Value Now, Value over time

Presented by **Atanas Rusev**

Managing Director PlantSoft Information Systems GmbH

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PlantSoft GmbH

global experience, local approach

- Authorized VAR for the PI System in Europe, Russia and CIS
- Focused exclusive on PI System since 1998,
  > 120 PI Systems in 18 countries
- Experienced international project team
- Delivering software licenses and project services
- System Analysis
- Standard PI System Installation
- Applications development and implementation
- Applications support over the years
- Training and Workshops
- Know-how transfer

The 10 Rules guiding PlantSoft over the last 15 years:

1. Never forget that we live from Customer, not he (she) from us.

2. Understand Customer's business, goals, needs and problems.

3. "Start small, Think big" approach.
   - Mention all possible PI-based Applications,
   - Patience: the Customer can realize these step-by-step
   - Help Customer to create a plan for next 2-3 years and update it each quarter.

4. Convince with Product, Engineering and after "go live" Support

5. Create confidence over the years. The goal is a long-term successful partnership.

6. Learn from mistakes, don't repeat a mistake.

7. Try not to change often the team members with a customer over the years.

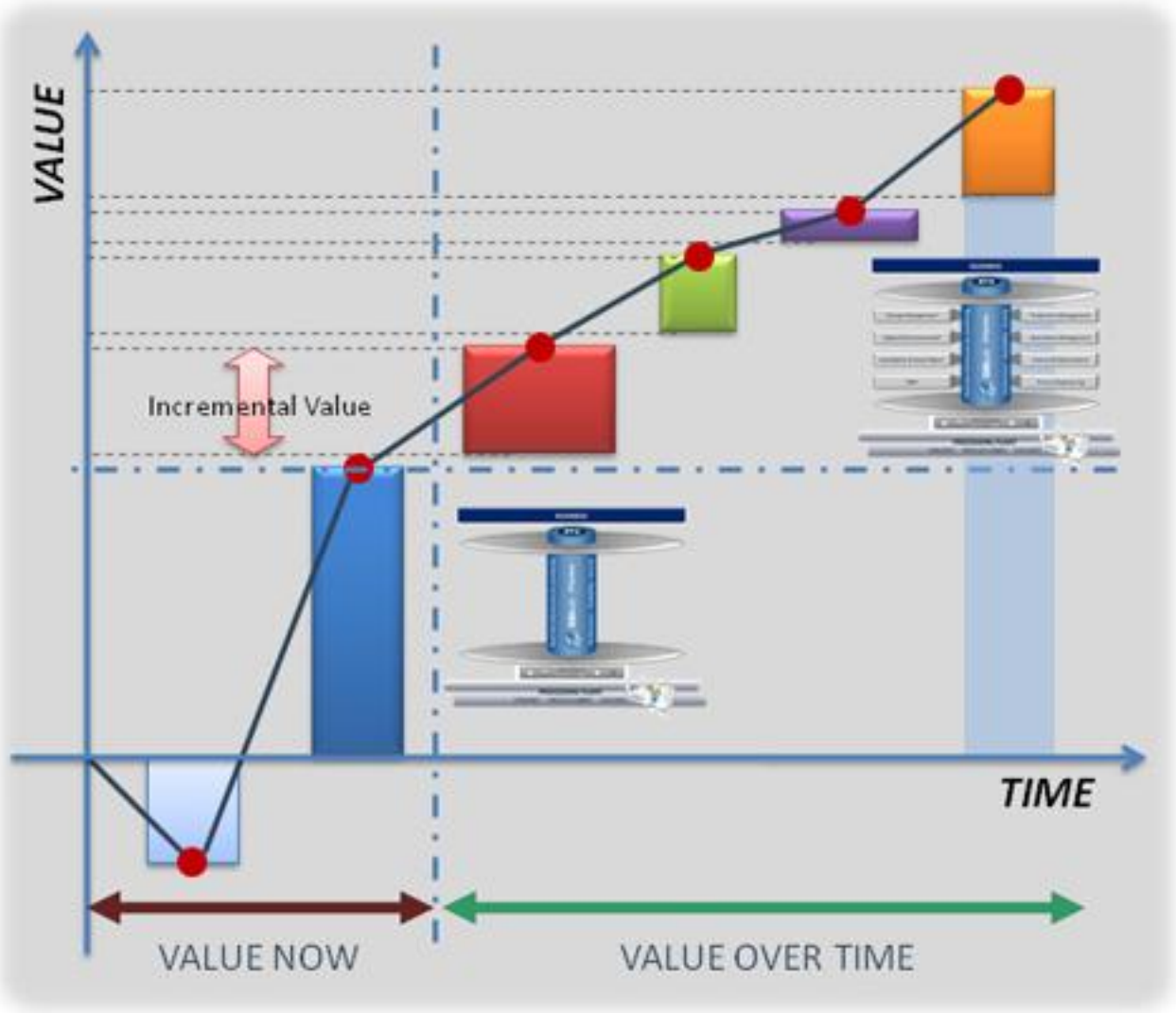
8. Market oriented organization Europe-wide, Energy, P&P, MMM, etc.
   - Single point of reference to manage large Accounts
   - Standardization of System Architecture and corporate-wide Solutions ("strategic approach")
   - Easy communication, project coordination and reporting (making easier our life)

9. Lean organization, only Sales and Project Engineers, working close together

10. Sustainability: Follow rules 1-9 over the years:

Value Creation Mechanism

Value now, value over time



Application Benefits

- Operations Management
- Environmental Reporting
- Equipment Health Mgmt.
- Performance Management

