

A large field of wind turbines under a sunset sky. The turbines are arranged in rows, stretching into the distance. The sky is a mix of blue, orange, and pink, with some clouds. The ground is covered in low-lying vegetation.

Minimizing the Environmental Impact of Asset Intensive Organizations through Intelligent APM

#everythingASSETS



#everythingASSETS

Cyrus Sorab – Principal Architect, IFS Assets

ESG & SDG – Green and Gold

ESG is a way of investing or assessing companies on their **Environmental, Social and Governance** performance while also considering financial returns.

ESG refers to factors that are defined by the 3 Pillars of Sustainability:

- **Planet**
- **People**
- **Profit**

SDG stands for **Sustainable Development Goals**. They were developed in 2015 by the United Nations General Assembly

SUSTAINABLE DEVELOPMENT GOALS



ESG & SDG – Green and Gold

ESG is a way of investing or assessing companies on their **Environmental, Social and**

SUSTAINABLE  GOALS

9.4 - By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

Development Goals. They were developed in 2015 by the United Nations General Assembly

Leveraging Digital for ESG leadership

1.

ESG is a crucial part of **long-term business strategy** and value creation, with rising **stakeholder** interest in ESG performance

2.

Shift to digital will be a **gamechanger for ESG** and presents opportunities for **sustainable** growth

3.

Integrate **ESG as part of your digital strategy**, rather than tackling it separately, include NZE as **strategic** objective

4.

ESG data & reporting as well as **resource efficiency** are 2 key areas leveraging digitalization, **asset performance**, and servitization

Digital as an ESG Gamechanger: three focus areas

1 Data & reporting



Managing stakeholder demands for transparency to inform decision-making

2 Resource efficiency



Driving smarter resource use through servitization & circular economy

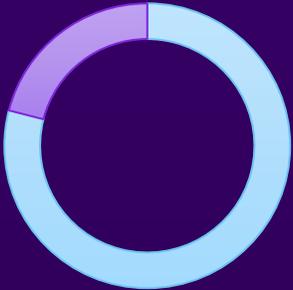
3 Asset performance



Leverage Intelligent Asset Performance Management to drive down energy waste

ESG Data & Reporting: it's a numbers game

79% of investors believe ESG risks are an important factor in investment decision making...



33% ...but only a third of investors believe ESG reporting is at a good enough level.



 PwC 2021 ESG Investor Survey



50,000

EU companies will need to perform detailed sustainability reporting (CSRD) compared with the current 11,000 companies in scope of NFRD

[NFRD vs. CSRD: What are the differences? \(esgenterprise.com\)](https://esgenterprise.com)

 TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES





 SASB STANDARDS
Now part of IFRS Foundation

 CDP
DISCLOSURE INSIGHT ACTION

Energy Crisis - Consequences for the Industry

30%

Assets Shut Down due to Energy Crisis
Chemelot in The Netherlands

Did you know?

