

Operational Data Enables Industry Transformation

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Mondi group - Broad portfolio



Packaging Paper



Consumer Packaging

Uncoated Fine Paper



10 operating sites





delight deligh



24 countries



d 30 operating sites



12 countries



dependency dependency



4 countries



Containerboard

Sack kraft

paper

paper



Corrugated packaging



Industrial bags



Extrusion coatings



Consumer goods packaging



Personal care components



Release liner



Technical films



Office paper



Professional printing paper



Speciality kraft

Our global footprint

We operate locally with more than 100 operations in over 30 countries.

Group offices

Johannesburg •

London

Vienna

Key

- Packaging Paper
- Fibre Packaging
- Consumer Packaging
- Uncoated Fine Paper



Mondi Štětí







Mondi Štětí in 2018



Production 550.000 t

Export > 75% of production

Export to >70 countries





Bleached Pulp



High strength of fibre and high tear strength.

Excellent for reinforcing purposes.

Magazine papers (LWC, SC).

Sack kraft papers.

Speciality kraft papers.





PM5





Manufacturing sack kraft paper (standard, semi-extensible).

End-use: paper sacks for powder material wrapping





PM7







Manufacturing

- White sack kraft paper (standard, semiextensible).
- Speciality kraft paper: smooth finished white papers (calandered papers with perfect printability and gloss)
- Containerboard

End-use: paper industrial bags for powder material wrapping, shoping bags, lamination, FFS bags (for sugar, flour, rice, ...), ...



PM 3 & 6





End-uses are various packaging, protecting and lamination applications.

Machine glazed paper (MG): light / medium-weight paper where one side is polished and has high gloss and back-side remains matt with rough surface.





PM₁



Containerboard is used in corrugated boxes.

ProVantage portfolio:

The Containerboard is two-ply and fibers range from 100% kraft pulp to selected secondary fibers.











ECOFIEX – Mondi Steti's transformation **fmondi**



New recovery boiler (RB12) - max. output 480 t/h of HP steam 2 new pulp digesters, increasing production of bleach plant Changing of DCS for Caustisizing & Evaporation New steam turbogenerator TG7 - max. output 70 MW



Our vision

We build a mill that produces over one million tons annualy of top quality speciality and packaging papers.



TIS – Technological Information System

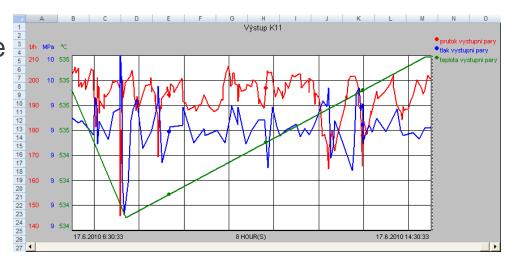


1999 — team found solving for technological data platform

- OPC unified protocol
- Historical data PI Data Archive
- Online visualization Iconics
- Excel unified form

Start of TIS (2000)

- 3 OPC servers
- PI Data Archive (10.000 tags) 1.set of tags created in June 2000
- PI DataLink (100 licenses)



TIS – milestones

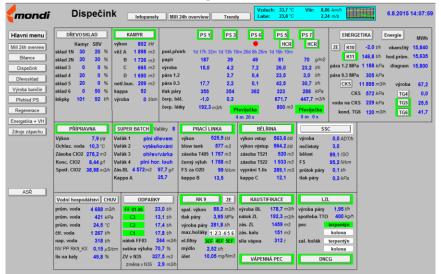


2009 PI Data Archive upgrade, 64bit Windows server 2008

+5.000 licensed tags

2011 PI Data Archive migration to VMware

2012 Break-point decision – change of visualization to *OSIsoft platform*





TIS – "new age"



2013

- Upgrade of PI Data Archive

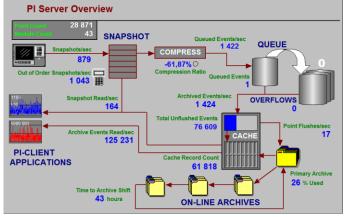
- Starting with PI ProcessBook
- Buying 5.000 additional tags

2014

- Buying **PVS** (PI Visualization Suite)
- Creating displays in **PI ProcessBook**
- Starting with **AF** making structure for production and SPCC (Single Process Control Chart)

2015

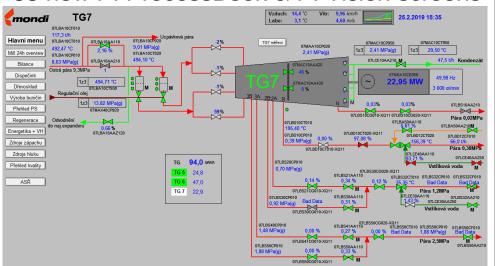
- Creating remainder of displays in **PI ProcessBook** (in total 300+ displays)
- Start using PI Coresight
- PI Coresight in tablets and smartphones

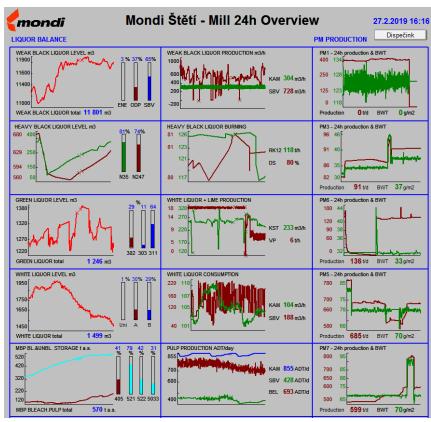


TIS vs. ecoflex



- +10k licensed tags
- >5000 new tags
- >1000 new AF attributes & analyses
- 55 new PI ProcessBook & PI Vision screens