Infrastructure Value

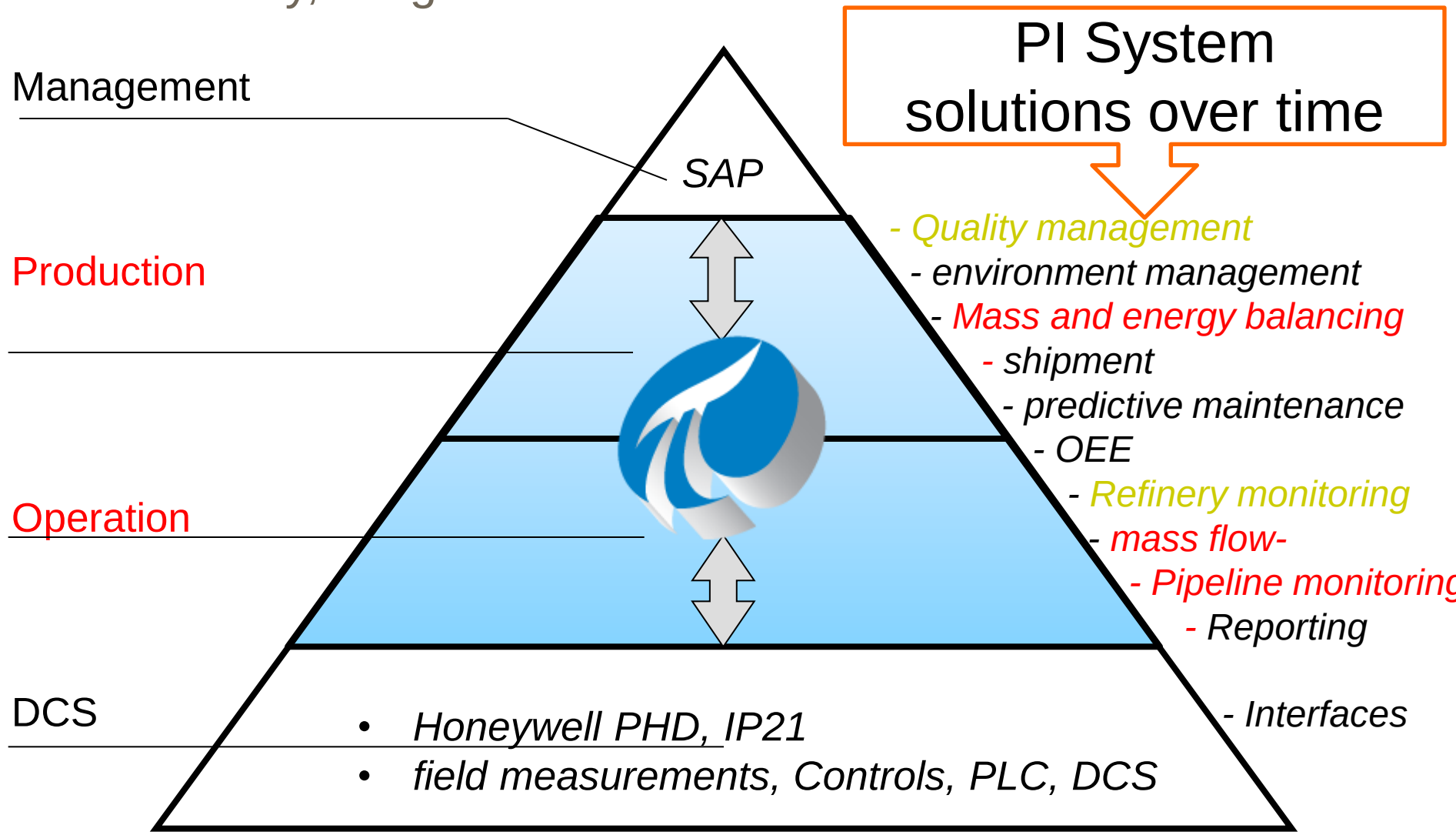
Initial Investment

OMV

- Customer Profile
  - Industry: O&G Downstream
  - N. of plants per geography
  - Map of sites
  - OSIsoft and Plantsoft Customer since
- PI presence:
  - 80,000 tags + additional PI Server for Emissions Monitoring
  - 200 Clietns for 300 employees

