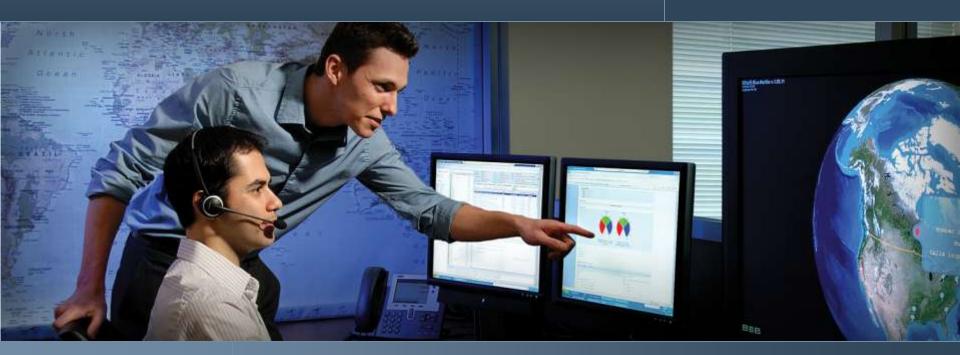


Regional Seminar Series

Stavanger, Norway



PI at Statoil "Sleipner"

Mattis E. Hohman Senior engineer Sleipner Automation systems Statoil ASA

23.09.2010

AGENDA



- About Statoil ASA
- History with PI
- Architecture / Security
- Examples of daily use
- Road ahead



About "Statoil ASA"





About Statoil ASA



Global energy company. 30.000 employees world-wide

> EXPLORATION AND PRODUCTION



Discoveries in 2009

On the Norwegian continental shelf.

> NATURAL GAS



Gas in a climate perspective

Statoil is working hard to limit its emissions of carbon dioxide.

> PROCUREMENT



How to become a supplier

Our procurement process is based on competitive tendering and on the principles of transparency, nondiscriminati...

> PIPELINES



Monitoring pipelines

Statoil is technical service-provider for about 7,000 kilometres of pipeline.

> PRODUCTION FACILITIES



The Mongstad facility

The Mongstad complex comprise a refinery, the Vestprosess NGL fractionation plant and a crude oil terminal.

> ENERGY AND RETAIL



Service stations in Europe

Statoil operates 2,000 full-service Statoil-branded service stations in Scandinavia ...

Sleipner site



■Heidrun

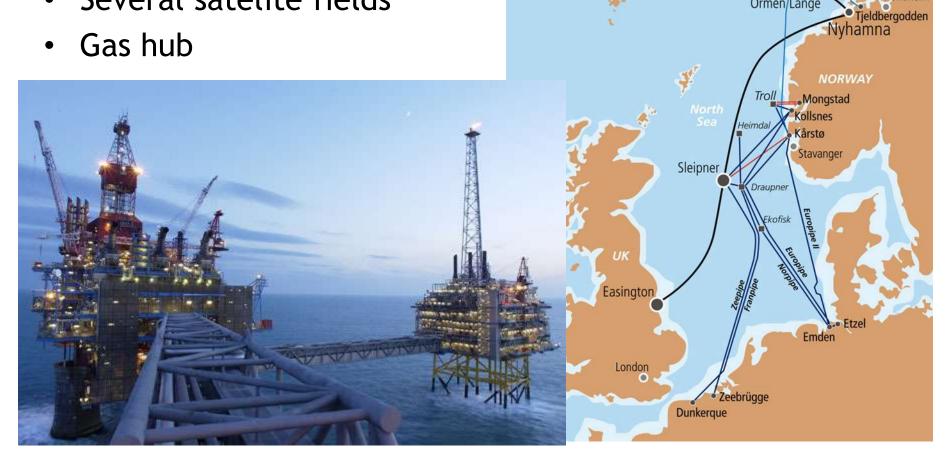
Trondheim

Norne .

