

Cisco Industrial Automation Solution

Oil and Gas – Process Control and Refineries

Improve business operations by securely digitizing process control environments

The Cisco® Validated Design (CVD) for Oil & Gas is your key to digitizing Process Control and Refineries in order to significantly improve business operational outcomes. It provides wired and wireless network and security design and implementation guidance for process control systems. The solution supports resilient, secure connectivity of Industrial Automation and Control devices and the systems core to the process control environment and the personnel maintaining the location.

Use this secure networking solution for the following applications:

- Resilient and secure connectivity of IACS devices, including wired and wireless sensors, actuators, and controllers, including wireless sensor network (e.g., Wireless Hart and ISA100) integration
- Wireless connectivity with the Cisco Catalyst IW6300 Heavy Duty Series Access Points with Class-I Div-2 certification, designed specifically for hazardous locations and industrial environments like oil and gas refineries, chemical plants and process control applications
- Mobility for the workforce providing real time access to information for operational tasks, on demand support services such as remote experts and visibility into assets and personnel throughout the workplace
- Enhanced Cybersecurity with visibility into the connected assets and a framework for segmentation, policy management, anomaly detection and mitigation in alignment with key industrial cybersecurity standards
- Real time visibility and access to sensor-level information to enable IoT applications such as predictive analytics and maintenance, Digital Twin, and machine learning and process optimization
- Enable remote access to production applications and personnel to improve uptime and personnel productivity and safety
- Support plant-wide applications such as Distributed Control Systems, Supervisory Control and Data Acquisition (SCADA), historians, asset management, and equipment maintenance

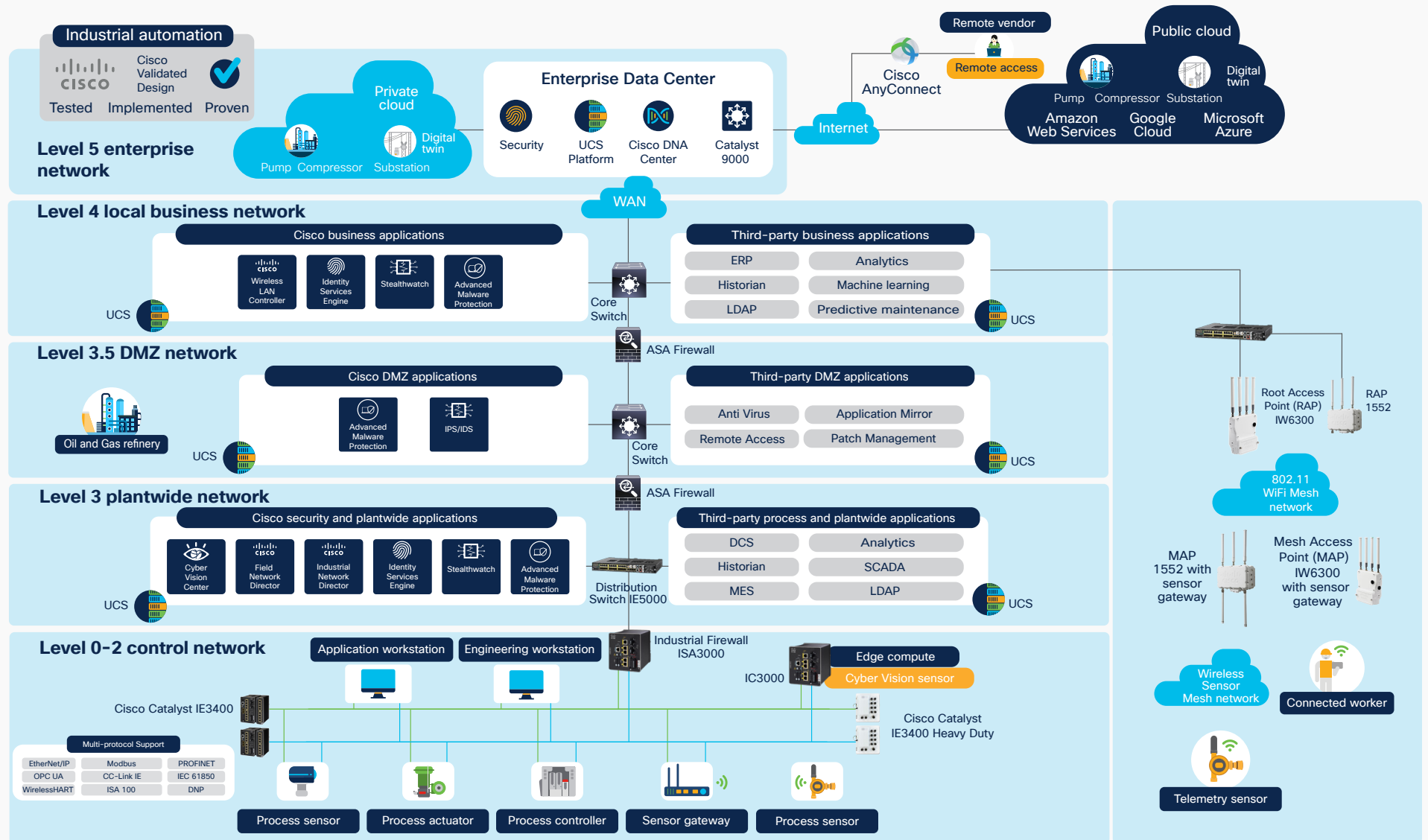
The Cisco Industrial Automation for Oil and Gas validated solution can help you securely and confidently converge IT and OT operations with tested reference architecture and design and implementation guidance.

