OSIsoft®

Regional Conference

LATAM

June 7-8, Sao Paulo

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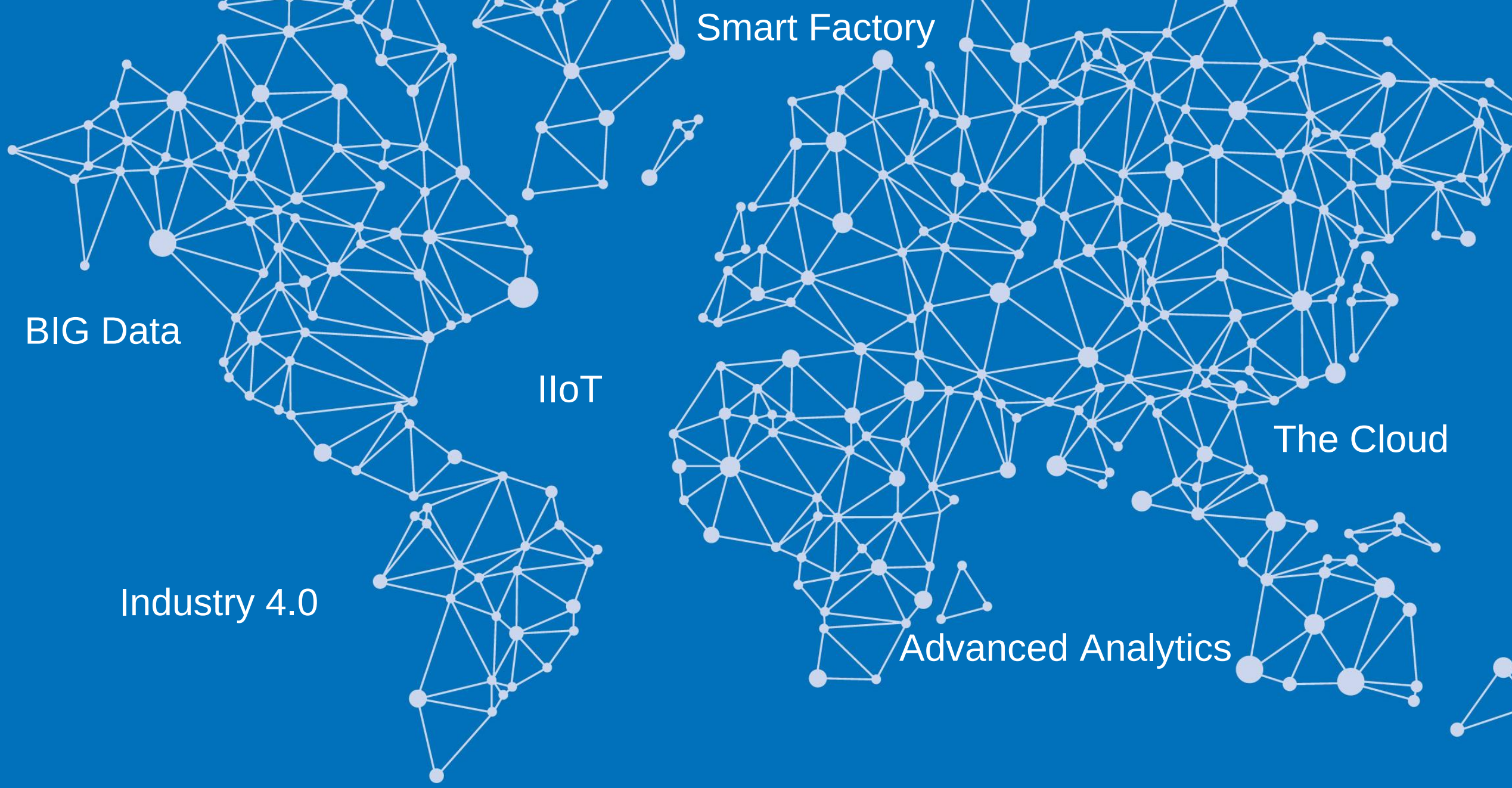
DATA STRATEGIES FOR OPERATIONAL EXCELLENCE

