

# Achieving Operational Excellence in the Chemical Industry

Gaining Integrated Business Insight  
with Rolta OneView™ and SAP® Software

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# Operating in a Complex Environment

To help optimize cost and create value, companies are focused on operational excellence. Many in the chemical industry are setting a broad array of improvement goals across key areas of the business, and then working hard to attain them. But how do you know if you're making progress toward your goals? With Rolta OneView™ and SAP® software, including rapid-deployment options, you can gather and analyze data across these key areas to support informed decisions that can help you improve performance.

## **EXPLORING NEW STRATEGIES, PROCESSES, AND SOLUTIONS TO ACHIEVE EXCELLENCE**

Companies in the chemical industry operate in a complex business environment. You face both internal and external challenges that are putting increased pressure on your organization. You must address safety, compliance, and regulatory requirements across complex production processes and global supply chains. You operate in a tough economic environment with increased consumer demands, which calls for faster decision making despite higher business volatility.

You also face an aging workforce, where the retirement of plant engineers could lead to gaps in critical skills and the need for wholesale knowledge transition. What's more, you have to make decisions about upgrading or retiring obsolete technology to support operational goals.

Despite these challenges, or perhaps because of them, chemical companies are pursuing operational excellence as a very real way to streamline processes, optimize cost, and create value. To achieve operational excellence, your organization needs to make continuous improvements across key areas of the business. By setting financial, operational, safety, environmental, product, and customer satisfaction goals, chemical companies can work to create an organization where processes are efficient, repeatable, reliable, and scalable. Effectively managing these improvements is tied directly to how well your organization is able to convert an array of operational and business data into meaningful insight.

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“Solutions such as Rolta OneView™ will play a critical role in transforming plant management and drive growth.”

Frost & Sullivan, “Oil and Gas Information Technology – Enabling Operational Excellence,” September 2011





## THE NEED TO TRANSFORM DATA INTO INSIGHT

It's no secret that the amount of data businesses generate is exploding. However, businesses only use a tiny fraction of this data for analysis.

The chemical industry generates process and production data, quality data, equipment and reliability data, engineering data, and back office data at each stage of the manufacturing process. All this data has huge potential for meaningful analysis. Yet it is often trapped in individual department silos throughout the enterprise. With numerous disparate information technology (IT) as well as operational technology (OT) software systems, changes to just one system are often not adequately reflected in the others. This disparate environment causes inconsistencies and often requires manual intervention to be able to derive meaningful business information from the data.

To achieve excellence, chemical companies like yours must explore new strategies, processes, and solutions. Intelligent processes along with smarter IT solutions help support the drive to sustainable results. The role of evidence is essential to this

effort. Defining processes and making decisions based on real facts and hard evidence help set your organization on a path to operational excellence.

For example, research from the analyst firm ARC Advisory Group indicates that integrated asset information management can improve the performance of most process plants by an average annual impact of 1.5% of sales revenue.<sup>1</sup> To realize this improvement, plants must blend operational data with business information to make evidence-based decisions that align all operating areas to support corporate goals.

The right software can help chemical companies achieve this integrated insight across all areas of the business. What's needed is a comprehensive solution that gathers and consolidates data from a variety of sources and displays it in a timely and meaningful way to the executives and decision makers responsible for driving operational excellence. Better still is a solution that also correlates the information to key performance indicators (KPIs) and enables analytics that provide immediately actionable insight.

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“Clearly, Rolta OneView™ is an enterprise-class solution that can bring significant benefits and savings to process and power corporations.”

Sid Snitkin, Vice President, ARC Advisory Group

1. ARC Advisory Group, “Asset Information and Analytics: Drivers of Process Industry Operational Excellence,” January 2012.



# Introducing Rolta OneView™

## **BREAKING DOWN THE BARRIERS TO OPERATIONAL AND BUSINESS EXCELLENCE**

Rolta OneView™ is an enterprise intelligence solution that enables role-based, actionable insight and correlated operational and business intelligence (BI). Available from Rolta India Ltd., an SAP software solution and technology partner, the solution has been developed by BI technology experts working closely with process industry specialists who have firsthand experience with chemical industry challenges.

