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Connected
Equipment Summit

Cimetrix Product Update

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Version 1

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This presentation and discussions resulting from it may include future product features or fixes, or the expected timing of future releases. This information is intended only to highlight areas of possible future development and current prioritizations. Nothing in this presentation or the discussions stemming from it are a commitment to any future release, new product features or fixes, or the timing of any releases. Actual future releases may or may not include these product features or fixes, and changes to any roadmap or timeline are at the sole discretion of PDF Solutions, Inc. and may be made without any requirement for updating. For information on current prioritizations and intended future features or fixes, contact sales@pdf.com.

#1.

Who is the Cimetrix Product Group of PDF Solutions?

Who is the Cimetrix Product Group of PDF Solutions?

- We are industry leaders in SEMI Standards compliance!
- We make great products!
- We make you successful!
  - Focus on your area of expertise and leave the rest to us
    - Multi-platform
    - Solutions to common equipment control problems
    - AI/ML
    - Digital Twins
    - Shorter downtime / Diagnostics
  - Remote connectivity
  - Cybersecurity

We are SEMI Standards experts

GEM/GEM300/EDA

For over 25 years, we have provided software that enables SEMI standards compliance on equipment. We participate on SEMI Standards committees, including serving as chairs. We have a full suite of products that supports implementation and testing.

#2.

We make great products!

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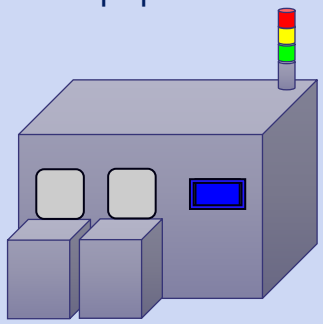
We make great products!

Product Family		Product/Platform	Interface(s)	Notes
Equipment 	Connectivity	CIMConnect EquipmentConnect	GEM	Equipment GEM interface
		CIM300 EquipmentConnect	GEM 300	Equipment GEM 300 interface
		CIMPortal Plus EquipmentConnect	EDA (Equipment Data Acquisition)	Equipment EDA interface
		EquipmentTest, EDATester, ECCE Plus	GEM, GEM 300, EDA	Utilities to test equipment GEM and EDA interfaces
	Control	EquipmentControlFoundation (ECF)	GEM, GEM 300, EDA	Equipment software framework with integrated Equipment Connectivity
Cloud Solutions 	Secure OEM/Fab/OSAT Connectivity	secureWISE	IP-SEC VPN Tunnel (double encrypted)	Secure remote equipment access & data exchange for fabs and OEMs
	Applications	Insight, ALPS, DEEP, EquipmentTwin	gRPC API	Additional applications in development

Broad market adoption

Largest OEM in this industry shipped their software on approximately 6,000 pieces of equipment

- Last year PDF equipment software was installed on over 7,600 systems
- This year over 8,000 semiconductor systems will ship with PDF equipment software Including…
  - Metrology
  - ALD/EPI/Etch
  - Pick & Place
  - Cleaning/Strip
  - Backend Test
  - MOCVD & PVD
  - Inspection
  - Bonding
  - Photovoltaic
  - Electrochemical Deposition
  - Ion Implant

#3.

We make you successful!

— Multi-platform support

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Multi-platform support

Window/Linux with .NET 8.0

.NET 8.0 enables true multi-platform development and deployment.

- Multiple operating systems
- Reduced development costs
- Enhanced security
- Consistent user experience

gRPC API

gRPC is a modern, open-source Remote Procedure Call (RPC) framework used for building scalable and high-performance APIs.

