

AI Solutions for Industries

Short Version of the Presentation

Advanced quality inspection and data insights

AI for Manufacturing, Automotive, Paper, Chemical, and Energy sectors.

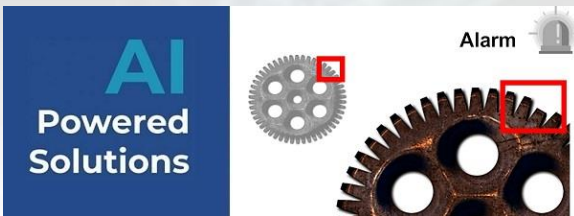
AI self-checkout stations for Restaurants and object recognition Retail businesses.

byteLAKE's AI Products



Cognitive Services

Advanced quality inspection and data insights.



for Manufacturing



for Automotive



for Paper Industry

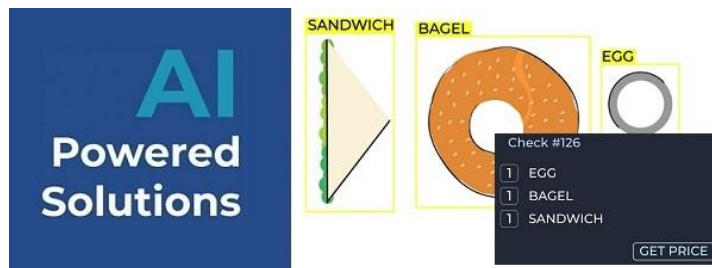
Predictive Maintenance



Data Insights

Cognitive Services for Restaurants

Self-checkout and object recognition.



CFD Suite

AI-accelerated Computational Fluid Dynamics.

Cognitive Services

AI turning data into information

- **Visual Inspection**
 - Products, parts, components, ...
 - Process monitoring
 - **Sound Analytics**
 - Car engines, bearings, ...
 - Assembly line inspection
 - **Data Insights**
 - Predictive maintenance
 - Identify risks
 - Optimize operations
 - Find dependencies
 - Avoid downtimes
- **Ensure High Quality Standards**



