AssetSMART

Smarter decisions in asset management and improved ROI
The challenges for organizational asset management

Global enterprises face a number of challenges in managing their assets, such as physical location, usage, configuration, and dependencies that exist within the organization. To efficiently manage assets, it is important to consider these activities:

- Cost control
- Asset protection
- Optimization and consolidation efforts
- Compliance
- Operational requirements such as support, information security, business continuity, configuration management, and change management.

Organizations need to adopt a proactive strategy, which will help them predict asset failure and take appropriate actions for improved asset management.

Key asset management questions to resolve to achieve improved performance

- What is the current state of my organization assets
- What are the minimum lifecycle costs for asset maintenance
- What is the required sustainable level of service
- Which is the best long term funding strategy
- What are the labor utilization levels
- Which assets are critical for sustained performance
- What do the regulators require
- What are the current SLA adherence percentages?
Capgemini’s AssetSMART solution

Our AssetSMART solution helps you optimize asset performance and asset-based services, improve availability, and lower maintenance costs. The solution allows better tracking and efficient management of the key assets that are critical to your organizational success.

The solution leverages a well-defined modular structure, covering asset areas such as work order, procurement, inventory, labor, service requests, etc.

With an intuitive GUI and ease of configuration, AssetSMART solution offers an extensive list of over 150 industry-standard KPIs and more than 75 reports and dashboards for multiple industry verticals. One example is the asset summary, which shows maintenance cost trends, downtime in hours, asset health KPIs, such as Mean Time Before Failure and Mean Time To Repair, which can be used to help predict asset failure.

Our big data capability improves the processing of unstructured data, such as asset technical data reviews through social media, processed in Capgemini’s proprietary big data platform, IV3, using the Hadoop ecosystem.

AssetSMART provides comprehensive analysis of asset data

Our solution offers well-defined specific dashboards, including actionable reports on SLA adherence, response times, and restoration times, as illustrated in Figure 1.

- Asset: Indicators such as downtime in hours, asset performance, and age distribution
- Labor: Overall utilization and work-type trend
- Work Order: Distribution of maintenance cost by work type, such as breakdown maintenance and, preventive maintenance
- Service Request: SLA adherence and response times
- Inventory: Planning and turnover rate
- Compliance: Various including stock, labor and delivery.

Figure 1: AssetSMART solution provides comprehensive asset reports

<table>
<thead>
<tr>
<th>Asset</th>
<th>Labor</th>
<th>Work Order</th>
<th>Service Request</th>
<th>Inventory</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost by location</td>
<td>Cost by state</td>
<td>Maintenance cost by work type</td>
<td>SR status by priority</td>
<td>Inventory performance</td>
<td></td>
</tr>
<tr>
<td>Maintenance cost trend</td>
<td>Labor hours trend</td>
<td>Planning accuracy</td>
<td>SLA adherence</td>
<td>Planning</td>
<td>WO compliance</td>
</tr>
<tr>
<td>Downtime</td>
<td>Overtime spend</td>
<td>WO backlog</td>
<td>Response time</td>
<td>Accuracy rate</td>
<td>Stock compliance</td>
</tr>
<tr>
<td>Performance</td>
<td>LTI trend</td>
<td>SLA adherence</td>
<td>Restoration</td>
<td>Turnover rate</td>
<td>SLA compliance</td>
</tr>
<tr>
<td>Age distribution</td>
<td>Utilization trend</td>
<td>Maintenance time trend</td>
<td></td>
<td>Cost by current items</td>
<td>Labor compliance</td>
</tr>
</tbody>
</table>

Comprehensive data model, KPIs, dashboards and reports, analytics, unstructured data support

The Asset Summary Dashboard visualization layer offers an extensive list of reports and dashboards, for different customer subject areas, such as overall asset maintenance cost by location, downtime in hours by city, age distribution, and other related KPIs. The dashboard allows users to drill down on a given specific state in USA or country, and even asset type, to view relevant asset performance details and age distribution in that particular region; see Figure 2.
The Work Order Summary dashboard provides an overview of the maintenance cost by work type, work order backlogs, schedule adherence, and maintenance time trend-related KPIs. The user is able to filter by year, region, or state to get work order information from the selections; see Figure 3. For example, when a user drills down on Breakdown Maintenance, he/she can view the required data through a detailed report by country, work type, asset type, associated work orders, and cost details.

Figure 2: Example dashboard providing an Asset Summary

Figure 3: Example dashboard providing a Work Order Summary
**How our solution works**

The data source layer extracts structured and unstructured data from multiple sources into a centralized repository. Data integration and storage covers all sources of data at the most granular level. ETL jobs take care of loading data from disparate sources into the data warehouse.

Data exchange takes place between the warehouse and Capgemini’s IV3 platform with data being fed into analytical models and output being fed back into the warehouse for reporting as illustrated in Figure 4.

The dashboard visualization layer provides an exhaustive list of reports and dashboards that cater to different customer subject areas and can be accessed through a robust application layer.

Our solution is tool-agnostic and using scalable architecture, can be easily customized for any system. It offers a customized rich layer of visualization on reporting tools like OBIEE, Tableau, SAP BO platform, etc., and therefore ease of user interpretation and understanding. It allows data sourcing from various systems such as EAM, ERP, legacy, and formats such as .xls, .csv, .xml, etc.

The solution provides big data handling capability for handling unstructured data such as asset technical data over social media, with fast response times, and the capacity to process multiple asset data sets. It ensures 100% data lineage between data models and reports, and can be implemented faster due to the composite architecture and standard data model in an accelerated period of just weeks.

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**Figure 4: AssetSMART architecture – from data to reporting**

**Data Sources**
- Structured Data
- Unstructured Data

**Data Layer**
- ETL jobs
- DWH
- Analytics Engine
  - SPARK or MapReduce
  - HDFS

**Visualization Layer**
- Dashboards and Reports
  - Asset summary dashboard
    - Maintenance cost by location
    - Downtime hours by city
  - Work order summary dashboard
    - Maintenance cost by work type
    - Work order backlog ageing

**Java Application Layer**

**Benefits delivered**

- Improved asset performance through analytical modeling capabilities and unstructured data
- Improved productivity, through optimization of asset downtimes
- Simplified asset compliance reporting and intuitive dashboards helping you to plan and procure the right assets
- Prioritized maintenance costs for locations and work type assets
- Asset failure prediction based on a strong foundation for advanced analytics and data mining.
Find out more

In the current cost-conscious environment, an in-depth understanding of the asset landscape will help maximize your investment in your insights journey and improve asset ROI.

Contact our SMART Solutions team to see how our assets analytics capability can improve your asset management.

SMART Solutions team

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