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April 4-8, 2016 | San Francisco

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# Lenzing's Journey to Operational Excellence with OSIsoft's PI System

Presented by **Purrer Wolfgang**



# TOC

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- Introduce myself
- Lenzing Group
- OPEX combination of Tools, Methods & Culture
- Challenges in Production Information Management
- Our approach / 4 Pillars
- Details and Benefits

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# Purrer Wolfgang

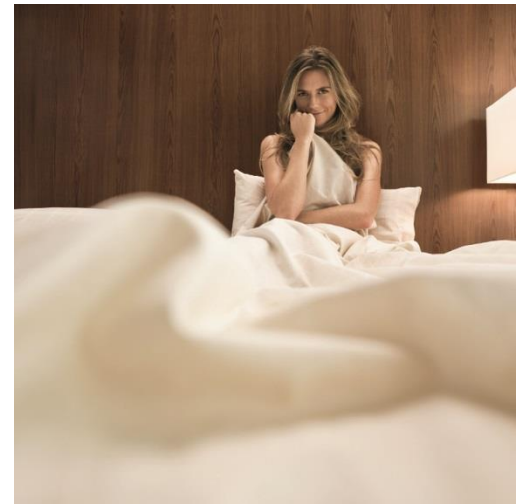
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- Sen. Mgr. for Production IT Topic's
  - Global Team Lead
  - Architecture, Portfolio Management
- Until 2014      Automation
- 2014-2016      Operational Excellence
- 2016+          IT
- Apprenticeship in Automation
- Master of Science in Information Technology & System management
- Master of Arts in Information Eng. & Management

# The Lenzing Group 2015

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- Sales: EUR 1,976.80 mn (2014: 1,864.2 mn)
- Fiber sales volumes: 965,000 tons (2014: 960,000 tons)
- Staff: 6,127 (2014: 6,356)
- OSIssoft PI
  - 9 PI Servers, 300.000 Tags, 180 Interfaces
  - 400 “Terminals”
  - PI ProcessBook, PI DataLink, PI Asset Framework, Event Frames,
  - PI Interface for OPC, UFL & RDMBS
  - PI Asset Framework SDK





# Lenzing fibers fields of application

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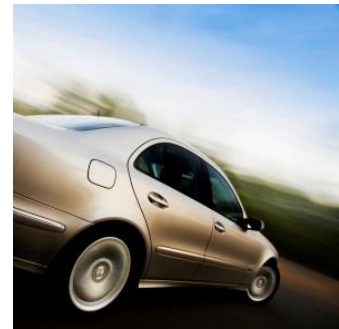
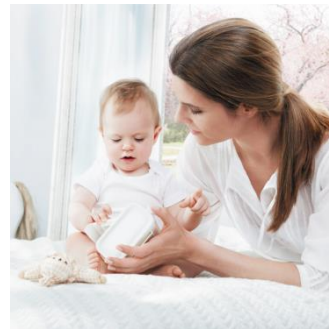
## Textile industry