Value Creation Mechanism

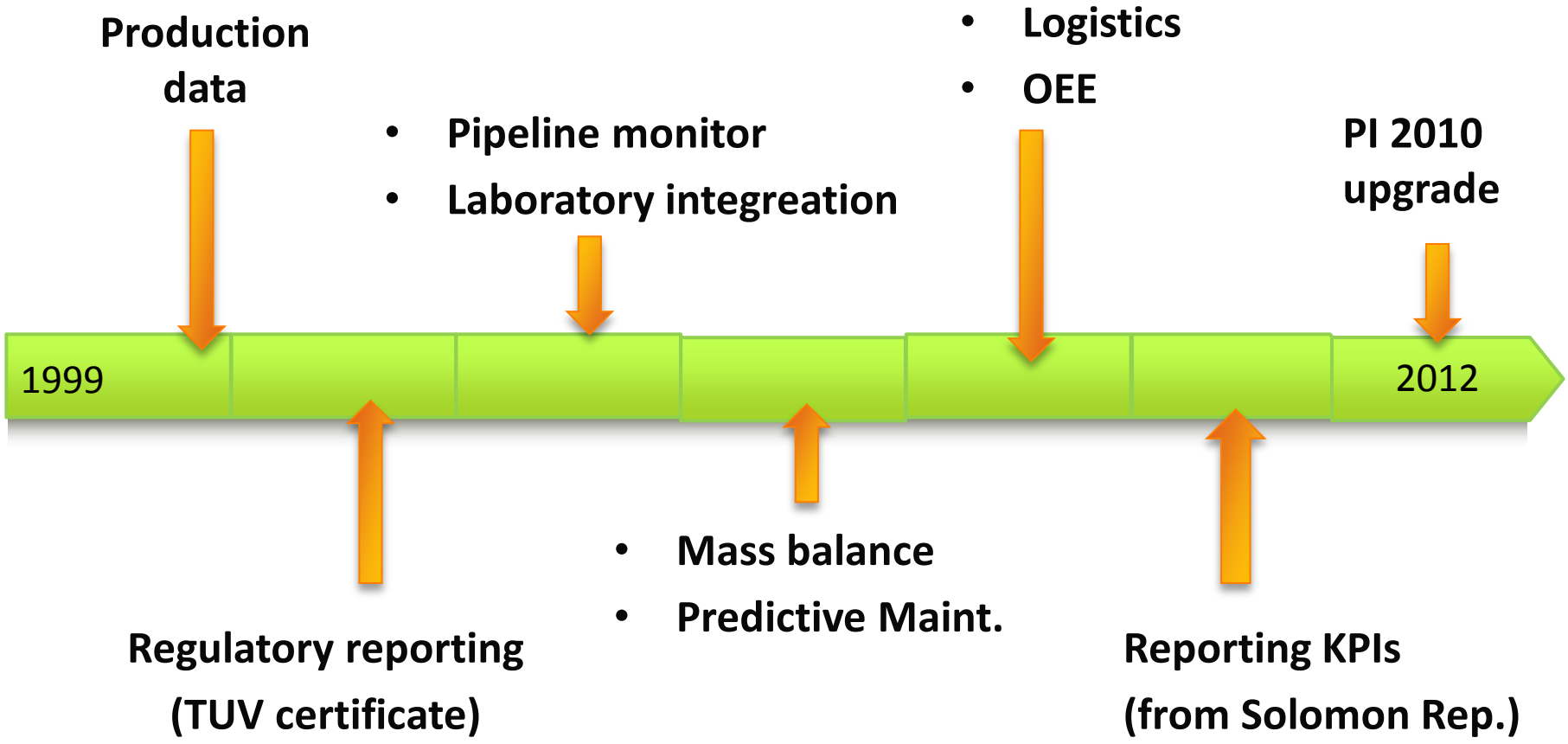
OMV Refinery, Burghausen



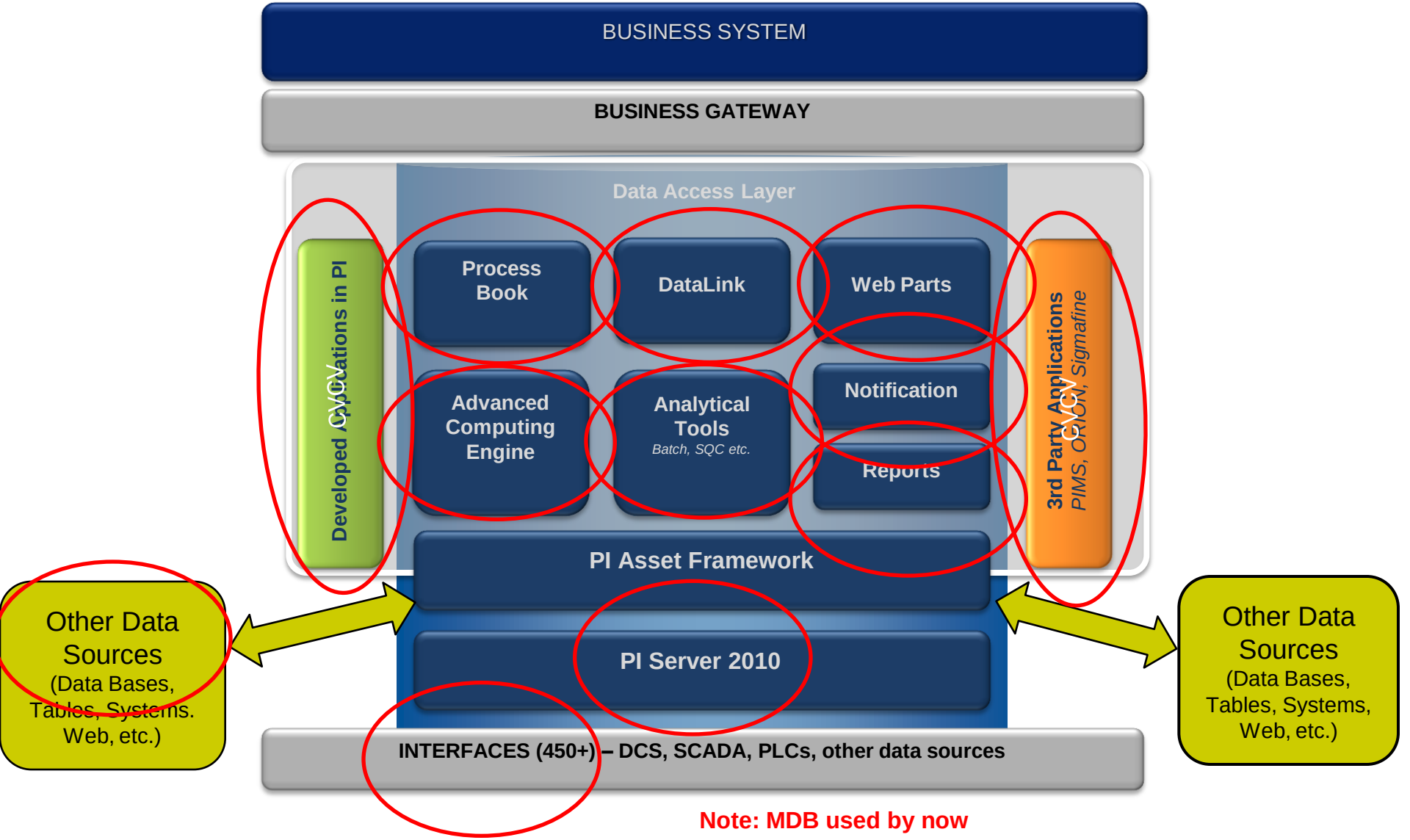
OMV – Solutions development Timeline

All started with the first implementation of monitoring Production data….

A team work with their own personell.



PI System infrastructure used at OMV



Note: MDB used by now

Future developments at OMV

- PI 2010 upgrade performed in June 2012
- Customer plans are continuing, after thirteen years, for a Web Portal development and else more.

Vattenfall

- Customer Profile
  - Industry: O&G Downstream
  - N. of plants per geography
  - Map of sites
  - OSIsoft and Plantsoft Customer since
- PI presence:
  - 80,000 tags + additional PI Server for Emissions Monitoring
  - 200 Clietns for 300 employees

Value Creation Mechanism

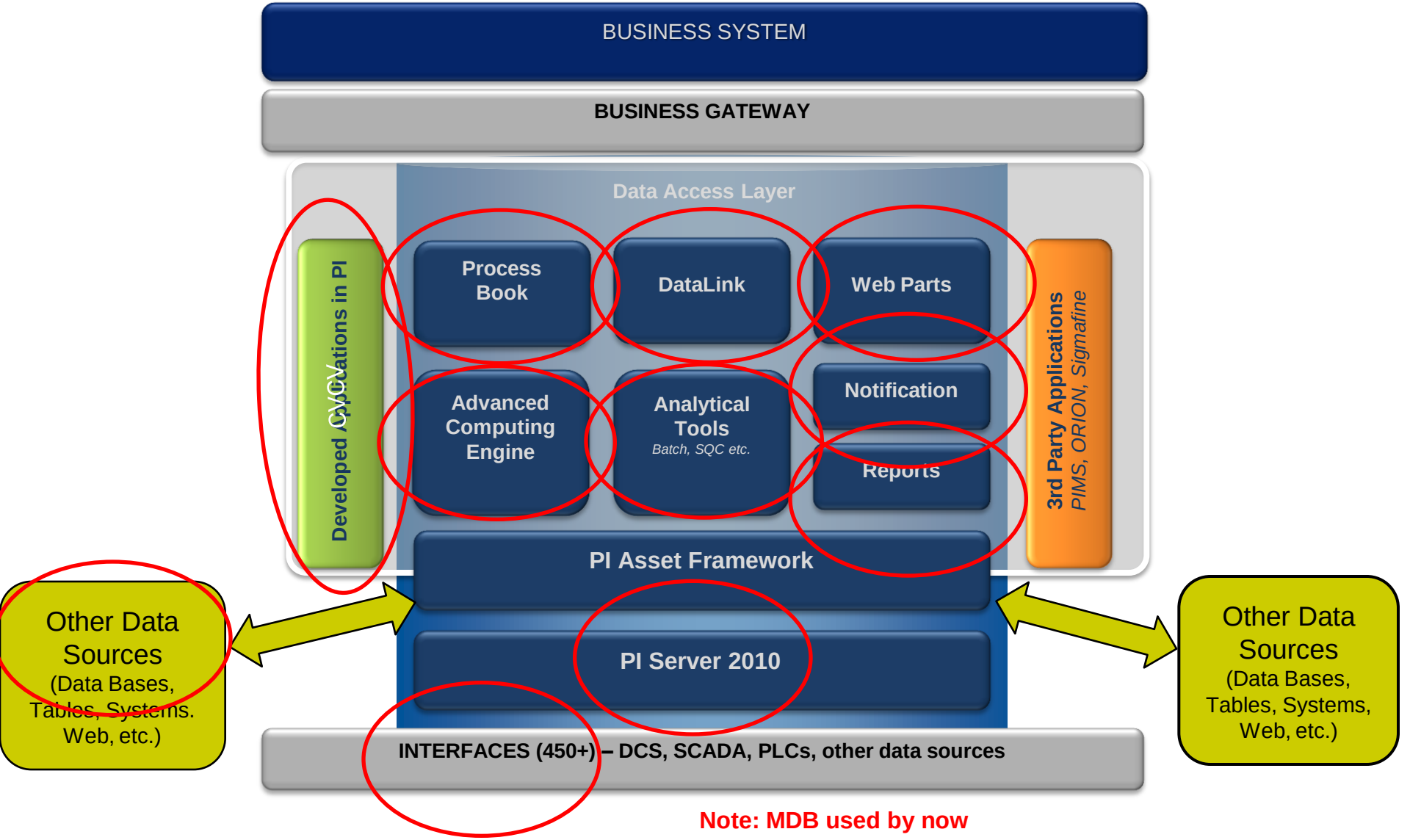
Vattenfall – Technical Portal for Generation and Heath Distrb.

