



OSIsoft®

# REGIONAL SEMINARS 2012

The **Power** of **Data**



# Agenda Madrid

Presented by **Jesus Hernandez**  
**Sales Manager Europe**



09:00	Registration and Welcome Coffee	
10:00	Welcome Address- Company Overview	OSIsoft
10:15	The Power of Data	OSIsoft
10:45	PI System and Product Roadmap	OSIsoft
11:30	Break & Demos	
12:00	Benefits of the PI System in the Power Generation	Acciona
12:30	PI Server 2012	OSIsoft
13:15	Customer Presentation	Repsol
13:45	Lunch & Demos	
15:00	Customer Presentation	Iberdrola
15:30	PI Asset Framework	OSIsoft
16:00	Using PI for O&M support in Generation plants	Gas Natural
16:30	Break & Demos	
17:00	PI Coresight, the new visualization tool	OSIsoft
17:30	Business Intelligence with the PI System	OSIsoft
18:00	Wrap-up, Demos	

# Company Profile

- ❑ Founded by Patrick J. Kennedy in 1980
- ❑ Headquartered in San Leandro, CA, USA
- ❑ 800+ employees in 30 offices worldwide
- ❑ 250+ employees in product development
- ❑ Over 20% of revenue invested in R&D
- ❑ 15,000+ Installed Sites, over 110 countries
- ❑ 24/7/365 “Follow the Sun” Technical Support
- ❑ Strategic partnerships with Microsoft, Cisco Systems, SAP
- ❑ Partner friendly infrastructure

<http://partners.osisoft.com/>



# Industry Roles- PI Systems- World Wide



POWER & UTILITIES



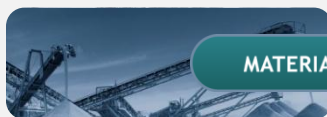
OIL & GAS



CHEMICALS & PETROCHEMICALS



PHARMACEUTICALS, FOOD & LIFE SCIENCES



MATERIALS, MINES, METALS & METALLURGY

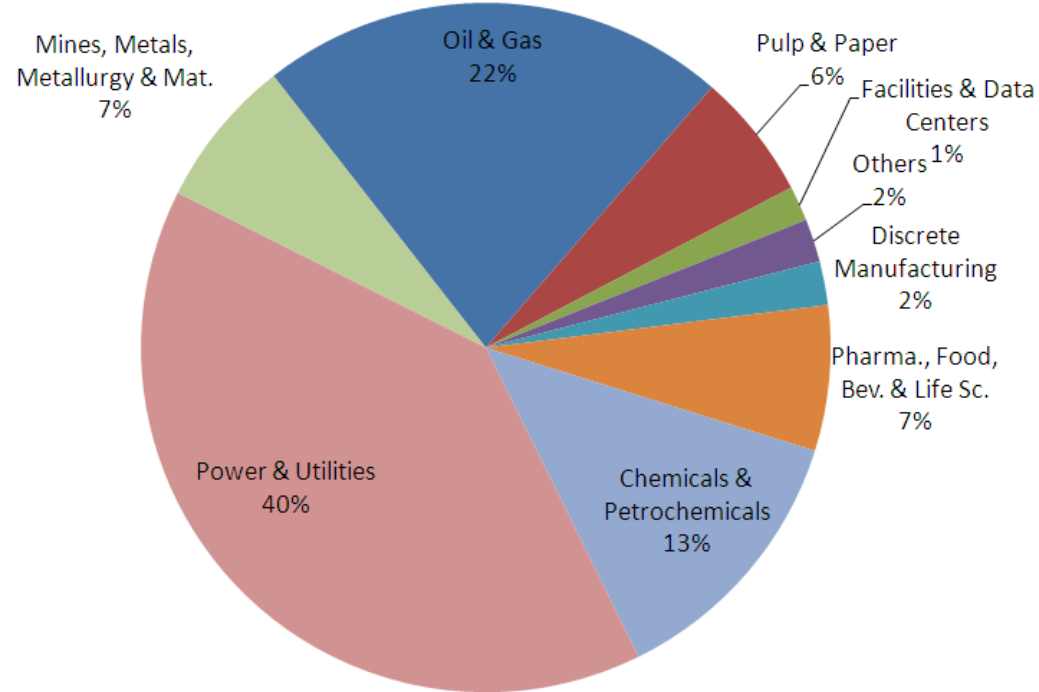


PULP & PAPER



DATACENTERS, IT & TELECOM

Invoices by Industry (%)



# Diverse Customer Base Across Industries









# Where is OSIssoft in the world?





# “The Power Of Data”

Presented by **Jesus Hernández**  
**Sales Manager Europe**





*Data Eruption, Data flood, Data Tsunami, Data deluge*

“...a wealth of information can create a poverty of attention and a need to allocate attention efficiently...”

## Herbert Simon

Economist - Nobel Prize Winner - 1978



# Real time data....BIG DATA..... Requires a new approach to leverage the Power of Data

- We have been doing this for 30 Plus years
  - Fortunately, OSIsoft customers have been data driven for many years and have a head start in the practice of the data analysis or data science.

To handle the future.....to handle the phenomenon

- New Roles required to take on the hype
  - Real Big Data requires new skills and new roles such as **data analysts, data scientists, data experts**

# Opportunity, “Power Of Data”

- Knowledge Preservation
- Signal Recognition
- Predictability
- Root Cause Analysis
- Measures
- Augmentation of our ability
- Etc..... & .... &.....