Fashion, home textiles, technical applications

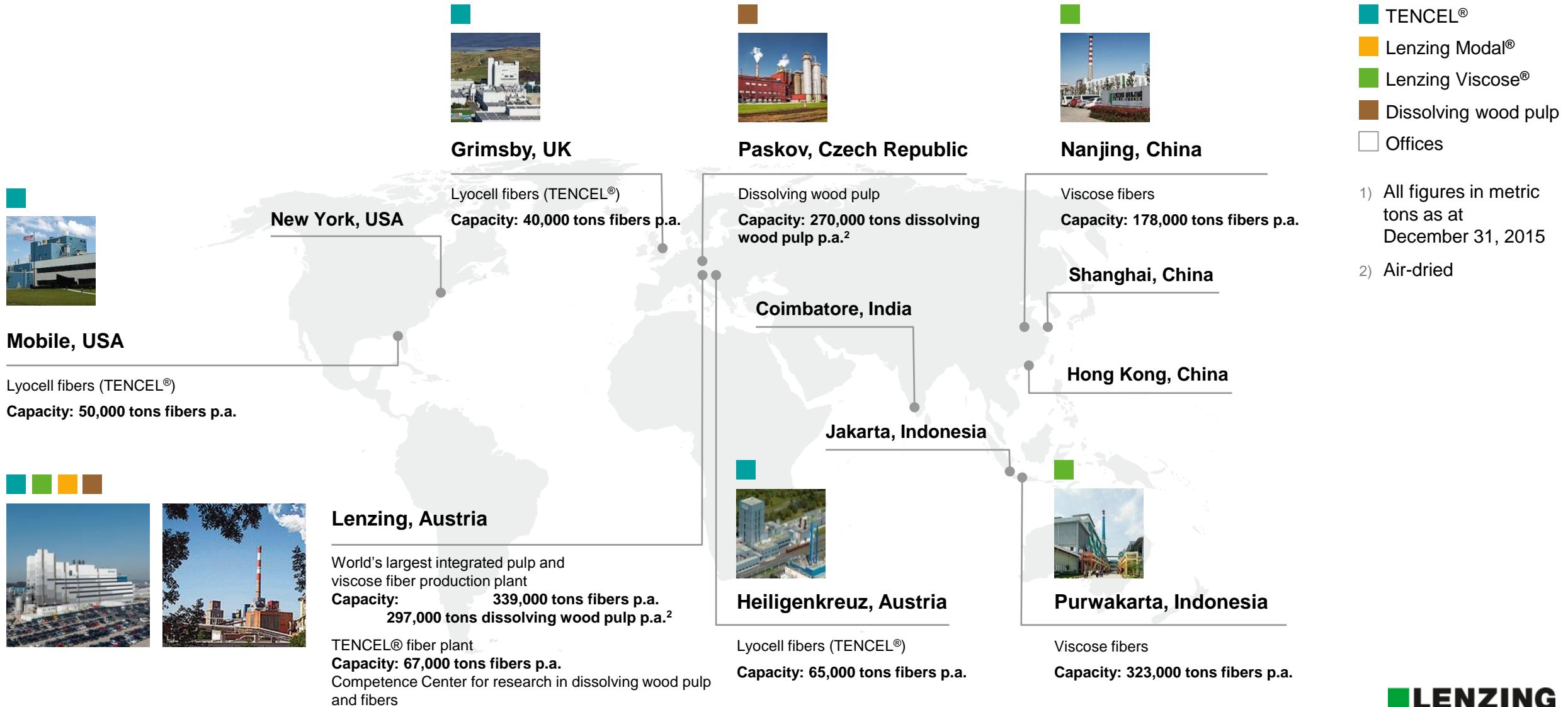


## Nonwovens industry

Wipes, hygiene, medical and technical applications

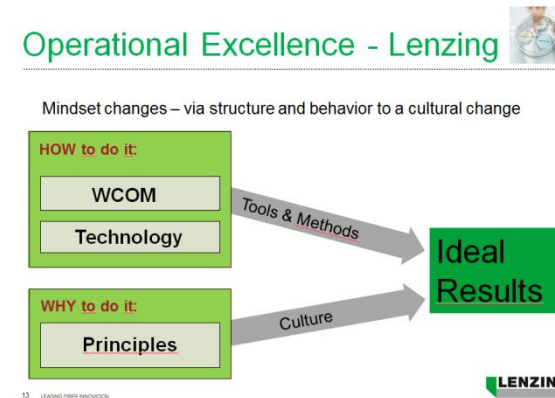


# Production Sites





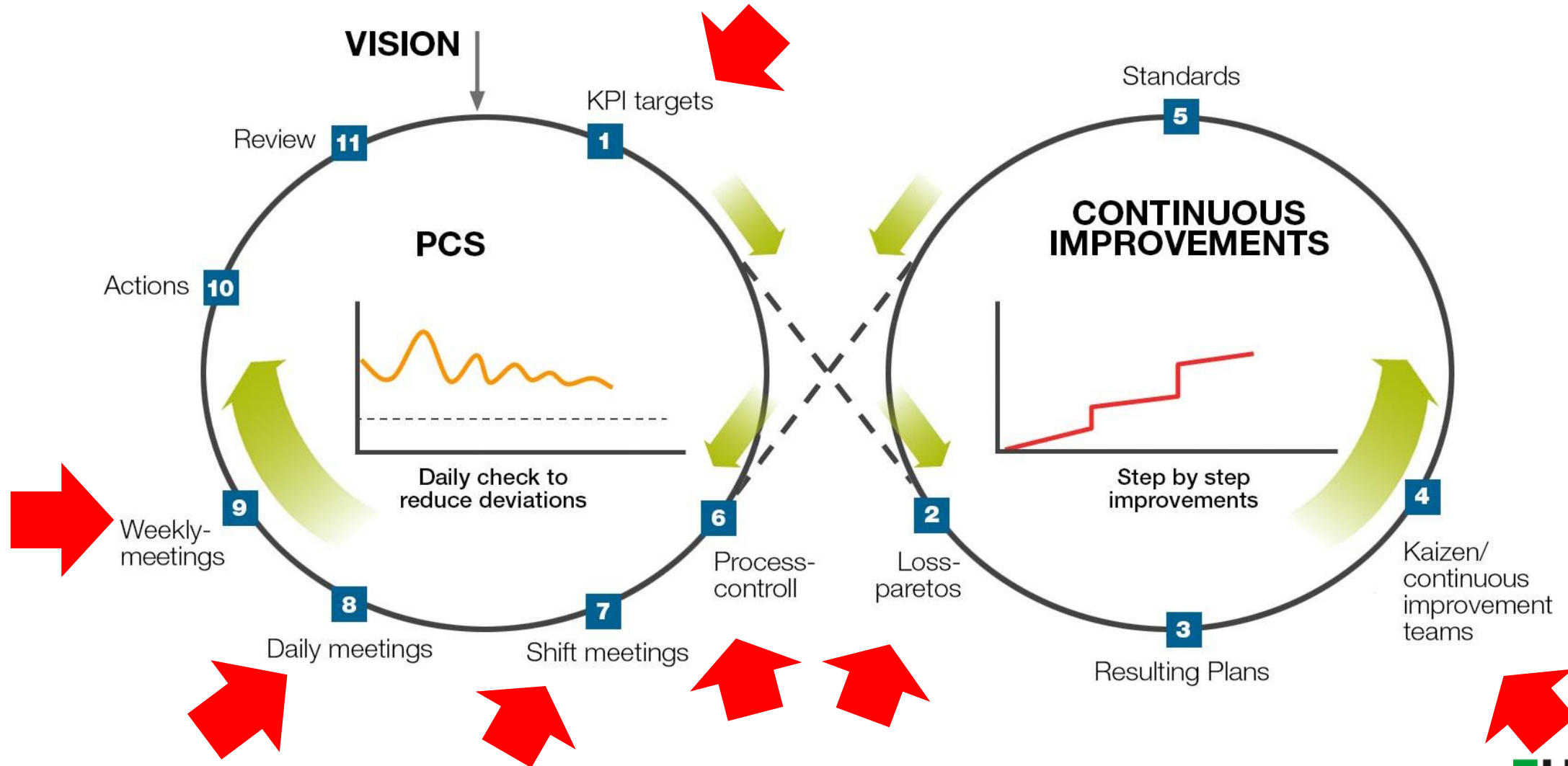
# OPEX combination of Tools, Methods & Culture



**Provide information to the shop floor**

**Make it “accessible”**

# Where does OPEX require “accessible” prod info.



# What does a typical situation look like

## ■ Various different definitions & understandings

- of targets (good, bad,...)
- of KPI (OEE, TIS, KPI,...)
- of situation (downtime, CBM?,...)

## ■ Different “tools/systems”

- MES → My Excel Sheet
- ERP/MES systems (SAP,...)
- Infrastructures
- Self developed solutions

## ■ “Site politics issues”

Different language



Hard to facilitate

- cross learning
- cross site support
- global continuous improv



Nightmare from a technical perspective

# What was our approach / 4 Pillars

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1. **Reduce “Blockers”** by an accessible **Global AppStore**
2. **Involve shop floor** to create displays and reports...
3. **Flexible leg** → configured and operated on the sites
4. **Supporting leg** → One platform for all production information mgmt. topics



# Pillar 1/4 – Reduce blockers

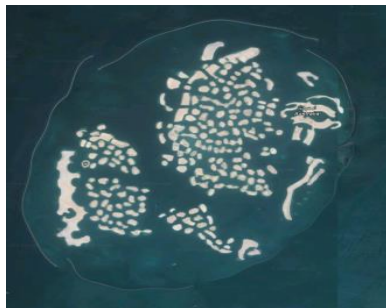
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**Global AppStore with about 30+ “free” apps → cost of business**

- Process monitoring (OEE, TIS, KPI, CPM, ALM, Downtime, Log,...)
- Production execution (CBM, Tracking, Recipe management, Soft sensors, Recommendation Systems, ...)
- Process development (Easy Analytics, Advanced Analytics...)
- Platform (Production Cloud, Security,...)
- Engineering Support (Remote Access, CAx – Tools,...)

