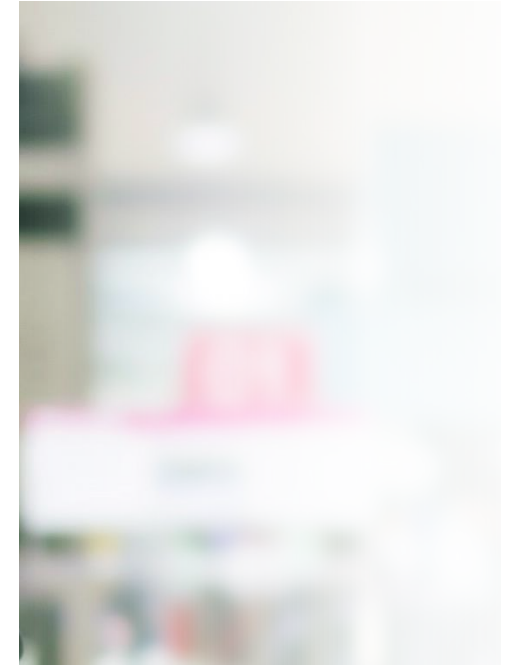




Digitalizing Semiconductor Fab Facilities

Presented by: Giuseppe Sugliano Industry Segment Leader Manufacturing Director at AVEVA



1

Overview of using software for sustainability

2

Emissions considerations for the semiconductor industry

3

Steps to drive net-zero initiatives with AI

4

Conclusions

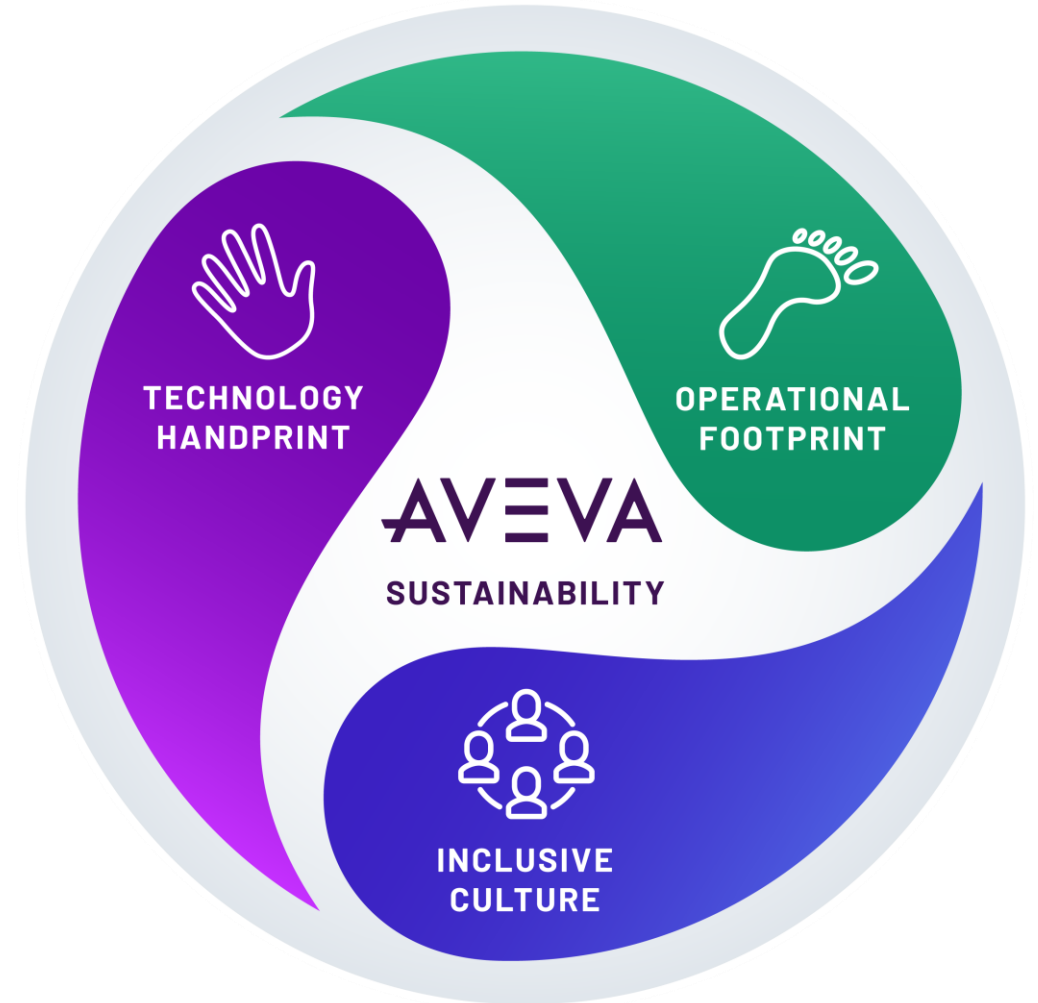
AVEVA - Leader in Sustainable Industrial Platforms and Software

- AVEVA combines the world-leading industrial data management with AI-infused software that builds on more than fifty years of expertise
- Wholly independent company, owned by Schneider Electric
- Growing recurring revenue by 10%+
- Expert in cloud and hybrid-cloud applications
- Open and agnostic, trusted by the world's leading companies from energy and infrastructure to manufacturing and pharmaceuticals



AVEVA Integrated ESG vision

We create industrial software that inspires our customers to transform the environmental and social impacts of their business. We strive to exemplify sustainable business practices within our operations. We enable an inclusive and equitable culture for our people and communities.