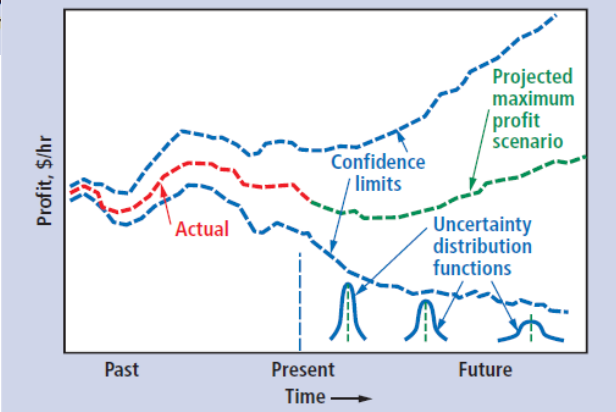
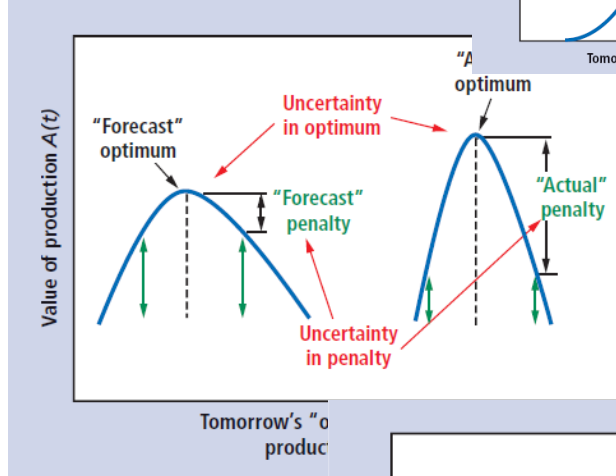
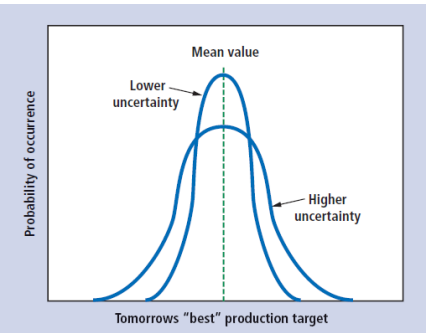
*“real-time data and events” were going to be the currency of this decade and we believe that this claim is right on.*

# Benefits of the Power of Data opportunity:

*Data -> Information is as good as the decision made with it*

## Benefit Areas:

- Reduced Time to Decision
  - Faster time to decision ⇨
  - Reduced Cycle Time ⇨
  - Faster time to market ⇨ PROFIT
- Improved Decision Quality
  - Reduced Decision Uncertainty ⇨
  - Better quality and more products ⇨
  - LOWER COST of production



*Information technology investments can generate value by reducing future uncertainty in projected cash flows and the economic reflection of this effect is to reduce the required discount rate and hence to increase the expected value of the decisions made with the information. – Douglas C. White*

# Infrastructure is required to unlock the Power of Data..

## Real-time Infrastructure Delivers Opportunities

Electrical Power



Communications



Transportation



- ❑ **Valuable** – delivers a recognized benefit
- ❑ **Reliable and Secure** – always available, safe and trusted
- ❑ **Accessible** – adaptable to innovation, easy to use
- ❑ **Contextual** - organized to be effective, efficient, and extendable
- ❑ **Sustainable** – must be able to last and adapt to change





# Definition of the Real-time Infrastructure

# Types of enterprise software:

## Application software

- supports a specific business process or a set of interlinked processes.
  - Examples include financial programs such as General Ledger from SAP or operational programs that cover plant floor operations, sales force automation, or supply chain management.

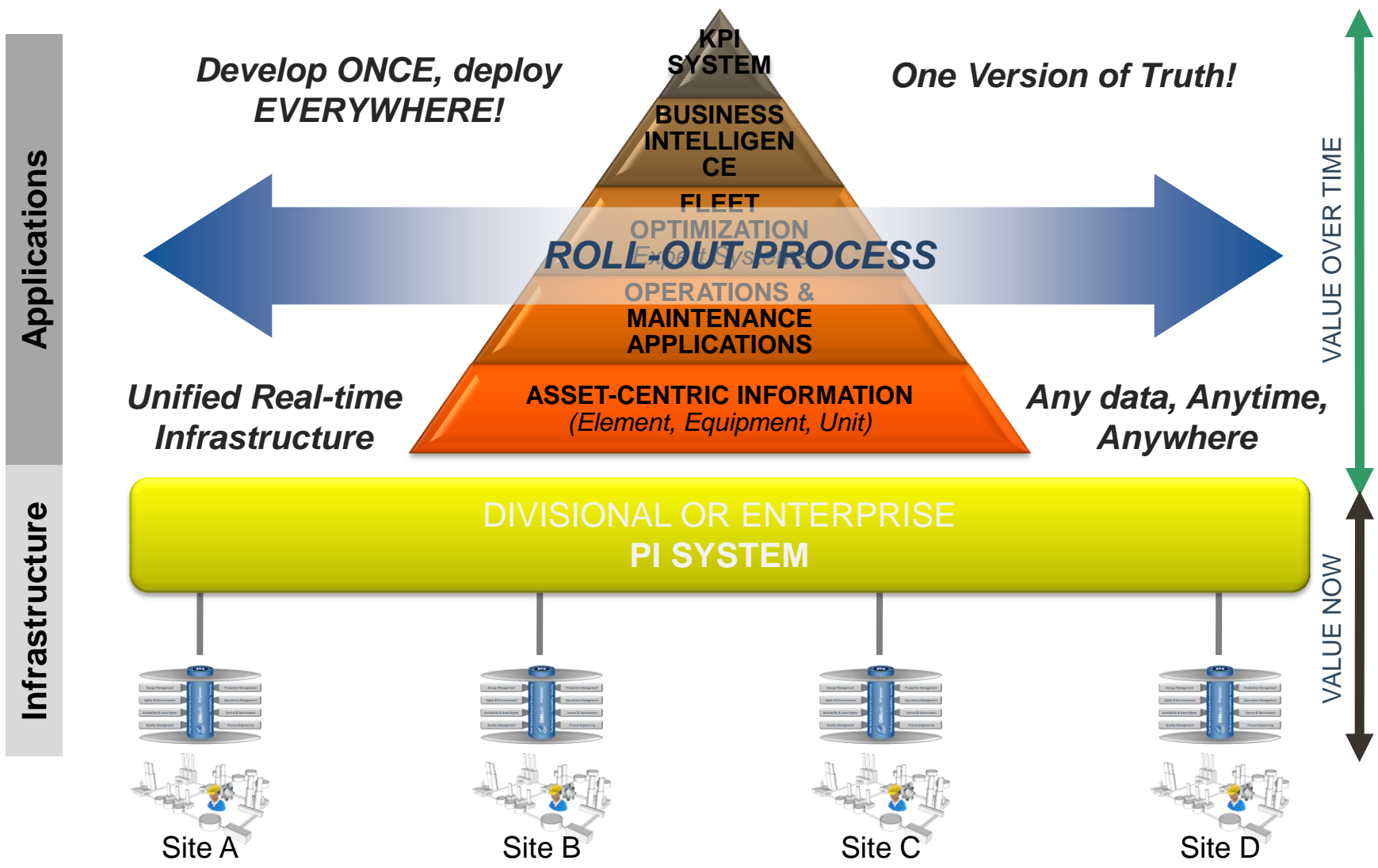
## Infrastructure software

- supports a business application.
  - Types of infrastructure software include middleware (software that interacts across hardware and network environments), messaging (e-mail and collaboration software), storage, security, and network management tools. None of these tools by themselves provides a unique business value. When they are combined, however, these