45

90



TCO of a Motor

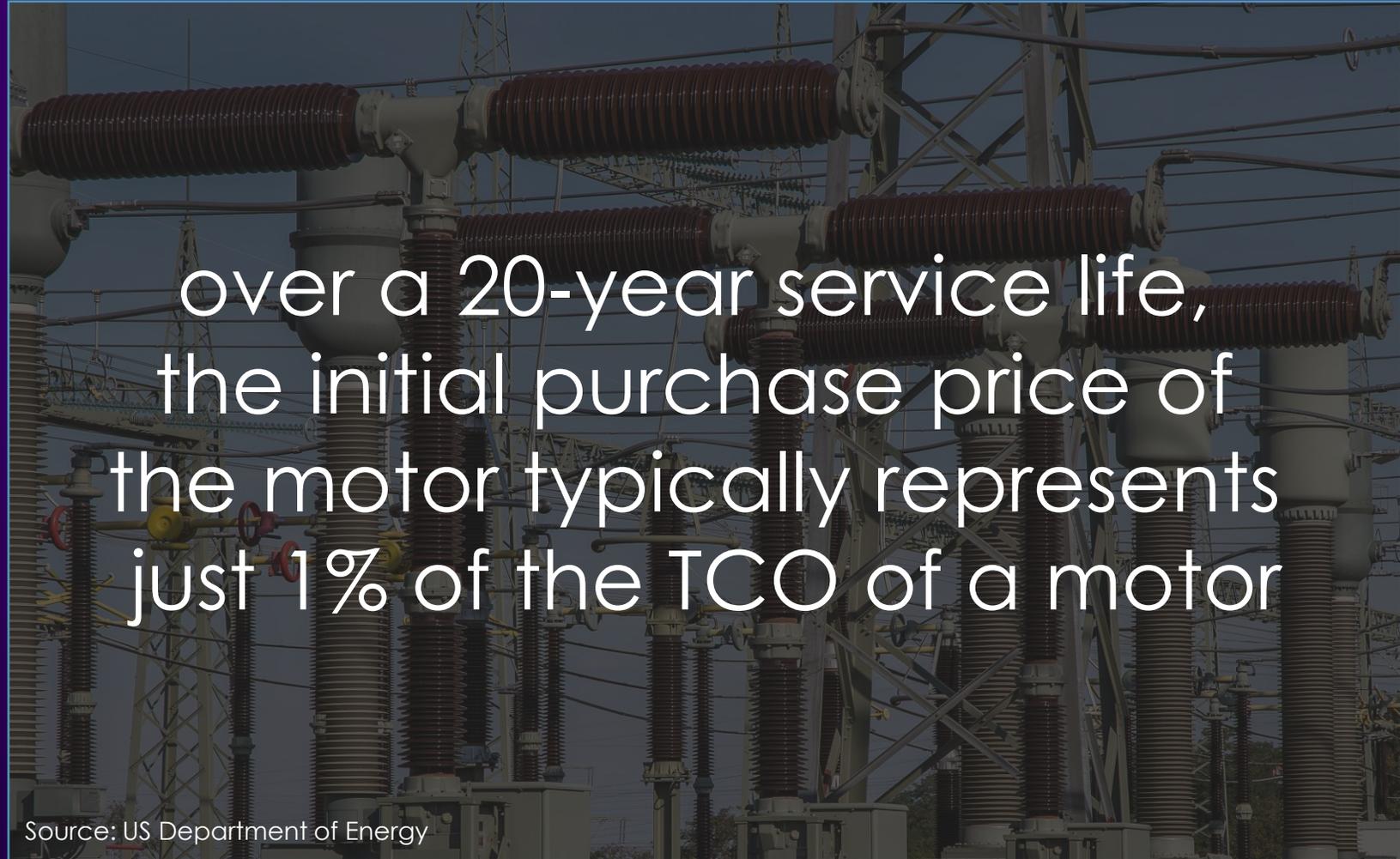
45%

Of the world's electricity is consumed by e-motors

90%

Of an e-motor's TCO is the energy it consumes *

* at US\$ 0.07 / kWh



Source: US Department of Energy

https://www.energy.gov/sites/prod/files/2014/04/f15/amo_motors_guidebook_web.pdf

TCO of a Motor – the math

100 Hp

Electric Motor

95%

Efficiency

8760

Run Hours / Year (24/7)

