



Valmet

Valmet Industrial Internet

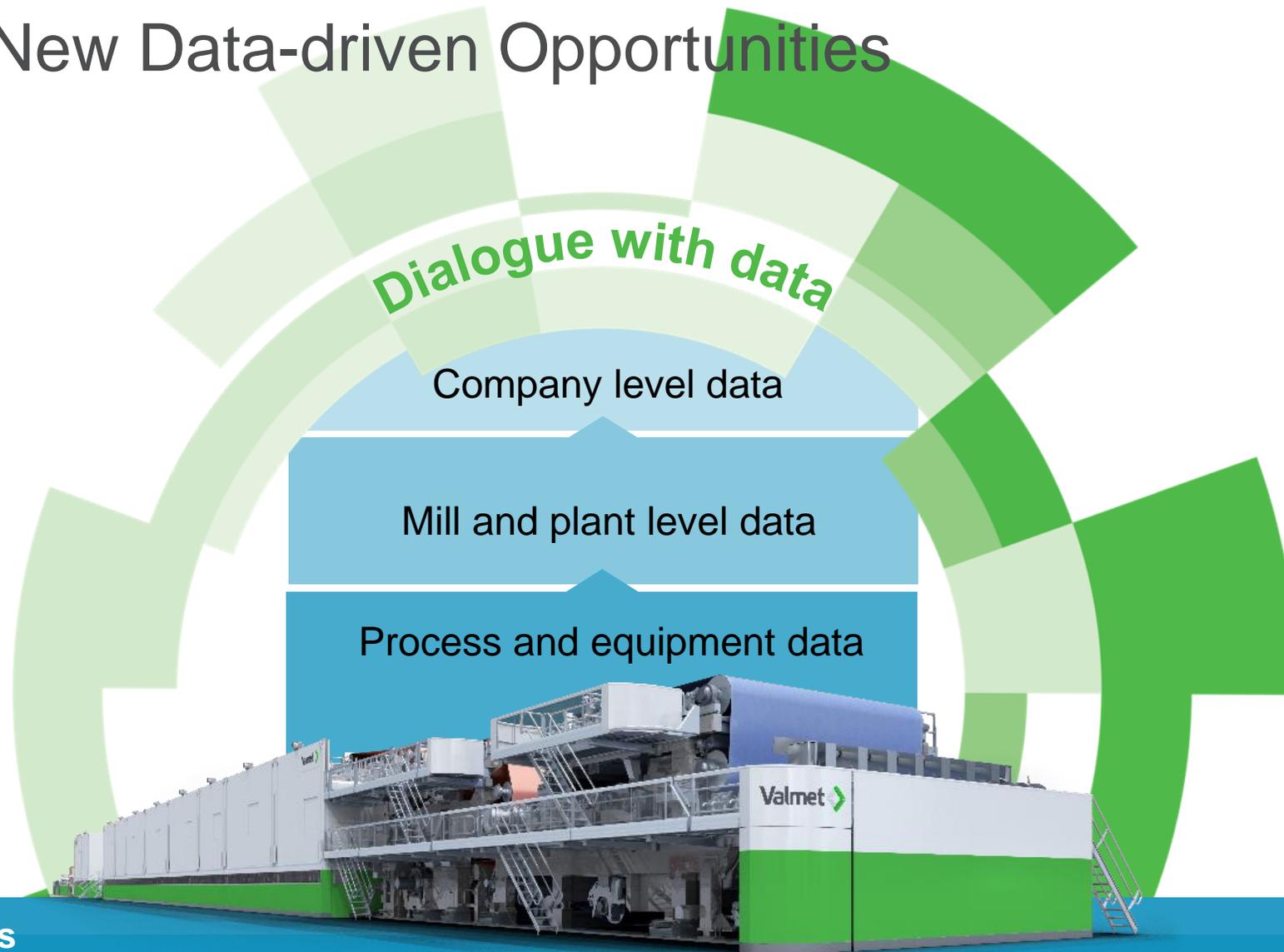
Dialogue with data

Valmet Capital Market Day
September 18, 2018

Jari Almi, Head of Valmet Industrial Internet

Valmet

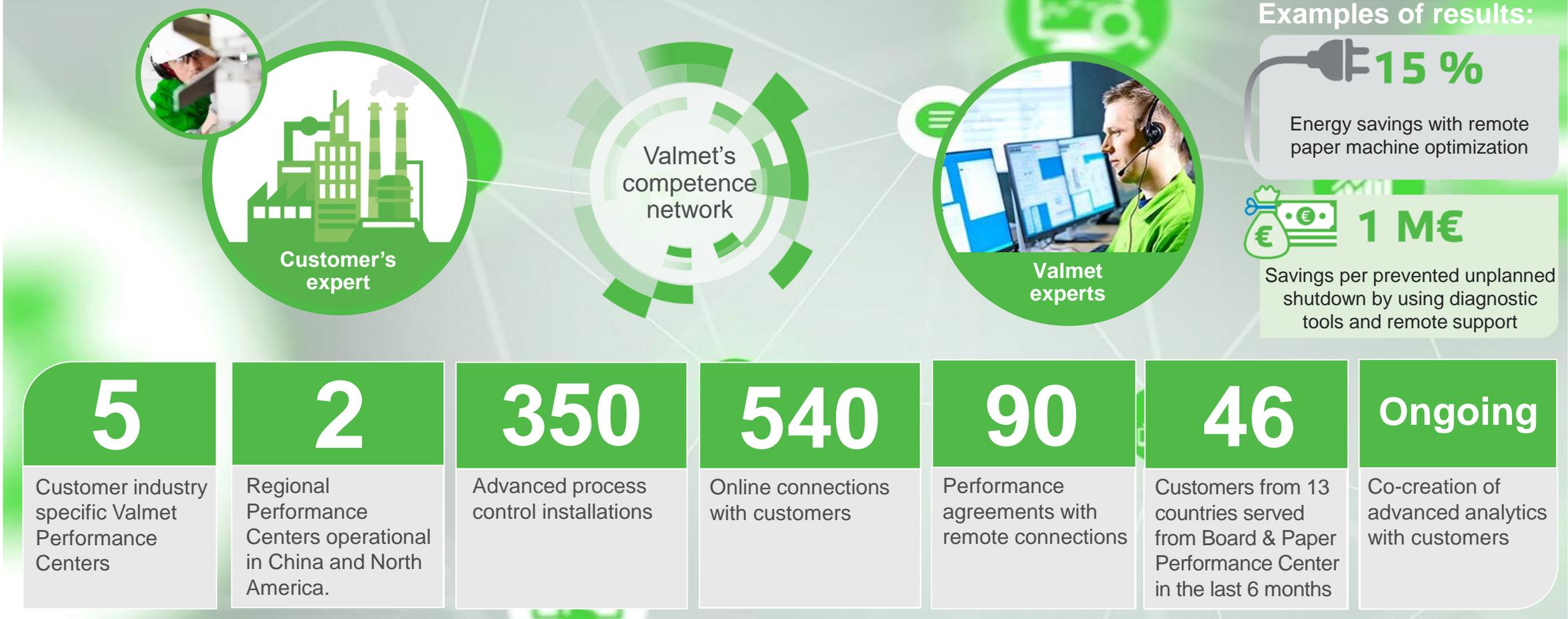
Leveraging New Data-driven Opportunities



Results

- Reduced raw material and energy cost
- Improved product quality
- Reduced downtime and unplanned stops
- Improved service and maintenance predictability

Today, customers are extensively utilizing our Industrial Internet capabilities



Valmet Industrial Internet

How we serve our customers

Valmet Performance Center



Remote support, data analysis and monitoring with alerts to Valmet's local experts or customer's experts.

- On-demand expert support
- Monitoring and optimization
- Big data analysis

Local Valmet experts,
Customer's experts



Valmet Customer Portal

On-line monitoring and analytics applications

- Our analytics applications are run in on-premise server or AWS cloud environment.
- We utilize them as a part of our services through Valmet Performance Centers or as stand-alone value adding applications

Customer mill or plant



Connectivity

Valmet Operations Panel

- A window to all Industrial Internet applications
- Assists operators and maintenance in daily work
- Collaboration tools to VPC
- Unified digital user experience

Use case 1. New performance-based services relying on data analytics and remote services

Challenge: Web breaks are causing a lot of unplanned operational downtime in a paper machine. In worst case, this might equal to 1–2 hours production loss per day → 5–10 k€ profit loss



Solution:

- An analytical application that predicts sheet breaks in the process and communicates with operators (Valmet's or customers')
- This enables new type of performance-based services by utilizing the application and Valmet's expertise through the Performance Centers

Results:

| m/min | g/m ² | width/m | Profit € / tonne |
|--|------------------|---------|------------------|