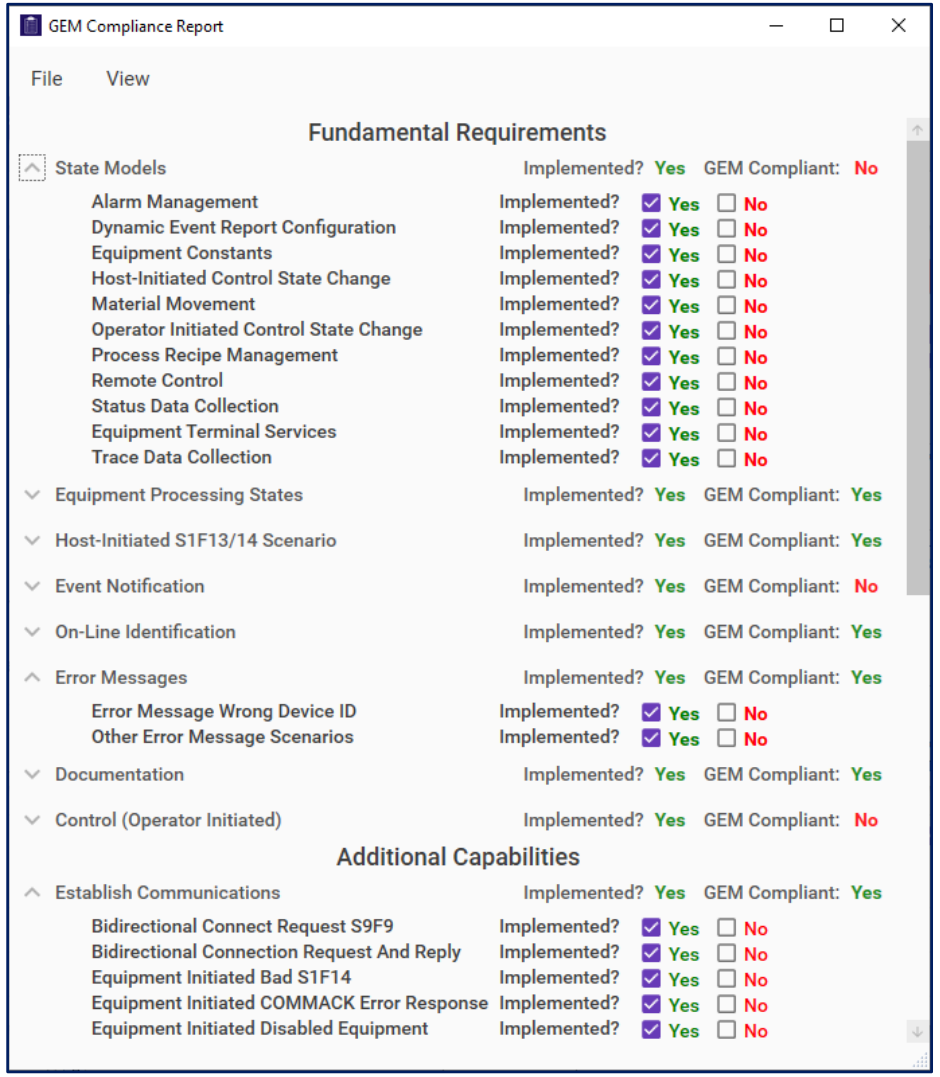
- Cross-language environments
- High-performance API

Introducing: Cimetrix EquipmentConnect

Next generation connectivity

Features

- Multi-SEMI Standard
  - GEM/GEM300/EDA
- Multi-platform
  - Windows/Linux
- Same great quality you expect from Cimetrix products
  - Same test environment
- Runs out-of-process
  - gRPC API



#3.

We make you successful!