Åsgard

Ormen/Lange

- SLP East & West
- Centrally located
- Several satelite fields



Rich gas

Dry gas

Oil/condensate



History with PI





Background



- License installed 2001
 - Part of Heidrun at that time. 1.000 tags
 - Moved to Sleipner 2003
 - Local PI offshore
 - PI server onshore (upgraded to 5.000 tags)
- Interfaces
 - ABB 800xA (OPC DA)
 - FMC Fiscal metering (RDBMS)
- Usage increased since start
 - More clients
 - More tags



Solution





Challenge / Problem Details

SIS

SAS

Lab

Weather



Teknisk nett – plassering – hvor er det?! Office Network Internet IMS Field devices

IMS

Company specific

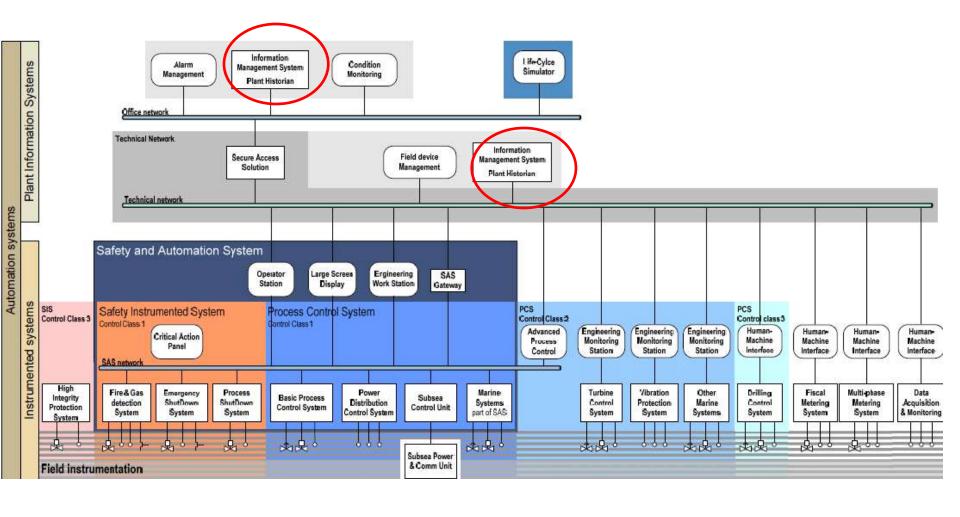
applications

Remote Access

Application

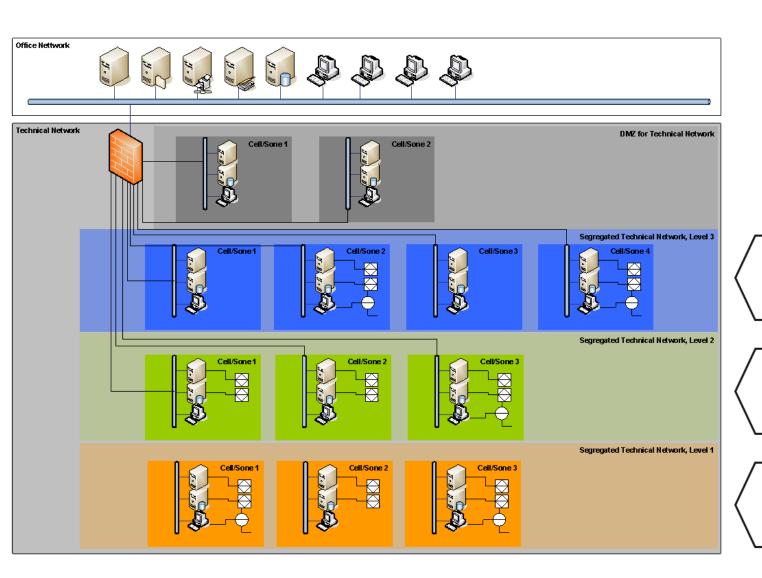
Challenge / Problem Details





Challenge / Security





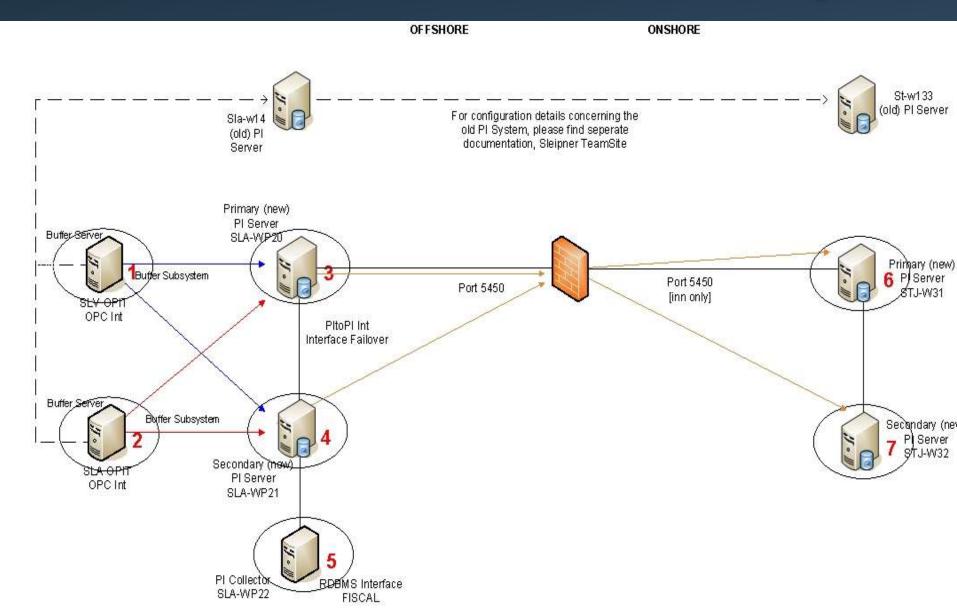