20 Years

Useful Life

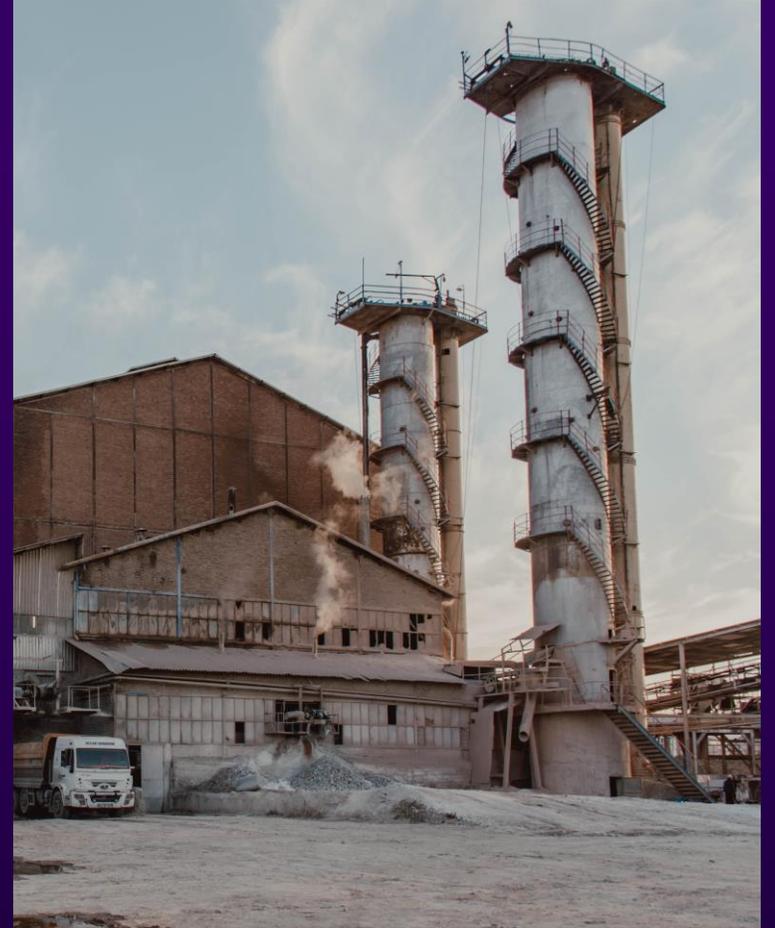
Energy Price EUR per kWh	Energy Cost Per Year EUR	Lifetime Energy Cost EUR
0.05	34,395	687,891
0.10	68,789	1,375,781
0.15	103,184	2,063,672
0.20	137,578	2,751,562
0.25	171,973	3,439,453
0.50	343,945	6,878,905

Sustainability

600

17

7



It is all APM and EAM!

600k

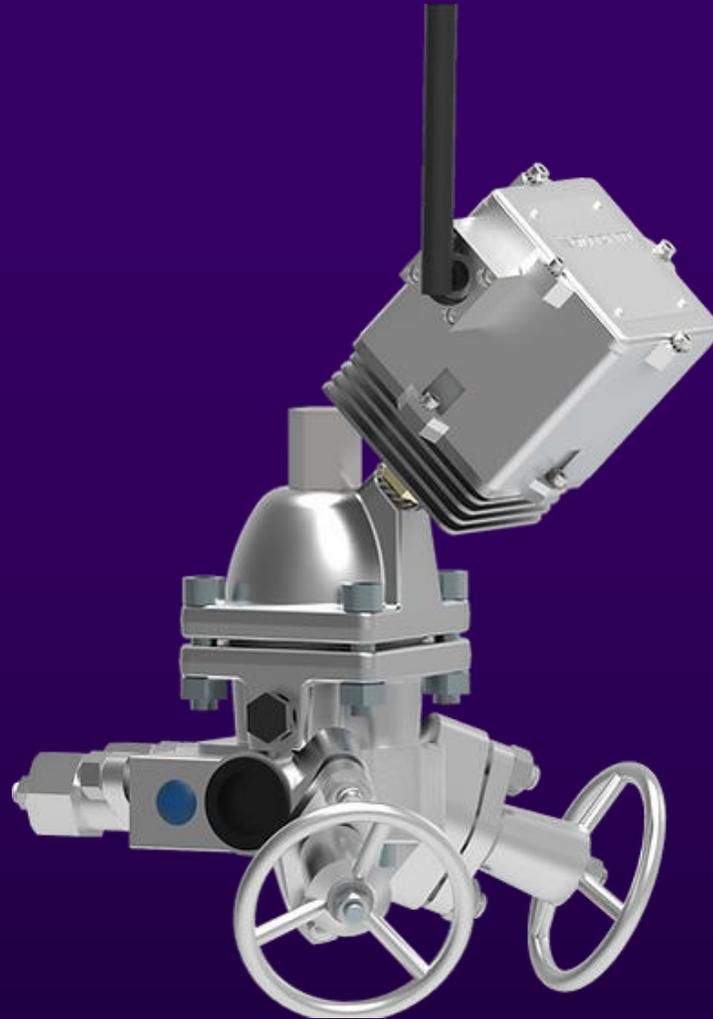
investment in technology in US\$

17%

improved energy efficiency

7m

annual savings in US\$



“This Steam Trap monitoring project technically accounted for **40%** of the savings. The rest was due to spontaneous order.”

