

Operational Excellence at Roche: PI Delivers

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- Operational Excellence at Roche
- The Growing Contribution of PI
- PI Delivers
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Roche 2006

Roche

A leading global healthcare company

- Pharma: no. 8 worldwide; market leader in key therapeutic areas such as oncology, transplantation, anaemia and virology
- Diagnostics: world leader
- 9 products/lines with sales in excess of CHF 1 billion
- No. 2 in biotechnology
- One of the best pipelines in the industry in pharmaceuticals and diagnostics
- Around 68,000 employees in around 150 countries
- 2005 sales: 35.5 billion Swiss Francs















Creating operational excellence at Roche



Excellence in Operations

Goal 1

Reduced manufacturing costs

Metric 1

Revenue vs. manufacturing costs

Goal 2

Improved inventory situation

Metric 2

Coverage days of inventory

Goal 3

Better use of assets

Metric 3

Revenue vs. manufacturing fixed assets

Goal 4

Top quality and efficiency in all processes

Metric 4

Right first time

Goal 5

Service level excellence

Metric 5

On time in full delivery



The growing contribution of PI



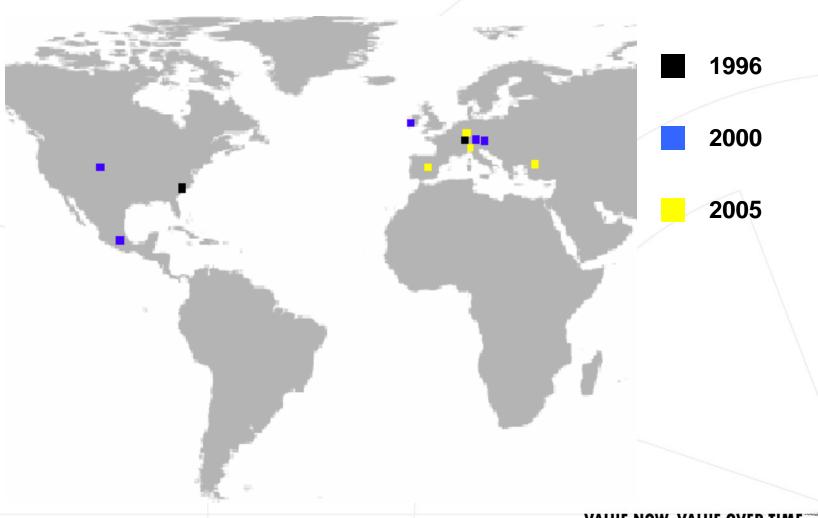
Since installing our first PI System in 1996 we have seen the same phenomenon over and over again: Once a PI System is in place it will be used by more and more people for more and more purposes

- Expanding in geography
- Expanding in scope
- Expanding to more and more people
- Expanding in functionality



Expanding in geographyFrom two sites to all major sites





Expanding scope From 'Chemical' ...



Process

Engineer





PI System



Chemical

API Production



Expanding scope... to all types of manufacturing and infrastructure



Process

Engineer





PI System



Buildings/Rooms



Utilities



Chemical



Biotech



Granulation



Tabletting



Packaging

Infrastructure

API Production

Galenical Manufacturing



Expanding to more and more people From an engineers tool ...



Process

Engineer





PI System



Buildings/Rooms

Infrastructure



Utilities



Chemical



Biotech



Granulation



Tabletting



Packaging

API Production

Galenical Manufacturing



Expanding to more and more people to everybodys everyday data source



Maintenance

Operator

Process

Engineer

Process

Manager

Quality Assurance

Management

















PI System



Buildings/Rooms



Utilities



Chemical



Biotech



Granulation



Tabletting



Packaging

Infrastructure

API Production

Galenical Manufacturing



Expanding functionalityFrom chart recorder ...