The data models and KPIs of Rolta OneView™ are specific to the chemical industry and have been built using Rolta's deep domain expertise. The software combines the core functionalities of information technology with engineering and geospatial information systems.

Rolta OneView™ breaks down the fundamental barriers to achieving operational and business excellence, such as silos across operational networks, business networks, safety and sustainability networks, and enterprise social networks. It provides a 360-degree view of the enterprise and touches the nerve center of all critical functions, quickly adapting to existing systems, instilling best practices, and accelerating process improvement.

With Rolta OneView™, your management team can access a single version of data from all systems that manage and operate the business. The software extracts key information from the functional and operational systems in each business area, aggregates it to an industry-standard data model,

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## **SOLUTION AT A GLANCE**

Rolta OneView™, along with SAP® software, supports the drive to operational excellence. The solution aids in gathering data from various asset and production monitoring systems and devices. It applies data to a preconfigured and integrated data model, based upon accepted industry standards, and combines it with cross-functional key performance indicators (KPIs) for the chemical industry.

The solution enables management to view plant operations as a fully integrated set of processes and KPIs spanning the whole enterprise, with actionable analytics and reporting. These capabilities allow executives to drive operational, reliability, and performance improvements via corporate initiatives such as balanced scorecards, Six Sigma initiatives, and total quality management.

The Rolta OneView™ suite includes three rapid-deployment solution modules that cover:

- Operational insights
- Asset insights
- Maintenance and reliability insights

These modules combine SAP software and content with software and services from Rolta for a pre-configured solution that enables sophisticated business intelligence capabilities. Rolta installs the modules within a predetermined time, cost, and service scope.





and then verifies the integrity of the information. It presents the assimilated information in reports and dashboards designed to meet the requirements of individual managers based on their roles in your business. When something requires attention, the software generates alerts so managers can drill down through the data to identify root causes.

With access to this information, your company can improve operations by identifying and correcting process problems, increasing the safety of operations, and providing information about current and future performance.

### **A COMPREHENSIVE AND SCALABLE SOLUTION ARCHITECTURE**

The architecture of Rolta OneView™ simplifies complexity across the enterprise by enabling loosely coupled yet comprehensive integration options across various plant operation and business systems.

The heart of Rolta OneView™ is a federated data model based on industry best practices and recognized operational standards. This model maintains the cross-functional information

collated from varied data sources across operations and enables performance management and analytics. Analytics include trends, slice-and-dice analysis, drill-down functionality, forecasting, variance analysis, root cause identification, scenario planning, and what-if modeling. The software is fully scalable across organization sites and businesses, which allows for improved integration.

Rolta OneView™ is powered by Rolta iPerspective™, a comprehensive IT and OT middleware platform. This platform provides integration and security governance across IT and OT systems, as well as a solid foundation for Big Data analytics, real-time analytics, and predictive analytics using complex statistical computations.

