# Leveraging Operational Data to Support Business Decisions

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#### **Agenda**

- Why PI in PotashCorp?
- PI System Capabilities
- PI System Implementation in PotashCorp
  - PI System Standards and Data Validation
  - PI AF Hierarchy and Template Development
  - PI System Governance
- PotashCorp PI Solution Examples



#### Why do we need an Enterprise Historian?

#### **Our Vision:**

- Current Practice:
  - Decisions based primarily on historical metrics and reports.
- Goal:
  - Enhance decision making with real-time operational data by implementing an Enterprise corporate data historian.
- Approach:
  - Collaborate with PotashCorp business systems to provide timely information to the user community.





#### Why PI in PotashCorp?

- OSIsoft's PI System is our Enterprise data historian:
  - Full Enterprise security capabilities.
  - Manages hundreds of thousands of tags at high scan rates, for the life of the assets.
  - Manages hundreds of users with no performance impact.
  - Leverages hundreds of managed interfaces to easily collect data from ANY control system.
  - Shares data effectively with analytics and other business systems using standard interfaces.
  - Jointly developed interfaces (PI Integrators) with vendors to share data with advanced analytics such as SAP Hana and Microsoft Azure.

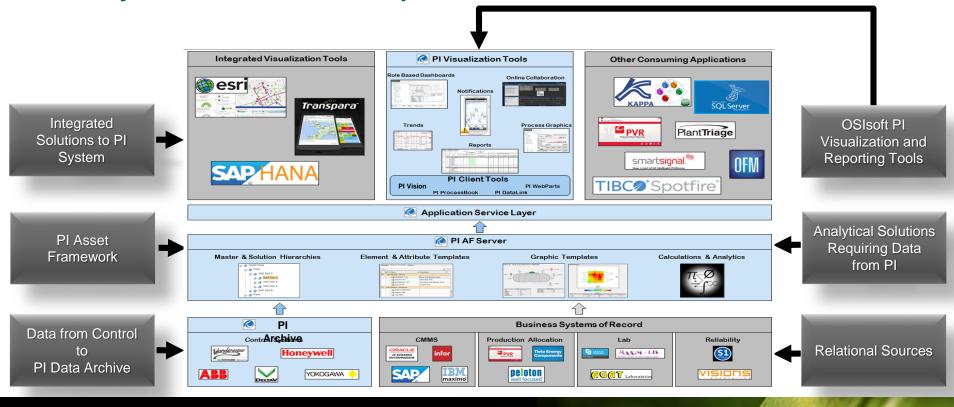




## PI System Capabilities



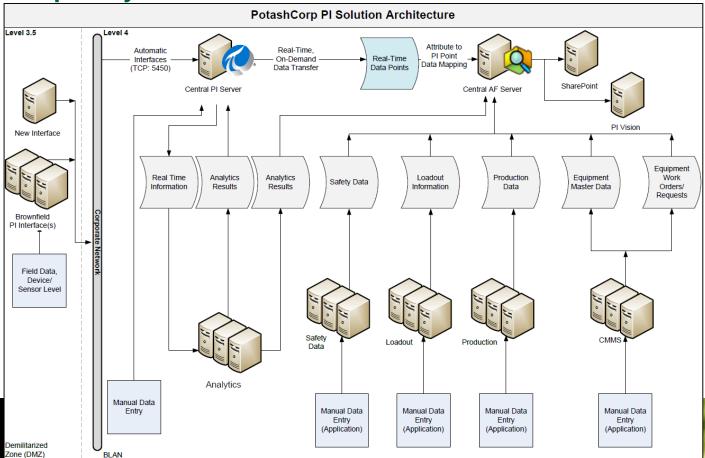
#### PI System Structure and Capabilities





# PI System Implementation at PotashCorp

#### **PotashCorp PI System Architecture**



#### PotashCorp PI System Upgrade Approach



# Requirements:Data confirmationIntegration of key business systemsWorkflow development

Effective governance

User training

Collaboration **Predictive Analytics Integrated Modeling Solutions Sustainable Evergreen Processes Workflow Development, User Training, Notifications Base Tools – Reconciler, Operations Reporting, Runtimes** 



#### PI System Standards and Data Validation

- Worked with the user community to develop a common tag naming standard across all sites
- Benefits of the new tag naming standard:
- Allows the PI user community to easily locate and understand the PI data
- Facilitates easy generation and maintenance of reports, process graphics, and dashboards
- Developed PI AF templates to efficiently add new assets, equipment, reports, etc.
- Enables PI AF elements to leverage common single display/report formats
- Reduces the time for site administrators to manage and maintain the PI System
- Reviewed all tags, renaming and validating the source data

