

THE POWER OF DIGITAL TRANSFORMATION

WORKING WHILE DIGITALLY DISTANCING



DELAWARE
SUSTAINABLE CHEMISTRY
ALLIANCE

SIEMENS
Ingenuity for life

YOUR HOST



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The Delaware Sustainable Chemistry Alliance (DESCA) was founded in 2010 to support the growth of new and existing startup companies in the area of sustainable chemistry. As the global chemical landscape evolves, and given our region's core competencies in chemistry, advanced materials, biochemistry, agriscience and industrial biology, DESCA's mission has evolved.

Today, DESCA focuses on:

- Continuing to foster innovation and collaborative partnerships between major strategics, startups and universities as well as building a M&A pipeline;
- Driving the conversation around the adoption of digital technologies which will be a key driver in sustainability for the future;
- Harmonizing the development of talent with the validated needs of the industry.

UNPRECEDENTED CHANGE

Pre-COVID, businesses across the country were working slowly towards digital transformation. The COVID-19 crisis has changed the trajectory of that progress with an unprecedented adoption of digital technologies at multiple levels.

The next big wave of disruption is headed our way as companies seek new models and methods to face ongoing economic uncertainty.



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YOUR PRESENTER



Iiro Esko

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Iiro Esko is a Chemical Industry Manager for Siemens Digital Industries.

He has a background in chemical engineering with 10 years of experience in Digital Twinning and the application of these digital twins in the process industries.

Iiro has worked for Siemens in several different areas and countries, focusing on the application, business development and commercial aspects of digitalization and Industry 4.0 technologies.

His current role is based in Houston, TX, aiming to promote the use of new technologies in the chemical industry.

Iiro earned a Bachelor of Science in Chemical Engineering in Tampere, Finland.

THE POWER OF DIGITAL TRANSFORMATION

“We have incredible manufacturing flexibility where we can produce specialty paint batches in 1/50th of the size.”

Kevin Worrell,
Project Director at Dulux
Australia

- >50% less time from testing to paint production
- 8x faster production process

Dulux[®]

SIEMENS
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**Manufacturing Karlsruhe –
People using digitalization
to simplify complexity!**

~40%

increase in machine utilization

>24,000

living products

>160

product ramp-ups per year

<0.2%

field return index



SIEMENS
Ingenuity for life

14x

productivity increase since the
start of production in 1990

99.9999%

perfect quality – every day

>120

variations are built per day |
~1 product per second

~350

changeovers per day to handle
1,200 different products



Industry 4.0
Award

Siemens Electronics
Manufacturing
Plant Amberg
Germany

SIEMENS
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SOLUTION EXAMPLE: MOBILE OPERATOR CONCEPT

Distributed Control System (DCS) screen access on the plant floor for process industry operators.

Pre-requisites: Tablet access to plant network and a modern process control system. Assets with RFID tags for content and user profile matching.



SOLUTION EXAMPLE: AUGMENTED REALITY IN SERVICE

Virtual objects overlaid on real assets for improved visual operational procedure use cases.

Pre-requisites: Tablet access to standard operational procedures and related data. Assets with RFID tags for content and user profile matching.



SOLUTION EXAMPLE: WEARABLE DEVICES FOR INDUSTRY

Smart glasses, helmets and other devices for two-way information sharing between technicians and experts.

Pre-requisites: Mobile and remote access to digital twin data. Connectivity for tracking worker location and wellbeing. Identification to check for correct asset.



SOLUTION EXAMPLE: MOBILE WORKERS IN MAINTENANCE

Paperless maintenance orders, work permissions, digital twin documentation, past orders, BOM's and order status.