Benefits

Benefits of securely connecting Process control environments.

- Improve plant productivity with greater visibility into operational workflows processes and personnel
- Increase Operational Equipment Effectiveness (OEE) and asset utilization through increased production availability and asset visibility
- Improve worker safety and security with continuous communication and tracking of field personnel
- Improved operational efficiency with the fully mobile worker
- Quickly deploy and troubleshoot equipment
- Reduce risk to the production environment with greater regulatory and security compliance through industry-leading security platforms

Oil and Gas Process Control and Refinery Architecture



Drive significant operational improvements with a leading industrial automation solution set

Are your core production and operational process systems disconnected and in un-secured operational silos? Get the assurance you need by using Cisco Industrial Automation's premier integration of IT expertise with OT requirements and applications. Then you can deploy the technology for connecting, securing, and starting industrial IoT-based improvements.

For additional information, visit www.cisco.com/go/iotcvd.

Confidently deploy networks and security in production environments

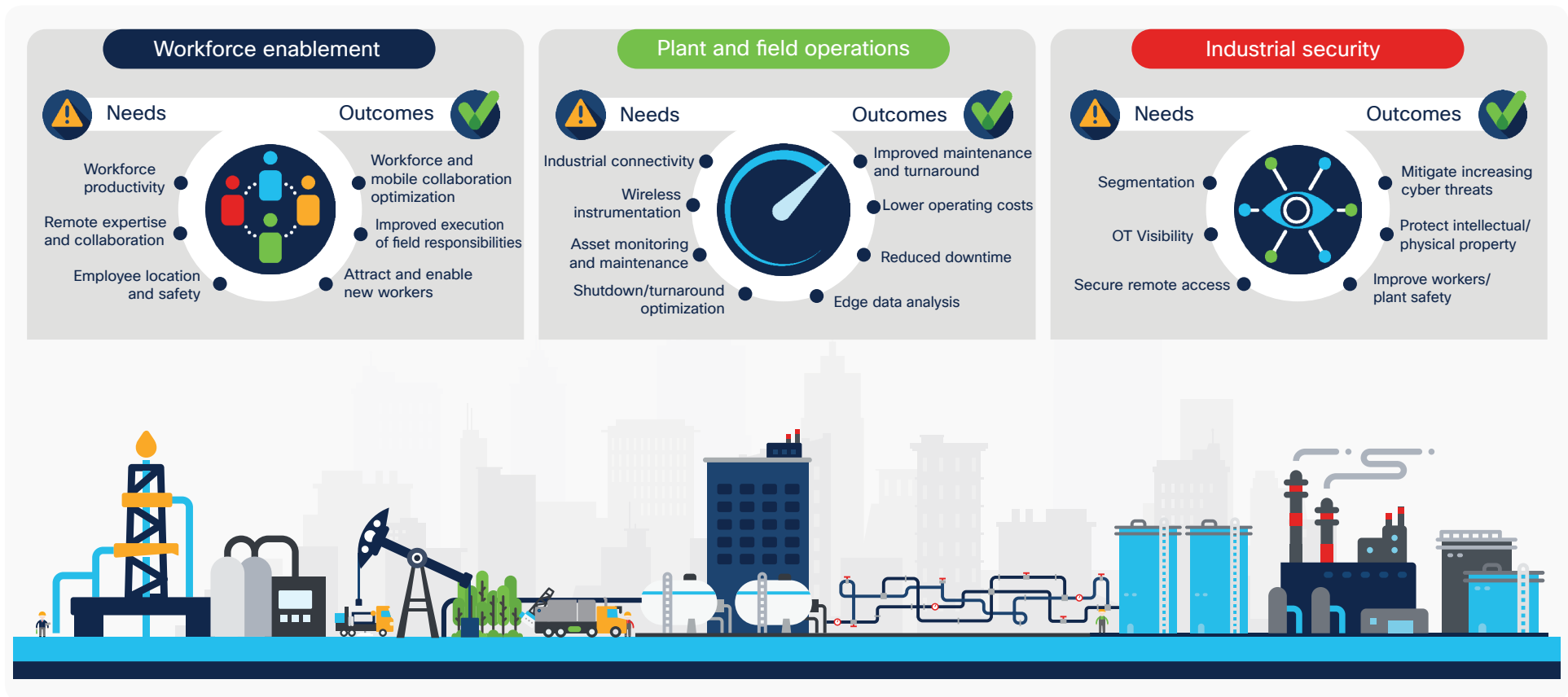
The Cisco Oil and Gas Process Control and Refineries validated solution is unique and distinguished in the marketplace, integrating industry-leading IT expertise with OT requirements and applications. Using this solution gives customers, partners, and system implementers the confidence to deploy the networking and security technology in any industrial automation setting. This unique solution outlines how to achieve a set of key OT requirements:

