



PI in a Modern Power Plant

More Uses Than Just a Troubleshooter

Presented by: Brian M. Wood, American National Power, Inc



PI in a Modern Power Plant – American National
Power, Inc. PI User Conference '03

American National Power



International Power



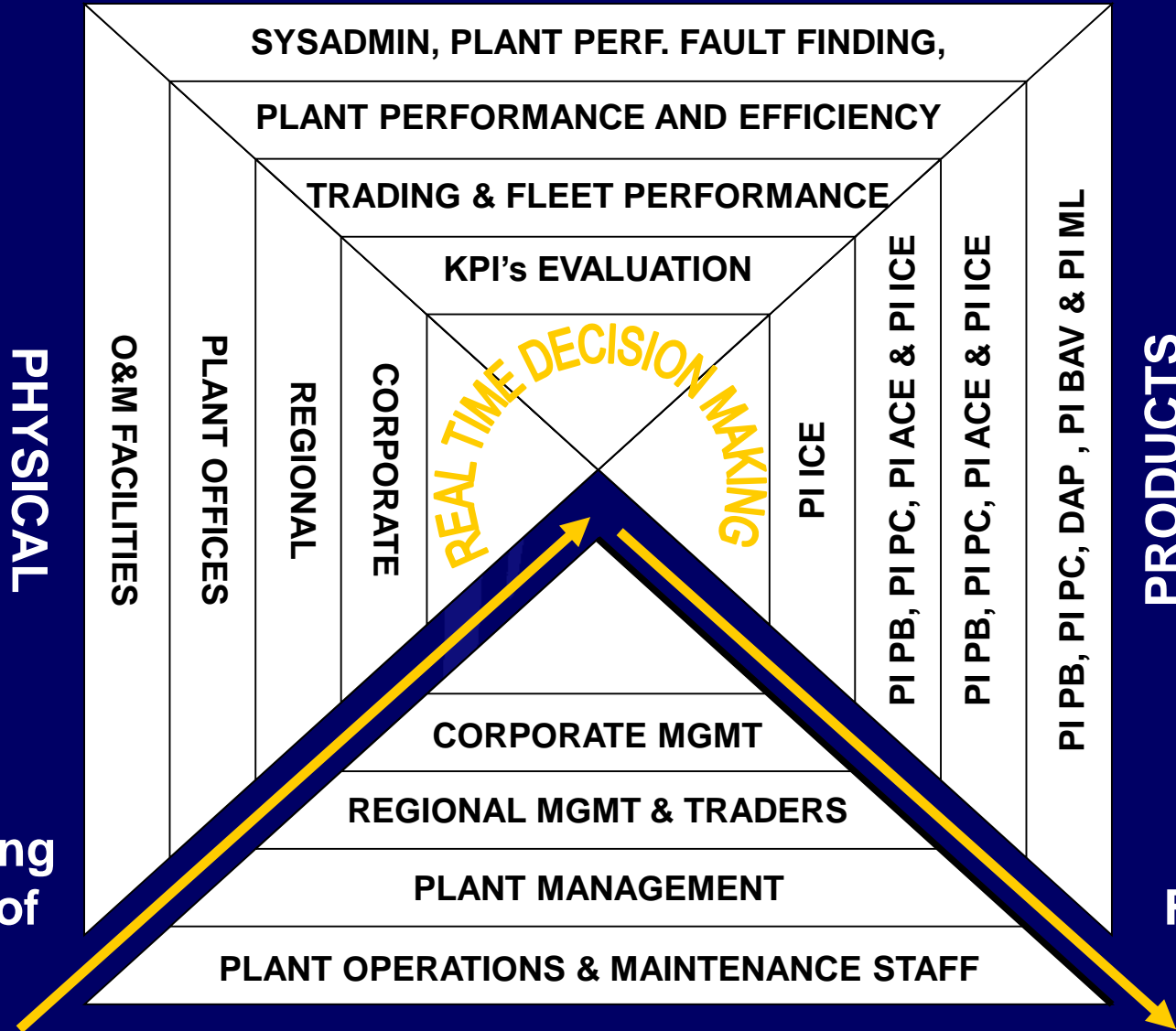
Our PI Vision

- *Our PI Strategy is based on a vision of seamless plant knowledge management throughout the company realised through the provision of market leading software engineering tools at all IPR power plants, selected regional and corporate offices.*

Overview

- Preparation
- Putting the Plan in Action
- Keeping things Running
- The Next Step

PURPOSE



PEOPLE

Establish Infrastructure

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Our Infrastructure

- Corporate PI Manager
- Area Representatives
- Site Stewards
 - Administrator
 - Application Developer

Defined Immediate Needs

- Administration
- Management
- Operations
- Commercial
- Environmental
- Use Third Party Developer if Needed