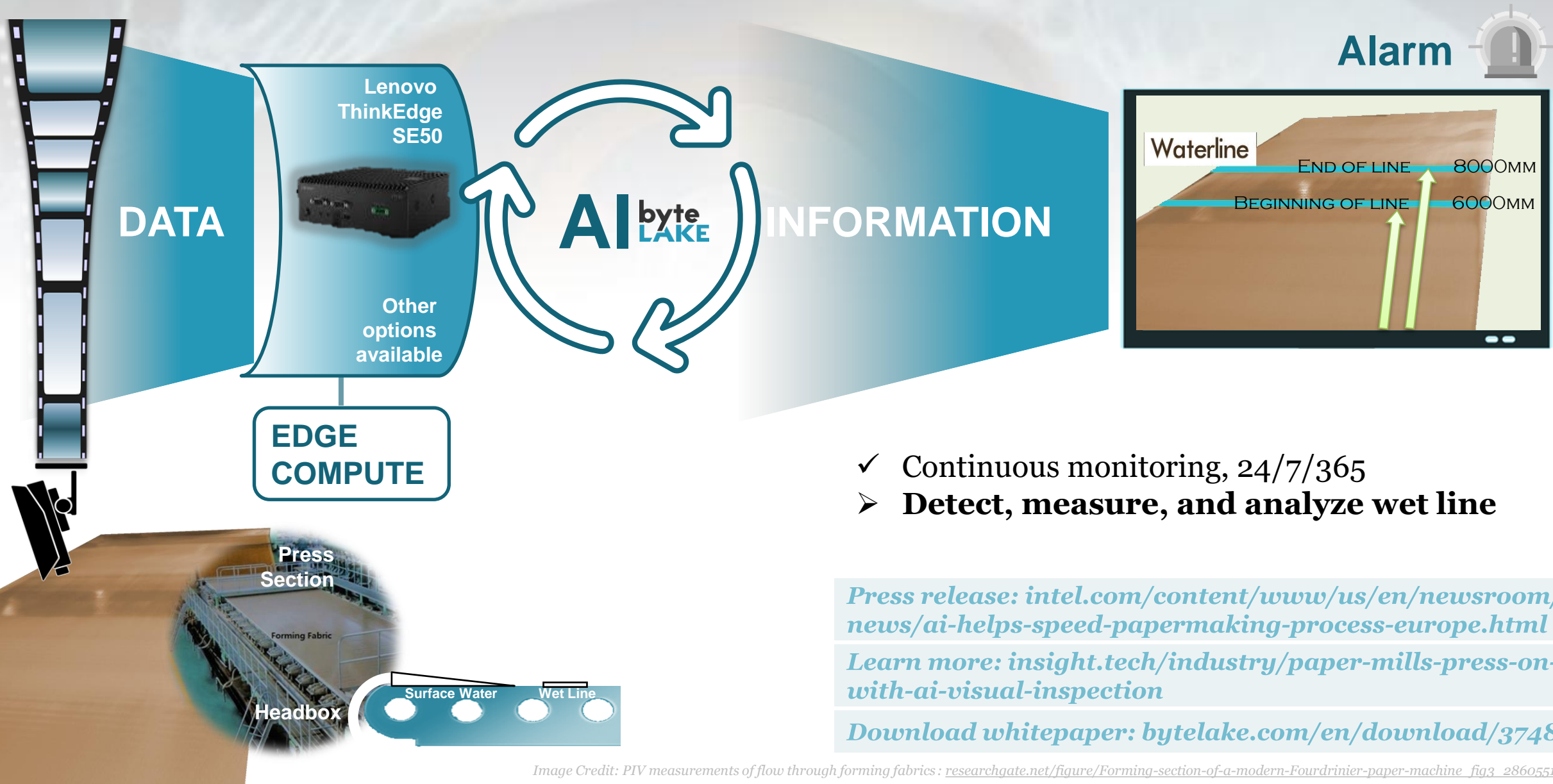
Watch on YouTube: youtu.be/qBtaoIMLedo

Download Tech Brief: bytelake.com/en/download/4400/

Visual Inspection - manufacturing



Visual Inspection – paper industry



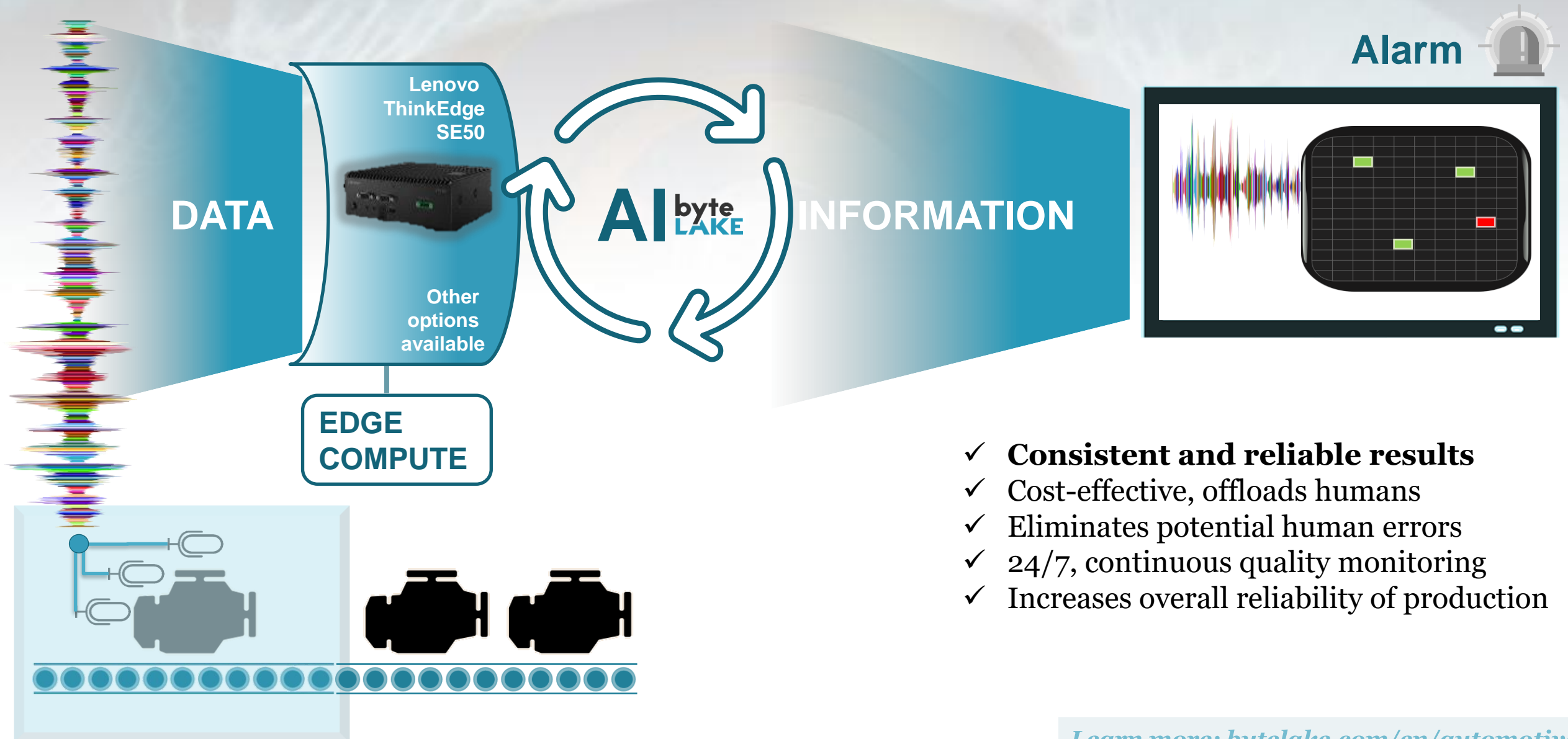
- ✓ Continuous monitoring, 24/7/365
- **Detect, measure, and analyze wet line**

Press release: [intel.com/content/www/us/en/newsroom/news/ai-helps-speed-papermaking-process-europe.html](https://www.intel.com/content/www/us/en/newsroom/news/ai-helps-speed-papermaking-process-europe.html)