United Nations
Global Compact

Schneider Electric and AVEVA

Five Integrations disrupting Sustainability, Efficiency & Resiliency



Technologies Already Exist to Make Companies Energy Resilient and Net Zero



Energy cost savings at a
300 mm fab



Average improvement in
efficiency



Reduction in greenhouse
gas emissions

¹*Energy Efficiency to the Fab 2018*

²*Entefy 2018*

³*Semiconductors Helping solve the climate challenge*

Technologies also already exist to make companies more efficient and accurate



Accuracy of data extracted
by AI & ML from
unstructured data

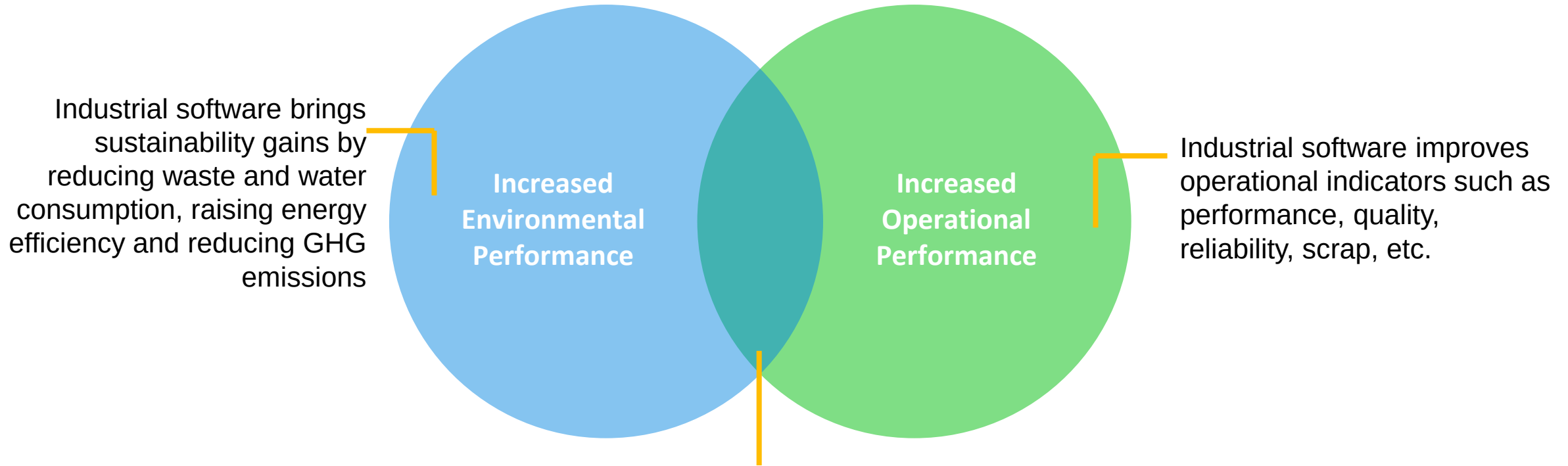


Reduction in energy
consumption can be
achieved through AI &
Analytics alone

Sources: 1 Forbes, 2 ReliableResearchReport

Accelerating operations and environmental performance

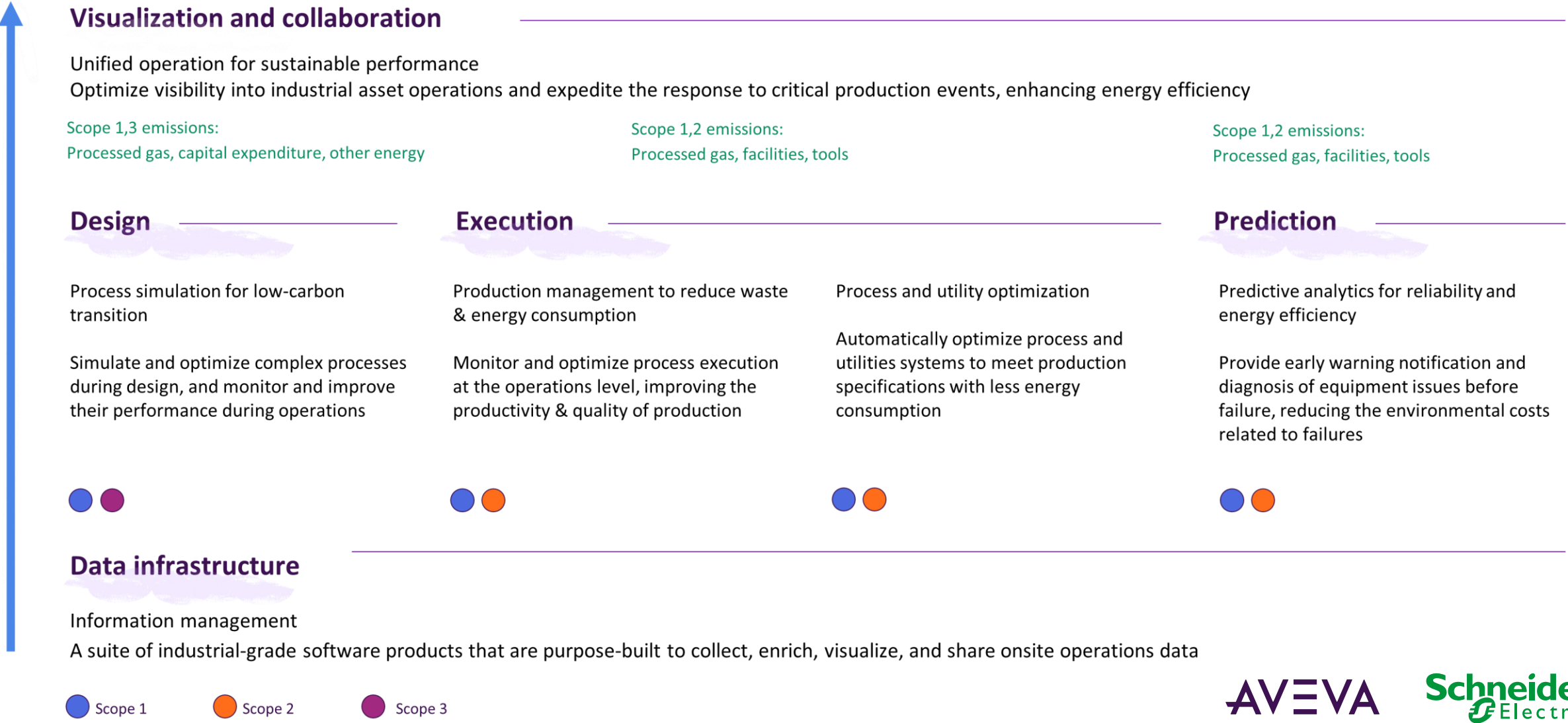
Opening two doors with one key



Industrial software capabilities:

- Enterprise visualization for collaboration and decision-making
- Simulation, analytics and optimization applications
- Process and asset information systems

How do solutions supported by data contribute to sustainability across the value chain?



Key steps to drive net-zero initiatives



1. Define clear objectives

Process



2. Build talent and organization capability

People

Process



3. Set data strategy and infrastructure

Technology

Process



4. Ensure scaling and adoption

People

Process

Technology



5. Create feedback loops

People

Process

Global semiconductor company

Digital continuity and decreased time to market

Challenges

- Need to leverage early engineering efforts and share information across multiple sites
- Desire to implement better tools to monitor and control facilities & assets
- Need for a better understanding of digital transformation and benefits

Solution

- Increase efficiency in how software is managed to run facilities
- Leverage AVEVA's global reach to standardize the platform and integration with other systems, including regional