Process Engineer



Analyze Process Behaviour



Expanding functionality ... to production data hub



Process Engineer



Analyze Process
Behaviour
Monitor Equipment
Performance

Operator



Analyze Process
Behaviour
Monitor Equipment
Performance
Bridge DCS Gaps

Maintenance



Collect Running Hours Assess Downtime Predict Service Needs

Process Manager



Analyze Batch Behaviour Monitor Cycle Times Review Alarms Review Batch Report

Quality Assurance



Review Batch Report by Exception Analyze Batch Quality Verify Room Conditions Parametrical Release

Management



Review KPIs See Multiple Sites



PI Delivers



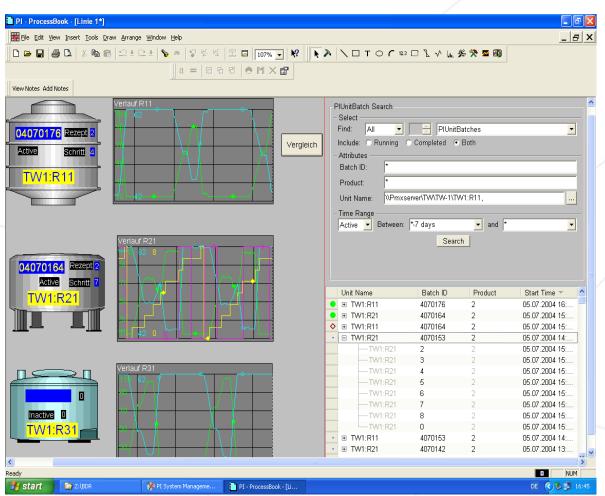
- Process improvements
- Getting control
- Bringing plant data to the organization
- Empowering people
- Measurable benefits

VALUE NOW, VALUE OVER TIME

OSISOFT USER CONFERENCES 2006

Process Improvements BatchView display in PI ProcessBook





Purpose

Compare batches across time and units

<u>User</u>

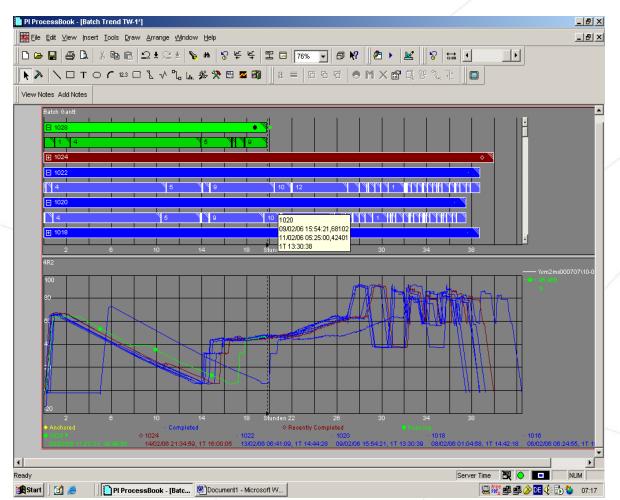
Process Engineer Process Manager

Benefits

Quick data access allows quick & continuous evaluation

Process Improvements BatchView display in PI ProcessBook





Purpose

Compare batches across time and units

<u>User</u>

Process Engineer Process Manager

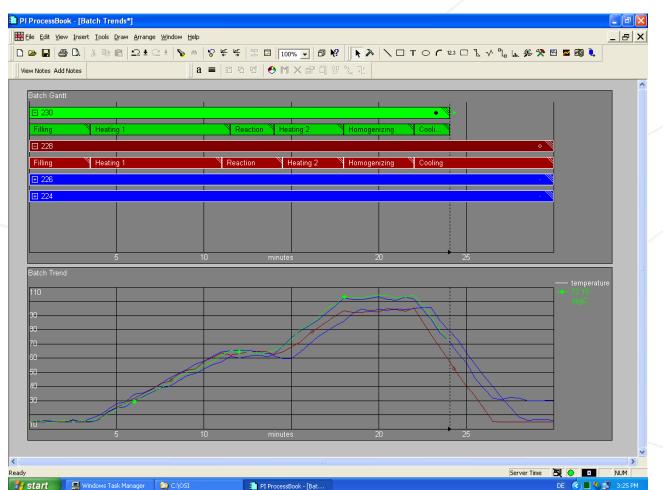
Benefits

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Process Improvements BatchView display in PI ProcessBook