## **Result:**

- Site has no advantage to develop a local special solution



→ Bigger Islands



# Pillar 1/4 – Global App Store “internal marketplace”

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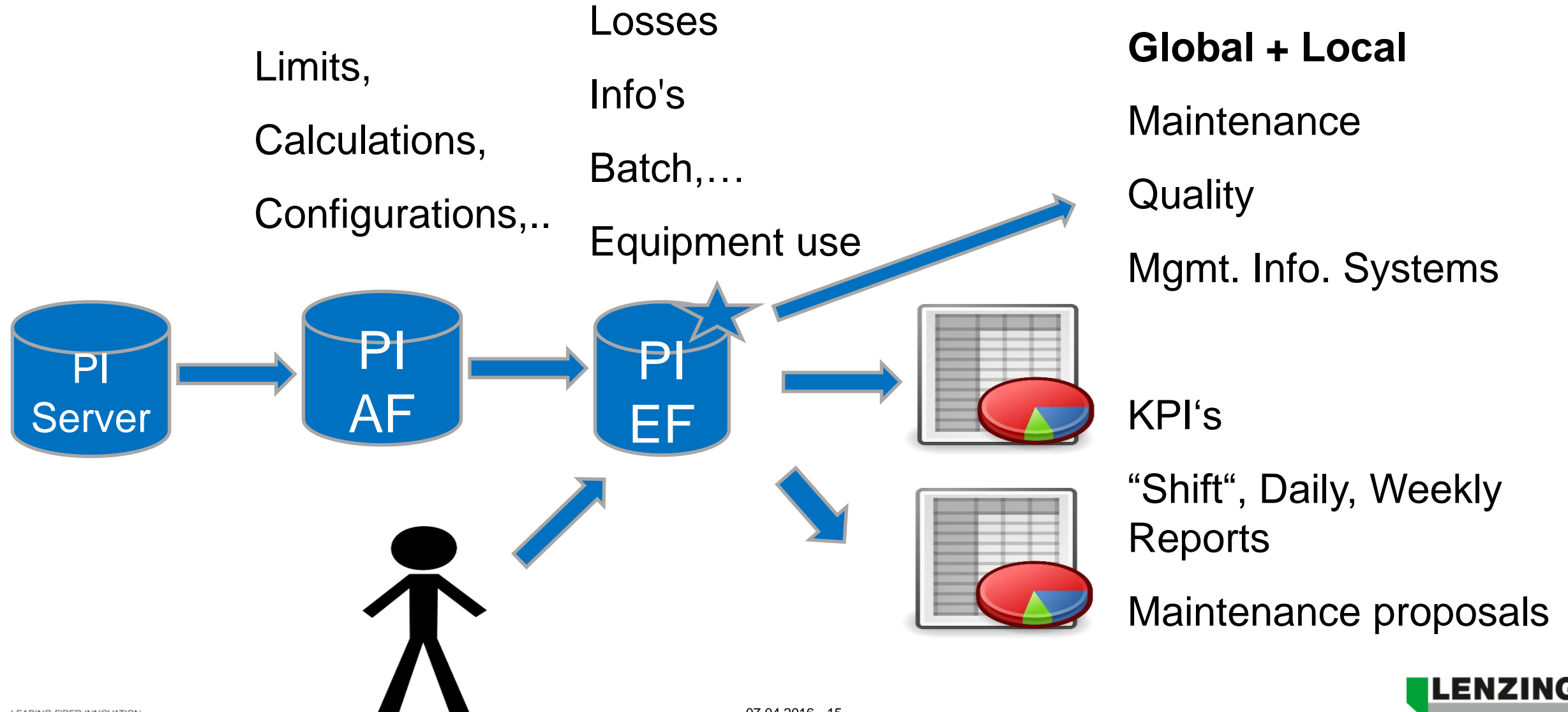
## **Past → “project approach” / cost of service**