- Drive global acceptance of a standard platform

Results

- Standardization across the AVEVA System Platform promotes efficient working practices including the reuse of c
- Common SCADA platform helps teams to share data and run combined analytics to optimize operations
- Company is embracing sustainability and Industry 4.0 working practices, leading the way in its industry



Reduced time to market



Run combined analytics to optimize operations

AVEVA

UC Davis

United States of America

Optimizing electrical grid responsiveness to realize ambitious sustainability goals at large university campus

Goals

- Achieve 100% renewable electricity by 2025
- Realize net zero carbon goals for scope 1 and 2 emissions
- Integrate onsite production with state grid needs
- Optimally dispatch large electrical loads and respond to grid emergency events
- Expand use of electricity storage
- Improve electricity scheduling accuracy and forecasting

Challenges

- Use real-time data to leverage approaches such as industrial scale load shifting, demand response in fleet of buildings and battery backups to reshape the campus's electrical load
- Combining data from the electricity provider to help optimize energy costs
- 1,000 buildings with diverse energy needs

Results

- Leading the way for large campuses to help solve state electrical grid challenges
- \$150k annual baseline cost savings from water chiller dispatch optimization
- \$250k savings and demand response payments during recent heat wave event



Industry: Buildings and Facility Management

Solutions: AVEVA™ PI System™

“We were able to shed our chiller load right when the price was high... In the recent heat event, we achieved something like \$60,000 in market savings and \$180,000 of demand response payments that we anticipate.”

**David Trombly, Senior Engineer Supervisor
UC Davis**

[Learn More](#)

AVEVA

AVEVA

Schneider
Electric

Schneider Electric & AVEVA

Five Integrations disrupting Sustainability, Efficiency & Resiliency