Energy Conservation
=
Demand Reduction
+
Behavior Change

Environmental Impact of APM

43,300,000

kg of CO₂e **NOT** emitted annually by doing APM

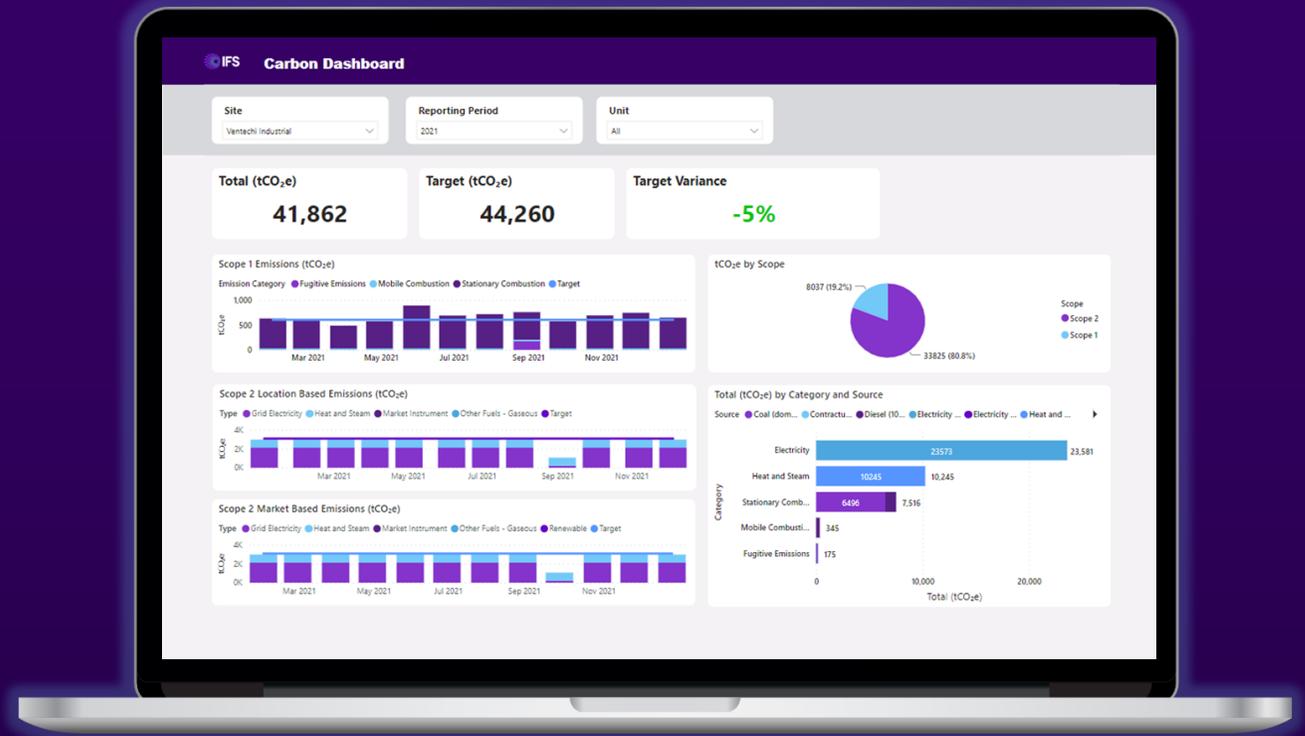
Digital transformation makes this an opportunity, not a burden



Example: IFS Carbon Footprinting Tool

- ✓ Consolidated source of data
 - ✓ Data quality checks
 - ✓ Dashboards to visualize progress
 - ✓ Analyze to allow for insightful decision making
 - ✓ Showcase your successes
 - ✓ Consistent reporting across organization
 - ✓ Comply with investor requests
- Automated data connections*