#### Data has to be trusted to be used



#### **AF Hierarchy and Templates**

- Developed PI AF hierarchy that compliments the Computer Maintenance Management System (CMMS) structure
- PI AF templates were developed for critical equipment and reporting
- PI AF hierarchy structure and templating ensures consistency across all sites



#### **AF Integration to Corporate Systems**

- Select data from Corporate Systems is made available to PI System users for context
- Integration of Corporate Systems in PI AF:
- Loadout Information
- Underground Production Data
- Computer Maintenance Management System
- Production and Inventory Data
- Safety Data



#### **PI System Governance**

- PI System Governance is required to ensure accurate, timely data for the user community
- PI System Governance is dependent on the following:
- Establishing a cross disciplinary governance board and steering committee to govern the PI System
- Identifying and assigning the roles and responsibilities of each member
- Creating a set of standards, processes and procedures appropriate to manage the PI System
- Developing an evergreen process to ensure data governance will be refreshed as changes occur in the data, systems, personnel or corporation



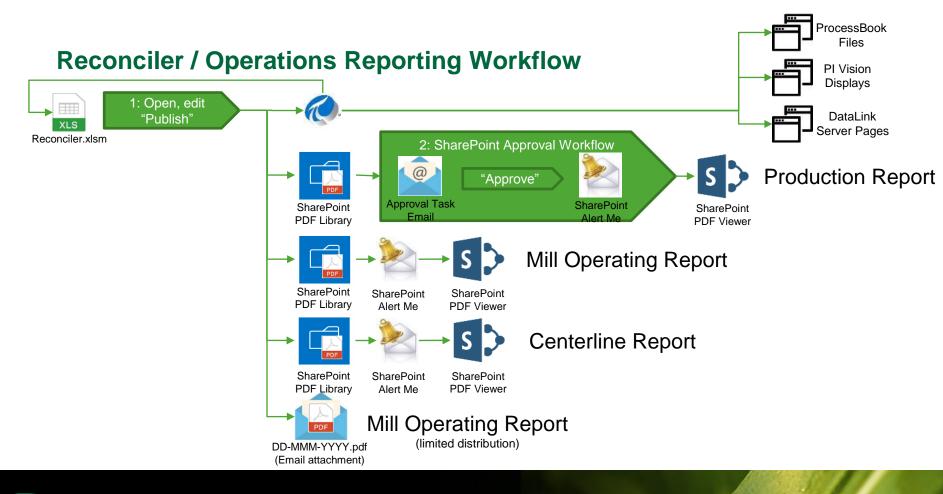
## **PotashCorp PI Solutions**



#### **Screenshots - Potash Portal**

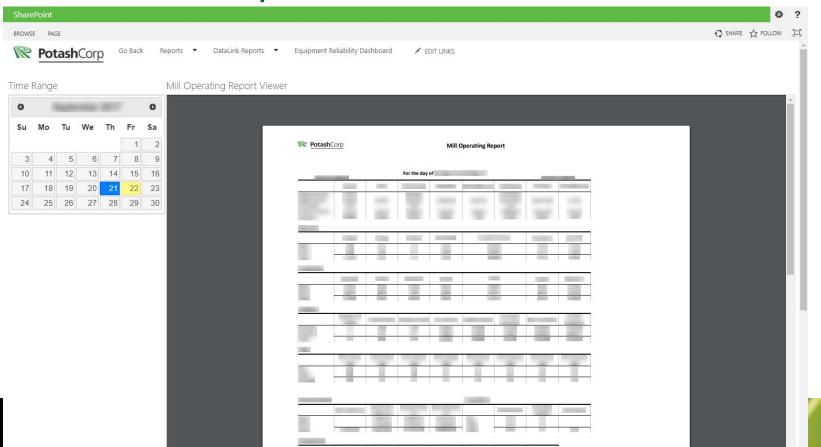




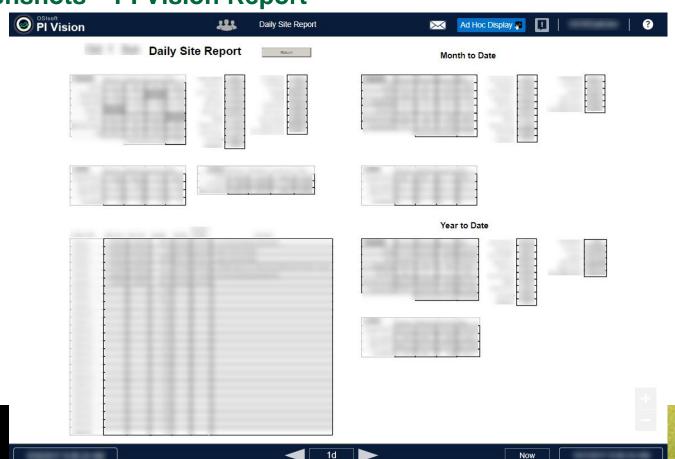




