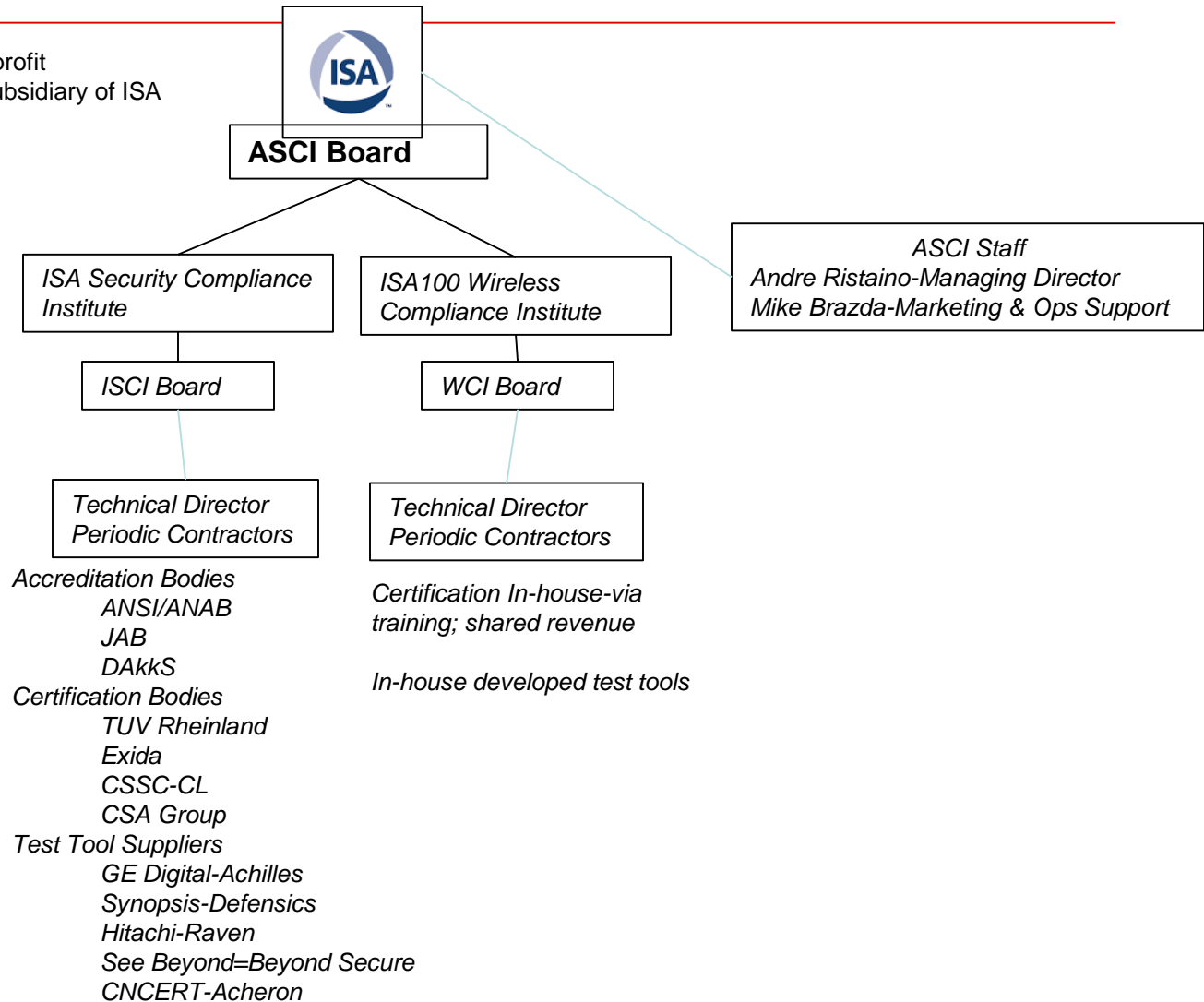


Automation Standards Compliance Institute

501 c 6 Not for profit
 Conformity Assessment Subsidiary of ISA



Securing the Supply Chain

for Commercial off the Shelf (COTS)
Industrial Automation and Control Devices and Systems
Using ISA/IEC 62443 Standards