1. Evolution of Data Strategies
2. IT Trends
3. Industry Direction
4. Use Cases
5. Wrap up
6. Q&A

Agenda

Evolution of Data Strategies



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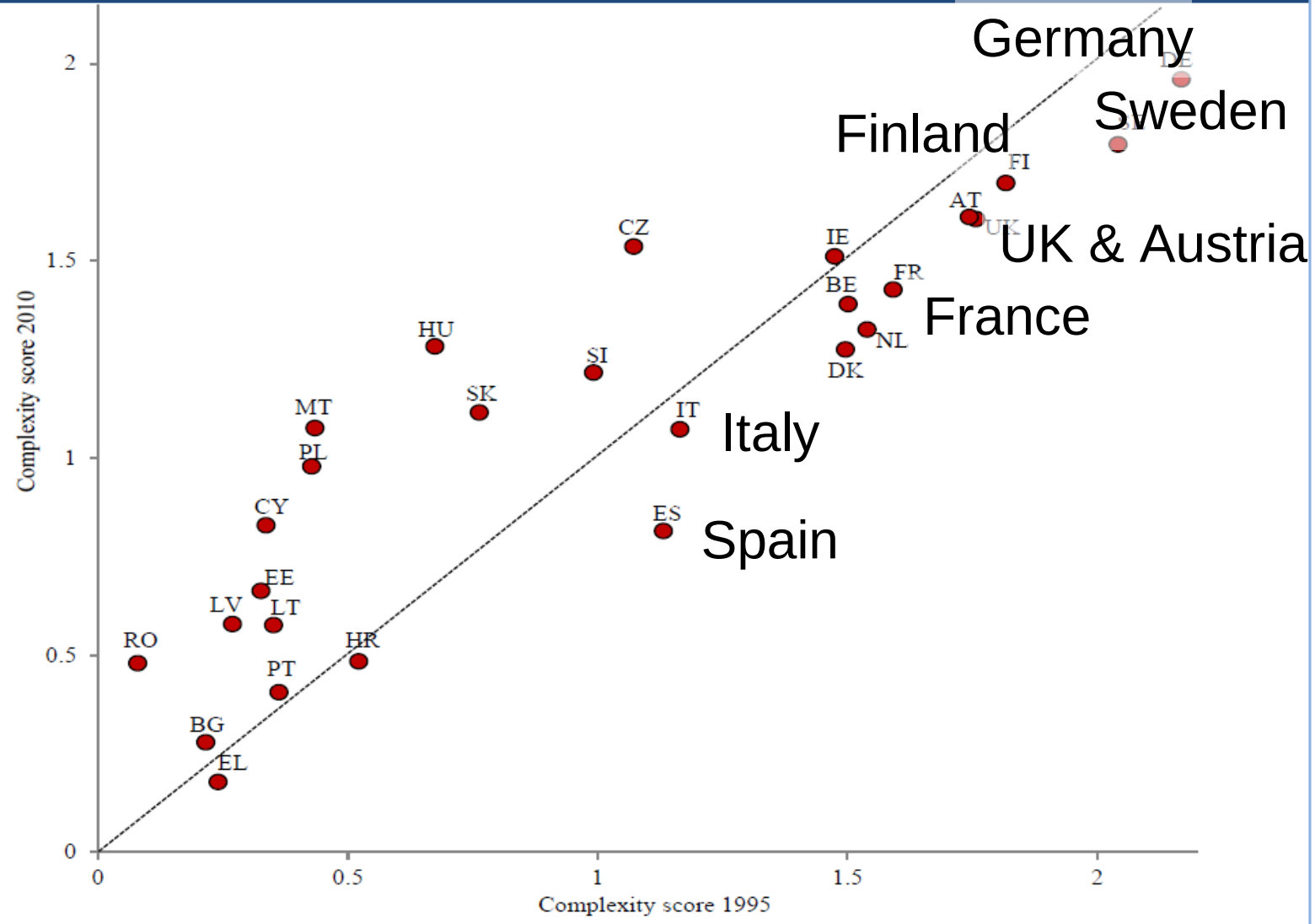
Reindustrialization

Resilience, competitiveness, and growth are correlated to **technology intensity, manufacturing complexity, and quality.**

– Valentijn de Leeuw, ARC Advisory Group

Figure 1.13: Changes in quality-adjusted complexity score by Member State, 1995–2010