***The PI System is an enterprise infrastructure software !***

# Infrastructure to harness the Power of Data

Implementing Strategic Initiatives on Enterprise Scale



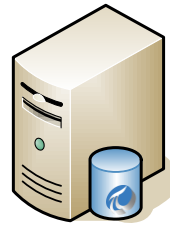


What has  
OSIsoft been  
focusing on ?

# Historian

Over 14,000 installations World Wide....

PI Interfaces



PI Server



PI Clients

Market Demands for more DATA and how to handle the DATA requires OSIsoft to innovate.....

# Infrastructure



## Connect

Collect data from hundreds of sources.

- Real-time Data
- Relational Data
- Asset Data
- Market Data etc.

## Interfaces



## Manage

Gather and archive large volumes of data. Scale to meet your growing business needs.

## Servers



## Analyze

Access real-time or historical role-based data for the entire enterprise at any time.

## Analytics



## Present

View data, identify problems, and take corrective action with familiar, easy-to-use graphical tools.

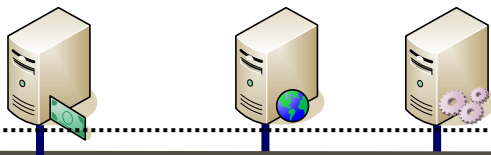
## Visuals

PI Analytics

# Data Center

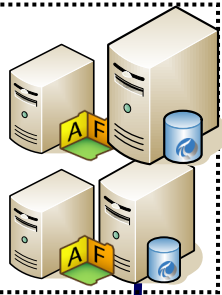
## Enterprise Systems

- ERP
- Accounting
- Marketing



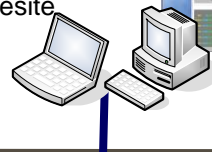
## Central PI Servers

- Visuals – Visualization
- Analytics – BI and BAM
- Server – Operations Information

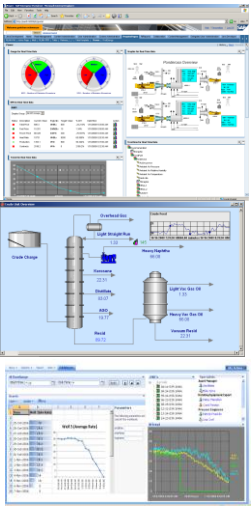


## Clients using

- ProcessBook
- DataLink
- WebParts
- PI Coresite



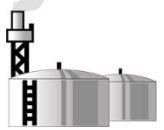
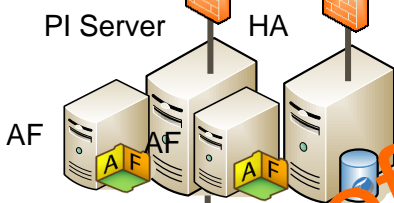
Headquarter  
Corporate LAN/WAN



## Clients on Site



## Site LAN

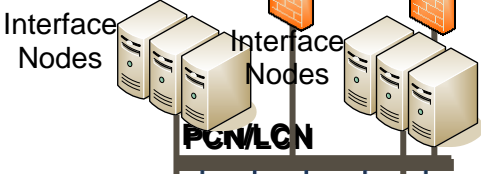
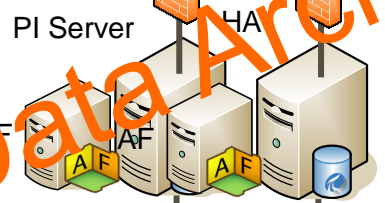


Site A

## Clients on Site



## Site LAN

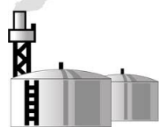
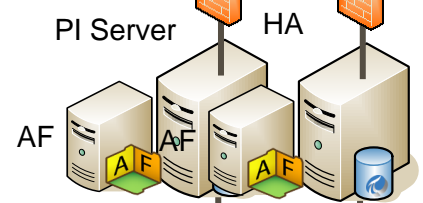