- Sites → Local optimums
- Effort to “negotiate global solutions”

## **Now → “global app store” / cost of business**

- Standardized applications
- Customizable to local needs
- SharePoint List with all available “Modules/Apps”
- Contains “documentation / training videos / business cases”
- Usually 80% of modules needs less 1 week “global support” for technical implementation

# Pillar 1/4 – Example Event Frames



# Pillar 1/4 – Controller Performance Monitor

Past:

Each Site  
Proprietary  
Solution

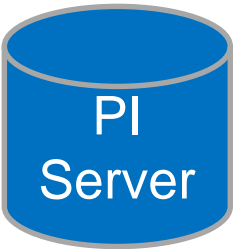
Specialist  
needed for  
customization

KPI defined  
different

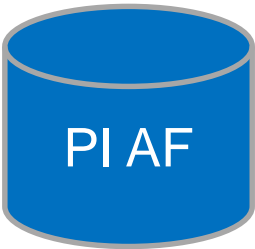
Training  
different

Cost per Site  
50 – 150 K€+

Now:



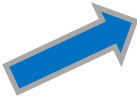
Standardized  
Tag List



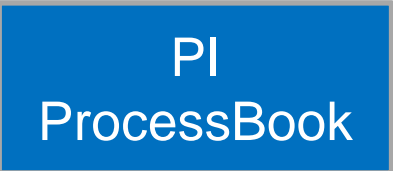
PI AF  
Template for  
Controller  
Monitoring



Calculations  
via PI AF SDK  
and Analytics



Opex Eng.  
“Reporting”



Control Eng.  
“Analyzing”

Higher ROI



Cost per Site  
< 20 K€  
(because of existing  
PI System)

# Pillar 2/4 – Involve shop floor

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**Involve shop floor** to create displays and reports,...

- Each Control room staff receive training
- Example: 2 hours on PI Process book



## **Results:**

- Only 10% got involved → but their “creations” ahead expectations
- Development of the people
- Reduce “Losses” (Time, Communication,...)
- Cultural differences...

# Pillar 3/4 – Flexible Leg

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## Challenge

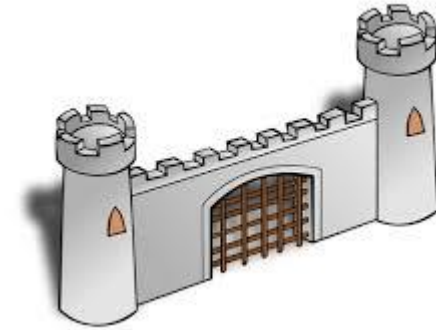
- Production IT is the “Brain material” in every production site
- Production Managers are very sensitive

