

SAP xApps Brief



The SAP® xApp™ Emissions Management packaged composite application helps companies comply with risk management and greenhouse gas regulations, which have a high financial impact on businesses that consume energy and produce carbon dioxide. The application also helps companies reduce risks by continually tracking compliance with internal and external regulations and improves manufacturing-plant operations by optimizing operating conditions while staying within the constraints of permits.

SAP® xApp™ EMISSIONS MANAGEMENT

BENEFITS FOR THE ENVIRONMENT AND FOR BUSINESS

THE ENVIRONMENTAL CHALLENGE

Regulations such as the Kyoto Protocol and Clean Air Act require companies to reduce energy consumption and greenhouse gas emissions. Compliance may involve extensive modifications to manufacturing facilities, production equipment, and monitoring processes. Furthermore, companies must maintain detailed emissions data and provide regular reports to governing bodies.

By complying with regulations, companies avoid legal sanctions, which could result in an interruption of business. And compliance is the hallmark of an environmentally conscious enterprise – one that exhibits goodwill and the willingness to achieve sustainability.

THE EMISSIONS MANAGEMENT SOLUTION

Successful emissions management depends on the ability to easily access and use applications and data from systems that are running your manufacturing operations. SAP® xApp™ Emissions Management (SAP xEM) helps you overcome access barriers by delivering a highly functional integrated solution that's based on the SAP NetWeaver™ platform.

SAP xEM, one of the new breed of composite applications, is designed to improve manufacturing productivity by aligning business processes with the fulfillment of required environmental regulations worldwide. Capabilities such as maintaining compliance status, monitoring and controlling plant emissions, tracking performance benchmarks, and communicating with key stakeholders make this solution unique. It delivers processes that enhance the information flow across the enterprise, improve environmental portfolio management, and enable companies to move closer to achieving sustainability for their global operations.

CAPABILITIES YOU NEED

SAP xApp Emissions Management delivers the capabilities needed by any company faced with regulatory compliance and emissions management, including:

- Emissions estimation and analysis, supported by scenarios, calculations, and presentation of emissions data
- Compliance management with task supervision, schedules, defined information flows (workflow and roles), and procedures and rules
- Compliance reporting via automated report generation and delivery
- Emissions trading and collaborative scenarios, including forecasting and transaction support
- Management support for controlling, planning, risk management, material balancing, and administrative processes
- Ancillary functions such as incident management, accidental release, fugitive emissions, modeling, and forecasting

FUNCTIONS THAT SIMPLIFY YOUR BUSINESS PROCESSES

Emissions Modeling and Analysis

Emissions regulations require detailed descriptions of the plants, facilities, and processes causing emissions. The descriptions differ, depending on the type of emission and legal requirements. Often these descriptions are required before a plant or a process starts, and can include the following categories:

- Name, type, and size of emission sources and processes
- Description of the emissions, sources, amounts, and the environmental effects
- Protective or monitoring equipment and facilities
- Substances, materials, and energy used or produced in the named plant or process
- Communications to shareholders, investors, and the public

Emissions Compliance Management

This function supports determination, measurements, monitoring, and control of emissions at a manufacturing site. It uses existing hierarchies or enables them to be created. The cross-application solution supports the following processes:

- Determination of all relevant emissions through functions that track, analyze, and record measurement data. Equipment calibration and maintenance tasks are supported by integration with plant and equipment maintenance systems.
- Sophisticated scenarios and tools for emissions that cannot be measured directly, such as the amount of greenhouse gas emissions, which can be calculated using other parameters, such as consumption of electricity
- Evaluation of existing emissions data and generation of forecast scenarios to assess the effects of modifications to production line and operation profiles
- Automatic notifications when a reference value exceeds normal plant values for operations, including scheduling, triggering, and tracking measures to determine impact and changes necessary to correct operations

Emissions Reporting and Documentation

To fulfill legal requirements for documentation and reporting to regulatory authorities, a company must track its current permits and the relevant laws and regulations. SAP xEM has extensive functions that support:

- Submission of reports that contain information about the processes relevant for emissions and a summary of measurement results over a specific period
- Employee access to plant- and process-specific permits, as well as current regulations in effect for a manufacturing facility
- Maintenance of up-to-date information regarding regulatory authorities, such as addresses and contact persons

Emissions Trading Collaboration Management

This function enables companies to participate in emissions trading markets and, depending on the trading platform, supports forecasting and trading transactions, including:

- Determination and documentation of emission credits
- Communication of emission credits with emission trading platforms
- Connection to online trading platforms (if using SAP Exchange Infrastructure technology)

INTEGRATION SUPPORTED BY TECHNOLOGY

SAP xApp Emissions Management, a packaged composite application, follows the proven SAP development strategy and uses existing SAP module functionality. This approach delivers an integrated and highly reusable solution with newly developed functions, including the potential to integrate third-party tools for functions such as dispersion modeling and the legal act database. Interoperability and certification are based on products from mySAP™ Product Lifecycle Management (mySAP PLM).

SAP xApp Emissions Management makes full use of SAP NetWeaver functionality. The user interface is a portal, which provides a single point of entry to applications and information. The portal also includes additional functions for user administration, as well as reporting and analytical elements from SAP Business Information Warehouse and SAP Knowledge Management. Integrated Web dialogs empower users to easily build emissions scenarios required for effective data maintenance. SAP xEM integrates seamlessly to existing enterprise portals.