Site B

## Clients on Site



## Site LAN



Site C

POWER OF Data Architecture



# Business Transformation PI System Real-time Infrastructure

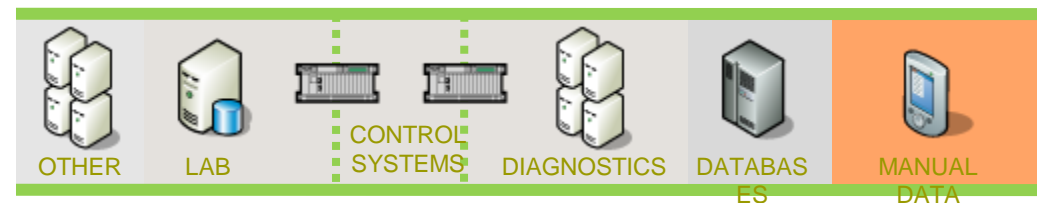
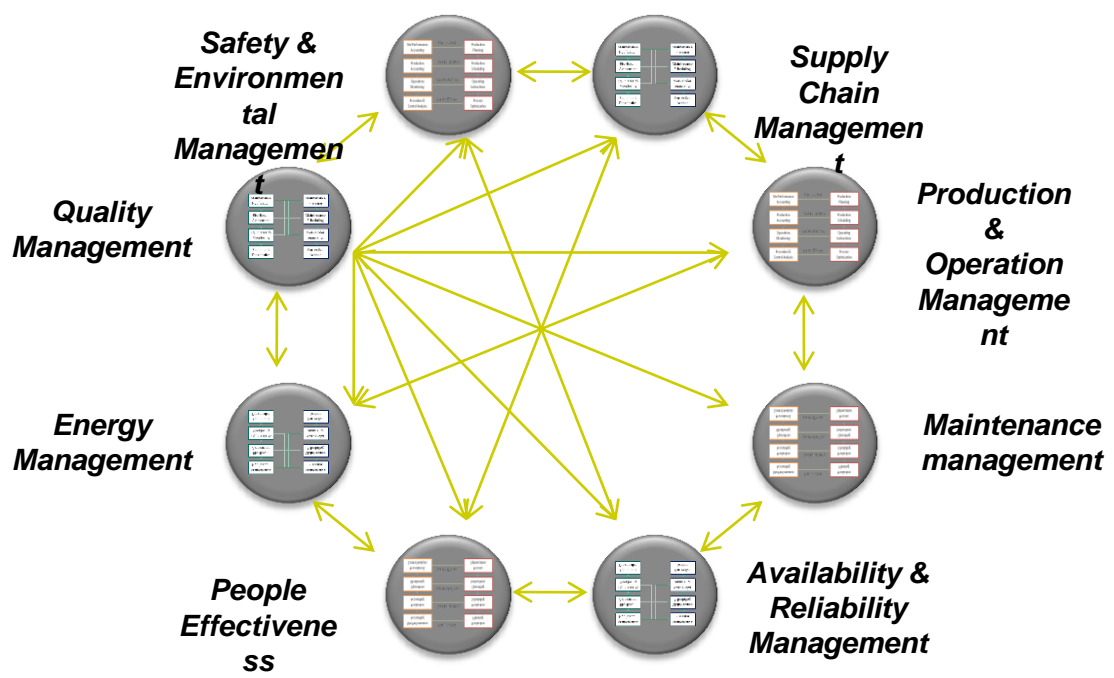


