experience shows that the application of an effective and efficient ASTIM Strategy requires more than the elements arranged and assembled in the centre pages of this Brochure. To complete the package, we have developed a series of Strategic Support Elements that enable you to successfully apply and sustain Above-ground Storage Tank Integrity in the spirit of Continuous Improvement, and:

- ✓ Develop the vision to anticipate and manage change;
- ✓ Provide direction with clear performance objectives;
- ✓ Commit to the quality improvements that your ASTIM Strategy will deliver;
- ✓ Manage the interfaces that allows information to flow across Divisions;
- ✓ Develop your personnel and build a vibrant skills mix;
- ✓ Make the appropriate provision to deal with emergencies;
- ✓ Build a dependable repository of effective Procedures;
- ✓ Exploit and sustain the full value from your ASTIM Database.

We have assembled these Strategic Support Elements into three Components:



Management Systems

Our Performance Evaluation services, alongside our ASTIM Functional Specification setting activities, enable us to effectively integrate the necessary elements that comprise a transparent and accessible Performance Plan for your Tank Management team. We work with you to develop and implement an effective Communications Plan to manage the expectations of your Stakeholders. To make sure that your progress is demonstrable, with a clear audit path, we also work with you to issue a compliant Quality Plan.

Your Tank Management team members and stakeholders remain as the key enablers to successful programme implementation; that is why we have developed the capability to identify and execute a Change Management Plan with you — to ensure that you are operating in an environment that embraces changes and assumes ownership for the execution of programme components.

Operational Effectiveness

Our management system elements complement the Maintenance & Modernisation Plans that you develop. Our operational effectiveness elements reinforce the long-term impact of plan execution and, ultimately, govern the sustainability of your ASTIM Strategy. Firstly, we work with you to determine that your Tank Management team is structured to suit the smooth implementation of your ASTIM Strategy; this ensures that you have the Organisational Effectiveness to facilitate sustainable, continuous improvement. Then, within your appropriately structured organisation, we develop the Training & Competency programme that enables each of your Tank Management team players to be effective in contributing to the sustainable programme application. With your Division correctly organised and staffed with an effectively skilled team, we support you in developing an effective set of working guidelines to which they can adhere. This Procedures Development service ensures that you are properly resourced for consistent and complaint programme implementation. To complement this, we provide Emergency Response Planning to ensure that your last line of defence is in place to contain the consequence of failure in a prepared, rehearsed and compliant manner.

Data Management

PIMS offer integrated, collaborative Data Management services that enable you to access, link and sustain information - liberating data to support informed choices regarding Above-ground Storage Tank Integrity.

Effective data management is central to the efficient implementation of your ASTIM Strategy. We develop an ASTIM Database that allows the manipulation and integration of information, supporting the tools that provide:

- Alignment of Data, using common tags & references;
- Dynamic Segmentation works, with the ability to define Susceptibility Regions;
- Validated templates for Risk Assessment works;
- Risk Matrices & Risk Rankings, consistent with API 353 & 580 recommended practice.
- Collaborative workflow management with tracking of progress;
- Progressive, structured Susceptibility Studies and Integrity Evaluations;
- Performance Evaluation dashboards and report generators;



Our Integrity-led approach, supported by our Business Management experience, enables us to correctly position Data Management within your ASTIM Strategy. Where collaborative tools trigger better compliance to process, we insert them; where data-led packages add limited value to your programme, we eliminate them.

We apply the disciplined approach of New Technology Introduction (NTI). Applying our Structured Approach, we establish a robust business-case to navigate the tollgates of detailed specification, design, build, test, launch and in-service validation. Throughout this structured process, we maintain the clarity of vision and purpose to ensure the completed deliverable meets your goals.

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