Purpose

Compare batches across time and units

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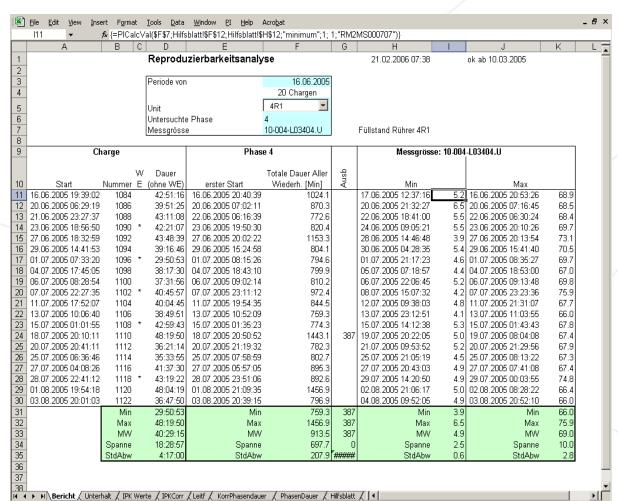
Process Engineer Process Manager

Benefits

Quick data access allows quick & continuous evaluation

Process Improvements Cycle time variance analysis in PI DataLink





Purpose

Compare phase time across batches

<u>User</u>

Process Engineer Process Manager

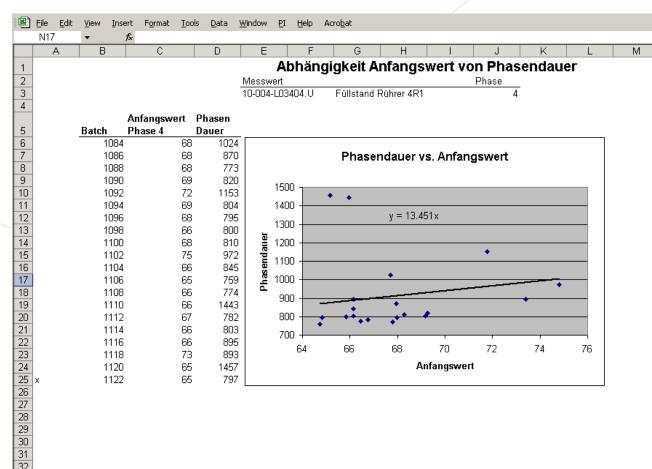
Benefits

Quick data access allows quick & continuous evaluation



Process Improvements Cycle time variance analysis in PI DataLink





Purpose

Compare phase time across batches

<u>User</u>

Process Engineer Process Manager

Benefits

Quick data access allows quick & continuous evaluation

VALUE NOW, VALUE OVER TIME

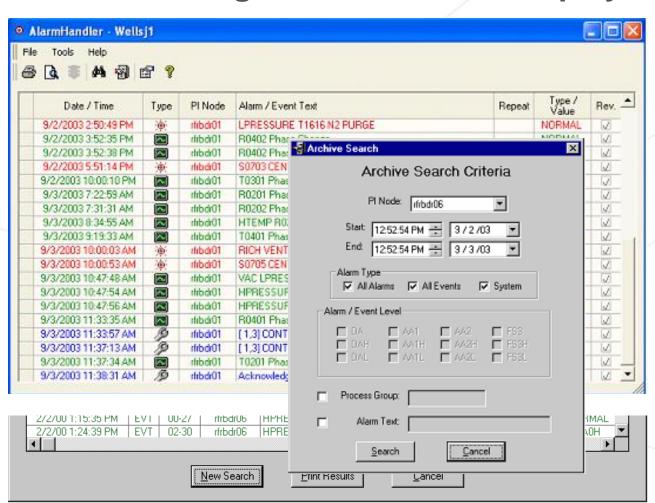


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Getting Control

Process Managers alarm review display





Purpose

Documented daily alarm review