## Solution

- Flexible leg → ownership & control

## Results

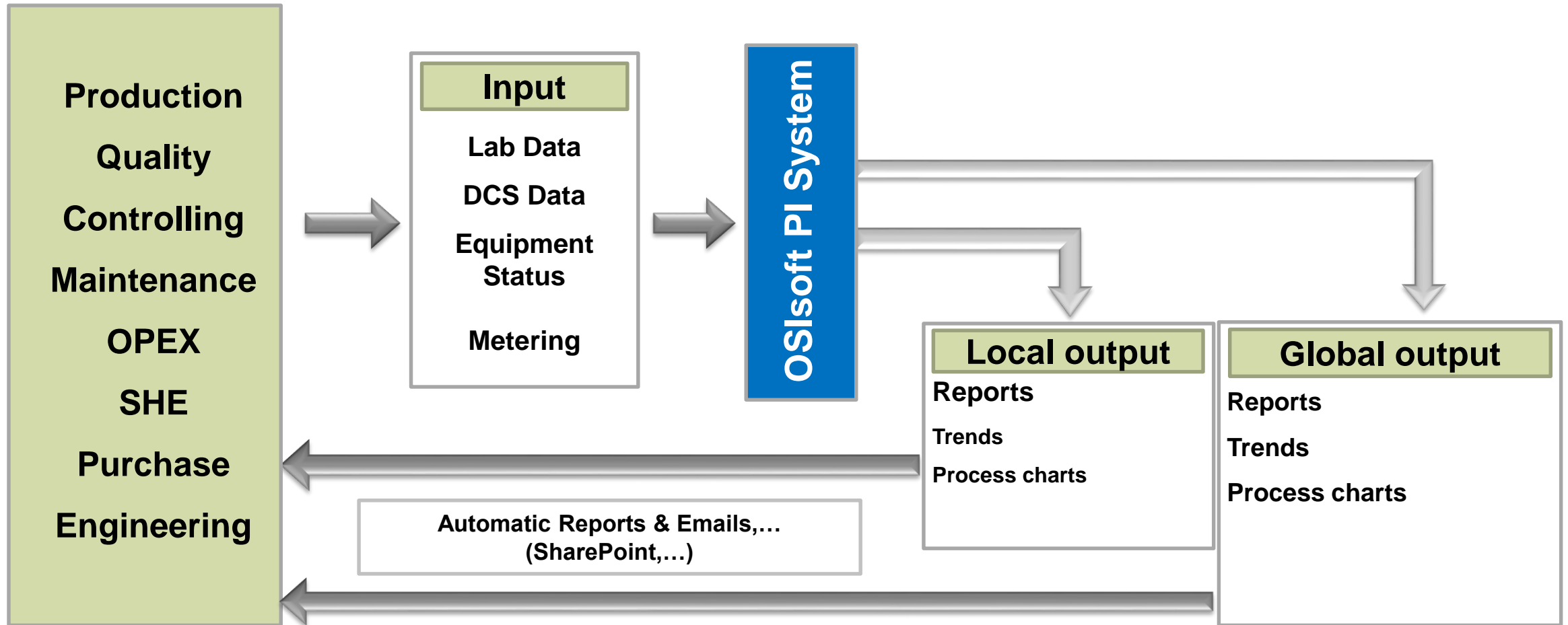
- Site has “control”
- Can work according to (with certain limitations) their own priorities
- With the local staff they trust
- After a few weeks partnership between global and local





# Pillar 4/4 Supporting Leg

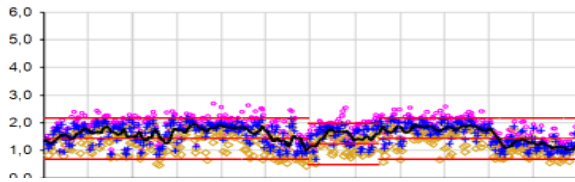
**Supporting leg** → one platform & team for all production information management topics



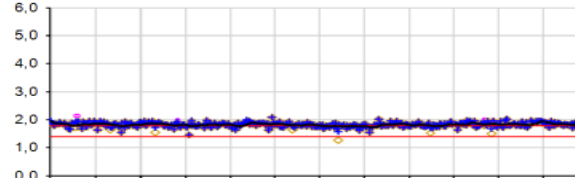
# Pillar 4/4 – Supporting Leg - Results

## ■ Increase transparency

Site A = Bad



Site B = Good



## ■ Builds bridges between the sites

- Cross site learning
- Cross site support
- Global cont. improvement



# Roadmap

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199x

- PI System Installation as an DCS historian

2012

- global standard
- 3 sites+

2016+

- all sites covered
- Production Execution

2009

- PI System as Production Information Mgmt System

2014

- drive continuous improvement program
- 6 sites+

2017+

- Message Infrastructure
- Visual Management optimization

# Lenzing's Journey to Operational Excellence with OSIsoft's PI System

## COMPANY and GOAL

Lenzing produces around 960,000 tons of fibre out of renewable resources and needs to have the PI System to drive the Operational Excellence Program



## CHALLENGE

No harmonized platform with a lot of different local solutions

- Balance global & local needs
- Make it easily accessible for shop floor and management

## SOLUTION

Harmonized Platform with a focus on “accessibility”

- Accessible “Marketplace”
- Involve Shop Floor
- Flexible & supporting leg to meet stakeholders needs

## RESULTS

Next to culture & processes, an important part for operational excellence

- Reduced implementation costs by up to 80%
- Basis for various quality improvements & cost savings
- Use potential of shop floor and cross learning

## *Contact Information*

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Sen. Mgr. PIMS Coordination  
Lenzing AG





## Questions

Please wait for the **microphone** before asking your questions



State your **name & company**

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谢谢

Danke

Merci

Gracias

Thank You

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Спасибо

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