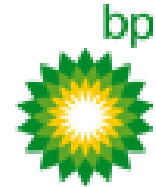
www.isasecure.org

Andre Ristaino
Managing Director,
ISA Automation Standards Compliance Institute

Agenda

- About ISA Security Compliance Institute
- Structure of ISASecure scheme
- IEC 62443 Standards and structure
- Description of ISASecure Certifications
- ISASecure Roadmap
- Website www.isasecure.org

ISASecure® Founding Companies



ISA99 Committee Liaison

ISASecure[®] Supporter Companies



CODENOMICON

YPF

Supporters-ISCI Member Companies

ISCI membership is open to all organizations

- Strategic membership
- Technical membership (includes CB's)
- Government/Associate membership
- Adopter/Supporter

Member organizations

- Chevron
- Bedrock Automation
- Aramco Services
- CSA Group
- CSSC
- exida
- ExxonMobil
- Honeywell
- IT Promotion Agency, Japan
- KPMG Consulting Ltd. Japan
- Schneider Electric
- Synopsis
- TUV Rheinland
- WisePlant HQ
- Yokogawa
- YPF
- ISA99 Committee Liaison

No Membership Required

***Asset owners** specify **ISASecure** in procurement specifications and/or choose from list of certified products on ISASecure website.*

***Suppliers** submit products to an ISASecure certification body of choice.*

Certified products are listed on ISASecure website and certification body website.

ISCI Organization

501 c 6 Not for profit
Conformity Assessment Subsidiary of ISA

ISCI Governing Board

Chairman – Kenny Mesker, Chevron

Vice-chairman – Johan Nye, ExxonMobil

Technical Chairman – Kevin Staggs, Honeywell

Marketing Chairman – Dan Desruisseaux, Schneider Electric

ISA99 Committee Liaison – Eric Cosman

Staff Managing Director – Andre Ristaino (non-voting)

Internationally Accredited ISO/IEC 17065 Conformance Scheme

ISASecure certification programs are supported by labs accredited to ISO/IEC 17065 and ISO/IEC 17025 lab operations by international ISO/IEC 17011 accreditation bodies (AB).

- Provides global recognition and acceptance of ISASecure certifications
- ISASecure can scale on a global basis using independent CB's
- Independent ISO/IEC 17011 accreditation by global accreditation bodies ensures certification process is open, fair, credible, and robust.
- AB and CB agreements continue to expand.



ISO/IEC 17065 / ISO/IEC 17025 Accredited Certification Bodies

ISASecure Certification Body	Accrediting Authority	Location(s)
Exida, LLC	ANSI ANAB	Global operations – HQ Sellersville, PA USA
CSSC-CL	Japan Accreditation Board (JAB)	Japan and AP region- HQ Tokyo, Japan
TUV Rheinland	DAkkS	Global operations – HQ Cologne, Germany

Additional Certification Bodies are in Accreditation Process.


exida

exida.com, LLC
HQ Sellersville, PA/global locations

The first ISASecure chartered lab, accredited
in 2011



CERTIFICATE

 Accredited Certification Body
ISASecure®

The ISA Security Compliance Institute hereby certifies that the certification body named below has been assessed by an ISO 17011 Accreditation Body in accordance with ISASecure® Chartered Lab Requirements, ISO/IEC 17065, and ISO/IEC 17025, and it meets requirements for attaining status as a Chartered Laboratory in the ISASecure® certification scheme.