PI System
Solutions across Assets

6. Central Statistics
   - Operation and plant statistics
   - Annual reports
7. District Heating Management
   - Network reports
   - Annual report district heating
8. Controlling and Fuel Accounting
   - Coal procurement planning
   - Fuel cost planning
   - BU Heat revenue controlling
9. District Heating Grid Basis Data
   - Water management
   - District heat and district cooling metering
10. Reports for Laboratory
    - Laboratory protocols
    - Environmental self-monitoring

1. Routi
   - Da
   - Basic and operation ata
2. Environmental Reports
   - Water, waste water
   - Emissions
3. Technical Controlling
   - Co-generation accounting
   - Consumption and efficiency reports
4. Conception “BIS-new”
   - Fuel- / solid waste inventory management
   - Fuel procurement
5. Plant Dispatching and Availability
   - Availability reports
   - Repairing / outage plans
   - Production costs

PI System infrastructure used at Vattenfall



Note: MDB used by now

Future developments at Vattenfall

- Presently:
  - 200 Users
- Technical Portal still growing after 3 years
- Application support contract in place, guaranteefor the Partner of a continued revenue stream and of continuity for the Customer
- Long term relationship

Value Creation Mechanism

Aurubis, Hamburg

PI System
Solution scaling

Energy Management System (EMS) - Aurubis

AURUBIS, Hamburg, is the biggest Integrated Copper Production Plant in Europe

" We chose PI and PlantSoft for delivery of EMS among 30 bidders, although PlantSoft's quotation was not with lowest price. "

Some reasons for our choice [in 2007]:

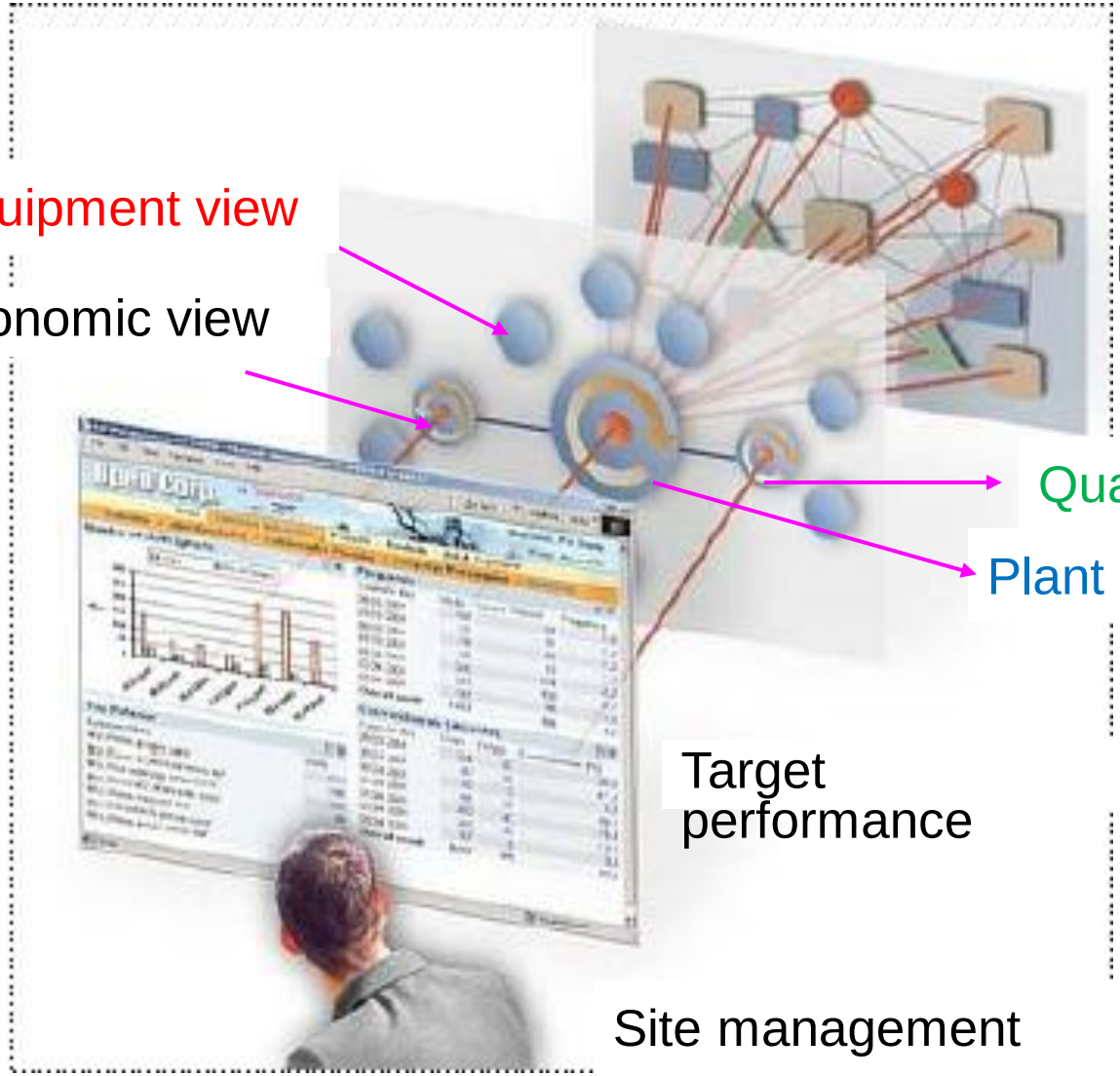
1. *PI System was delivered by PlantSoft and implemented successful for the production area 4 years ago.*
2. *Looking for a solution for EMS (Energy Management System) we took in account that many of our colleagues are using the PI system and it has very good acceptance in our company. The PI Client software is easy to use.*
3. *Our goal is to standardize on one platform, instead of building next "island".*
4. *The PI System Software is based on Microsoft standards (.NET, XML, VBA). The Solution itself is developed by PlantSoft, based on these standards.*
5. *The customer is not dependent on one supplier. We will get the source code for the applications, developed by PlantSoft. Our specialists, trained by PlantSoft, will be able to do extensions and modifications by themselves.*
6. *We visited and got positive feedback from another customer."*

Dipl.-Ing. Heinrich Bröhan
Chief of Energy Management

The value components of the EMS solution

- ReportGenerator
- Advanced Calculator
- Scheduler
- Importer
- Minutenreserve
- Statistical Analysis
- SAP Import-Export
- Prediction of weather vs. Production situation
- Oracle Import-Export using PI-ACE
- Web-based applications