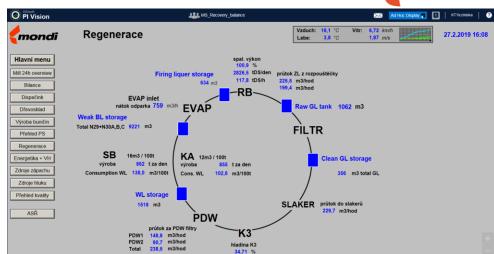


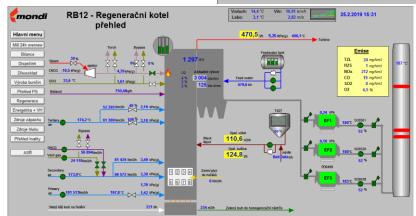
TIS vs. ecoflex

mondi

TIS helps

- Operators, technologist and managers
- Tune and stabilize integrated processes
- Better balancing
- Quicker problem solving
- Overview of whole factory







TIS – Use Cases & Benefits



- Energy department
- Paper breaks, machine stops, etc.
- Faster reaction from operators with PI ProcessBook saving energy and money
- Approx. savings of 38 000 EUR/y



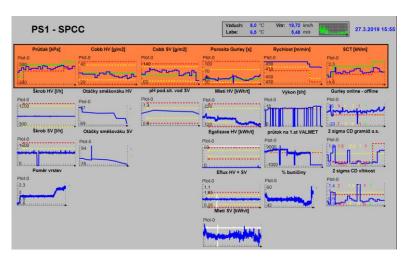
- Dispatcher
- Purchasing diagram of gas –based on AF and calculated tags for better control of gas consumption – save money
- Exceeding of diagram 14 000 EUR/y

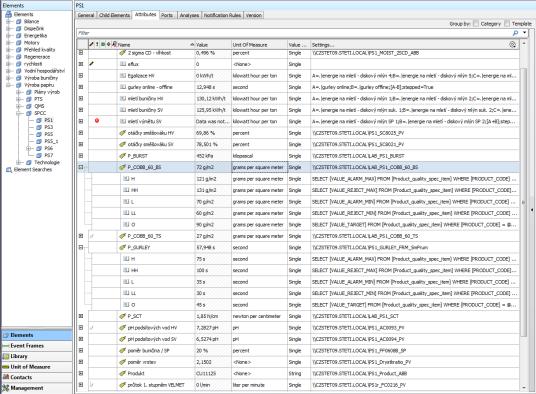


TIS – Use Cases & Benefits cont.



- SPCC Single process control chart
- Calculations & limits in PI AF
- Visualization in PI Vision





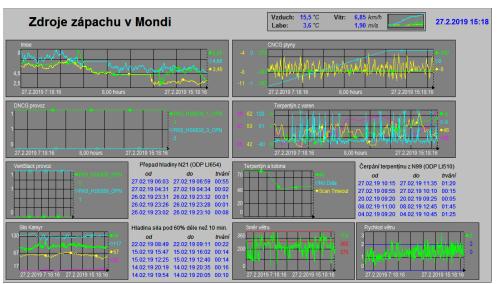


Improved Environmental Conditions

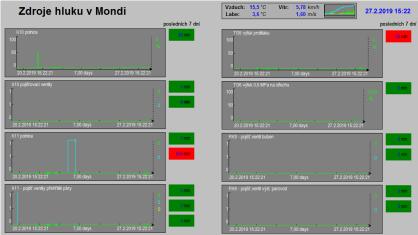


We care about protecting the environment.

By 2030, reduce specific CO2 emissions by 15% against 2014



Orld SAN FRANCISCO 2019



- Lower Specific Values of:
 - Water consumption by 5%*
 - Waste to landfill by 7.5%*
 - NO_x emissions by 7.5%*
 - Effluent load (chemical oxygen demand, COD) by 5%*

* against 2015

ecoflex New Central Control Room



We create a place where **people want to work**. We are **patriots** of our region.







DEMO

Live data from Mondi Štětí





Mondi Štětí

TIS helps to EcoFlex

CHALLENGE

Starting of new production lines

Tuning and stabilizing new processes

SOLUTION

Creation of new tags and dashboards

New AF attributes, calculations and analyses

RESULTS

All users can use TIS for their jobs (technologist, labs, managers, etc.)

Better tuning and analyzing of new processes

62,000 EUR/y in aggregated energy savings

Environmental KPIs improvement 5% - 7.5% (specific consumptions and emissions)



Contact information



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Questions?

Please wait for the **microphone**

State your name & company

Please remember





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KEA LEBOHA EIBH 고맙습니다 4 MISAOTRA ANAO DANKON

KÖSZÖNÖM PAKMET CI3FE БЛАГОДАРЯ

ТИ БЛАГОДАРАМ TAK DANKE \$\frac{1}{2}\$

MERCI

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MULŢUMESC **ESKERRIK ASKO** ХВАЛА ВАМ TEŞEKKÜR EDERIM

ДЗЯКУЙ ΕΥΧΑΡΙΣΤΩ GRATIAS TIBI **DANK JE** AČIŪ SALAMAT MAHALO IĀ 'OE TAKK SKAL DU HA

GRAZZI PAKKA PÉR PAXMAT CAFA

CẨM ƠN BẠN

ありがとうございました ĎAKUJEM
SIPAS JI WERE TERIMA KASIH MATUR NUWUN
UA TSAUG RAU KOJ
ТИ БЛАГОДАРАМ
СИПОС