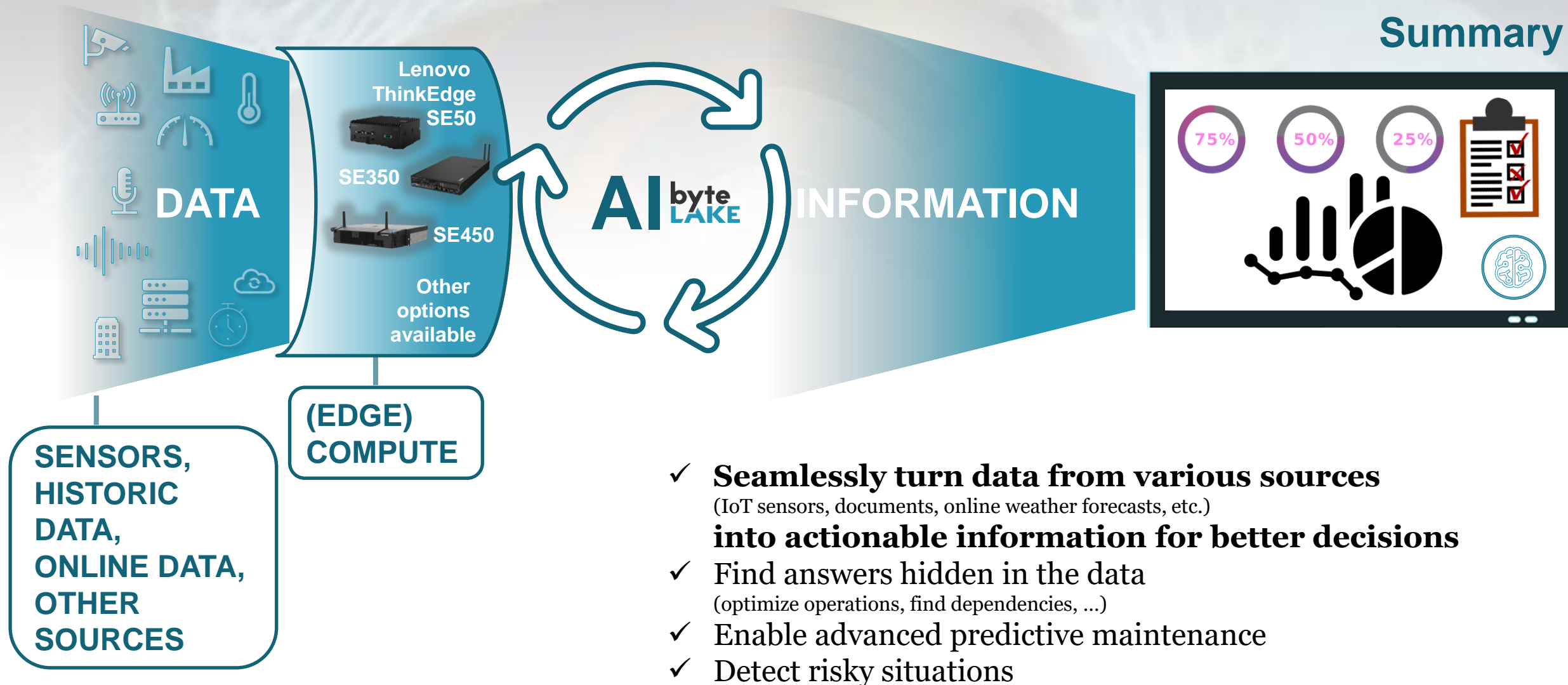
Learn more: insight.tech/industry/paper-mills-press-on-with-ai-visual-inspection

Download whitepaper: bytelake.com/en/download/3748/

Sound analytics – automotive



Data Insights



AI solving problems



Visual Inspection

Automated visual inspection & objects recognition

- scratches
- cracks
- dents
- wrong color
- paint chips/peeling
- wrong shape
- fractures
- count objects
- read and analyze labels
- monitor production processes and visually detect anomalies
- etc.

Sound Analytics

Automated quality inspection based on sound analysis

- enable proactive maintenance
- car engines quality check
- monitor bearings performance
- inspect assembly lines
- analyze sound samples, filter out noise, identify characteristic parts
- detect anomalies
- etc.

Data Insights

Converting DATA into actionable INSIGHTS

- understand why something happens
- what will likely happen and when?
- find optimal configuration
- explore dependencies
- etc.

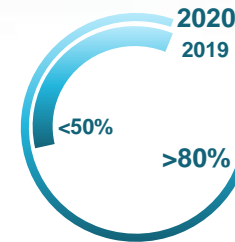
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Benefits offered by byteLAKE's Cognitive Services



- **Accelerate Data Analytics**
 - Processing data from various sources, including images, videos, and sensors.
- **Automate Quality Inspection**
 - Ensuring high accuracy in inspecting products and processes.
 - Eliminating potential human errors for consistent and reliable results.
 - Increasing overall quality and reliability.
- **Optimize Operations and Maintenance**
 - Reducing unnecessary inspections and lowering maintenance costs.
 - Predicting potential failures and downtimes.
- **Continuous Monitoring**
 - Offering 24/7/365 monitoring without boredom or distraction.
 - Offloading and supporting human operators.
- **Easy Replication**
 - Enabling quick deployment.
 - Functioning offline without an internet connection.
- **Continuous Improvement**
 - The solution can learn and improve over time.