Solutions to common equipment control problems

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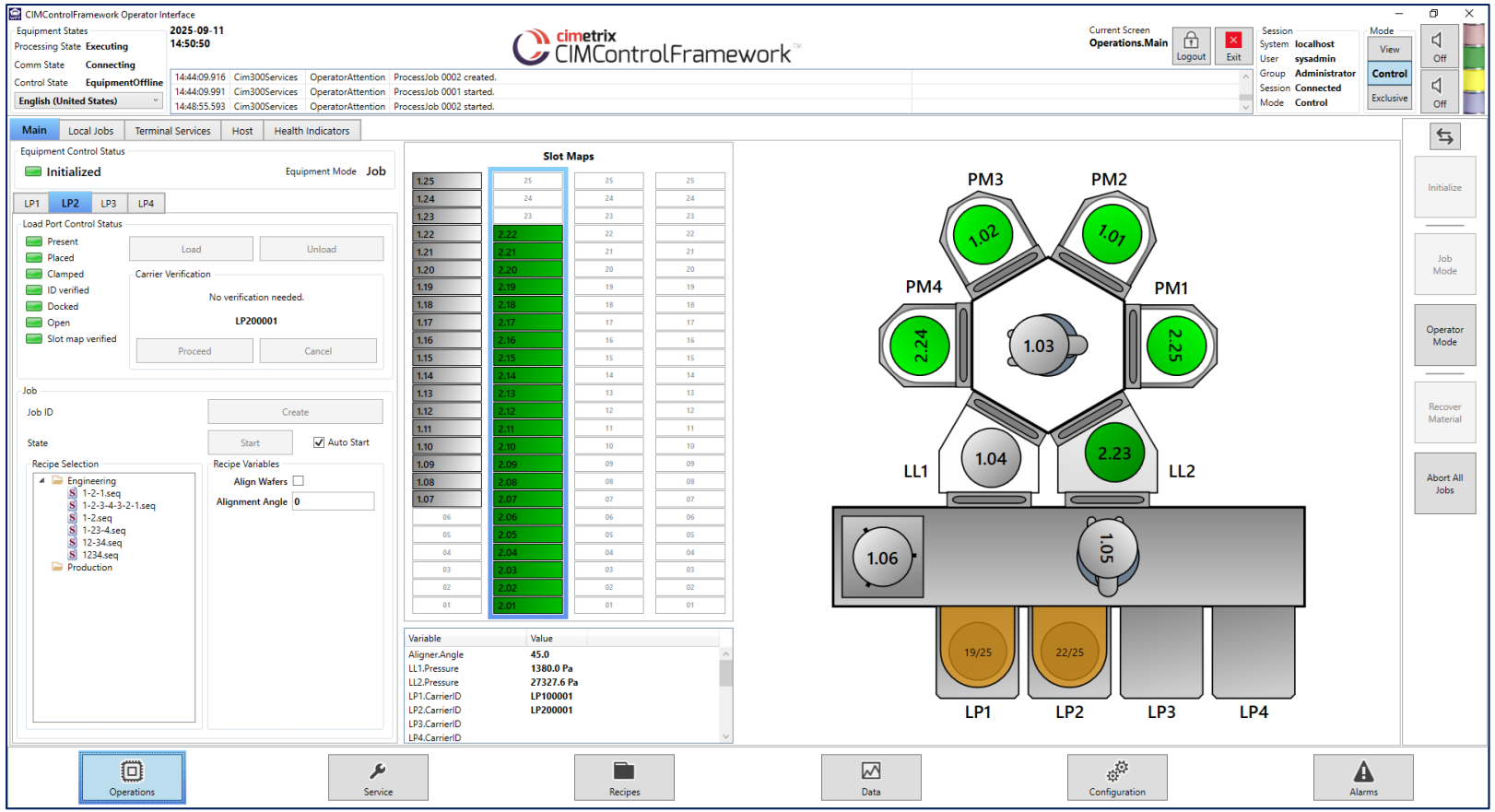
Introducing: Cimetrix EquipmentControlFoundation (ECF)

Next generation equipment control

Features

- Standards integration
  - EquipmentConnect
- Multi-platform
  - Windows or Linux
- Avalonia Operator Interface screens



What do you look for in equipment control software solution?

1. Scale your business
2. Accelerate time-to-market
3. Control your destiny
4. Satisfy your customer’s FA needs
5. Support AI/ML
6. Focus software resources

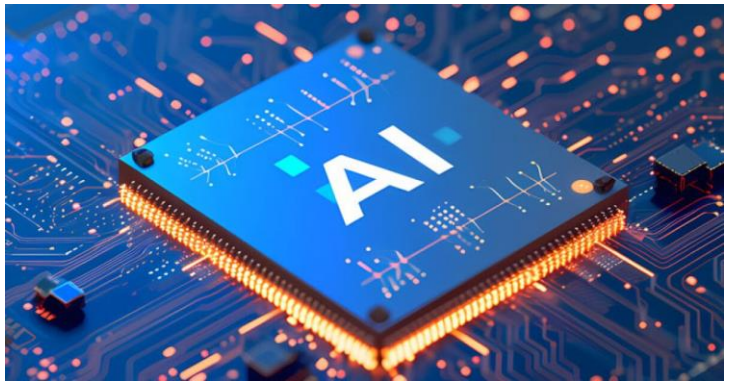
What is EquimentControlFoundation (ECF)

ECF is an equipment control software toolkit

- Enables high-quality equipment control application development
- Implements all SEMI equipment automation software standards
- 80% functionality out-of-the-box for typical equipment applications
- Designed for AI/ML

EquipmentControlFoundation AI/ML enhancements

- Health Indicators
  - SPC for equipment control applications
- DEEP (Digitally Enhanced Equipment Protection)
  - AI/ML
  - Preventative maintenance
  - Process improvement
- EquipmentTwin
  - Throughput improvement – even for process limited equipment



#3.