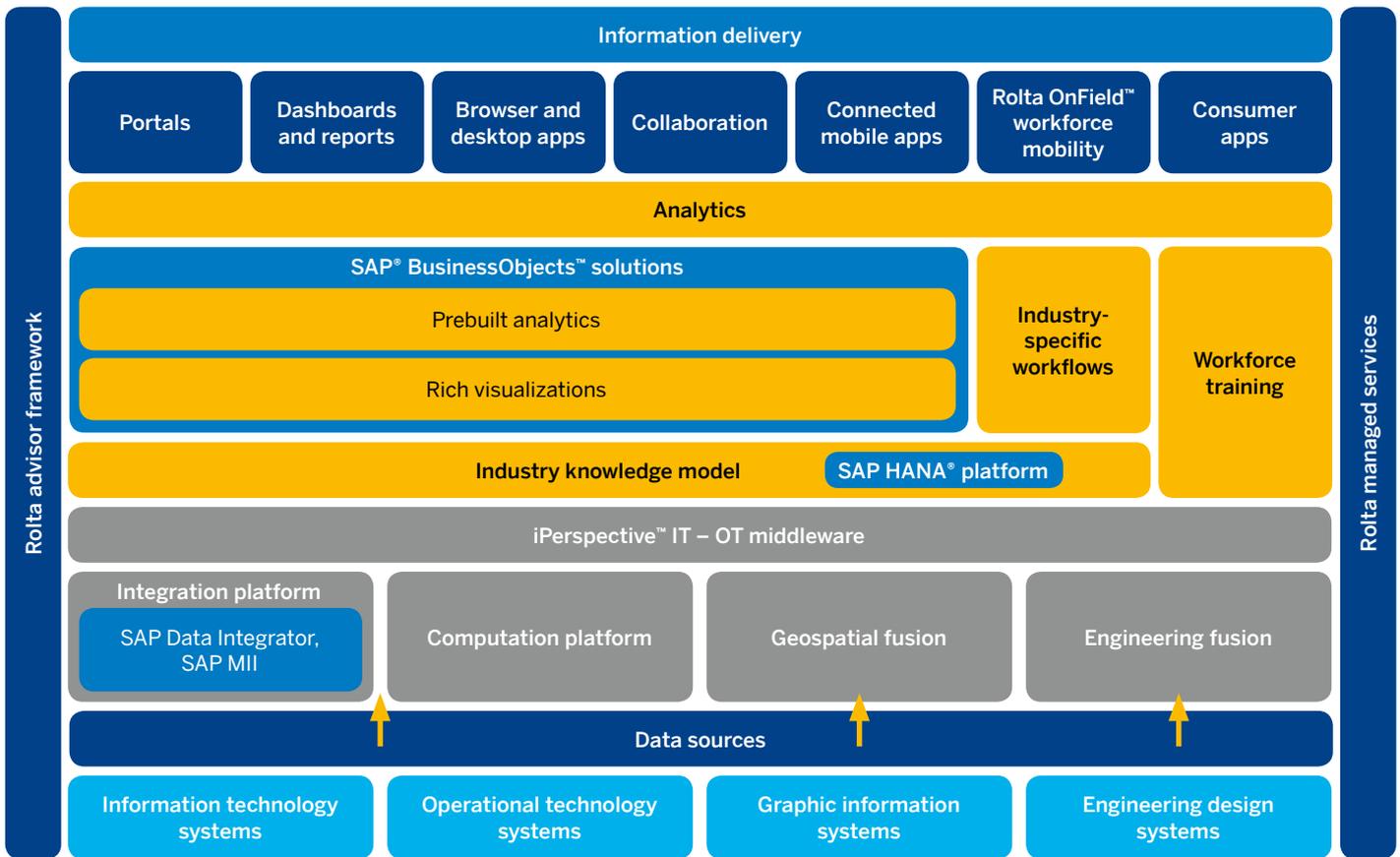
Your organization can pace its adoption of pervasive business intelligence with the Rolta OneView™ enterprise architecture. Built on the SAP BusinessObjects™ Business Intelligence platform, the architecture has a robust, reliable, maintainable, and scalable foundation. The overall architecture, including performance analytics and real-time intelligence, is illustrated in the [figure](#).



With Rolta OneView™ and SAP software, including rapid-deployment options, you can gather and analyze data across key areas of the business to support informed decisions that can help you improve performance.



Figure: Rolta OneView Solution Architecture





As the figure indicates, Rolta OneView™ features comprehensive analytic functionality that enables historical, real-time, geospatial, Big Data, and predictive analytics on large and distributed data sets on a single platform. For example, the software integrates with engineering design systems so business users can assess assets more easily. They can interact with the plant model, view operational parameters, and compare them with their design parameters on a single dashboard.

### **SAP SOFTWARE POWERS THE PERFORMANCE**

Rolta OneView™ leverages various SAP software solutions to connect to multiple data sources and consolidate the data. These include SAP solutions for enterprise information management (EIM), the SAP Manufacturing Integration and Intelligence (SAP MII) application, the SAP HANA® platform, and SAP Data Integrator software. Each of these SAP solutions is specifically designed to support the collection, analysis, presentation, and integration of data to enable process improvements as follows.

#### **SAP Solutions for Enterprise Information Management**

SAP solutions for EIM focus on three data-related processes – data integration, data quality management, and master data management.