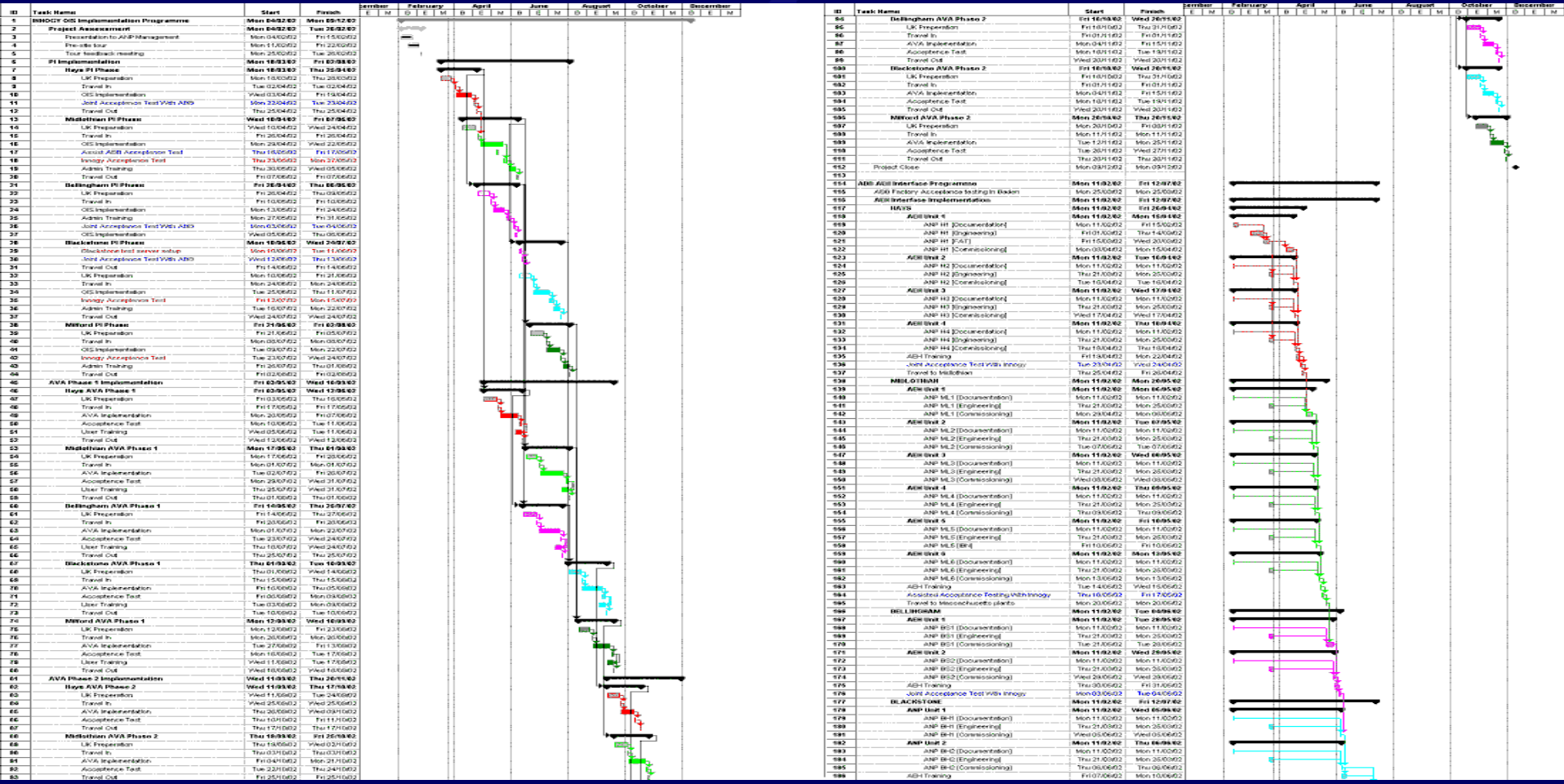
The Initial Archive Setup

- Network Security
- Equipment Stability
- Extra Interfaces

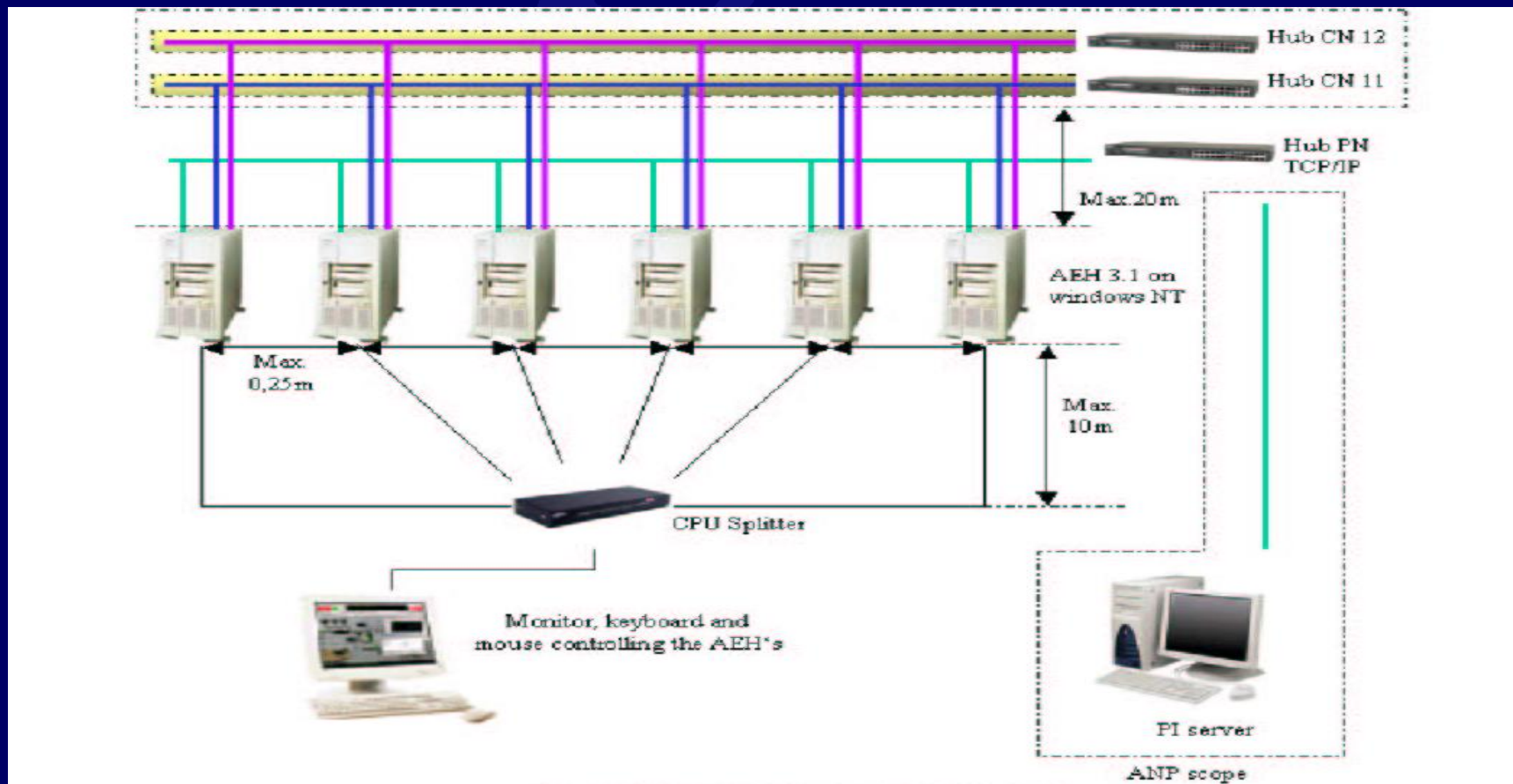
Putting the Plan in Action

- Established PI Server
- Set Up Interfaces to DCS
- Set up other Interfaces
- Installed Client Software
- Developed Applications
- Start Training