# How does it fit into your existing Infrastructure?

Typical Situation – Hundreds of Islands

MONEY FLOW  
 INFORMATION FLOW  
 MATERIAL FLOW

## BUSINESS SYSTEM



Level 4  
 Business Planning & Logistics

Level 3  
 Manufacturing Operations Management

Level 2  
 Supervisory Control


Level 1  
 Sensing & Control

Level 0  
 Process

# How does it fit into your existing Infrastructure?

*Infrastructure to all Islands*

MONEY FLOW  

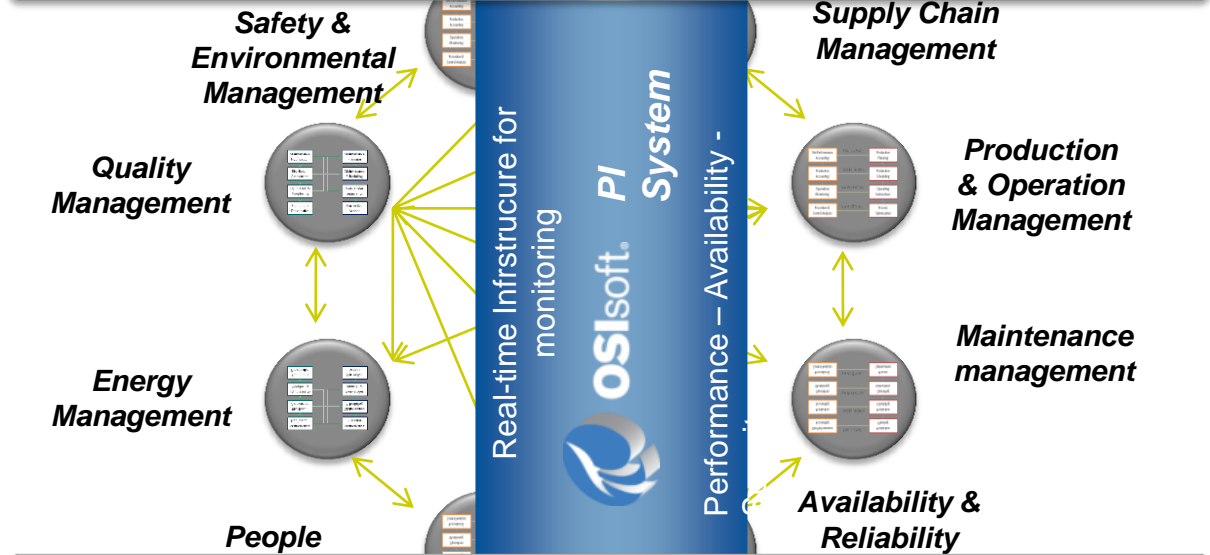

INFORMATION FLOW  


MATERIAL FLOW  

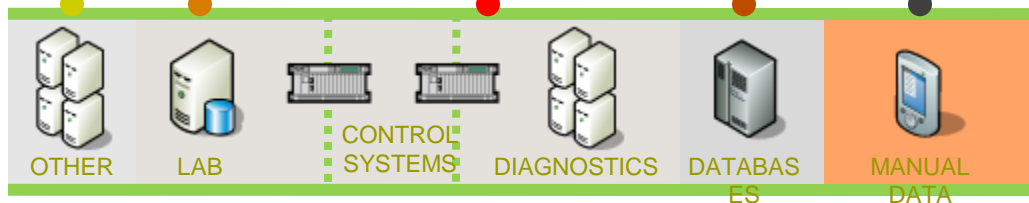



## BUSINESS SYSTEM

## BUSINESS GATEWAY



## INTERFACES



# How does it fit into your existing Infrastructure?

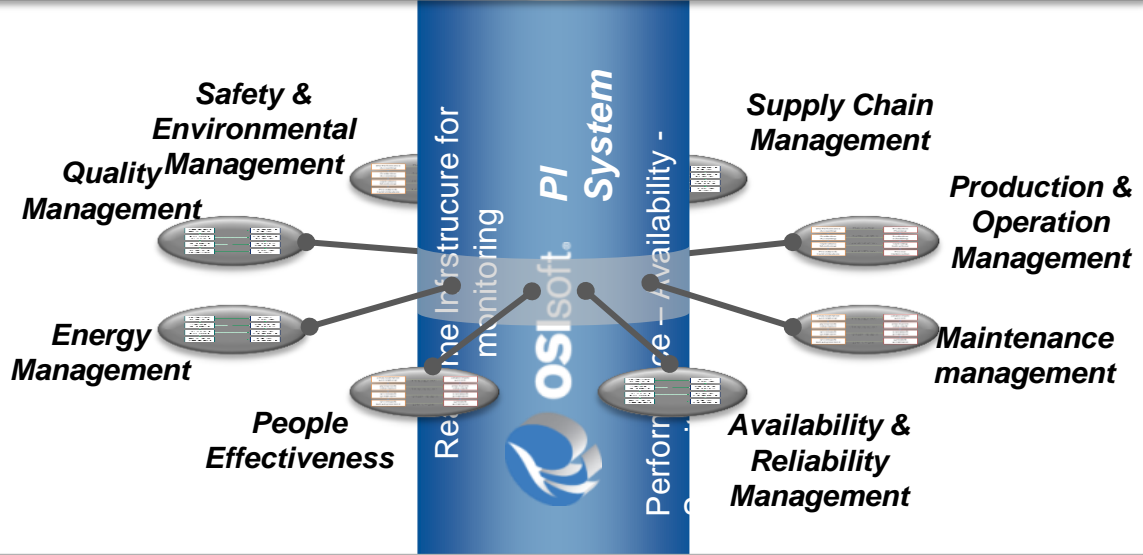
Data foundation for all Business Processes