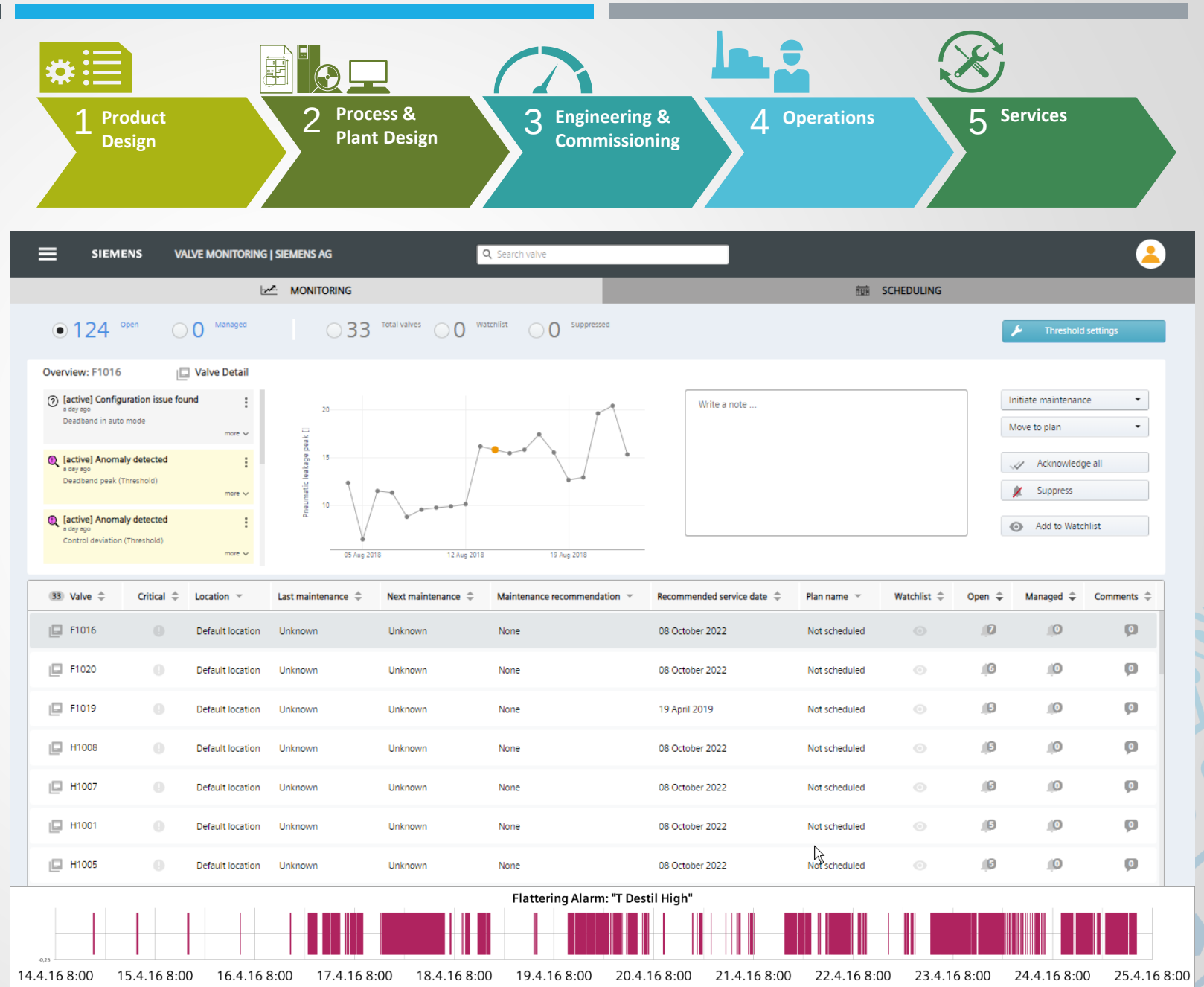
Pre-requisites: Mobile and remote access to digital twin data. ERP, CMMS and supplier integration with plant operations.



SOLUTION EXAMPLE: ASSET HEALTH MONITORING AND AI

Prescriptive maintenance requests for control assets such as drives, valves, automation system loops, actuators and sensors.

Pre-requisites: Access to automation network data.
Faster if you're cloud-ready.
3-12 months of historical data from production.



SOLUTION EXAMPLE: DIGITAL TWINNING OF INSTALLED BASE

Generating virtual reality models of process skids, modules, sub-processes, processes and entire plants with photogrammetry.

Pre-requisites: Video and photos of the assets. Links to and from the 3D digital twin to asset data from engineering and operations.



DESCA WEBINAR SERIES: THE POWER OF DIGITAL TRANSFORMATION

Working while digitally distancing

Tuesday, July 28
Digital Readings



Jack Roushey

Remote Process Monitoring



Allan Petersen

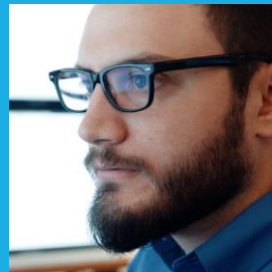
Remote Services in an
Industrial Environment for
Process Instrumentation

Wednesday, July 29
Digital Controls



Don Mack

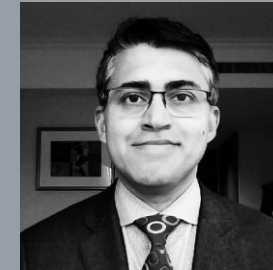
Co-presenting with



Ethan Cook

Digitalization Use Cases
Supporting Remote,
Connected Workers

Thursday, July 30
Digital Modeling



Ravi Aglave

Co-presenting with



Simon Leyland

The Key Role of Digital
Design and Operation for
Sustainable Processes in
the Post COVID-19 World