KPI's for Management

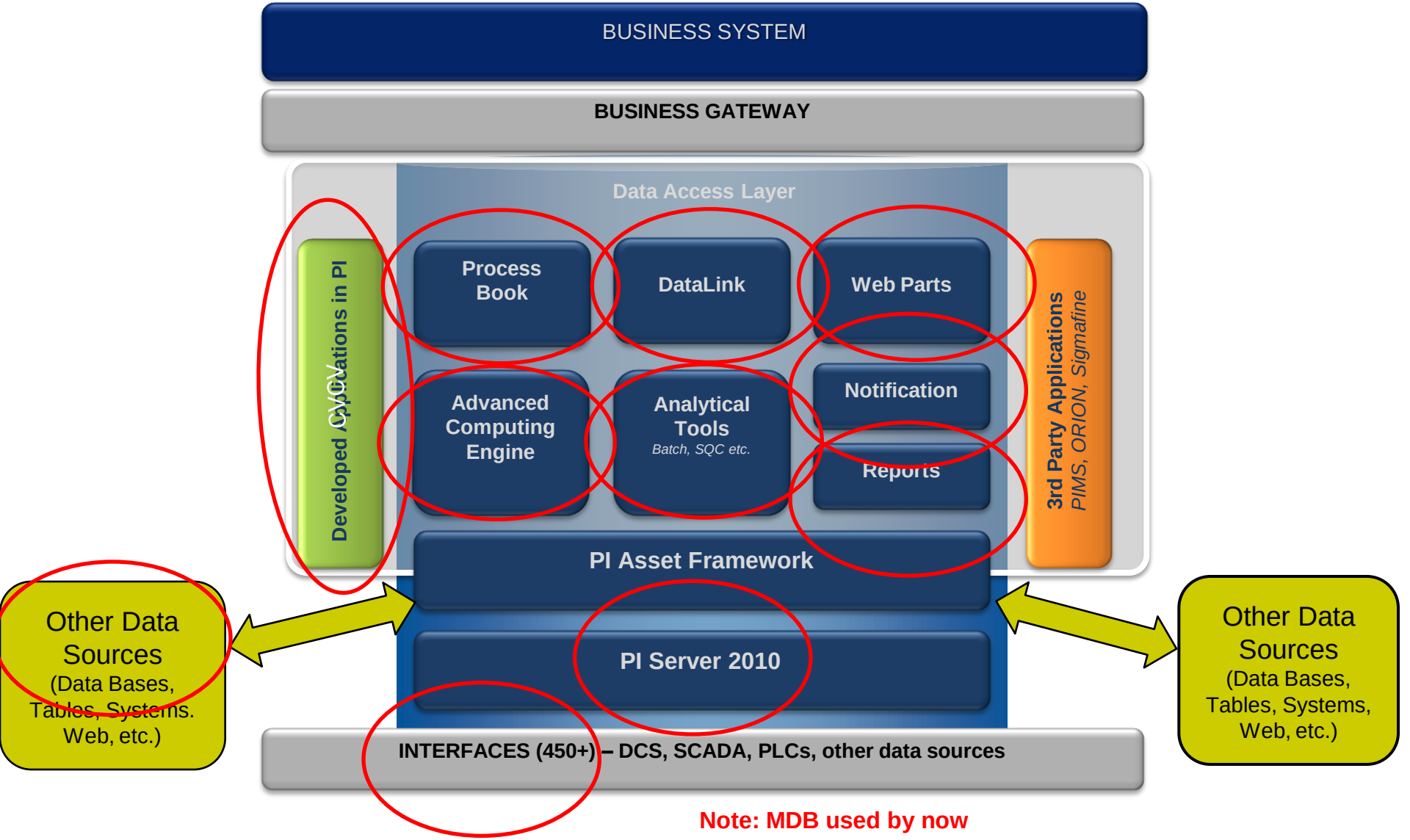


← **PI AF** (potential)