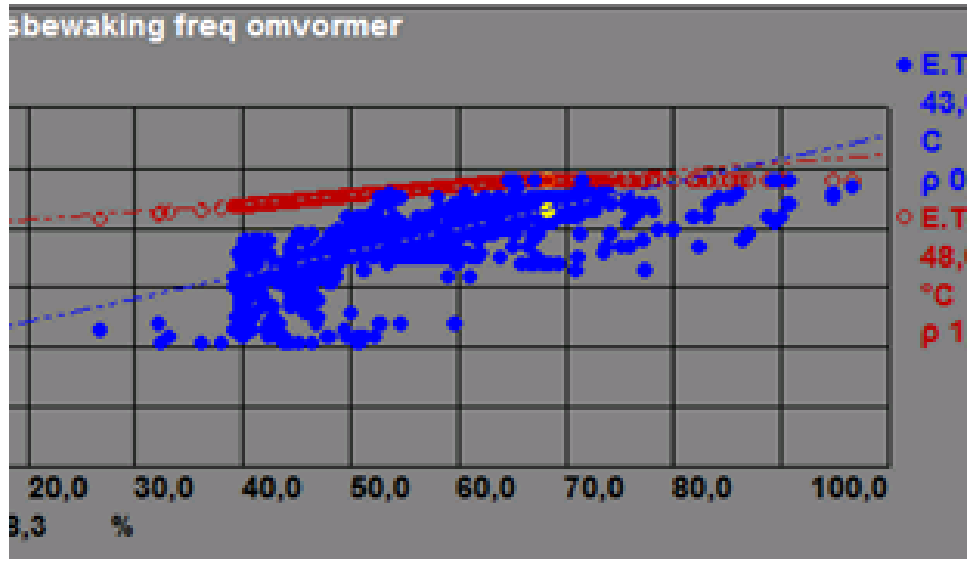
Note: Dotted line denotes no change in complexity between 1995 and 2010. 'BE' combines Belgian and Luxembourg data.
Source: European Commission (2013b)

Think Big. Start Small

Stora – Enso

“The recipe for success is to identify a project you can manage, have the strategic vision, and realize this is going to be a team effort and that there is a learning curve. Begin Small.”

Jean-Pierre Vande Maele, IT International Projects Manager.



CHALLENGES

Current alarms work with simple thresholds and depend on a monitoring an Excel Spreadsheet report.

Lack of integration between plant floor and maintenance system

SOLUTION

Use of asset and mathematical model to configure notifications to connect the plant floor information with SAP PM.

- PI AF
- PI Notifications
- PI WebServices
- Microsoft BizTalk
- SAP PM

RESULTS

- Less unplanned downtimes
- Automatic check 24/7
- More accuracy due to dynamic alarm threshold settings
- With PI Notifications only problems are reported, this saves time: no need to go through various Excel files
- Automatic notifications in SAP

Fundamental Principles

- Relationships always exists between process measurements
- Requires synchronized observations for meaningful results
- Enables real-time decision making only when visible, i.e. not performed in spreadsheets

Daniel Bernoulli
(1700 – 1782)

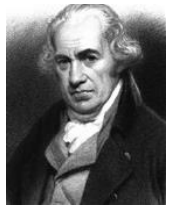
$$H = z + \frac{p}{\rho g} + \frac{v^2}{2g} = h + \frac{v^2}{2g}$$

$$Q = \frac{\Delta P_{DD} * kh}{141.2 \mu B_0 \left\{ ln \frac{r_e}{r_w} - \frac{3}{4} + S \right\}}$$

Benoît Clapeyron
(1799 – 1864)

$$PV = nRT$$

$$F = \frac{(R+1)^{1/2} \text{ x ln } ((1-SR)/(1-S))}{(1-R) \text{ x ln } \left\{ \frac{2-S(R+1-(R+1)^{1/2})}{2-S(R+1+(R+1)^{1/2})} \right\}}$$



James Watt
(1736–1819)

$$P = IV = I^2R = \frac{V^2}{R}$$

Manufacturing & Operational Data Fusion

Evergreen Packaging

Evergreen Packaging – deliver the **highest standards in quality**, on time in full delivery, and customer service

Stuart Watson, Mill Decisions Support Systems Architect.

CHALLENGES

Determining Root Cause on Coat Quality Issues was time consuming

Compilation took several days on several systems

Need Operational Data in Manufacturing context

SOLUTION

Used Linked Tables to Access Manufacturing Data from PI AF structure.

Operational and Manufacturing data accessible on an equal footing.