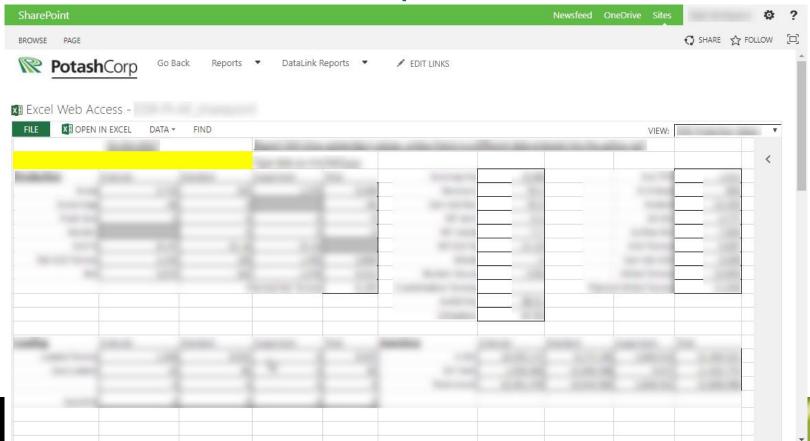
#### **Screenshots – PDF Report Viewer**



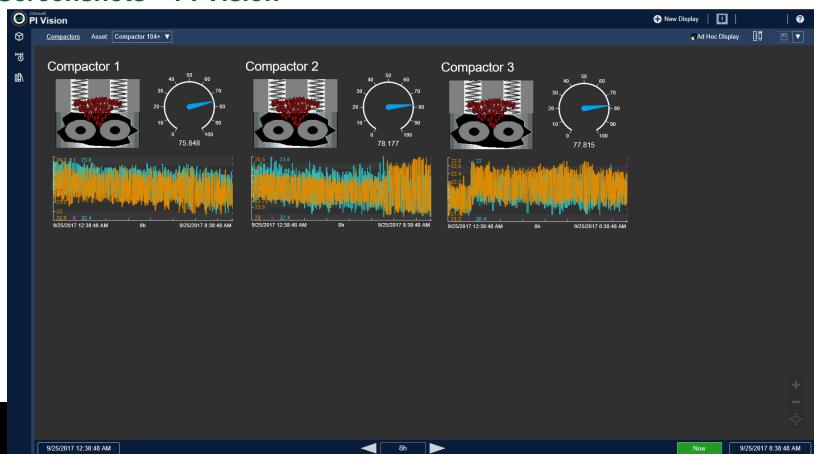
#### **Screenshots – PI Vision Report**



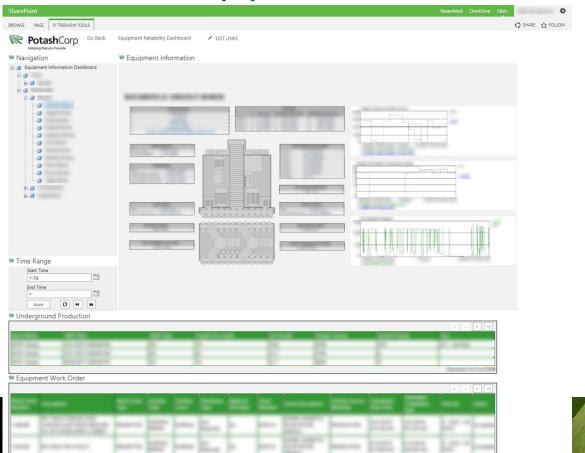
#### **Screenshots – DataLink Server Report**



#### Screenshots - PI Vision



#### Screenshots - WebParts Equipment Dashboard





### Leveraging Operational Data to Support Business Decisions

#### COMPANY and GOAL

PotashCorp, the world's largest fertilizer company by capacity, with operations in 7 countries, **is leveraging operational data** to help feed the world.









#### **CHALLENGE**

Required consistent operational data that users could trust and easily access to make informed decisions

- Operational data that differed site to site
- Users could not locate data easily and had issues trusting the data
- PI AF was not in place

#### SOLUTION

Implemented PI AF and expanded client tools to provide users access to operational data.



- Validated and standardized all data in the PI System
- Integrated key business solutions
- Deployed PI client tools

#### **RESULTS**

Created a trusted source of operational data that can now be readily leveraged for business solutions

- Implemented Potash Portal for management reporting
- Deployed reconciliation engine to simplify daily production reporting
- Leveraging data foundation to support added functionality



#### Questions

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