← **PI ACE**

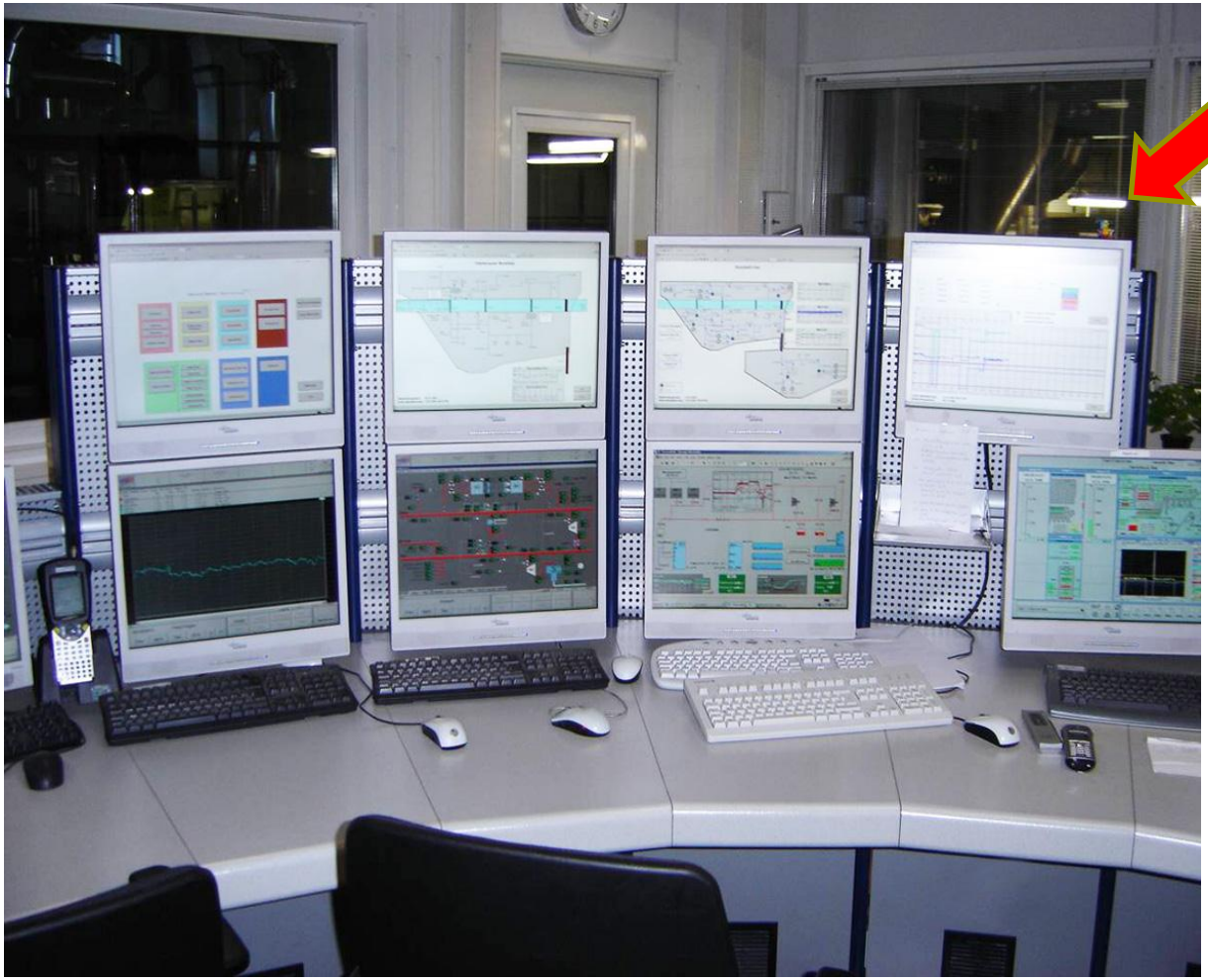
← **PI Visuals**

PI System infrastructure used at Aurubis



Note: MDB used by now

Energy department at Aurubis



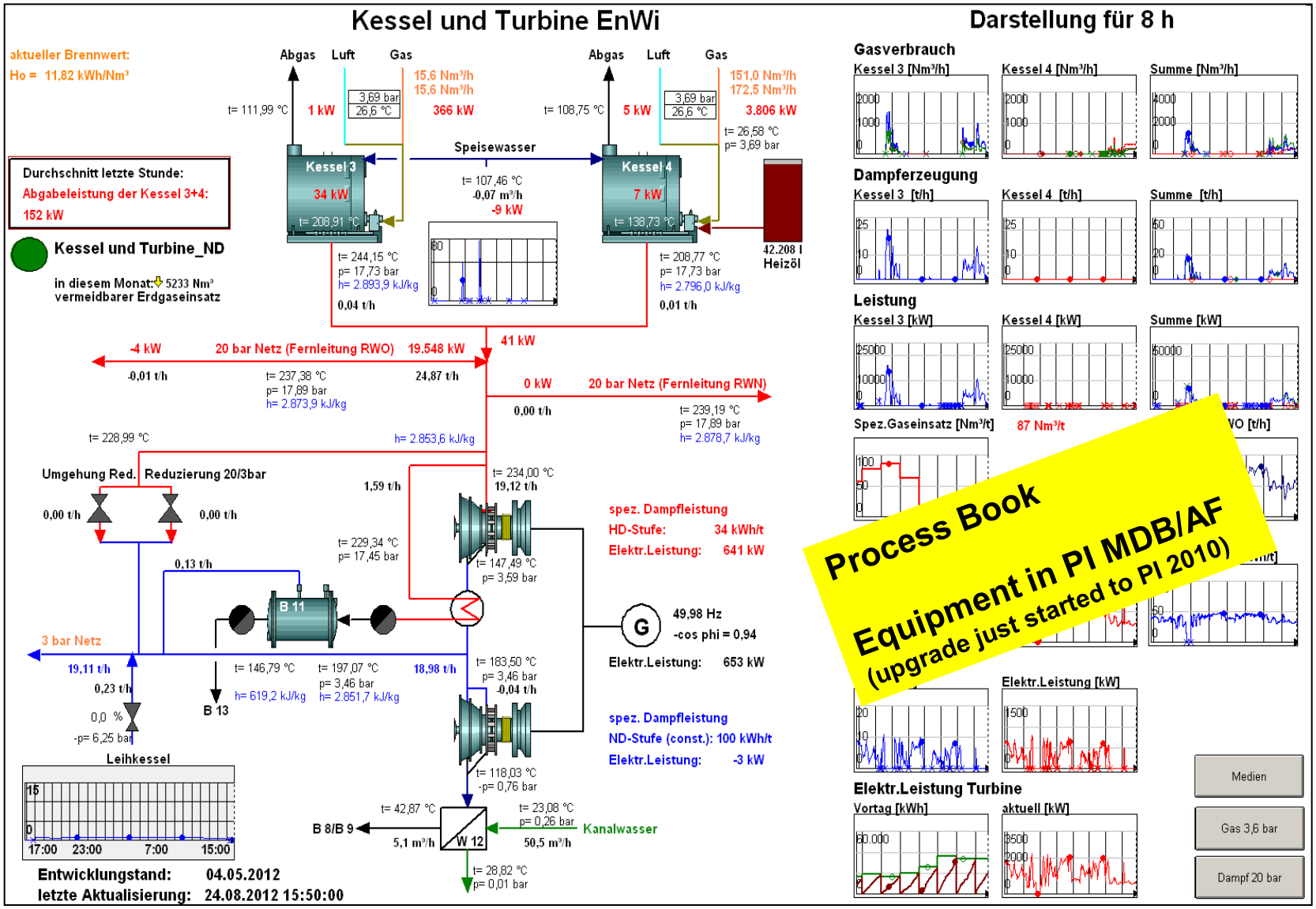
All PI System Visuals

39 employees

8 white collar
31 blue collar

3 employees in energy management

Detailed presentations are necessary for energy optimization



Process Book

Equipment in PI MDB/AF

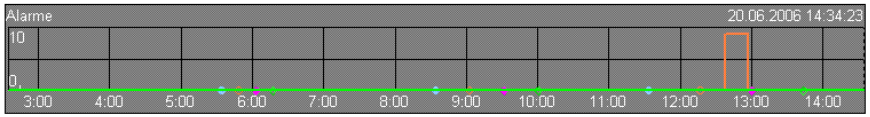
(upgrade just started to PI 2010)

Load vs. reserve

Minutenreservehandel

Letzte Aktualisierung: **20.06.2006 14:33:00**

	Geplant	Gemessen	Abschaltleistung	Lastabwurf			Anlage	Alarme	
				aktiv	abgelehnt	gesperrt	gestört		
Gesamt	16.000 kW	25.028 kW	20.232 kW						Alarmton Aus
RWN	6.000 kW	8.243 kW	8.243 kW						Warnton Aus
RWO	0 kW	2.303 kW	1.000 kW						Warnton Aus
ELWO	10.000 kW	14.481 kW	10.981 kW						Warnton Aus