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— AI/ML

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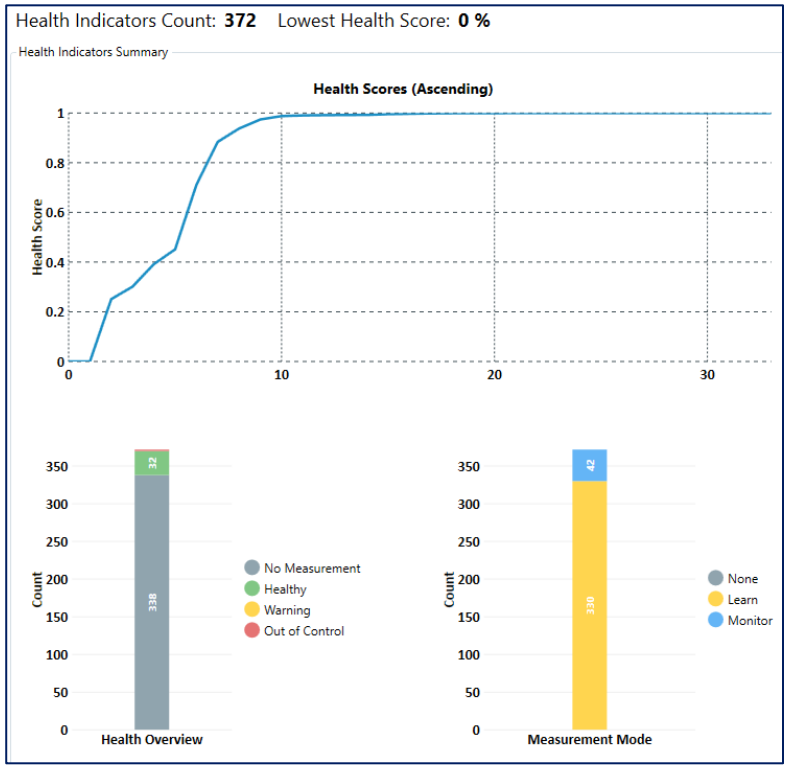
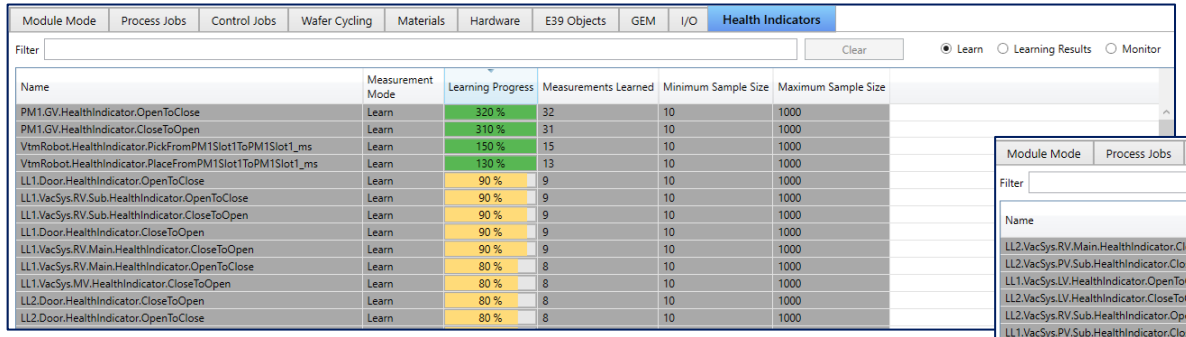
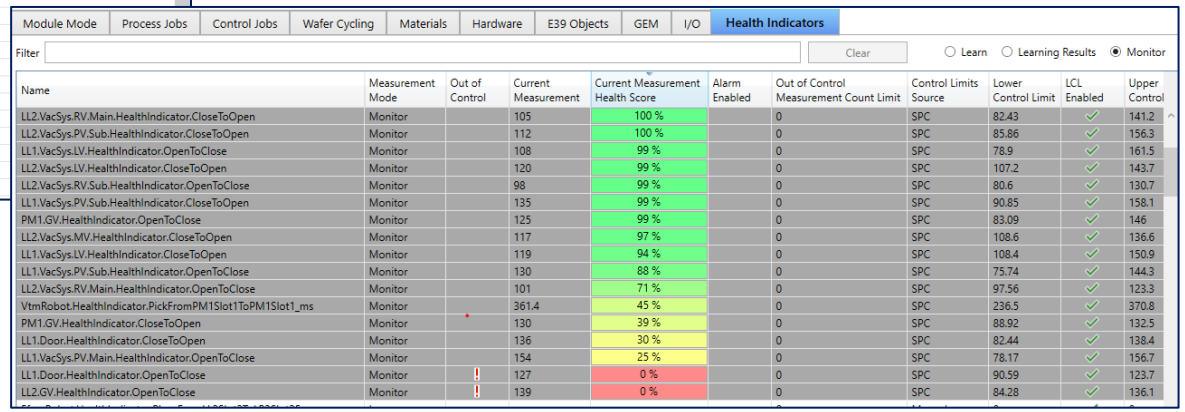
Health Indicators