MONEY FLOW  
 INFORMATION FLOW  
 MATERIAL FLOW

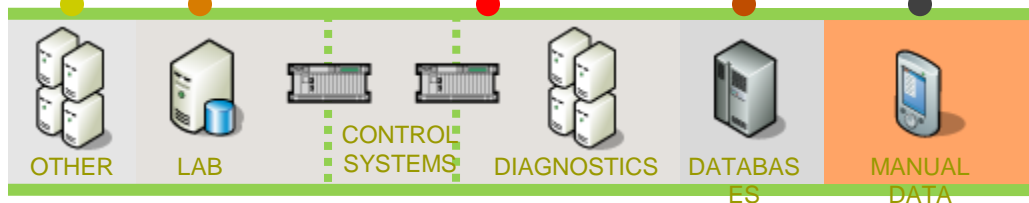


## BUSINESS SYSTEM

## BUSINESS GATEWAY



## INTERFACES



# Incremental Value by Adding Applications

MONEY FLOW

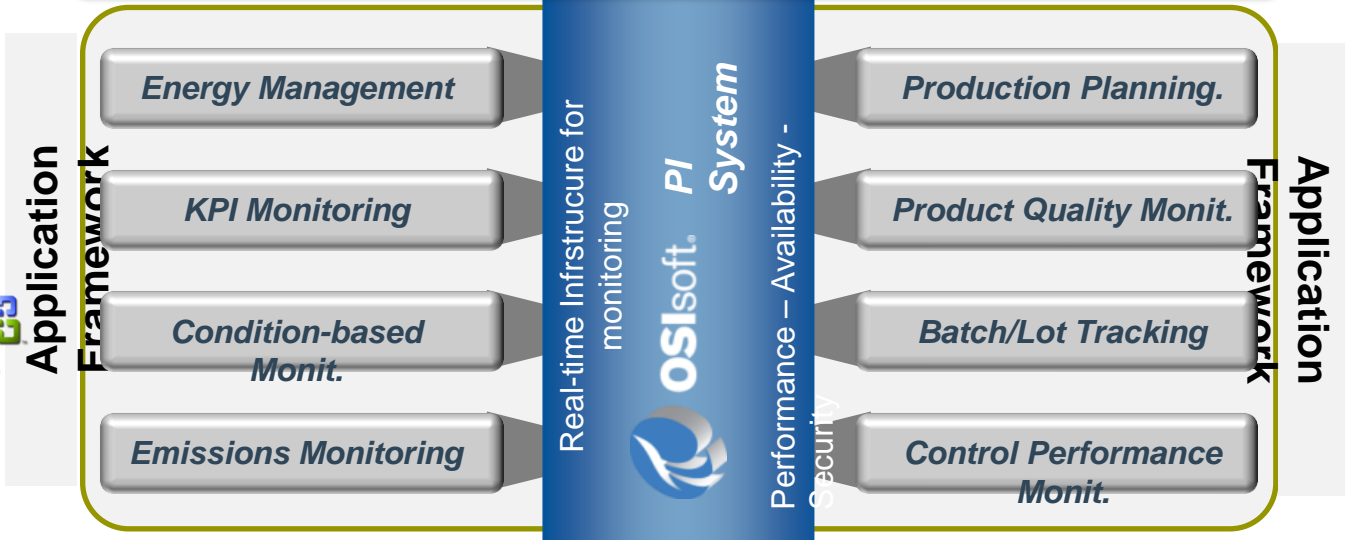
INFORMATION FLOW

MATERIAL FLOW

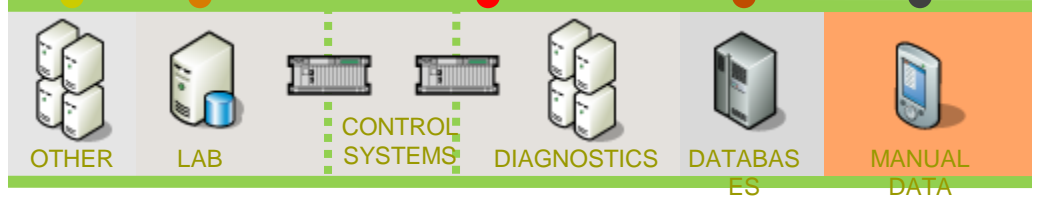


**BUSINESS SYSTEM**

BUSINESS GATEWAY

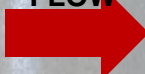



INTERFACES




# Collaboration

Everyone works with the same Information – Rules - Tools

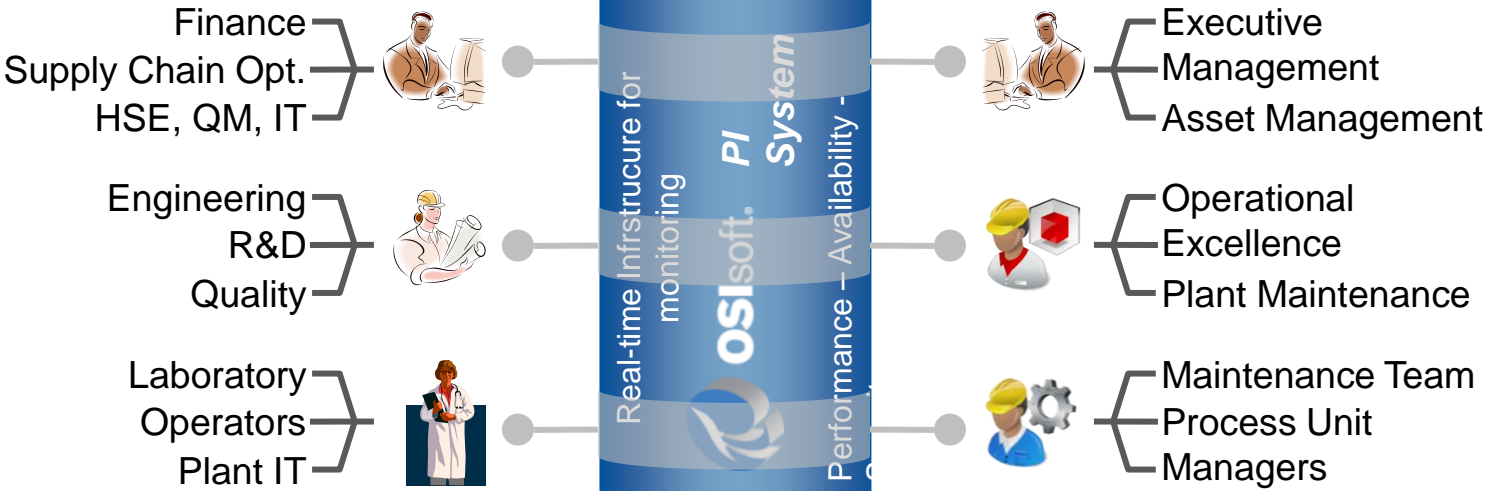
**MONEY FLOW**  


**INFORMATION FLOW**  


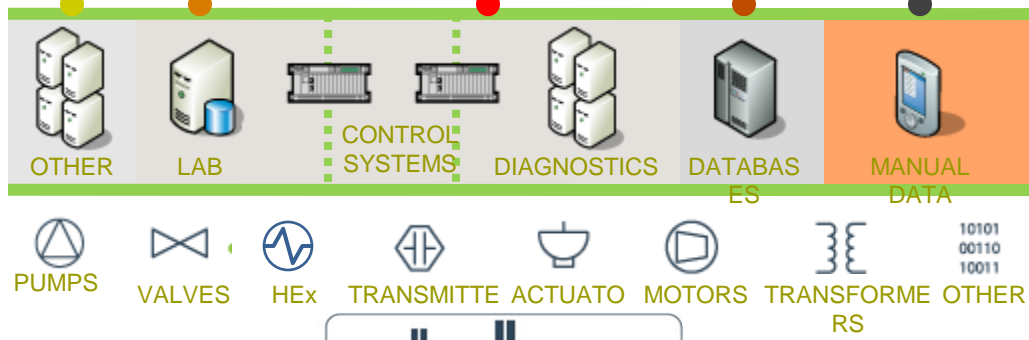
**MATERIAL FLOW**  


## BUSINESS SYSTEM

## BUSINESS GATEWAY

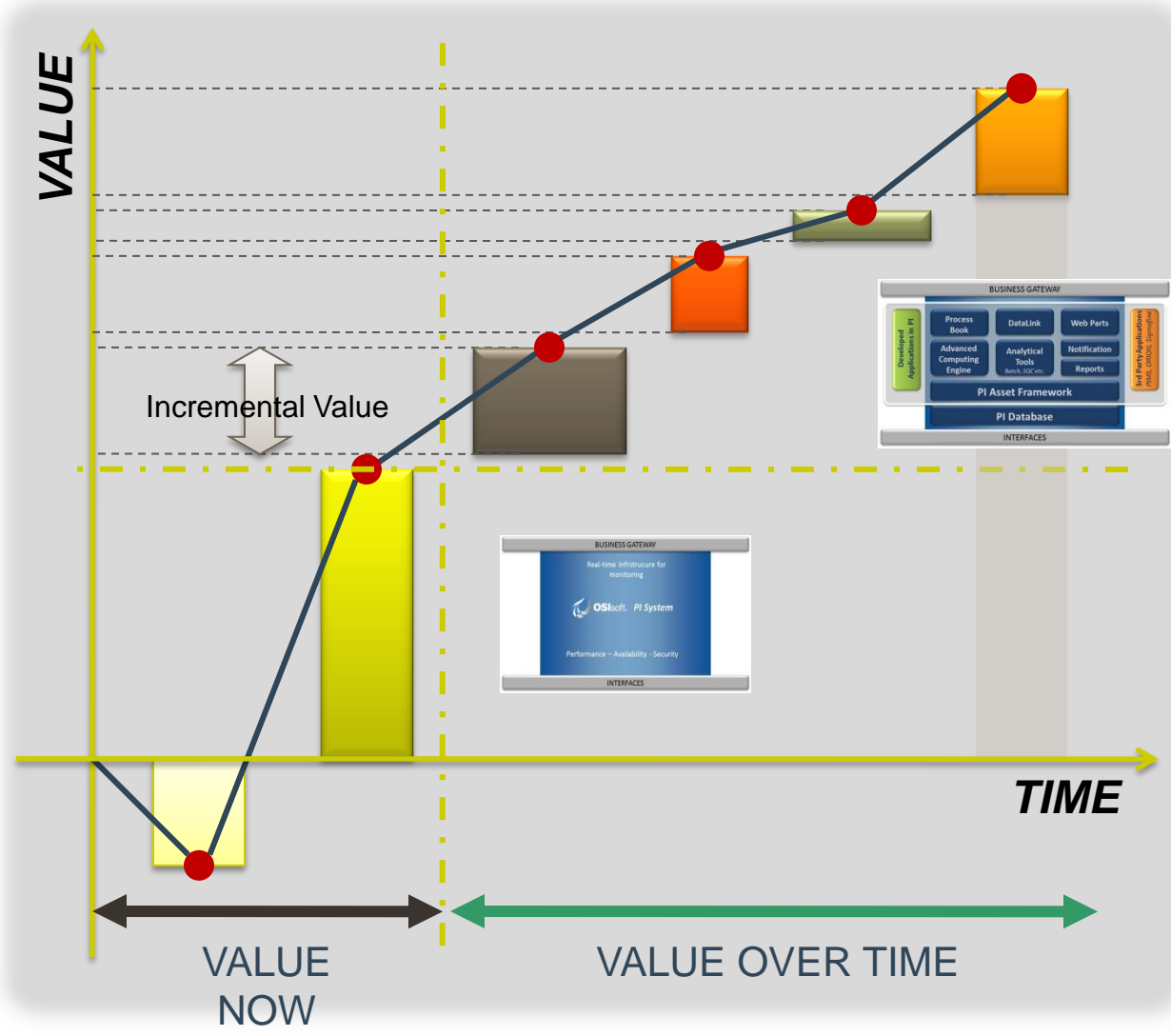


## INTERFACES



# Value Creation Mechanism of an Infrastructure

*Value Now, Value Overtime*



Application Benefits

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

← Infrastructure Value

← Initial Investment

# Value for the Enterprise

- Unified Real-time Infrastructure across the entire fleet
  - One version of Truth
  - Information is available for anyone, anytime and any place
  - Information is meaningful (asset-centric) and actionable
  - Unified Reporting
  - Place for Innovation – new developments
  - Real-time collaboration across departments & sites
- Data Foundation for Innovation
  - Energy Management / Energy Conservation
  - Sustainability Initiatives etc.
- Protects Existing and Future Investments
  - Nothing to Replace
  - No limitations on new system selection