| 1500 | 80 | 7 | 100 |
| Value for the customer: Increased production, if 25% of the breaks could be prevented (hrs): 0.42 h/d x 365 d = 153.3 h/yr In Profit (€): 772 k€/year | | | |



| Potential business models | Earning logic |
|--------------------------------|--------------------------|
| Application as SaaS | Fixed price k€ per month |
| Application + support from VPC | Fixed price + bonus |
| Performance based | Profit share |

Use case 2. Connected plants and asset reliability optimization



Customer benefits:

- Reduced risk for unplanned shutdown
- Effective shutdown planning with spares, consumables, rolls
- Faster production to production time frame
- Continuous process performance and reliability improvement

In addition to remote expert services we aim to more autonomous Valmet Performance Center that monitors our installed base, feeds leads to sales and provides data driven insight to R&D.

Real time diagnostic on machinery condition and failure prediction

- Equipment and process performance reporting
- Monitoring process condition in real time and predicting future problems to plan maintenance operations and preventive actions
- Fleet performance reporting and analytics

Real time installed base monitoring combined with predictive diagnostic is a strategic differentiator for Valmet that generates new growth opportunity to our service business.

Valmet Customer Portal

Digital collaboration space



Current Service Modules

Operations panel

Window to Industrial Internet services for real-time monitoring and predictive work.

- Dashboards
- Production survey
- Paper Machine Diagnostics

Expert fastlane

Fast and simple way to contact Valmet experts.

- Access to Valmet Performance Center
- Valmet contacts
- Group discussions

Learning

Building internal capability – easy access to Valmet Learning Services

- Course search
- Training selection
- Pre-sign up

Opportunities

New business opportunities and innovations.

- Shared roadmap
- Idea sharing
- Valmet references

