

Software toolkit to **develop and deploy**
GEM 300 communication interface
standards on manufacturing equipment



Powering Connected Equipment for Smart Manufacturing

Cimetrix® CIM300 provides a **reliable foundation for equipment integration**, trusted by semiconductor and manufacturing leaders across the globe.

Delivered with **expert support** from our globally recognized technical team.

Problem with **Status Quo**

Custom-built solutions demand significant specialized expertise, high costs, and often fall short of full functionality.

CIM300 differentiates itself through proven global **adoption**, extensive industry **knowledge**, and a comprehensive **feature set**.

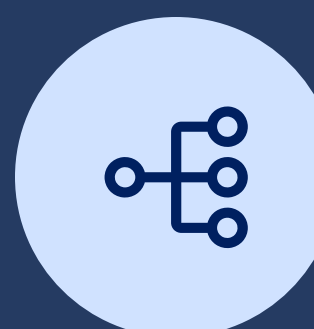
Solution Highlights



Ready-to-use factory
documentation templates



Full workflow examples
demonstrate integration

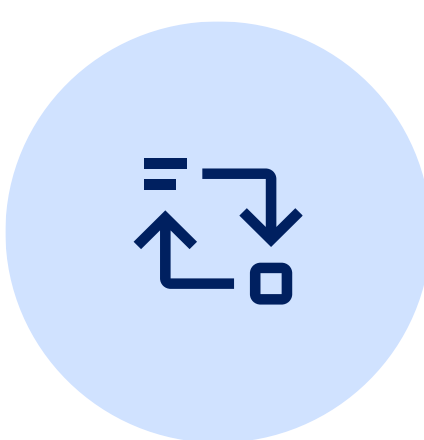


Proven foundation:
CIMConnect GEM technology

Components



Complete GEM 300 standards
Integrate SEMI standards E5, E30, E39, E40,
E87, E90, E94, E109, E116, E148, E157



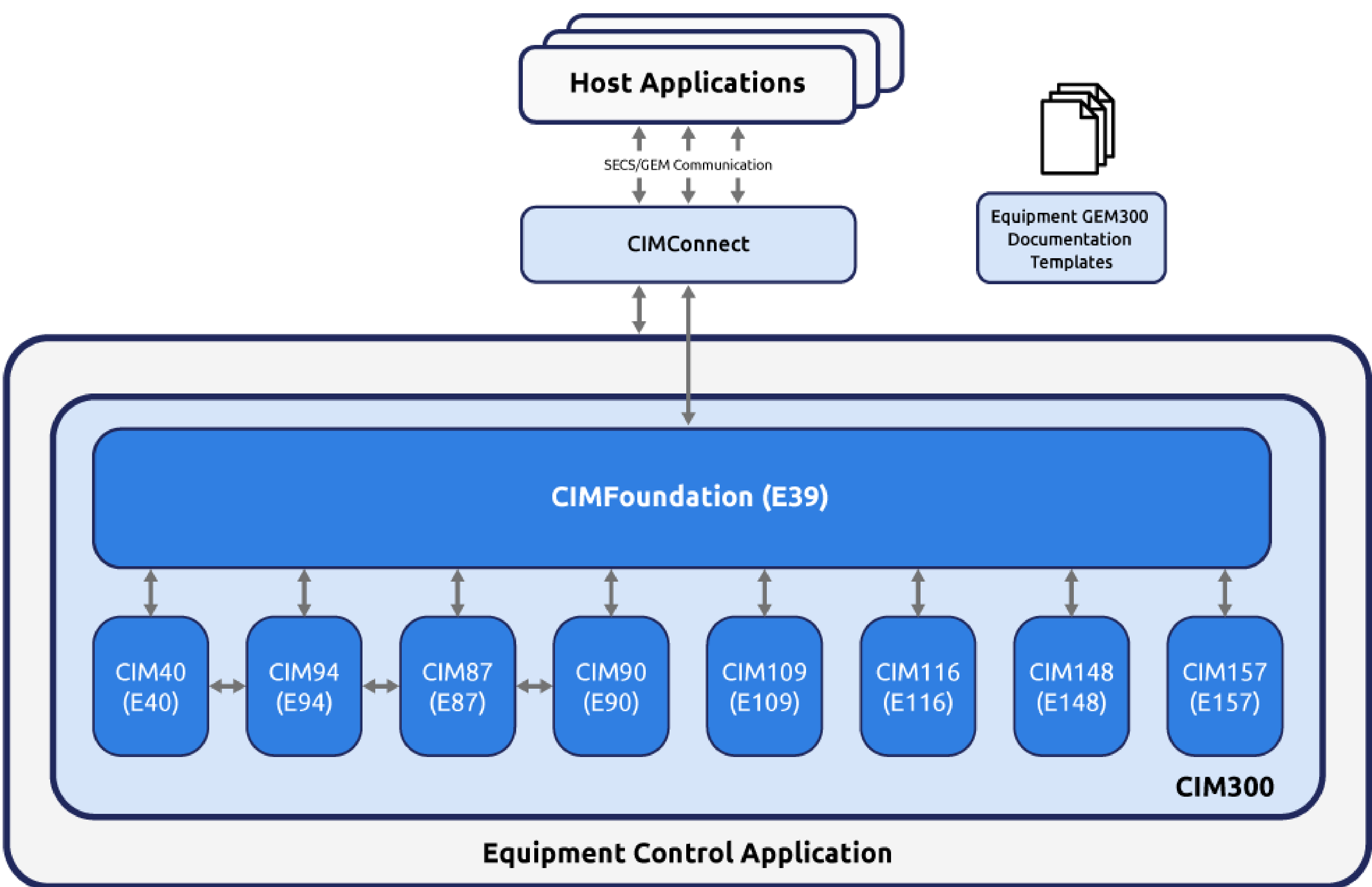
API
Compatible with different Windows development
environments like C#, C++, and VB.NET