Moderate Criticality
- Monitoring

High Criticality
- SAS

Very High Criticality
- HIPS

PI System Architecture





OSIsoft Software and Services Used Today



- Upgrade/enhancement project of PI started in 2010
- 2 PI server collectives
 - Offshore
 - Onshore
- I/F level fail-over. PI-to-PI
- 60 PI Processbook / PI Datalink
- PI Web Parts
- Interfaces:
 - OPC
 - RDBMS
 - Modbus (planned). Roxar



Demo / Results





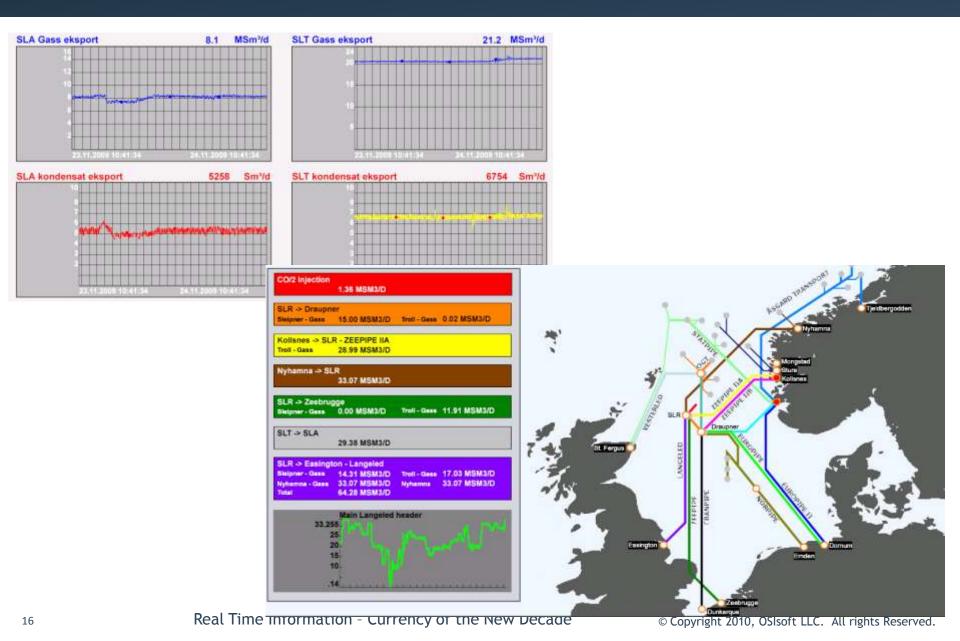
Results



- Availability
 - HA fail-over. Unplanned test
- Ability to create displays with data from multiple vendors a "hit" with engineers. Visibility
 - "ABB data" in same screen as e.g CM data
- PTEK, troubleshooting. Increased productivity
 - Production optimalization
- Scalability
 - Increase in usage
 - New fields. Volve came online later, others to come
- ...and more...