Exida
64 North Main St.
Sellersville, PA 18960


The certification body is hereby authorized to issue certificates of conformance for the ISASecure® scope(s) of conformance shown below:

Scope of Conformance	Version	Status	Date Granted
ISASecure® Embedded Device Security Assurance Certification	2010.1	ANSI and ANAB Accredited	11-30-2011
ISASecure® Embedded Device Security Assurance Certification	2.0.0	ISCI Provisional	03-16-2016
ISASecure® System Security Certification	2.0.0	ISCI Provisional	03-16-2016
ISASecure® Security Development Lifecycle Assurance Certification	1.0.0	ISCI Provisional	08-07-2015

ISO 17011 Accreditation Body(s) Performing Assessment: **ANSI and ANAB**

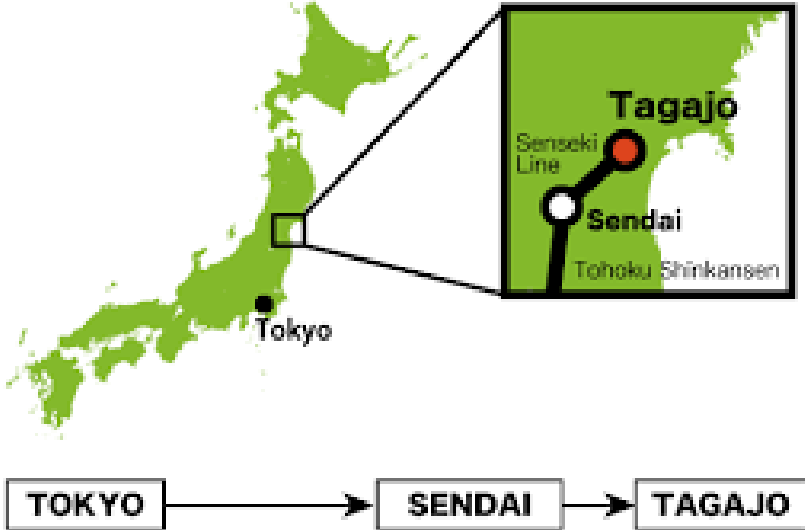
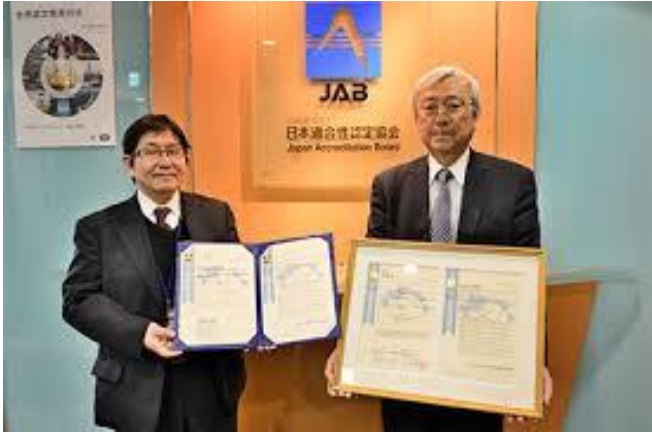
Andre Ristaino
ASCI Authorized Signature

Andre Ristaino
Managing Director, ASCI



CSSC-CL

Control Systems Security Corporation
Tokyo & Tagajo City Japan



TUV Rheinland

TUV Rheinland Headquarters
Cologne Germany



Precisely Right.

Why Certify COTS Products?

1. Security capabilities are independently assessed and certified by experts at accredited ISASecure labs
2. Reduces effort for end user to validate and verify security capabilities. (scarcity of talented cybersecurity expertise)
3. Objective metric for security capabilities based on industry standards. (hundreds of years of SME and knowledge codified into IEC 62443-x-x from hundreds of committee participants.)