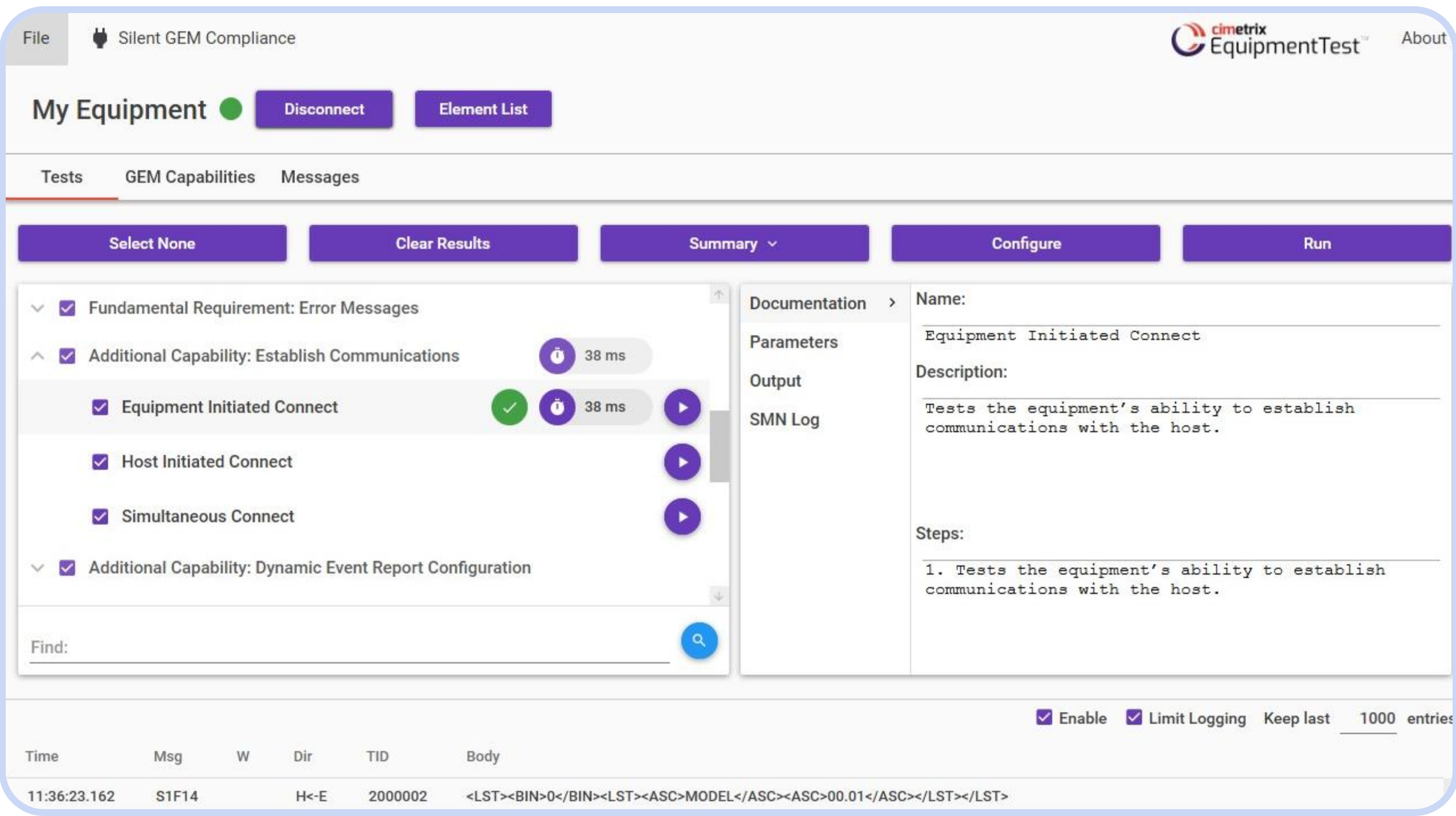
Interdependencies
Manages process/control jobs and
substrate locations from carrier activity



Configuration Options
Text setup file and/or setup through the API



Use Cases



GEM 300 Standard Compliance Testing

EquipmentTest includes **GEM300 interactive tools** for **manual** interface testing, with **source code** for typical GEM300 scenarios available separately.



Challenge

Numerous configuration options make Carrier ID and Slot Map verification difficult to implement and maintain.



Result

A streamlined pattern: report Carrier ID and slot map, then await verification feedback to drive application behavior.



Challenge

Each equipment implementation requires tailored test configuration and modification.



Result

Accessible source code allows customers to quickly adapt tests to their specific needs.

Modular Architecture for Flexible Integration

GEM300 modules support **full or partial implementation** to match system requirements.

Widely adopted across many types of semiconductor front-end and back-end equipment.

Key GEM 300 Features

- Assign Recipe to Material
- Material Redirection
- Carrier & Substrate ID Verification
- Recipe Tuning
- Track Idle, Busy, Blocked Time
- Recipe Step Tracking
- Substrate History

SEMI Standards



- E37/E5 – Protocol, SECS-II Message Layer
- E30 – Generic Equipment Model
- E40/E94 – Process Job/Control Job Management
- E87/E109 – Carrier/Reticle Management
- E90 – Substrate Tracking
- E116/E157 – Performance/Process Tracking
- E172/E173 – XML documentation/logging

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