Data integration software enables a faster way for business users to access information locked in your enterprise applications. It leverages a wide range of data delivery options to integrate, replicate, or migrate data from various data sources into one, consolidated view of the information.

Data quality management software helps increase confidence in the validity of integrated data by strengthening qualification processes.

Master data management software helps consolidate, cleanse, and synchronize master data that is resident in your multiple disparate solutions. It addresses both enterprise-wide and application-centric scenarios and supports improvement processes, governance, and decision making – all vital to achieving operational excellence.

#### **SAP Manufacturing Integration and Intelligence**

SAP MII provides a direct connection between shop-floor systems and business operations. The software helps ensure that all data that affects manufacturing is visible in real time, including information about orders, materials, equipment status, costs, and product quality.

With this information, organizations can more reliably manufacture goods at targeted operational levels to support cost reductions and quality improvements. The software links enterprise processes and master data to manufacturing processes, enabling your business to run based on a single version of enterprise data.

#### **SAP HANA Platform**

SAP HANA is a modern platform for real-time analytics and applications. It enables organizations to analyze business operations based on a large volume and variety of detailed data in real time. Deployments of SAP applications on SAP HANA have shown that business users can act on subsecond system response times. This opens the door to application possibilities that may not yet have been imagined, such as what's possible when combining operational data with detailed analytics using Rolta OneView™.



Now you can consolidate data from a variety of sources and display it in a timely and meaningful way to drive operational excellence. You can even correlate the information to KPIs and enable analytics that provide actionable insight.

### **SAP Data Integrator**

SAP Data Integrator software allows organizations to extract, transform, and load any type of data from applications, databases, and other data stores, at any frequency. With SAP Data Integrator, you can:

- Integrate data from any data sources for a more complete view of enterprise information
- Share timely, integrated, and trusted data across the enterprise
- Improve the efficiency of loading large volumes of data into SAP HANA
- Access a variety of data sources, both structured and unstructured
- Enable enterprise-class data integration performance

### **INTEGRATION OF ROLTA ONEVIEW AND SAP SOFTWARE**

Large amounts of data from a variety of data sources can be fed into Rolta OneView™ for analysis. Data integration and cleansing functionalities that are inherent in SAP MII and SAP solutions for EIM facilitate this process. Rolta OneView™ has been engineered for use with SAP HANA to handle Big Data and enable lightning-fast analytics. The software exploits the use of technologies such as in-memory computing, columnar databases, analytical visualization, and query optimization that SAP HANA utilizes.

SAP solutions are a major source of data for the Rolta OneView™ modules, so there are many integration points between Rolta OneView™ and SAP software. The data resides in various applications such as the SAP ERP application, where data can be found to support numerous processes, operations, and applications including:

- SAP Enterprise Asset Management solution
- Product planning, production planning, quality management, financials, and controlling software in SAP ERP
- SAP ERP Human Capital Management solution

Further data sources include (but are not restricted to) the following:

- SAP Environment, Health, and Safety Management application for incidents and emissions data
- Cloud solutions from SuccessFactors, an SAP company, for human resource information
- SAP Risk Management application for risk exposures
- SAP Recycling Administration application for accurate tracking of packaging, covered products, and batteries
- SAP Work Clearance Management application for data related to operational risks and mitigating factors
- SAP Management of Change application for data related to the control and monitoring of operational changes

Data from these SAP solutions provides a strong foundation for the analytics enabled by Rolta OneView™. You can further enhance the insight gained from these analytics by including additional non-SAP data in the analysis. For example, data from data historians, digital control systems, and engineering design systems can be married with the SAP data to provide deeper insights into current operational conditions. Further, bringing these software solutions together within the SAP Jam social software platform enables collaboration. Ideas and solutions to problems can be shared and discussed before being implemented.



# Gaining the Benefits in Less Time with Rapid Deployment

## GETTING UP AND RUNNING FASTER AND MORE EFFICIENTLY

To help companies quickly realize the benefits of comprehensive business insight, Rolta has created three rapid-deployment solution (RDS) modules of the Rolta OneView™ suite:

- Rolta OneView™ RDS for operational insights
- Rolta OneView™ RDS for asset insights
- Rolta OneView™ RDS for maintenance and reliability insights

The modules effectively combine SAP software and content with Rolta software and services. They are preconfigured solutions that deliver sophisticated BI functionalities quickly and affordably in each area of operation.