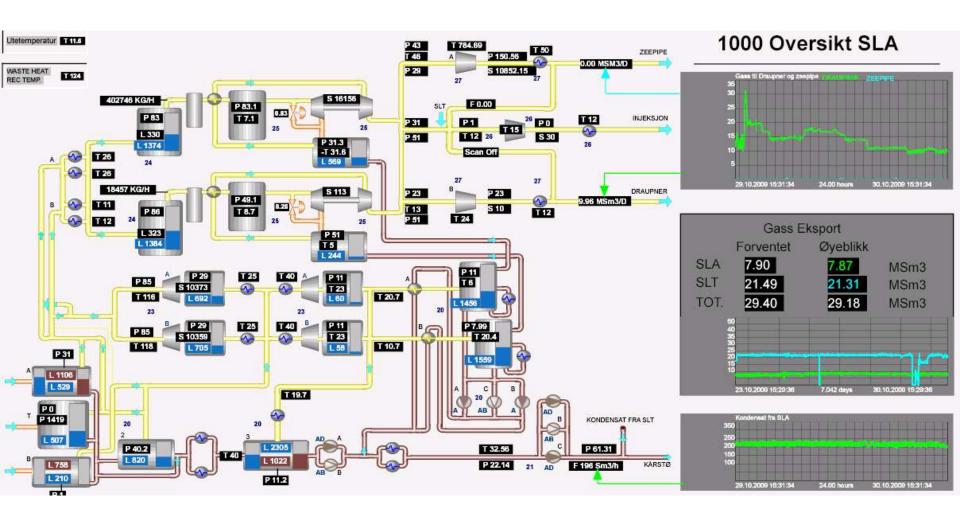
Exports





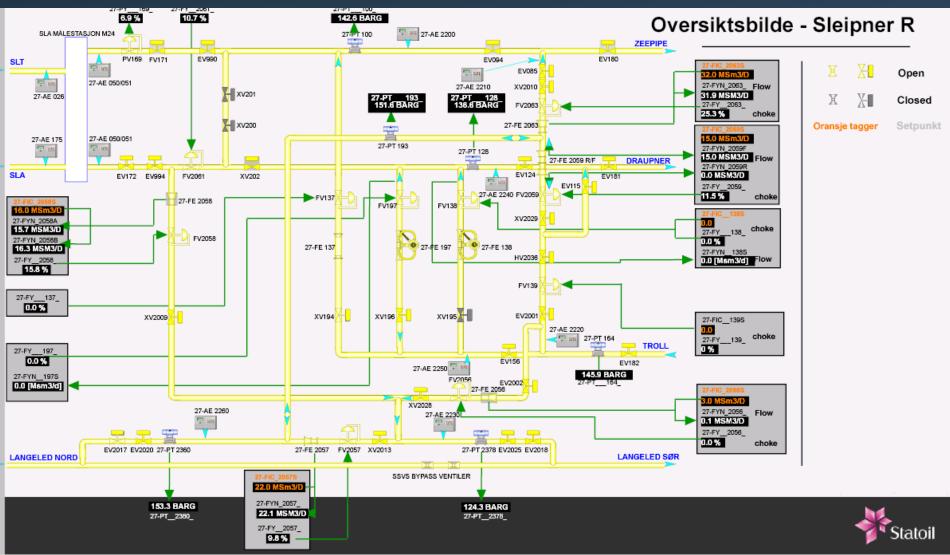
Overview Sleipner A





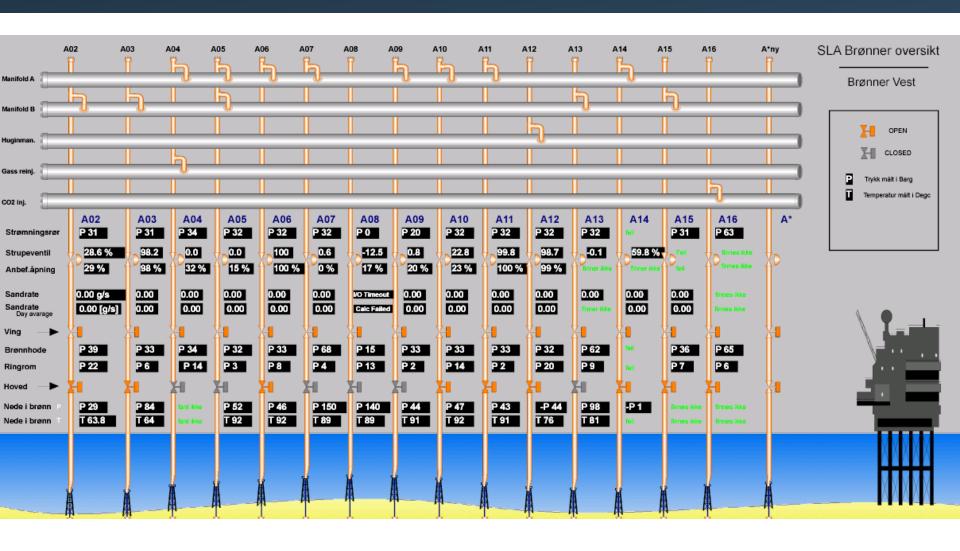
Overview Sleipner R





Well overview







Future Plans / Next Steps





Future Plans / Next Steps



- New tie-in projects
- AF installation
 - Data import from STiD
- PI Notifications
- More interfaces
 - Modbus
 - Others...

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Thank you

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