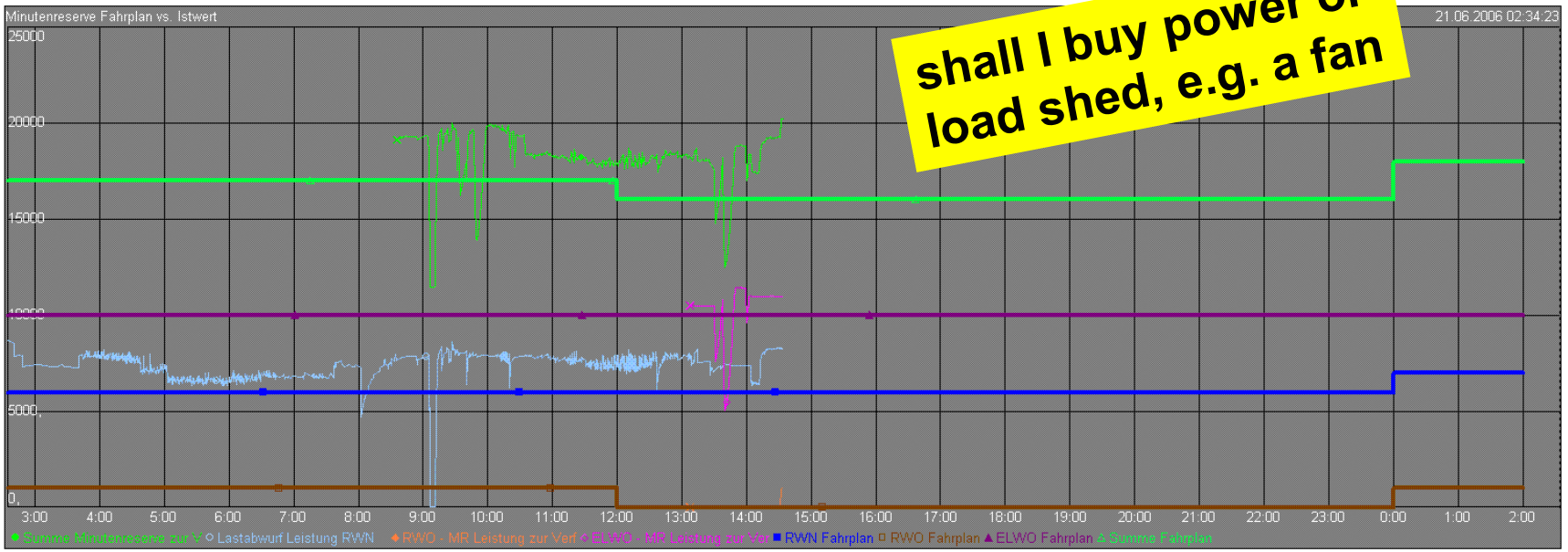


Lastabwurf Anlage in Automatik

Lastabwurf Anlage in Hand

Lastabwurf Zentrale S7 gestört

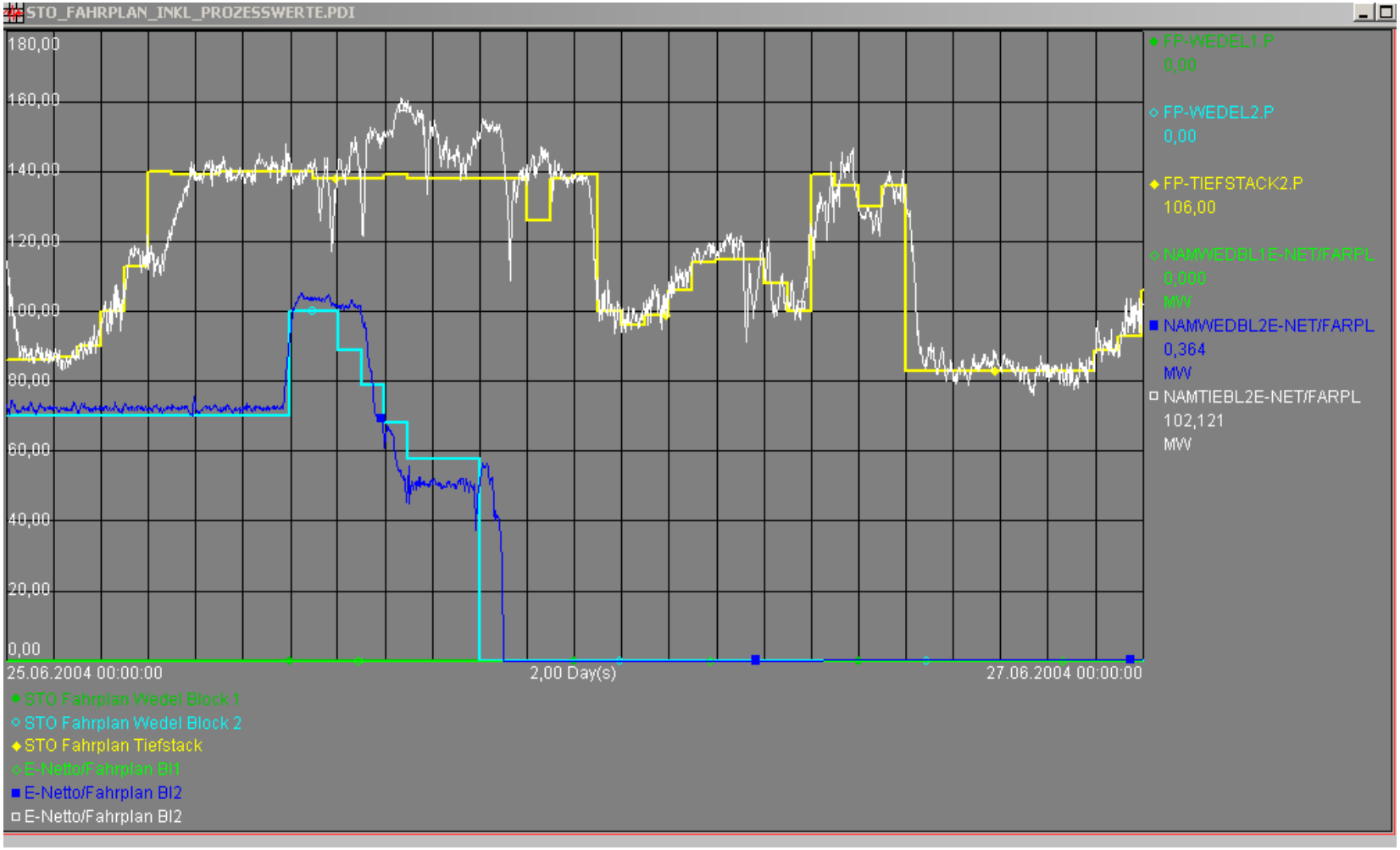
Fahrpläne



shall I buy power or load shed, e.g. a fan

Medien

Plan vs. Actual Data



Energy Consumption by medium – Web Interface

Adresse http://ems-server/napublic/kstinfo.php?view=2&kstts=2005-12-01&ksttrail=10000%2C11000%2C11200%2C11220&kst Wechseln zu Links

Kostenstellen | Messstellen | Suche | Kostenstelle details | Kostenstelle datas

Datum	Medium	Einh.	Meßdaten	Normiert	KWh	Euro
2006-01-01	Dampf 3 bar	t	640.19	640.19	672 204.28	10 755.27
2006-01-01	Dampf 20 bar	t	7 312.38	7 312.38	7 678 003.67	125 773.01
2006-01-01	Fabrikwasser N+S	m³	47.98	47.98	37.19	1.30
2005-12-01	Dampf 3 bar	t	751.47	751.47	789 045.46	12 624.73
2005-12-01	Dampf 20 bar	t	7 417.64	7 417.64	7 788 525.01	127 583.46
2005-12-01	Fabrikwasser N+S	m³	2 096.80	2 096.80	1 625.02	56.61
2005-12-01	Drehstrom	kWh	72 300.00	72 300.00	180 750.00	3 398.10
2005-11-01	Dampf 3 bar	t	1 288.23	1 288.23	1 352 644.18	21 642.31
2005-11-01	Dampf 20 bar	t	19 040.63	19 040.63	19 992 662.82	
2005-11-01	Erdgas 0,05 bar	m³	142 087.25	142 087.25		
2005-11-01	Erdgas 3,8 bar	m³	504 531.98	50		906.40
2005-11-01	Fabrikwasser N+S	m³	21 483.25	21	16 649.52	580.05
2005-11-01	Druckluft 6 bar	m³	110 720.33	110 720.33	27 680.08	830.40
2005-11-01	Drehstrom	kWh	115 200.00	115 200.00	288 000.00	5 414.40
2005-10-01	Dampf 3 bar	t	517.03	517.03	542 882.25	8 686.12
2005-10-01	Dampf 20 bar	t	3 842.14	3 842.14	4 034 242.17	66 084.73
2005-10-01	Erdgas 0,05 bar	m³	59 053.52	59 053.52	679 115.54	11 810.70
2005-10-01	Erdgas 3,8 bar	m³	118 107.05	118 107.05	1 358 231.07	23 621.41