Rolta installs the rapid-deployment modules within a predetermined time frame, cost, and service scope. Each Rolta OneView™ RDS module integrates SAP and non-SAP data sources, and when used with the SAP HANA platform, provides operational data insight previously unavailable due to an enterprise's vast data volumes. The average time frame for a typical deployment is 12 weeks or less. This can help chemical companies lower the cost of implementation and speed the time to value, while retaining the flexibility to extend the solution if required.

The Rolta OneView™ RDS modules help you leverage your technology investments for a consolidated view of SAP and non-SAP operational systems as well as your enterprise IT systems. They support operational benefits in the areas of increased asset availability and safety, and reduced energy and maintenance costs, while tracking and coordinating production and inventory for better customer service levels.

Rolta OneView™ RDS for operational insights helps companies:

- Improve quality of production
- Lower costs of production and improve utilization
- Minimize factors causing opportunity losses
- Identify potential failures before the actual occurrence
- Achieve predictable performance and improve reliability

Rolta OneView™ RDS for asset insights helps companies:

- Analyze and manage underperforming assets
- Minimize asset downtime
- Analyze asset performance and compare with engineering design data and design documents
- Gain locational intelligence for an asset
- Increase asset utilization and reliability
- Improve asset cost analysis and reduce cost of ownership

Rolta OneView™ RDS for maintenance and reliability insights helps companies:

- Maximize asset availability
- Avoid unplanned shutdowns
- Improve plant maintenance compliance
- Optimize cost of ownership
- Improve turnaround
- Achieve predictable performance and improve reliability
- Attain higher workforce utilization

All the rapid-deployment modules can be implemented separately or in any combination, depending on the area of focus you desire.





While the potential business benefits are dependent on the modules that have been installed and implemented, Rolta has observed the following benefits based on various deployments of Rolta OneView™:

- Reduction in downtime of 5% to 10%
- Improvement in asset efficiency of 5% to 15%
- Increase in asset availability of 3% to 5%
- Increase in savings with improved reliability project performance of 2% to 10%
- Decrease in operational costs of 15% to 25%
- Improvement in schedule adherence of 15% to 30%
- Increase in specification throughput of 10% to 15%
- Improvement in inventory turns of 10% to 15%

### **BEGIN YOUR JOURNEY TODAY**

Accelerate your journey toward achieving operational excellence with Rolta OneView™. By improving your ability to analyze plant-wide data, the solution supports better and faster decisions to help you improve operational processes and achieve greater performance. Gain the insight needed to strengthen profit margins, identify process problems, improve the safety of operations, and gain greater clarity about current and future performance. With Rolta OneView™ and SAP software, you can improve the synergy across people, technology, and business processes to help your enterprise realize the full benefits of operational excellence.

### **For Further Information**

To learn more about how Rolta OneView™ and SAP software can help your business achieve operational excellence, visit Rolta at [www.rolta.com](http://www.rolta.com) or SAP at [www.sap.com](http://www.sap.com).

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## **SALALAH METHANOL COMPANY**

Salalah Methanol Company (SMC), an Oman-based methanol production facility, wanted to have transparency and cross-functional visibility as well as a unified enterprise view of information to achieve operational excellence. Within five months, Rolta implemented an enterprise-wide manufacturing intelligence solution using Rolta OneView™ and leveraging the SAP® ERP application. The solution provides more than 100 key performance indicators (KPIs) across the following functions: operations; maintenance; reliability; health, safety, and the environment; finance; HR; marketing; supply chain procurement; sustainability; and IT. The solution enables the creation of more than 1,400 reports and departmental dashboards, now regarded as invaluable by SMC executives. With the insight gathered through the solution, SMC has realized the following benefits:

- Established a corporate balanced scorecard
- Reduced operational and process failures
- Achieved supply chain excellence
- Improved financial and HR analytics
- Standardized definitions of all metrics



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