# Power of Data Use Case

## *Centralized Monitoring and Diagnostic Center*

A Technology Center ensures that the Production Fleet operates at peak performance with the highest possible availability in-line with the business and market requirements

- A place where BorsodChem knowledge, experience and skills are concentrated to optimize Operations and Maintenance
- **Functions:**
  - Operation & Maintenance monitoring and reliability tracking
  - Diagnosis of the key plant parameters (performance and condition monitoring)
  - Detection of malfunctions before they lead to trips and serious faults in the plant (avoiding catastrophic failure)
  - Archive and retrieval of M&D and O&M data
  - Generation of reports on performance and incidents
  - Carrying out of O&M recommendations





# CORES0 – “Real-Time Monitoring for a group of Countries” UK, France, Germany, Belgium, Netherlands, and Italy



# Saudi Aramco command and Control Room



<http://vimeo.com/2463494>

# SAVE THE DATE

## 2012 Industry Events

Metal, Mining, & Cement - June 20<sup>th</sup>

Oil & Transport/Storage- Oct. 9<sup>th</sup>

T & D/Smart Grid- Oct. 24

## 2012 Partner Event

London Oct 15<sup>th</sup> -17<sup>th</sup>

## 2013 EMEA Event

Paris XXXX



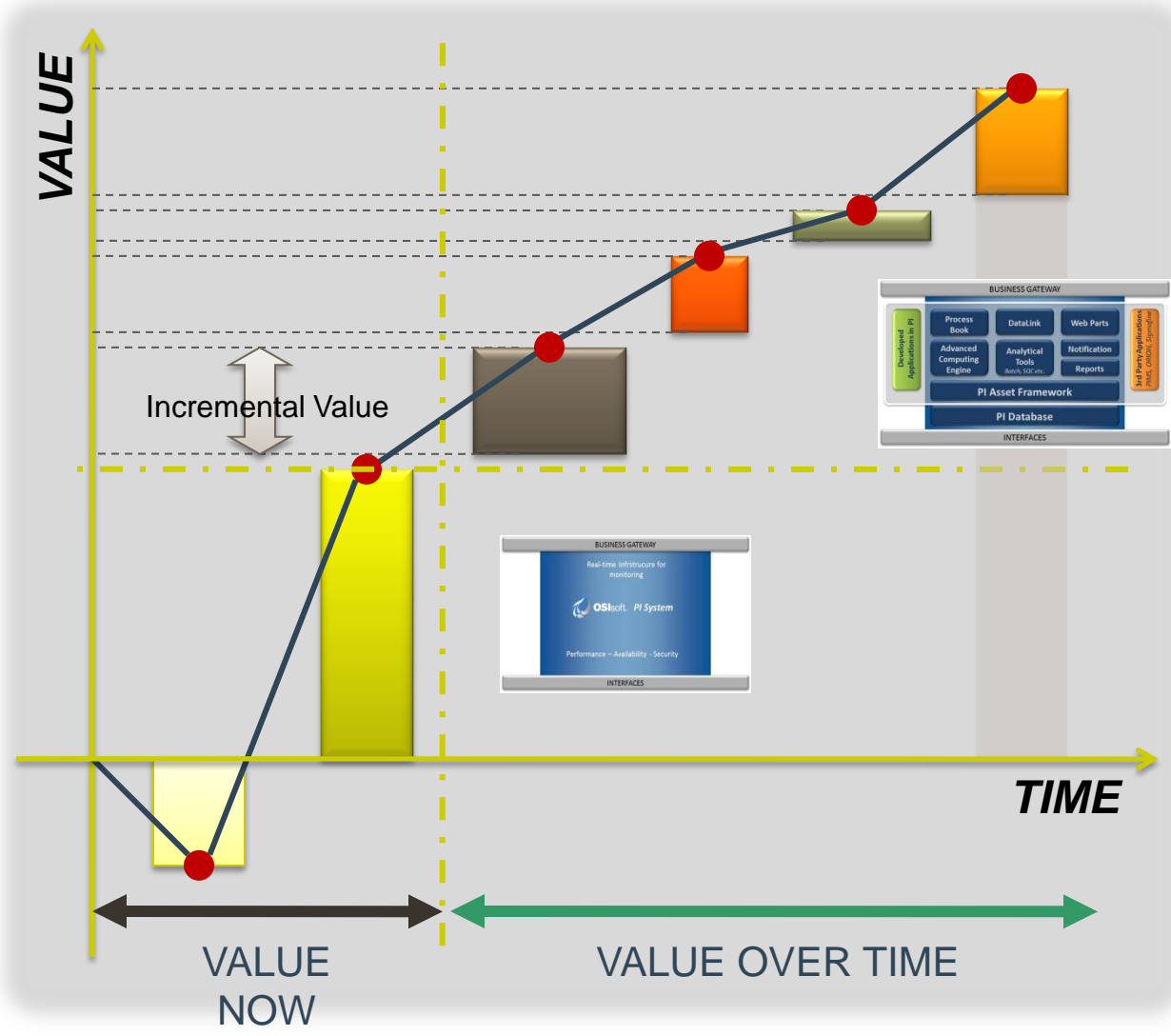


# THANK YOU

Brought to you by  **OSIsoft.**

# Value Creation Mechanism of an Infrastructure

*Value Now, Value Overtime*



Application Benefits

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

← Infrastructure Value

← Initial Investment

# What is the Real-time Infrastructure?

## Overview



### Connect

Collect data from hundreds of sources.