Report after the actions
Specific to the energy source

Intelligent combination of PI and Rel-DB for Data validation, reporting, SAP export

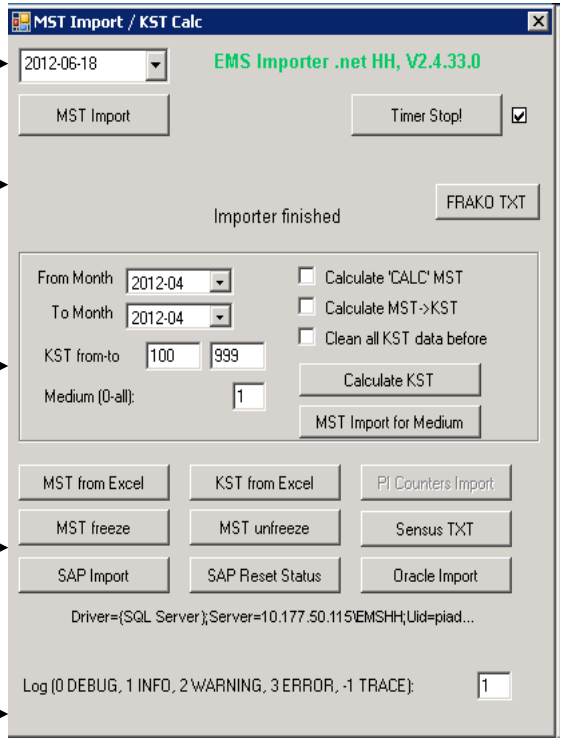
PI-data

SAP-data

Read out (water meter)

Oracle-DB (electr. counter)

Manual input



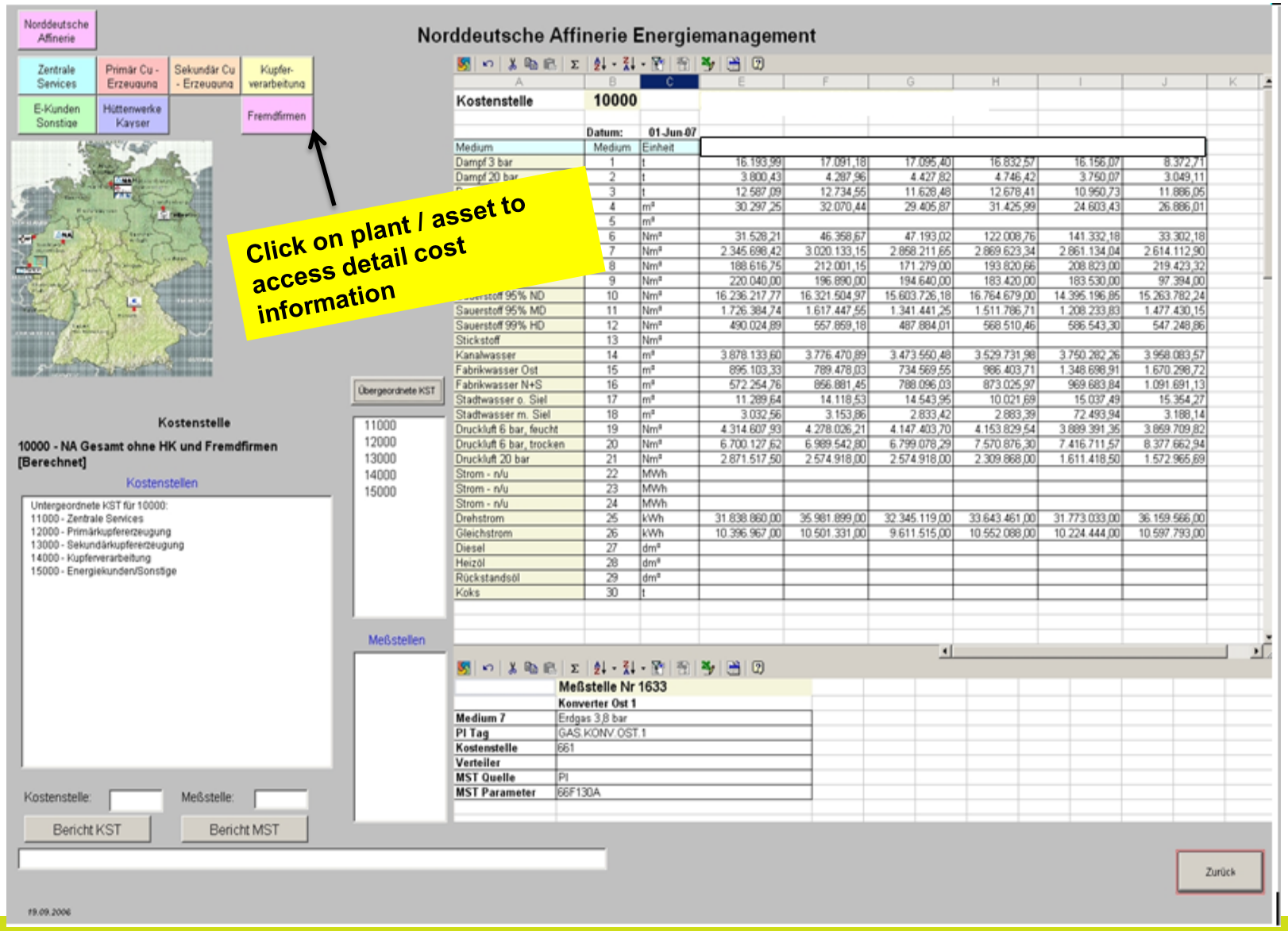
The Importer
is the all-in-one Gateway, developed by PlantSoft

All data written in SQL-DB

Monthly data for
- measurement
- cost center
- cost center group

These data are essential for
- Monthly calculations and balances
- Energy optimization projects
- emission trading system (ETS)

Connecting information Islands: from Measured Data to SAP Accounting



Future developments

- Presently:
  - Over a 100 Clients
- Extended the server in 2012
- Coming soon the upgrade to PI 2010(2012)
- Potential upgrade from MDB to PI AF
- Customer plan update discussed with the next license upgrade and server increase

The value of the Infrastructure for our Customers and for Plantsoft

- Customers:
  - value over time of one investment,
  - high ROI by savings on maintenance on only one system instead of many (no thousand islands!):
    - Maintenance costs in time override the first project cost (80% cost according to observers)
    - Different solutions would not talk to each other
    - Involvement of more personnel time to maintain
  - Using the same calculation tools and the same presentation layer

- Plantsoft:
  - Exploit the full Customer lifetime value, a never ending story!

THANK YOU

Brought to you by OSIsoft.