- Provides SPC for ECF
  - Preventative maintenance
  - Configurable
  - Fully documented







DEEP – Diagnostically Enhanced Equipment Protection

- **AI/ML powered by PDF Solutions**
  - Equipment-focused AI/ML
- **Equipment reliability performance**
  - Ability to check overall equipment health
    - Monitor critical equipment sub-component's health
    - Create golden fingerprints for each sub-component
  - Predict failures before they happen
    - AI/ML monitors and identifies when component health starts to deteriorate over time
    - Prevents costly unscheduled tool downtime
- **Enables a new flow of recurring revenue from services contracts**
  - Ability to compete for recurring revenue

EquipmentTwin

- Boosts throughput by optimizing wafer flow and robot scheduling.
- Emulates exact robot motions.
- Validate EFEM, loadlock, and chamber layouts in days, not months.
- Reduce risk on multimillion-dollar equipment investments.
- Reuse insights across tool families for faster development.

#3.

We make you successful!

— Reduce down-time / Diagnostics

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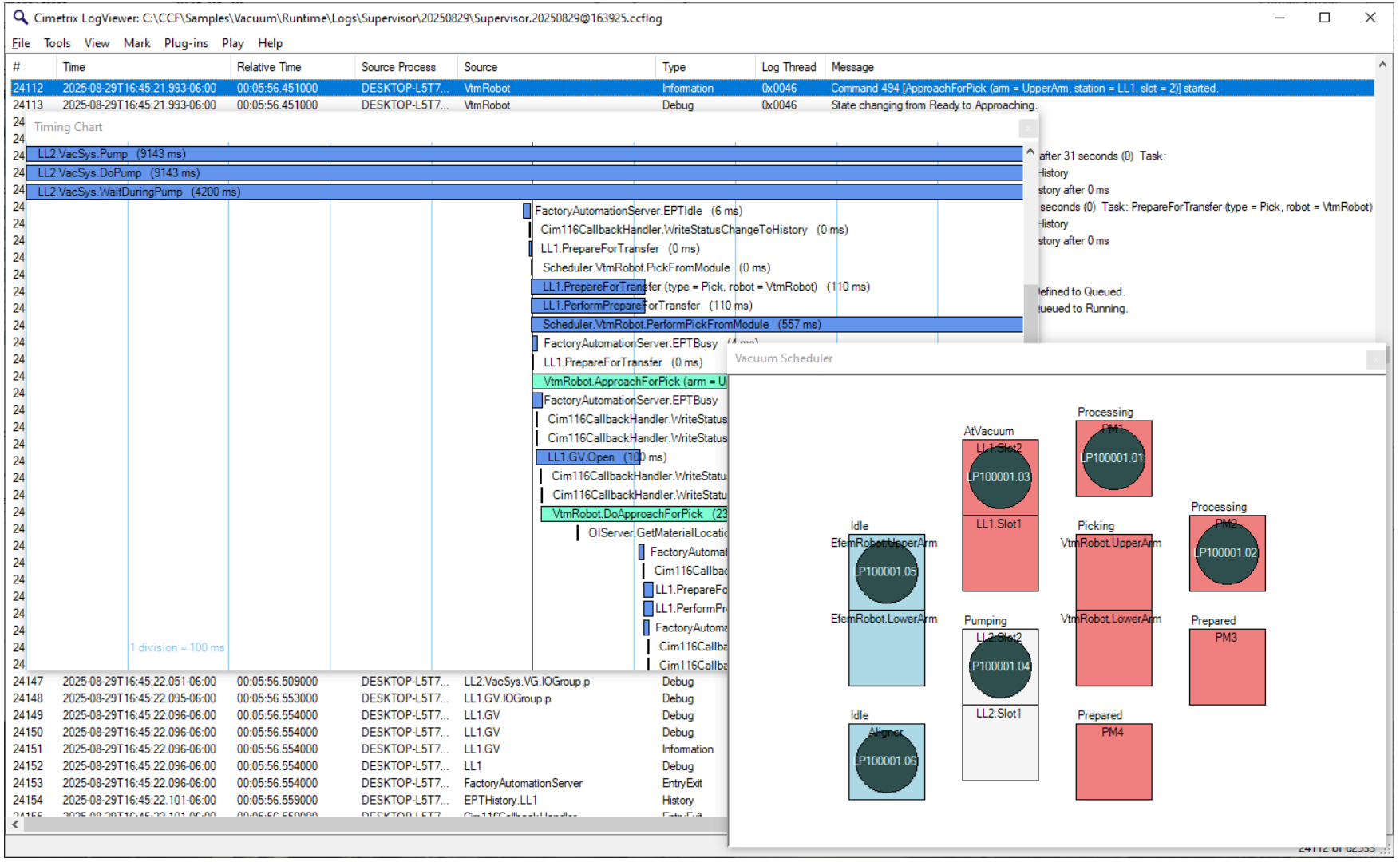
Diagnostics