- Real-time Data
- Relational Data
- Asset Data
- Market Data etc.

### Interfaces



### Manage

Gather and archive large volumes of data. Scale to meet your growing business needs.

### Servers



### Analyze

Access real-time or historical role-based data for the entire enterprise at any time.

### Analytics



### Present

View data, identify problems, and take corrective action with familiar, easy-to-use graphical tools.

### Visuals

The OSIsoft PI System is the highly scalable and secure real-time and event infrastructure that connects people with the right operational and manufacturing information at the right time to analyze, collaborate, and act.

# Spain-Red Electrica - "Real-time Grid Monitoring for a country"

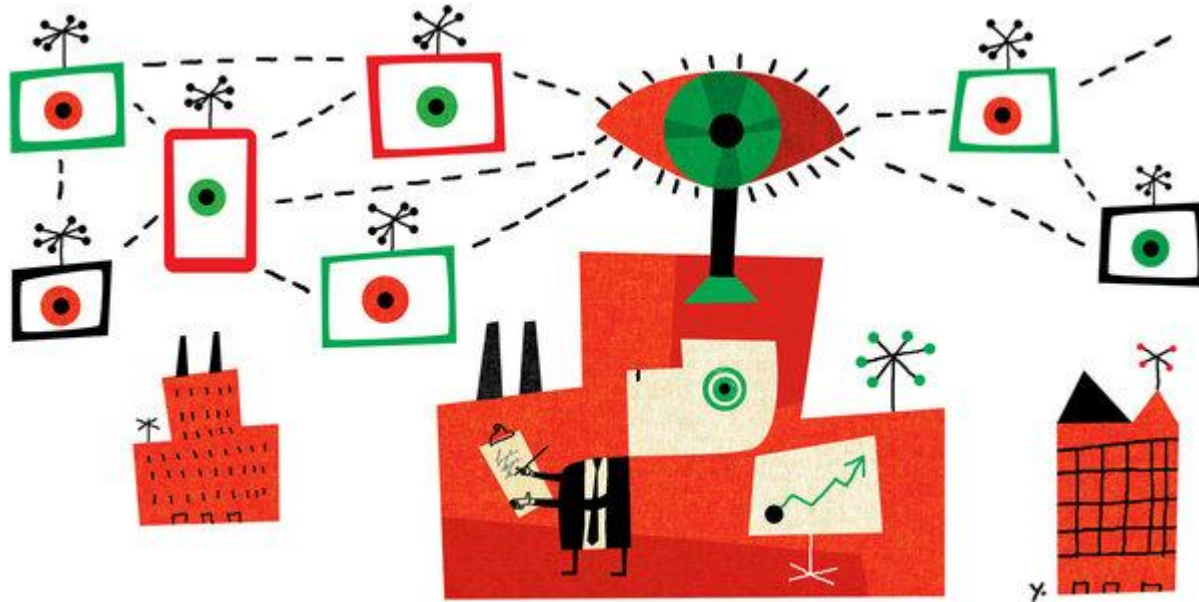


**CORES0 – "Real-Time Monitoring for a group of Countries"** UK, France, Germany, Belgium, Netherlands, and Italy





# Value of the Power of Data. When There's No Such Thing as Too Much Information



- Net gain – **Output and Productivity 5 to 6 %** higher in DDD (Data Driven Decision Making)

Reference: Brynjolfsson, et al., MIT, How does Data-Driven Decision making Affect Firm Performance, 2011.  
<http://www.nytimes.com/2011/04/24/business/24unboxed.html>

# Enterprise Software Benefits

## *Application Benefits*

Software type	Sample benefits	Benefit classification	Benefit description
<b>Application Benefits</b>	<b>Reduced head count</b>	Hard	Reduction of labor costs for staff members involved with the business process covered by the software.
	<b>Reduced errors</b>	Hard	Reduced cost associated with revising work or handling errors within the old process.
	<b>Increased revenues</b>	Hard	Increased sales directly attributable to the new application technology.
	<b>Productivity savings</b>	Soft	Value of reduced effort spent on the process, which can't be tied directly to cash results.
	<b>Improved quality</b>	Soft	An intangible measure of product, customer service, or operational effectiveness that is often difficult to tie to cash results.
	<b>Improved customer, employee, or partner satisfaction</b>	Soft	Perceived improvements in stakeholder satisfaction that are difficult to tie to cash results.
	<b>Improved information</b>	Hard or soft	Improved decision-making that results from having access to timelier and/or more accurate information, which leads to improved business results or

# Enterprise Software Benefits

## Infrastructure Benefits

Software type	Sample benefits	Benefit classification	Benefit description
<b>Infrastructure Benefits</b>	<b>Reduced development costs</b>	Hard	Reduced costs associated with modifying infrastructure software in the future, perhaps due to the implementation of more modern technologies or open standards
	<b>Reduced maintenance and support costs</b>	Hard	Reduced costs associated with fewer upgrades, fixes, or enhancements required to maintain the software.
	<b>Improved productivity</b>	Soft	Reduced time spent managing the infrastructure, which can't be directly tied to a cash benefit.
	<b>Reduced risk</b>	Soft	Reduced risk is measured by how the new software can reduce the likelihood that the infrastructure will fail. The cost of failure is calculated against the reduction in probability, leading to a valuable benefit that can't be easily tied to a cash benefit.
	<b>Improved information</b>	Hard or soft	Improved decision-making that results from having access to timelier and/or more accurate information, which leads to improved business results or productivity gains.

# Infrastructure for the Enterprise

Implementing Strategic Initiatives on Enterprise Scale