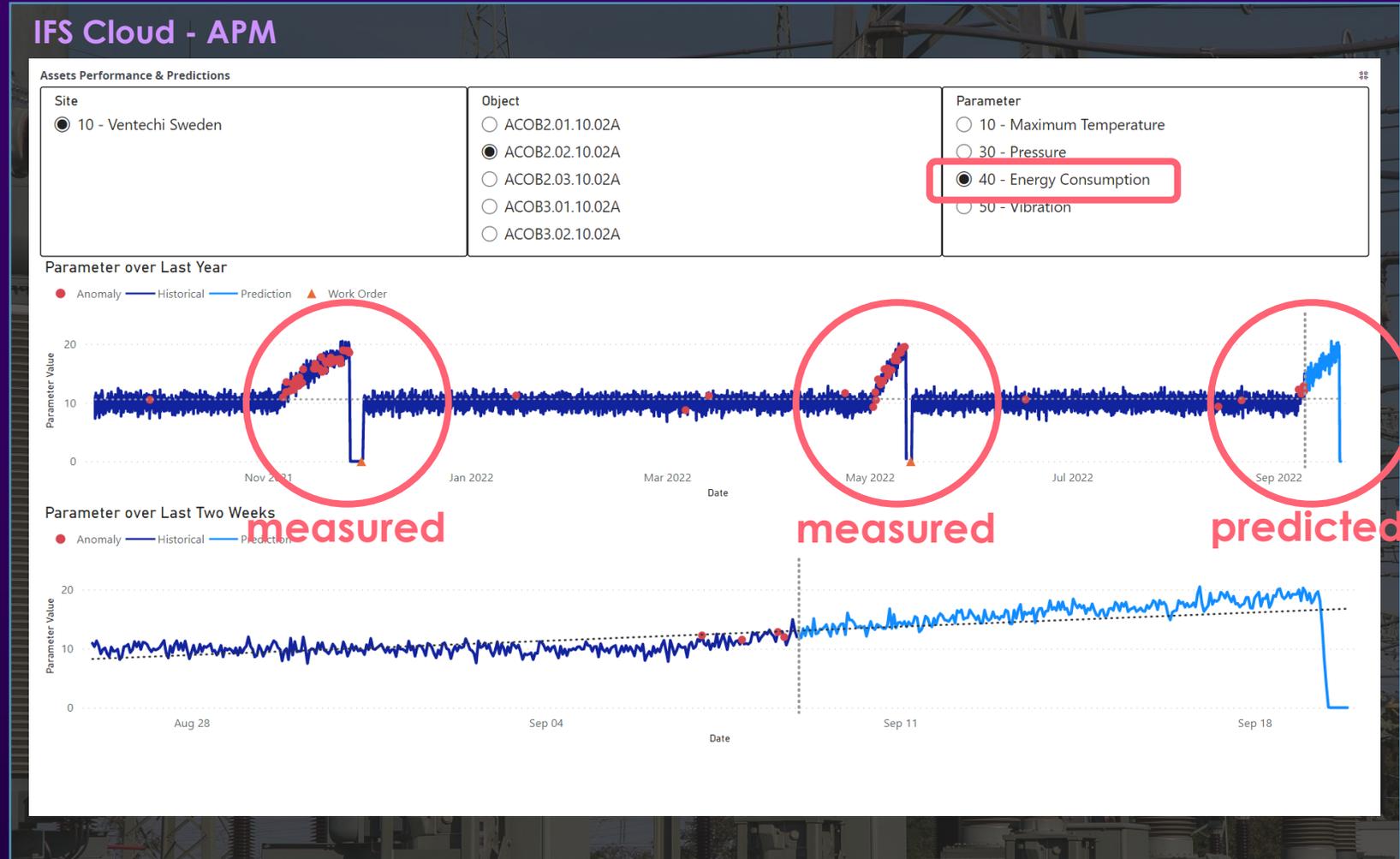
* Development in progress



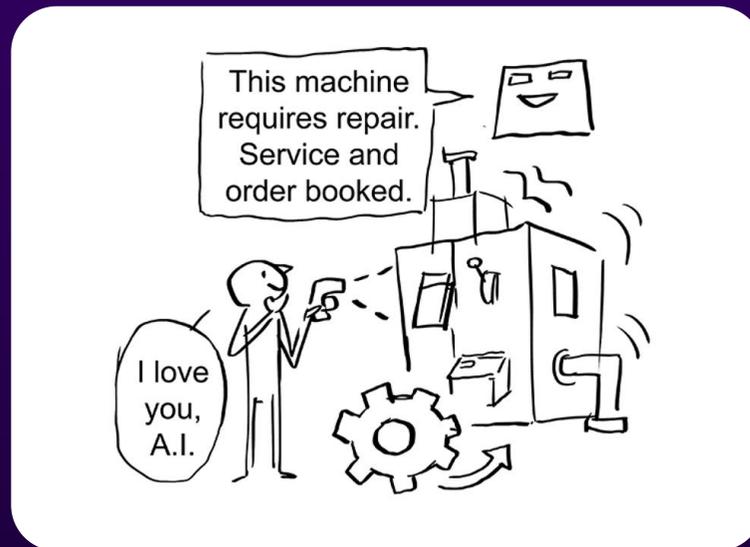
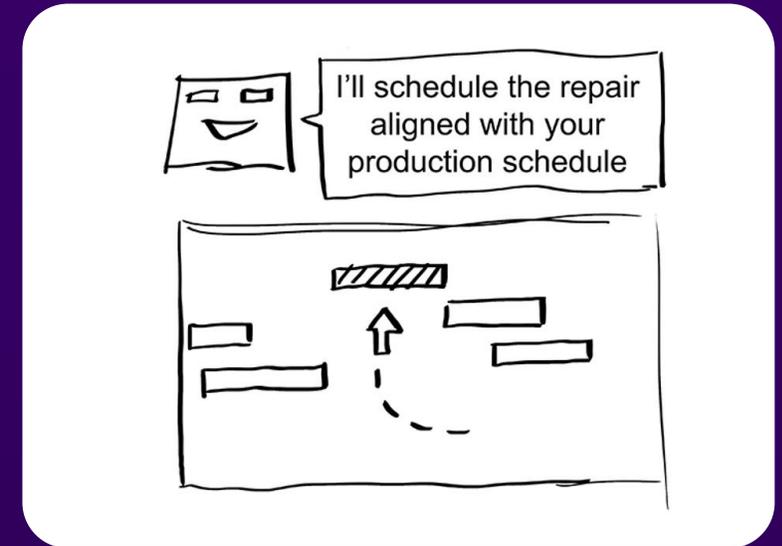
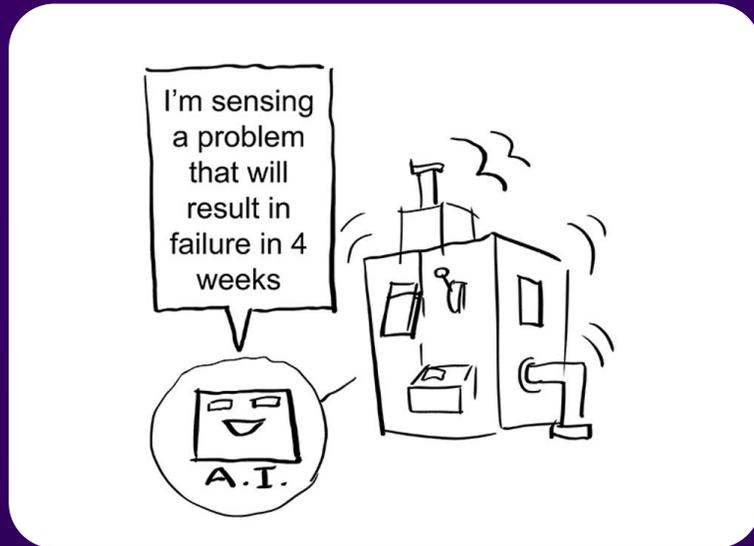
How is this APM?

- Excess kWh = CO₂e = \$\$\$
- Audit Utility Bills for anomalies
- Implement Best Practice EAM
- Heat is bad for assets
- Sub Metering
- Sensors
- Detect inefficiencies
- Act & Fix with WO
- Use AI/ML to predict

APM



Making APM Intelligent



The Business Outcomes



Behavior Change
Increased Reliability
Reduced Energy Waste
Lower Carbon Footprint
Energy Cost Savings

Come and See us at stand H10

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Thank You

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