<u>User</u>

Process Manager

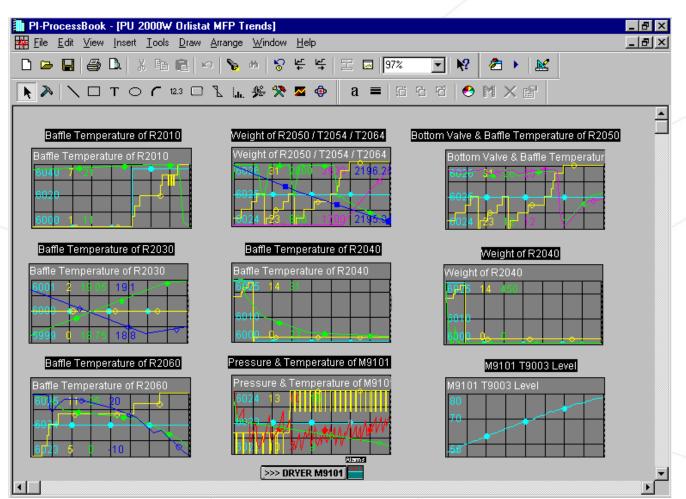
Benefits

Quick data access reduces review time Documentation



Getting Control PI ProcessBook QA investigation display





Purpose

Batch exception review

User

QA Release

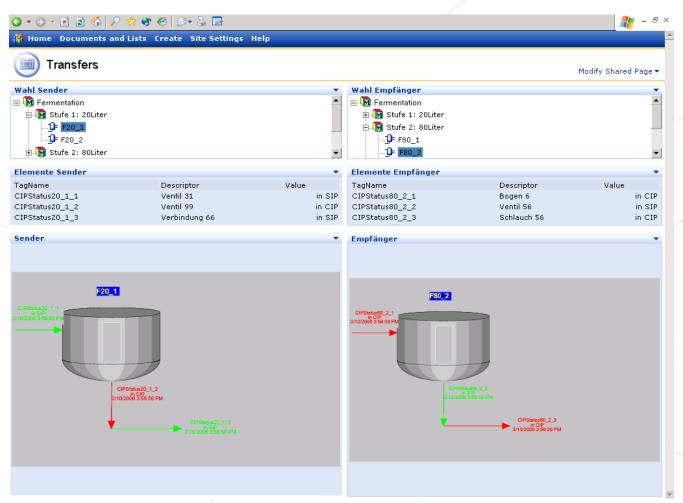
Benefits

Quick data access reduces review time



Bringing Plant Data to the Organization Transfer display in RtWebParts bridges DCS gaps





Purpose

Cleaning status review for distant transfers

<u>User</u>

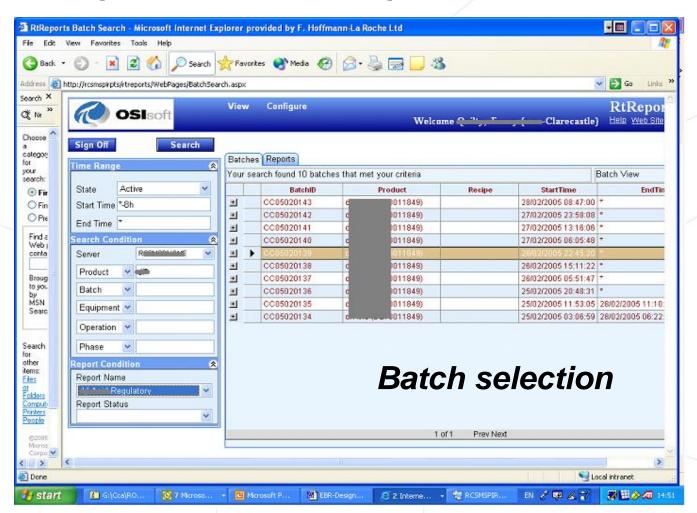
Operator

Benefits

Combines data which DCS cannot show on one screen

Bringing Plant Data to the Organization RtReports for GMP compliant documentation





Purpose

Batch review

<u>User</u>

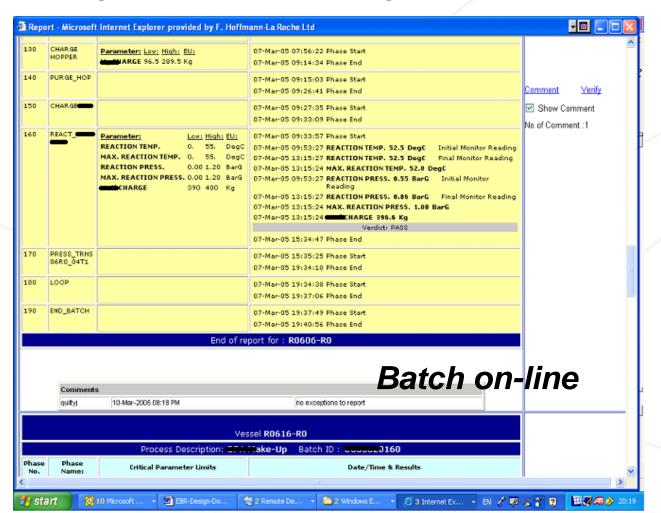
Operator
Process Manager
QA Release

Benefits

Complete Data Easy to spot exceptions

Bringing Plant Data to the Organization RtReports for GMP compliant documentation