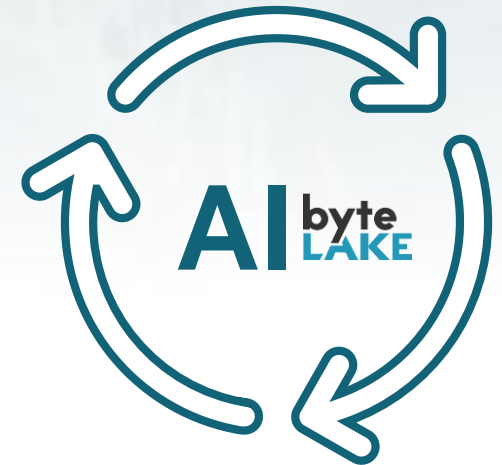
**Growing AI
adoption**

~80%
Human quality control's
average accuracy

99%
Accuracy with AI

AI in Manufacturing - benefits

- **Enhanced Productivity**
 - Streamlining processes for increased productivity.
 - Efficient resource allocation based on real-time data.
- **Customization and Adaptability**
 - Tailoring AI models to specific manufacturing requirements.
 - Adapting to changing production needs seamlessly.
- **Reduced Downtime**
 - Minimizing production downtime through predictive maintenance.
 - Optimizing machine uptime and reliability.
- **Data-Driven Decision-Making**
 - Empowering decision-makers with actionable insights.
 - Enabling data-driven strategies for process improvement.
- **Consistent Quality Control Across the Organization**
 - Ensuring consistent product quality throughout the production process.
 - Meeting industry standards and regulations effortlessly.



Cognitive Services for Restaurants

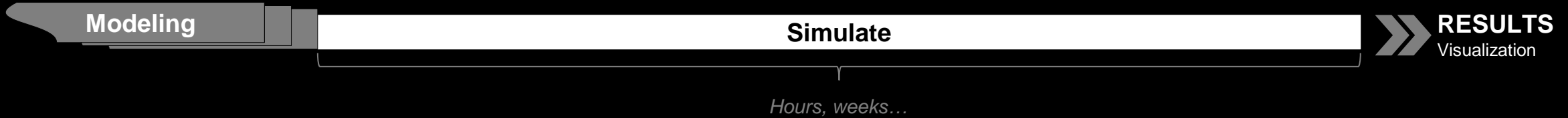


- ✓ Enabled efficient self-checkout
- ✓ Reduced queues and wait times
- ✓ Improved customer satisfaction