The Plan



Interfaces to DCS system



Other Interfaces

- Weather Station
- Web Interface
- Weather Forecast
- To Maintenance System

Developed Applications for Sites

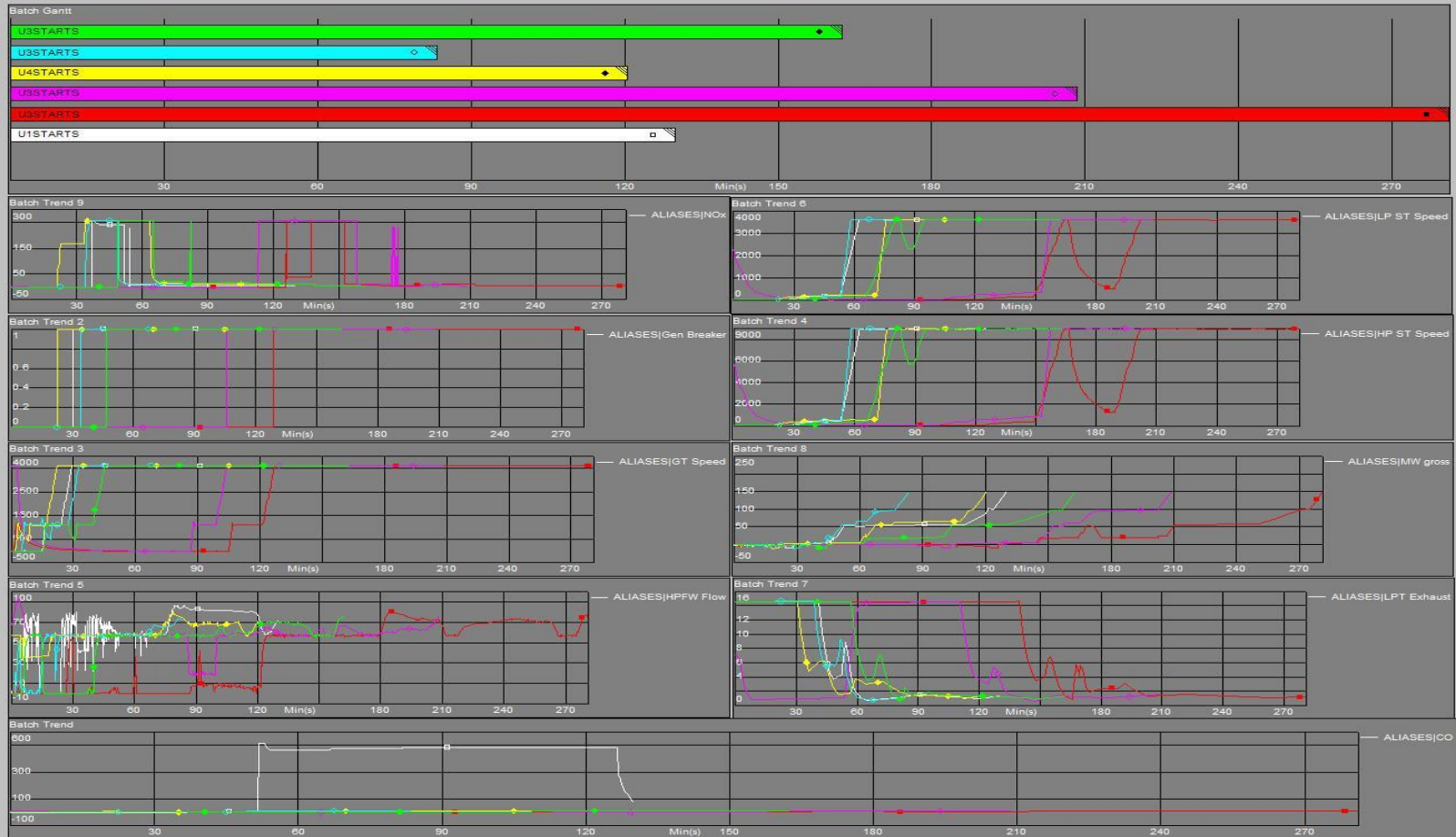
- Mimicked DCS Screens
- Administrative Spreadsheets
- Plant Overview ProcessBook & Excel Screens
- Reports Automatically Generated
- All calculations put in as Performance points
- Unit Efficiency Calculations & PB Screens
- Electronic Log for Operators
- Batch for Startup Analysis
- Troubleshooting, etc...

Site Specific Applications

The central image shows a laptop with several lines radiating from it to different software application screenshots, illustrating site-specific applications. The screenshots include:

- ANP Fleet:** A dashboard showing fleet performance across different sites (Bellingham, Hays, Midland) with bar charts and data tables.
- Unit 1 Compressor Efficiency:** A detailed view of compressor efficiency for Unit 1, featuring a 3D model of the compressor and various efficiency metrics.
- Midlothian Plant Overview:** A comprehensive overview of the Midlothian plant, including total output, target ECE, and detailed performance metrics for different units.
- Unit 1 Cost of Losses Overview:** A dashboard showing the balance of losses for Unit 1, including a bar chart of loss components and a table of electricity prices.
- Logbook:** A detailed logbook interface with multiple columns for data recording and analysis.
- Control Room:** A control room interface with various gauges, buttons, and data displays for plant operation.

Developed Applications for Sites



Developed Other Applications

- Overview of All Plants
- MAPPI applications for information to commercial division
- SMS to inform management of Unit statuses/problems
- Intranet Pages for Plant Overviews and Plant Status Reports
- Can compare Unit Statuses And Capabilities throughout Fleet

Commercial Division

- Installed PI Server
- Using PI to PI Interface
- Using Real-time data to see unit statuses
- Can see multiple sites with virtually no update or connection delays
- Calculating Unit forecasts
- Decreases dependency on network connections

Keeping things Running

- Infrastructure Vital Key
- Data Integrity
- Performance Monitors
- DevNet Tools
- Distribution Lists & Public folders

The Next Step

- Company Users Conference
- Documenting PI Successes
- Change Control
- Communication Between Sites for Problems and Ideas
- Intranet site for PI Users Group
- Training always available

Summary

- Company Wide Implementation
- Immediate Usable Applications
- Keep it running
 - Site Stewards
 - Company Users Conference
 - Distribution lists and Public Folders
 - Users Group Intranet Site
 - Keeping up: OSISoft.com, DevNet



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