Purpose

Batch review

<u>User</u>

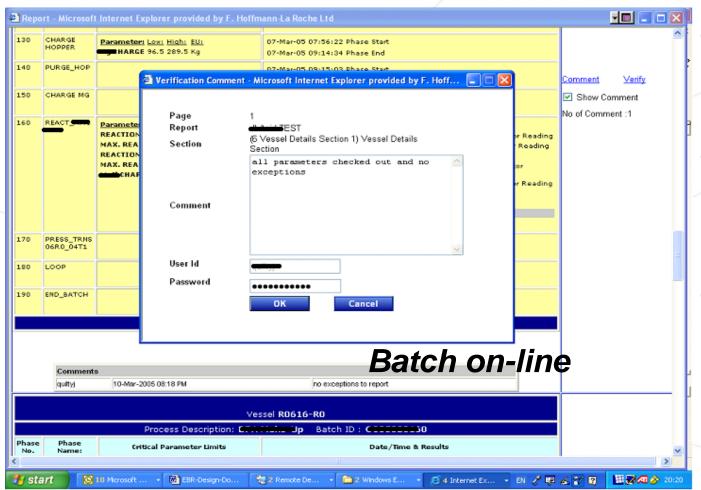
Operator
Process Manager
QA Release

Benefits

Complete Data Easy to spot exceptions

Bringing Plant Data to the Organization RtReports for GMP compliant documentation





Purpose

Batch review

<u>User</u>

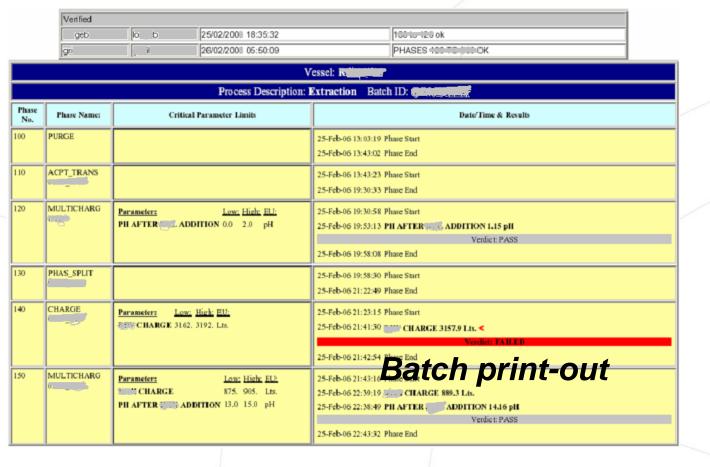
Operator
Process Manager
QA Release

Benefits

Complete Data Easy to spot exceptions

Bringing Plant Data to the Organization RtReports Output





Purpose

Batch review

<u>User</u>

Process Manager QA Release

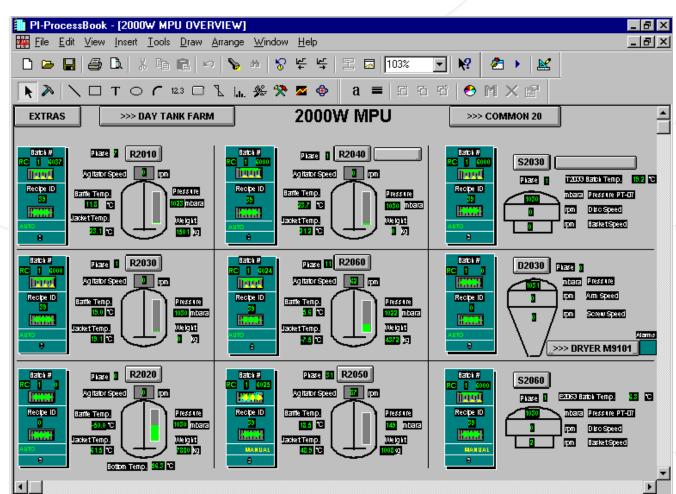
Benefits

Complete Data Easy to spot exceptions



Empowering People PI ProcessBook plant data access display





Purpose

Starting point for plant data access

User

All levels

Benefits

Everybody sees the same



Measurable Benefits Creating operational excellence at Roche



Excellence in Operations

⊌ Goal 1 ✓

Reduced manufacturing costs

Metric 1

Revenue vs. manufacturing costs

Goal 2 ✓

Improved inventory situation

Metric 2

Coverage days of inventory

1

Goal 3 ✓

Better use of assets

Metric 3

Revenue vs.