- PI AF
- ODBC & OLEDB providers
- PI AF Clients

RESULTS

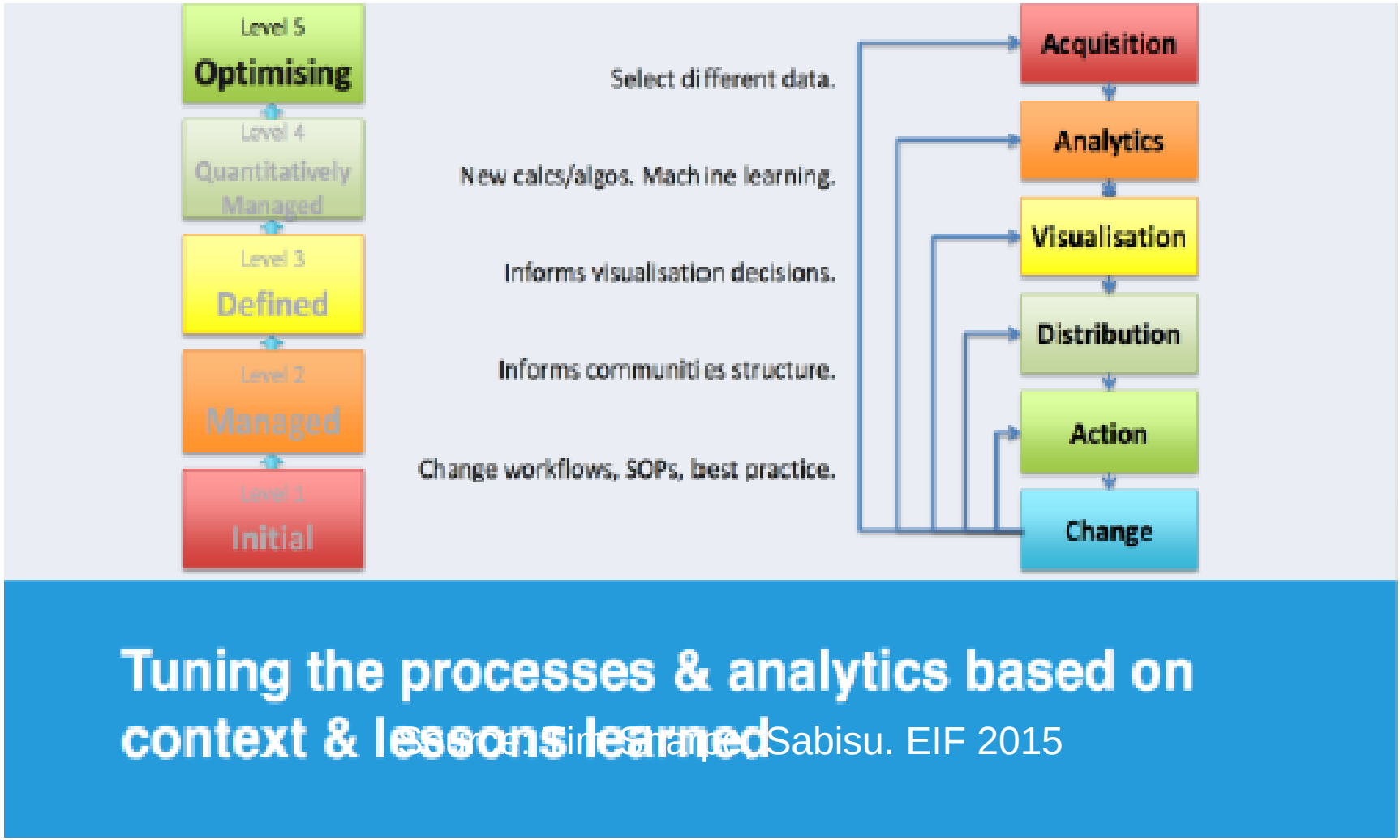
Saves hundreds of skilled hours per year

Frees resources for more involved tasks

Report being considered as value-added customer service

Levels of Analytics

- Level 1: Historical reporting & analytics
- Level 2: Predictive analytics: forecasting
- Level 3: Prescriptive analytics: recommendations and optimization



Data Analysis from PI System Infrastructure

Klabin

PI System Infrastructure can be enhanced with a data analysis tool for “big data” like IP Leanware’s tool called Braincube

Thiago Radatz, Technical Assistant Recovery and Utilities Department.

CHALLENGES

Large volume of data is difficult to analyze

Complex process are difficult to maintain optimized

SOLUTION

Use of additional tools to the PI System to analyze the large volume of data.

Use of tools increases involvement of all toward the same goal of results.

RESULTS

Real financial gains ~ 23,000 tonnes of steam per year

The tools feature the best ways to work

Dissemination of knowledge through the results presented by the process monitoring tools

1. Fundamental vs Advanced Analytics
2. Think **BIG**, implement one step at the time.
3. IT is a competitive advantage for innovative OT solutions
4. Operational Excellence through a Community in a Connected World

Take aways

Q&A

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- msandin@osisoft.com
- Industry Principal, Forest and Paper Products
- OSIsoft, LLC

Credits

- Valentijn de Leeuw, Vicepresident. Arc Consulting Group
- Tim Sharpe, Co-founder and CEO. Sabisu
- European Commision, European Competitiveness Report 2013.
- Jean-Pierre Vande Maele, IT International Projects Manager. Stora Enso

Customers and Community

- Stuart Watson, Mill Decisions Support Systems Architect. Evergreen Packaging
- Thiago Radatz, Technical Assistant Recovery and Utilities Department. Klabin
- Craig Harclerode, Industry Principal for Oil and Gas. OSIsoft
- Curt Hertler, Global Solutions Architect. OSIsoft.

감사합니다

谢谢

Danke

Gracias

Merci

Thank You

ありがとう

Спасибо

Obrigado