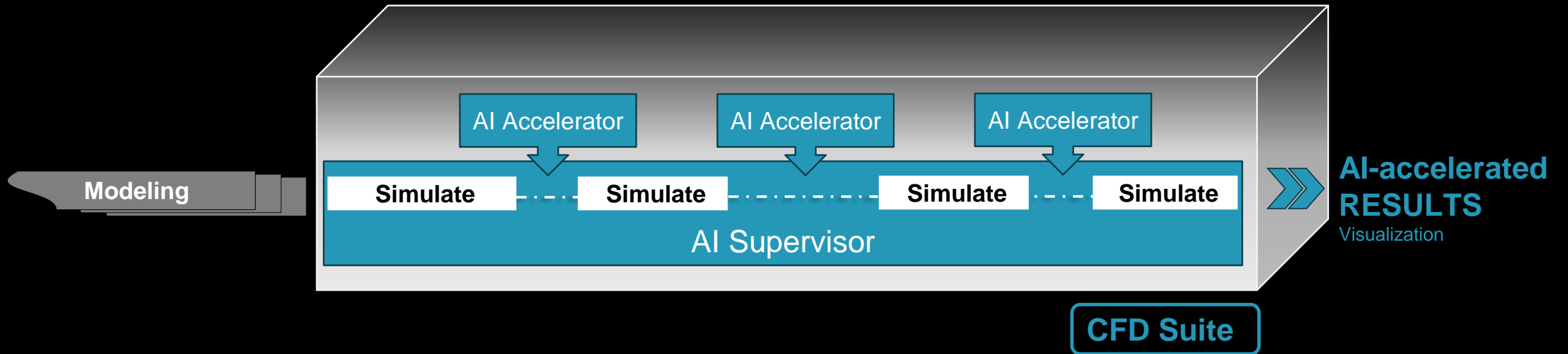


AI-accelerated CFD

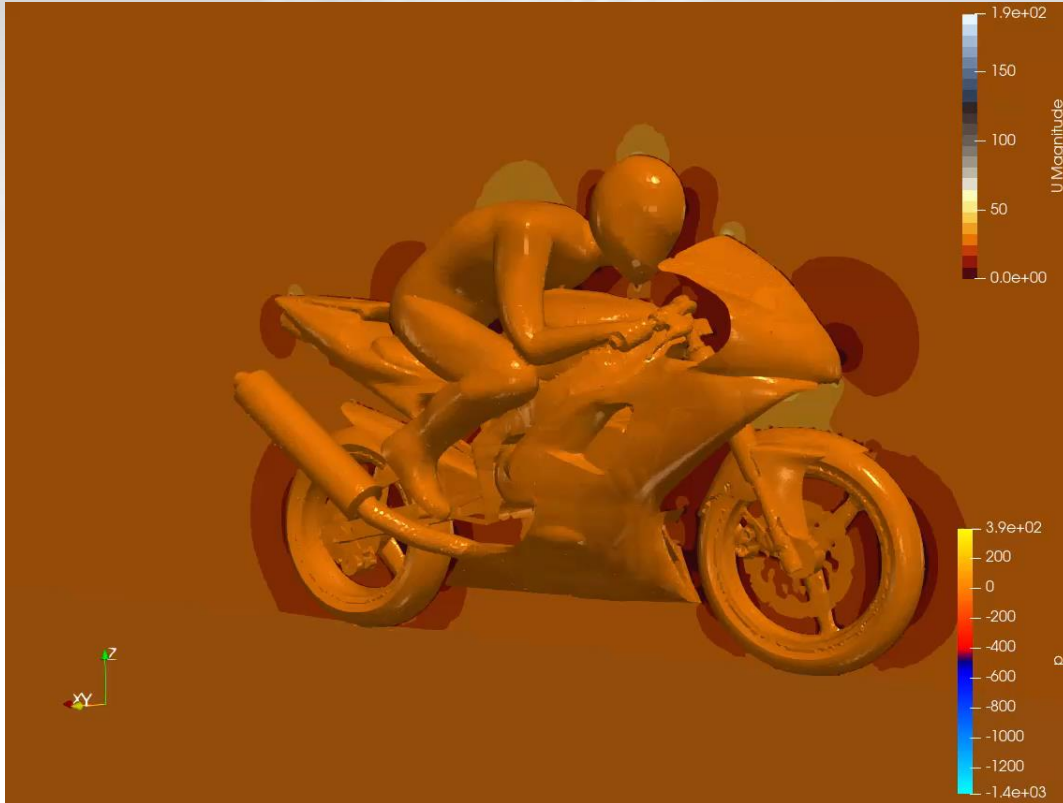
- Traditional workflow



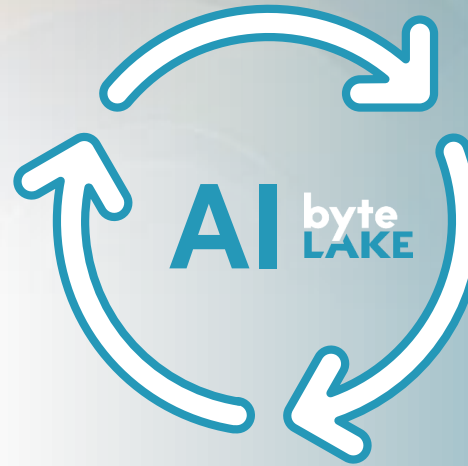
- byteLAKE's CFD Suite



Results: Flow around Motor Bike



CFD Suite



AI-
ACCELERATED
CFD

10X

Speedup

Faster Time to Insights

99%

Accuracy with AI

43X

Speedup

Faster Time to Insights

90%

Accuracy with AI

Contact us to learn more!

Marcin Rojek

**byte
LAKE**



mrojek@byteLAKE.com
+8 508 091 885

Mariusz Kolanko

**byte
LAKE**



mkolanko@byteLAKE.com
+48 505 322 282

