



Process Safety KPI Dashboard

High Level Technical Architecture


Making the case for sustained investment in Process Safety can be difficult in the current economic climate. However, history reminds us that the financial, human and reputation costs of a major incident far outweigh any savings that might be made when finances are tight. Incidents of critical failure with major processing plants and assets have unfortunately been occurring for many years.

An increased focus is being placed on ensuring that companies who operate major assets are doing so in a responsible manner. Legislation and regulation, once reserved mainly for the worlds developed economies is now common place across the globe, with the need to provide environmental monitoring and protection, safe working environments, robust containment and incident management procedures.

Solution

The ProcessSafety+ suite provides a ready-made, industry leading IT solution for managing Process Safety in asset-intensive industries.

The ProcessSafety+ Dashboard was designed to support the implementation of the UK HSE's HSG254 guidelines on developing process safety Indicators, allowing an organisation to align KPI responsibilities across their risk control systems and against their internal management hierarchy.


" Amor Group's software development team allowed us to create a best-of-breed technical KPI dashboard solution which fully integrates with our existing IT infrastructure, and allows us to monitor our progress in near real-time."

Martin Sedgwick, Head of Asset Management, ScottishPower

ProcessSafety

Features

- KPI Dashboard recognised by the UK HSE as a key component of a pioneering approach to process safety management, aligned to industry best practice
- Multi-dimensional data warehouse delivering both KPI metrics and underlying transactional data allowing near real time analysis
- KPI Mapping Engine supporting the creation of manual and automated KPI, transforming data into meaningful metrics
- KPI Scheduler controlling process requests with highly configurable frequencies and timings
- Data Source APIs supporting integration with the key IT systems within an organisation, extracting the fundamental operational data

Benefits

- Scalable solution which can grow in line the maturity of an organisation
- Fast implementation as proven product components are built upon leading industry technologies
- Supports Intranet roll out, promoting the Process Safety message throughout the organisation whilst minimising cost
- Online governance process removes the requirement for paper-based reporting
- Product flexibility supports off-site hosting reducing the burden upon internal IT departments



Technical Architecture

The ProcessSafety+ dashboard consists of 6 key components that combine to provide a near-real time visibility of KPI performance.

Data Input APIs

The various data input APIs ensure key system data identified to support the KPI metrics can be extracted and stored within the Process Safety+ Data Warehouse. This takes feeds from a variety of sources such as CSV, XML, Maximo, SAP, SQL, Ivara EXP, Oracle, PI, Oprolog and customised APIs.

Data Warehouse

The data warehouse maintains both KPI metrics and transactional data, allowing KPI trending at daily and monthly granularity. Importantly, this allows users to drill-down into the underlying data from which the KPI was calculated.

KPI Mapping Engine

The KPI mapping engine is used to define, develop and deploy KPI metrics. The engine supports the definition of both manual and automated KPIs and ensures the Dashboard evolves in line with the process safety maturity of the organisation.

KPI Scheduler

The KPI scheduler ensures the extraction and transformation of data is easily managed and configured to meet the needs of the organisations underlying IT infrastructure.

KPI Dashboard

Extracted data is fed in to the KPI Dashboard, allowing for clear and near-real time reporting of critical data for all key assets. The KPI Dashboard is recognised by the HSE as being market leading and aligned to industry best practice.

Reporting Engine

Finally, the reporting engine allows for user-defined custom reports, in addition to utilising industry standard reporting tools such as Business Objects and Cognos.

Track Record

Utilising the ProcessSafety+ methodology and KPI dashboard ScottishPower has been able to transform their organisation into one of the leading global exponents of process safety. The KPI dashboard has been a critical component in delivering tangible operational benefits, including:

- 29% reduction in Operations and Maintenance costs;
- 22% increase in Plant Availability;
- 50% reduction in Equivalent Forced Outage Rates (EFOR);
- 10% reduction in Annual Insurance Premium.