#3.

We make you successful!

— Remote connectivity

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How do you debug an equipment problem in the factory?

OEM Location

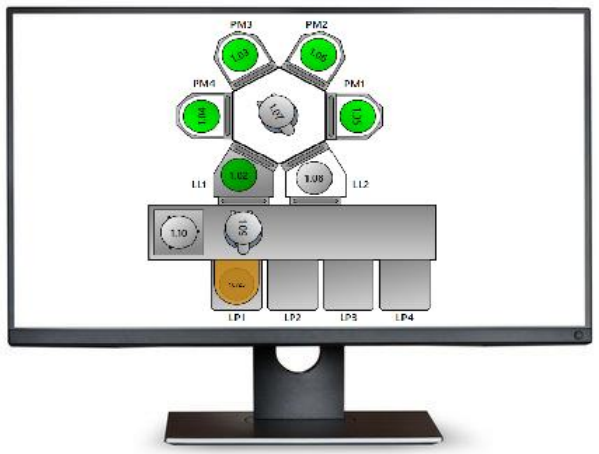
Factory

What does secureWISE allow you to do?

Factory Equipment

secureWISE

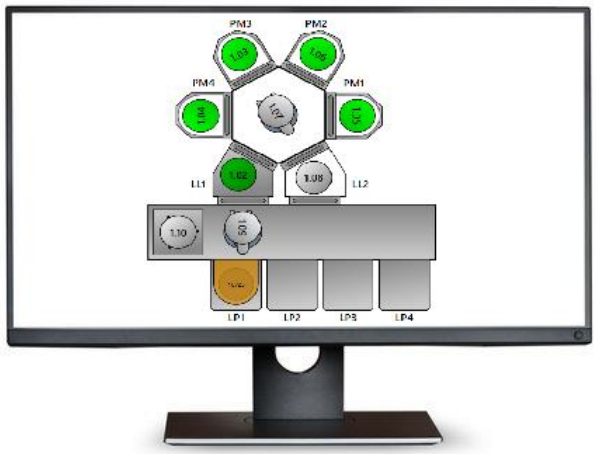
OEM Facility



Remote control

secureWISE™

Gather data



Firewall

Firewall

With secureWISE

Everyone is happy

OEM Location

- No travel
- Fix problems quickly
- Data for process improvement (DEEP)

Factory

- Problems fixed quickly
- Process improvement (DEEP)

#3.

We make you successful!

— Cybersecurity

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Cybersecurity

- SEMI Standards
  - E187, E188, E191
- European Cyber Resilience Act (CRA)
  - Gather system data
  - Software Bill of Materials (SBOM)
  - Declaration of Conformity
- SMCC webinar
  - Cybersecurity compliance required starting July 2026
  - Full compliance by December 2027
- Utilize secureWISE functionality for cybersecurity
  - Malware scan when installing software
  - Dashboard
  - Remote data gathering

Thank You

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