



MP – A Revolutionary Way To Identify Real Time Risk Exposure

Machu Picchu (MP) is an innovative system that reveals hidden danger in your plant in real time. MP continuously measures, monitors and alerts you to Process Safety risks and delivers contingency plans that can be executed at a moment's notice.

With MP, you will be able to easily:

- Identify what's wrong (risk isolation)
- Understand the impact (risk level calculation)
- Fix the problem (expert knowledge and contingency plans)
- Plan for future improvement and training (historical reporting)
- Prevent outages and loss of production (increase revenue)

By providing you with real time safety-oriented data and expert knowledge to make effective risk-based decisions, MP helps you prevent incidents, safety infractions and unexpected outages.



Benefits of MP

Process Safety risk assessments

- Hazard and Operability Studies (HAZOP) data
- Layer of Protection Analysis (LOPA) data
- Safety Integrity Levels (SIL) analysis

Historical equipment repair data

Real time operating and alarm data

- Basic Process and Control System (BPCS) real time data
- Safety Instrumented System (SIS) real time data
- Maintenance systems real time data

Operator observations and contingency planning data

Inspection procedures

Access essential Process Safety data effortlessly

MP extends the knowledge that was gained during the engineering design phase of your plant and integrates with your existing control systems, gathering information from the systems and processes found in the figure on the left.

MP's extensive safeguard information, situational analysis and contingency planning enables you to make better decisions, reduce outages, minimize environmental impacts and improve Process Safety management.

Empower Every Operator With Expert Knowledge

To fully understand the consequence of one failed safeguard, you need to understand and bring together information from a variety of sources – MP places all of this information at your fingertips, instantly.

With MP's proven set of instructions and contingency plans available to everyone, including new hires, every operator knows exactly what to do when the integrity of a safeguard is compromised. The expert knowledge that is immediately available within MP leads to informed risk-based decisions, reduces potential for human error and gives you the ability to prioritize your response effectively.



Save Time, Save Money, Save Lives

Over the life of a plant, anything mechanical can and will break at some point. MP detects these failures and then instantly provides contextual history and contingency plans to ensure the integrity and safety of your plant.

"If you think safety is expensive, try an accident." – Trevor Kletz

Even if MP predicts and prevents only one impending outage, your investment will pay for itself. Plus, day to day use of MP helps you maintain a healthy plant and eliminate risk, which leads to optimum productivity and sales. MP also includes a financial metric to help you understand the financial impact of a hazardous scenario.

Achieve Operational Excellence

Your continued use of MP will create a strong safety culture at the core of your company. MP puts operators in full control of plant integrity and increases the efficiency of daily operations. Bringing together historical data, maintenance information and operator's observations, MP helps you quantitatively justify hardware upgrades or plan the scope of work for planned maintenance periods.

MP will continue to increase in value as you add historical and contextualized data into the system over time. With MP monitoring your Process Safety variables and checking the health of all safeguards, you can readily maintain operational excellence and ensure that incidents, safety infractions and unexpected outages are minimized or eliminated.



A Look Inside MP

Dashboard View

The dashboard view in MP enables you to see all current contingencies in play for any of your plant's safeguards. It's an easy way to view a snapshot of your plant's current risk exposure.

The real time risk ticker shows you any safeguards that are in suspect, confirmed or contingency mode. With a simple click, you can view more information about the safeguard to learn what caused it to escalate from normal operation mode and what actions have been taken so far.



Risk
Moderate
Consequence Overpressure, potential rupture, loss of containment in Plant Area B3

Situation Analysis View

The situation analysis view in MP provides detailed consequence and risk exposure information for safeguards. This information is essential when a safeguard is out of service, bypassed or failed and it's also useful background information if you need to take a safeguard out of service for maintenance.

By providing you with the complete history on your safeguard, MP sheds light on whether this safeguard is historically problematic, if similar conditions are repeatedly causing failures or if another operator has their own suspicions about the safeguard.

MP provides contingency plans to guide you when the integrity of a safeguard is compromised, so all operators can benefit from knowledge that is equivalent to that of a senior operator. MP helps you understand the consequences of taking no action, and instructs you on a recommended course of action.



Reports

MP has a number of built-in reports that are useful for regular safety integrity meetings, shift transfers and more. Shift reports provides details such as whether any contingencies were put in play, if there were any changes to the status of safeguards and the appearance of new confirmed failures. Historical reports provide extensive data on the safeguard, including operator observations.