One specification, one service mark, one assessment

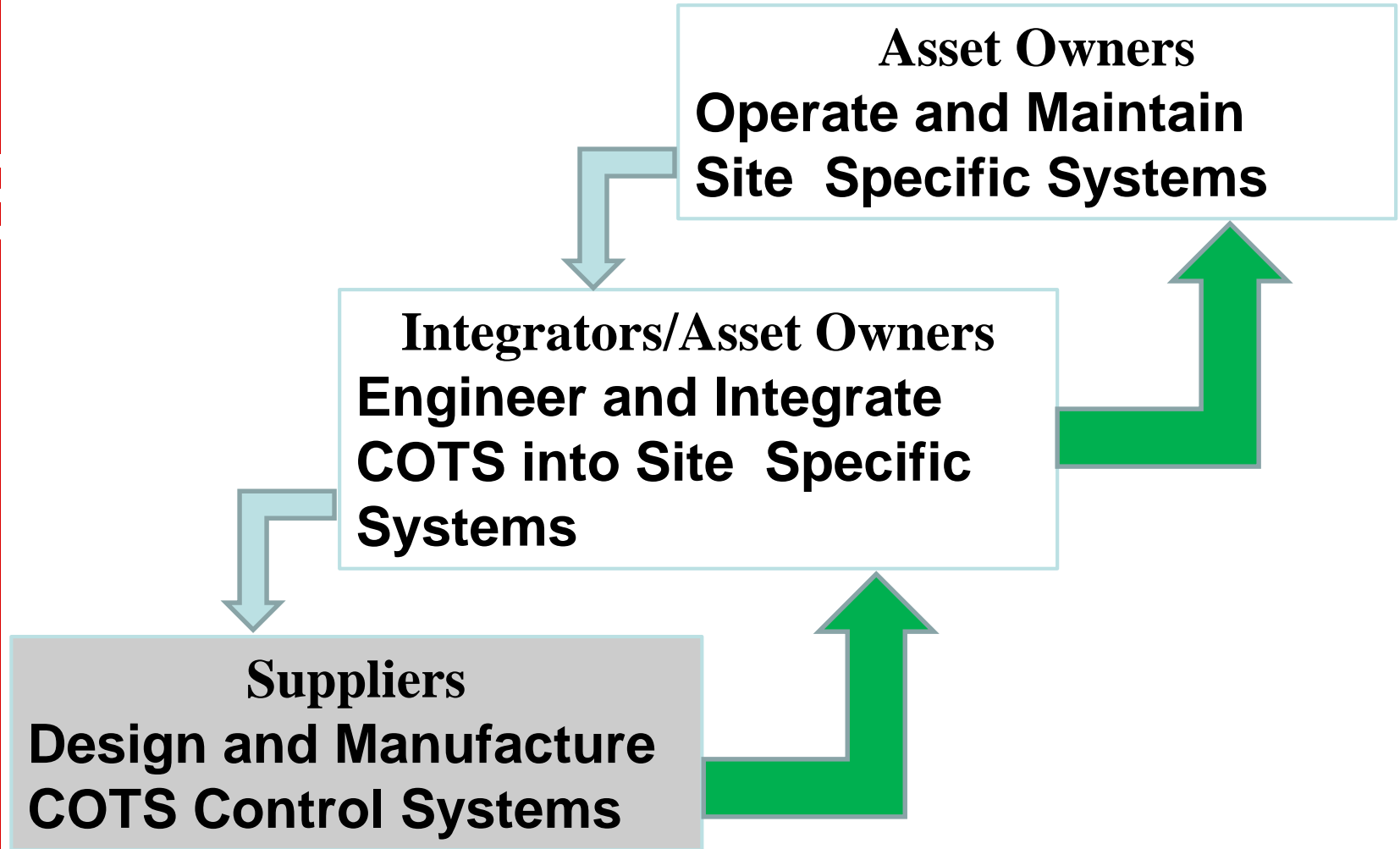
End-user Benefits and Value

- Simplifies procurement specification process
- End users understand standards-based product cybersecurity capabilities
- Capabilities independently validated by external entity
- Confidence that security features will evolve over time
- ISCI provides a forum where end-users can ensure that ISA/IEC 62443 standards are implemented as intended
- Forum where an end-user can include their company specific requirements in certification specifications