Manufacturing fixed assets

1 9

Goal 4 ✓

Top quality and efficiency in all processes

Metric 4

Right first time

1

Goal 5 ✓

Service level excellence

Metric 5

On time in full delivery

PI System



Foundation Cornerstone

Outlook

Roche

- Growing with us
- The full picture

Growing With Us ... a PI System for (almost) every site



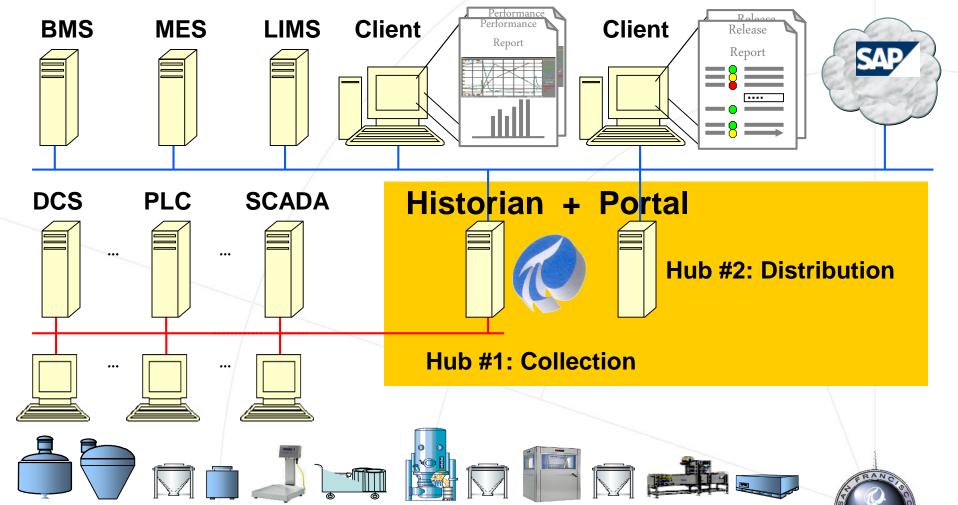
- Roche will continue to expand existing PI Systems
- Roche will continue to extend functionality
- Roche will continue to install PI Systems in new sites
- Roche will continue to make PI information accessible to more and more people

We believe that our PI Systems play a very important role as a production data hub with making data easily available to anybody who may need them. This enables everybody to contribute better to our companys success by making well informed decisions

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The Full Picture – A Vision From all systems to everybody

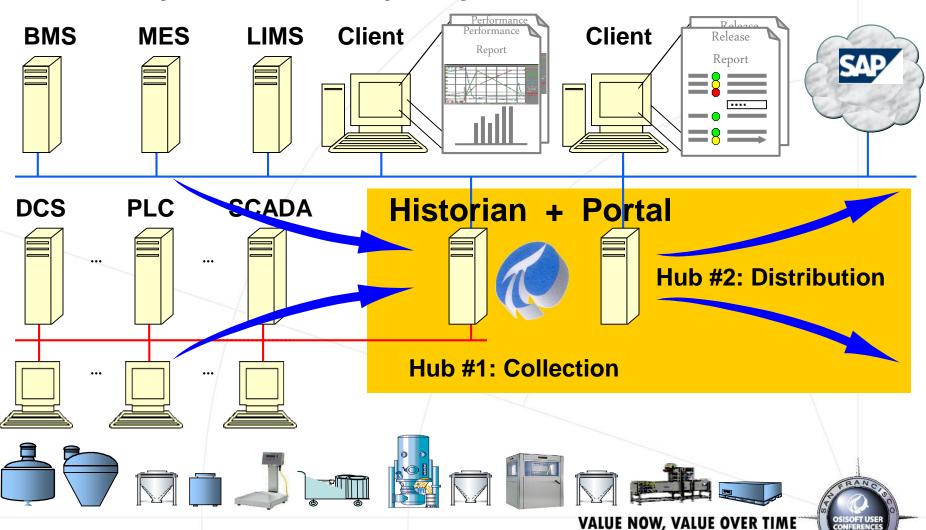




The Full Picture – A Vision

Roche

From all systems to everybody: value now, value over time



Contact Information



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