The integration of data from various systems is crucial for effective emissions management. This data forms the basis for the emissions calculation, which is needed for additional permits and scenario calculations. Communication with systems is performed via BAPI®, new plug-ins, or, optionally, through SAP Exchange Infrastructure (SAP XI).

When combined with geographical information systems, SAP Business Information Warehouse (SAP BW) delivers a highly sophisticated evaluation option that demonstrates a company’s state-of-the-art approach, and provides the opportunity for forward-looking planning.

Data collected and managed within SAP xEM can be transferred to SAP BW via extractors, which enables users to perform analyses and generate reports. Reporting can be integrated easily in the portal.

SAP Knowledge Management supports the creation and archiving of relevant documents for emissions management. Documents such as permits can be stored or reported via SAP BW.

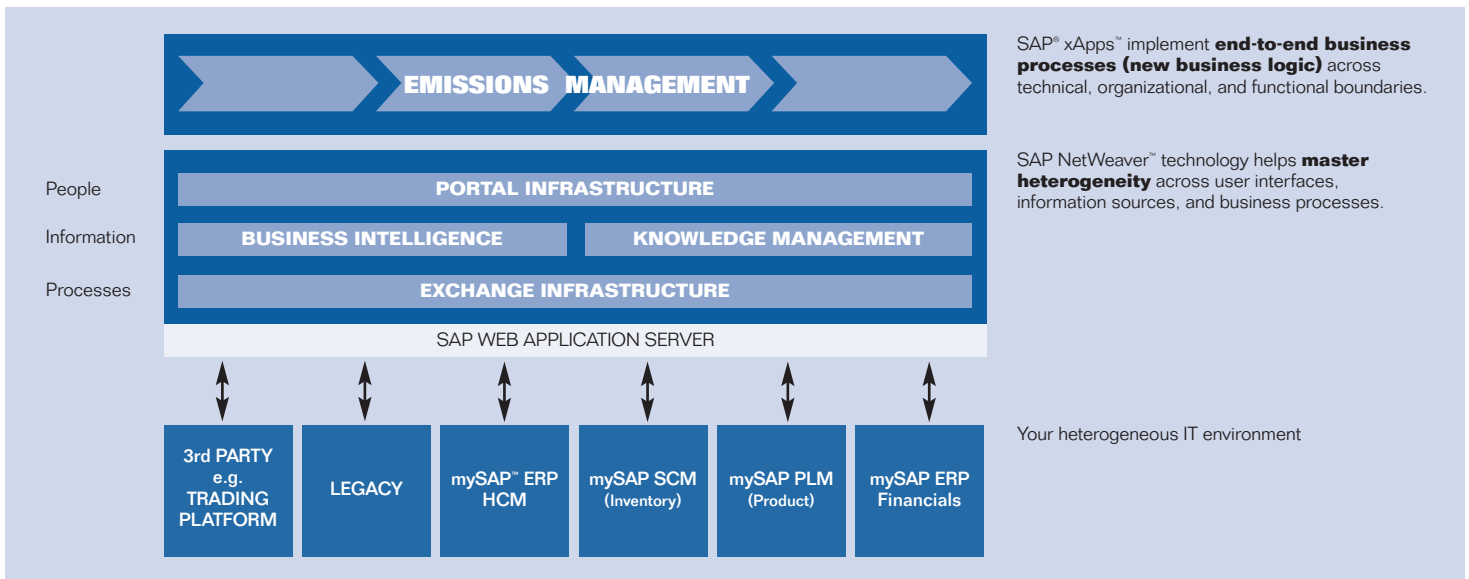


Figure 1: Cross-Functional, Composite Application

COLLABORATIVE SOLUTION FOR YOUR EMISSIONS MANAGEMENT TEAM

As a cross-application solution, SAP xApp Emissions Management delivers a powerful role-based, collaborative solution for all team members involved in emissions management.

Improves processes and reduces risks by providing:

- Consistent information tracking for all processes
- Combined data for enterprise planning and risk management
- Transparency for shareholders, investors, and public

Lowers total cost of ownership by:

- Expanding the existing footprint of SAP solutions
- Reducing implementation duration to less than four months (per plant)
- Improving compliance visibility across the enterprise

Enables total compliance through:

- Fulfillment of required regulations (state, federal, and international)
- Early identification of deviations and critical issues
- Expansion of plant productivity

Integrates all enterprise solutions through:

- Full integration with SAP R/3® data (where necessary)
- Functional completeness with tools for analysis, tracking, and management
- Monitoring of plant material balances
- Easy integration of third-party applications

TAKE THE NEXT STEP

Increase Your Return on Investment

SAP xApp Emissions Management is designed to help your company improve its manufacturing productivity by aligning business processes with the fulfillment of required environmental regulations worldwide. This solution delivers processes that enhance the information flow across the enterprise, improve environmental portfolio management, and enable companies to move closer to achieving sustainability for their global operations.

Furthermore, SAP xEM is based on powerful SAP NetWeaver technology. It is designed to lower fixed costs and shorten installation times. Phased implementations are expected to run no more than four months, enabling enterprises to see value in performance and functionality more quickly and to recover their investment much faster. And because the product is scalable, the solution expands as the enterprise grows, which builds on the company's initial investment.

Find Out More

Learn how SAP xApp Emissions Management can help your company comply with environmental regulations while improving productivity. Visit our Web site at

www.sap.com/xapps