

INDUSTRY 4.0

READINESS ASSESSMENT MODEL

EXCLUSIVELY TAILORED BY SEMICONDUCTOR
INDUSTRY EXPERTS, FOR THE SEMICONDUCTOR
INDUSTRY

FULL PRODUCTION LIFECYCLE MATURITY MODEL

The Industry 4.0 Readiness Assessment Model (IRAM) is intended as a tool to help organizations assess their Industry 4.0 technology deployment progress.

Developed through a collaboration of SEMI and industry experts, the model is intended to guide companies across the semiconductor supply chain to identify technology enhancements critical to scaling and sustaining their smart manufacturing transformation.

Companies can self-conduct the assessment with guidance from the training course available for purchase as a bundle with the model. The comprehensive course helps understand the structure of the model, expected usage, outcomes, and case studies.



LEARN MORE

Sensing Category Information & Signal Acquisition	Level 1 Discrete	Level 2 Continuous	Level 3 Integrated
Sensing Mode			
Sensing Mode (Purpose)			
Scalability (Data bandwidth)			
Sensor Location/Data Sources			
Sensing Span			
Self-Diagnostic Capabilities/ Sensor Health Monitoring			
Location and Identity			
Data Structure and Format (E)			
Data Acquisition and Interface			
Sensing Frequency			
Key Parameter Capabilities			
Automation Enablement			
Interdiction level			
Relevant Industry Standards			

Connection Category Transmit / receive / store	Level 1 Connected	Level 2 Interoperable
Network Bandwidth/Latency		
Data Traceability		
M2M Communication		
User Interfaces		
Level of Integration		
Enterprise Data Connecti		
Peripherals/Standalone sensors, Monitors, AGV,		
Data Structure & Alignm		
Data Repository		
Edge Compute connectiv		
Relevant Industry Stand		

Predicting Category Actionable Insights
Calculation Method
Compute Requirements - Local/Edge
Compute Requirements - Centralized
Compute Requirements - Global/Supply
Algorithm Complexity
Model Complexity
Data storage and exchange
Data Accessibility
Design Alignment
Key Processes broken down individually
Level of Data Processing
Automation Systems
Level of Automation
Relevant SEMI Standards

HIGHLIGHT

An expert-crafted tool that guides semiconductor companies to initiate, optimize, and quantify returns on their smart manufacturing journey.

BENEFITS

- Provide a structured model to assess the maturity level.
- Determine the best starting point for the Smart Manufacturing/Industry 4.0 journey.
- Identify the next Smart Manufacturing technology step improvements of the highest value.
- Provide criteria for specific improvements.
- Assist in quantifying ROI for implementation.

METHODOLOGY

IRAM is developed by the SEMI Smart Manufacturing Guidelines Sub-Committee.

The guidelines sub-committee is comprised of subject matter experts from across the supply chain who are focused on activities including maturity models, self-assessments, benchmarking, surveys, and possible skill mapping.



BUY
NOW

"SEMI's IRAM provides a well-grounded framework for the evaluation of readiness for smart manufacturing in a semiconductor fab environment. It has a very welcome focus on the technology and infrastructure needed to enable smart manufacturing."

Shekhar Chandrashekhar,
CEO of INEMI

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2023 PRICING INFORMATION

	SEMI MEMBER	NON-MEMBER
IRAM Model	\$750	\$1,500
IRAM Model + Training Course Bundle	\$900	\$1,800

IRAM vs. OTHERS

IRAM is a maturity assessment model exclusively tailored by semiconductor industry experts, for the semiconductor industry.

	IRAM	OTHERS
Industry Focused	Semiconductor	Industry agnostic
Scope	Deep, holistic assessment of semiconductor processes	Broad Overview
Developed Expertise	Experts from the semiconductor supply chain	Diverse expertise from various fields
Assessment Approach	Structured around 3 pillars: sensing, connecting, and predicting, segmented into multiple evaluation parameters, assessed on a maturity scale from level 0 to 5.	Standard assessment methods with varying depth
Training Courses	Comprehensive course available	Limited course offerings

Industry 4.0 Readiness Assessment Model