- High availability for all key process control systems and networks
- Integration of wireless sensor networks
- IT-preferred security architecture that integrates OT context applicable to process control systems
- Converged network for supporting communication from sensor to cloud
- Reliance on open standards to ensure vendor choice and protection from proprietary constraints
- Deployment of IOT applications with support for Edge Compute
- Cybersecurity monitoring of IACS devices and communications
- Real-time, highly available application support with resilient network configuration
- Deployable in a range of industrial environmental conditions with intrinsically safe industrial-grade equipment
- Support for seamless migration to modern APs and wireless LAN controllers
- Scalable from small (tens to hundreds of devices) to very large (thousands to 10,000s) deployments
- Intent-based manageability and ease of use for facilitating deployment and maintenance, especially by OT personnel with limited IT capabilities or knowledge

Proven to work with industrial vendors, including Rockwell Automation, Schneider Electric, Siemens, Mitsubishi Electric, Emerson, Honeywell, and Yokogawa. A broad set of customers, from local production companies to the global majors, have used the solution.

What's new in the solution:

- Support for Oil and Gas Process Control and Refineries wireless networks integrating the new IW6300 Intrinsically safe Wi-Fi access points backhauling wireless sensor traffic
- Brownfield wireless architectures to support a migration path to the IW6300 Access Point
- Expanded resiliency and security support with Cisco Software-Defined Access ready infrastructure Catalyst IE3200, IE3300, IE3400 and IE3400 Heavy (IP67)
- Integrated Cisco's Cyber Vision OT focused industrial cybersecurity visibility and monitoring



Industrial Automation Networking + Security Portfolio

Industrial Switching



IE 1K, 2K, 3200, 3300, 3400,
3400H, 4K, 5K, CGS

IoT Gateways / Compute



IR807, IR809, IR829,
IR1101, IC 3000

Industrial Wi-Fi



AP1552, IW3702, IW6300

Enterprise Network and Security



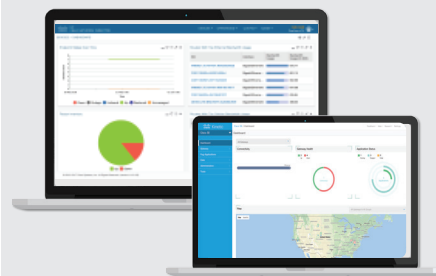
Cat 9300/9500, ASA5500,
Aironet 1560 APs, 5520/9800 WLCs

Industrial Security



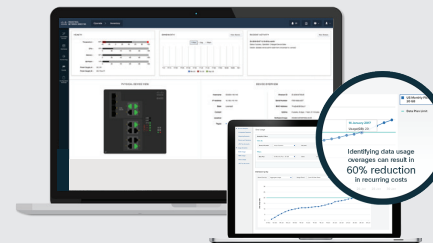
ISA 3000
Cyber Vision

Edge Computing Software



IOx
Edge Intelligence

OT Management and Automation



Field Network Director
Gateway Management Module
Industrial Network Director
Control Center

IT Network and Security Management and Automation



Identity Services Engine,
Cisco Prime, Stealthwatch
Firepower Management Center