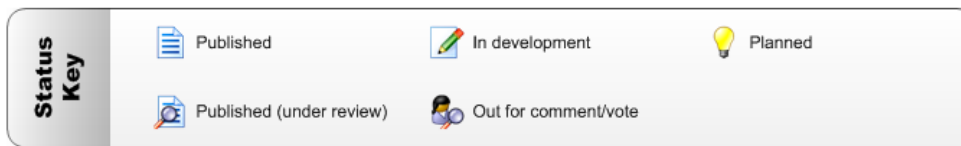
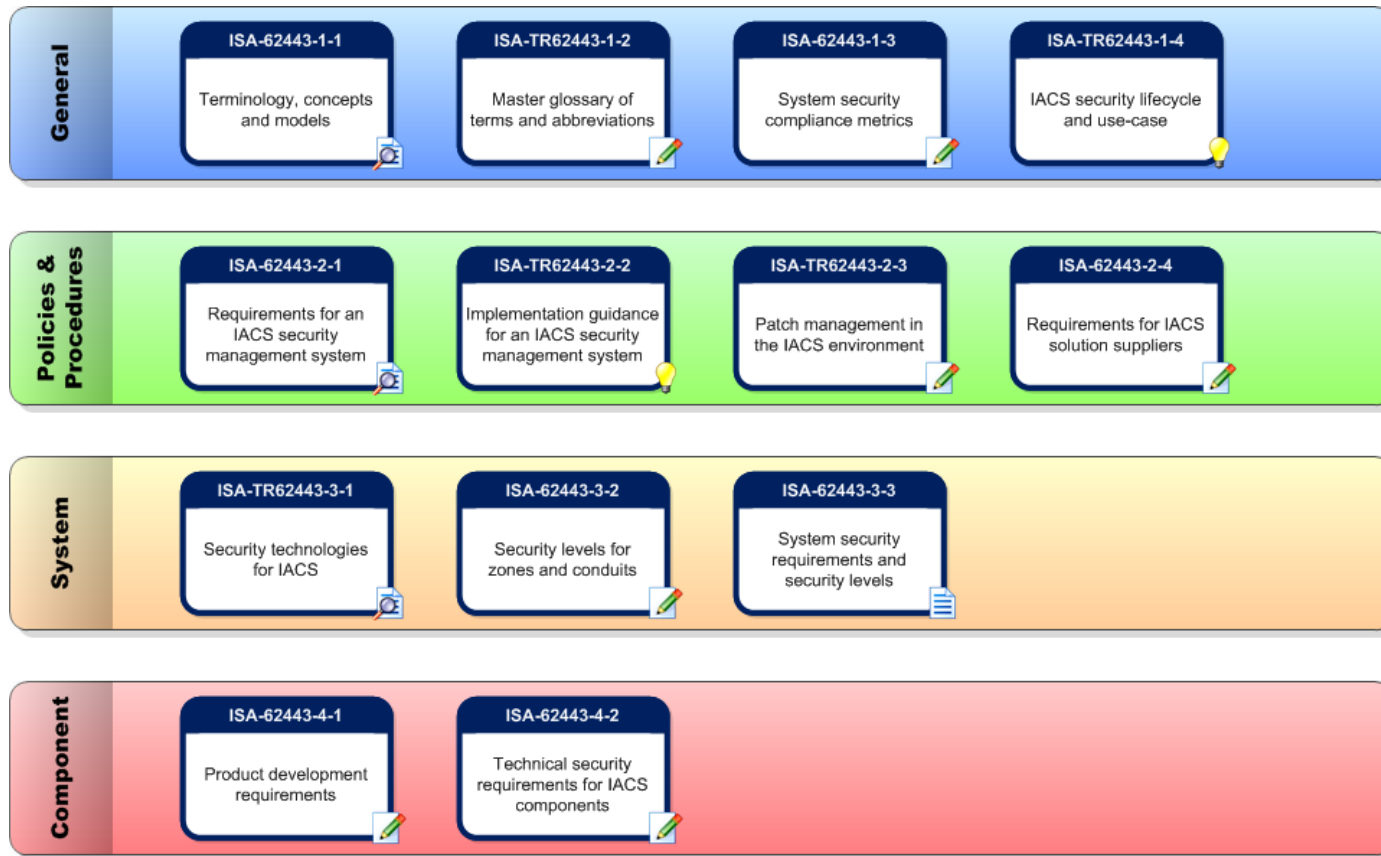
Supplier Benefits and Value

- Differentiate solutions to marketplace
- Assurance products meet standards-based cybersecurity requirements that are maintained over the product lifecycle
- Cybersecurity is a dimension of product quality
- Suppliers will soon face product liability accountabilities

IACS Security Lifecycle

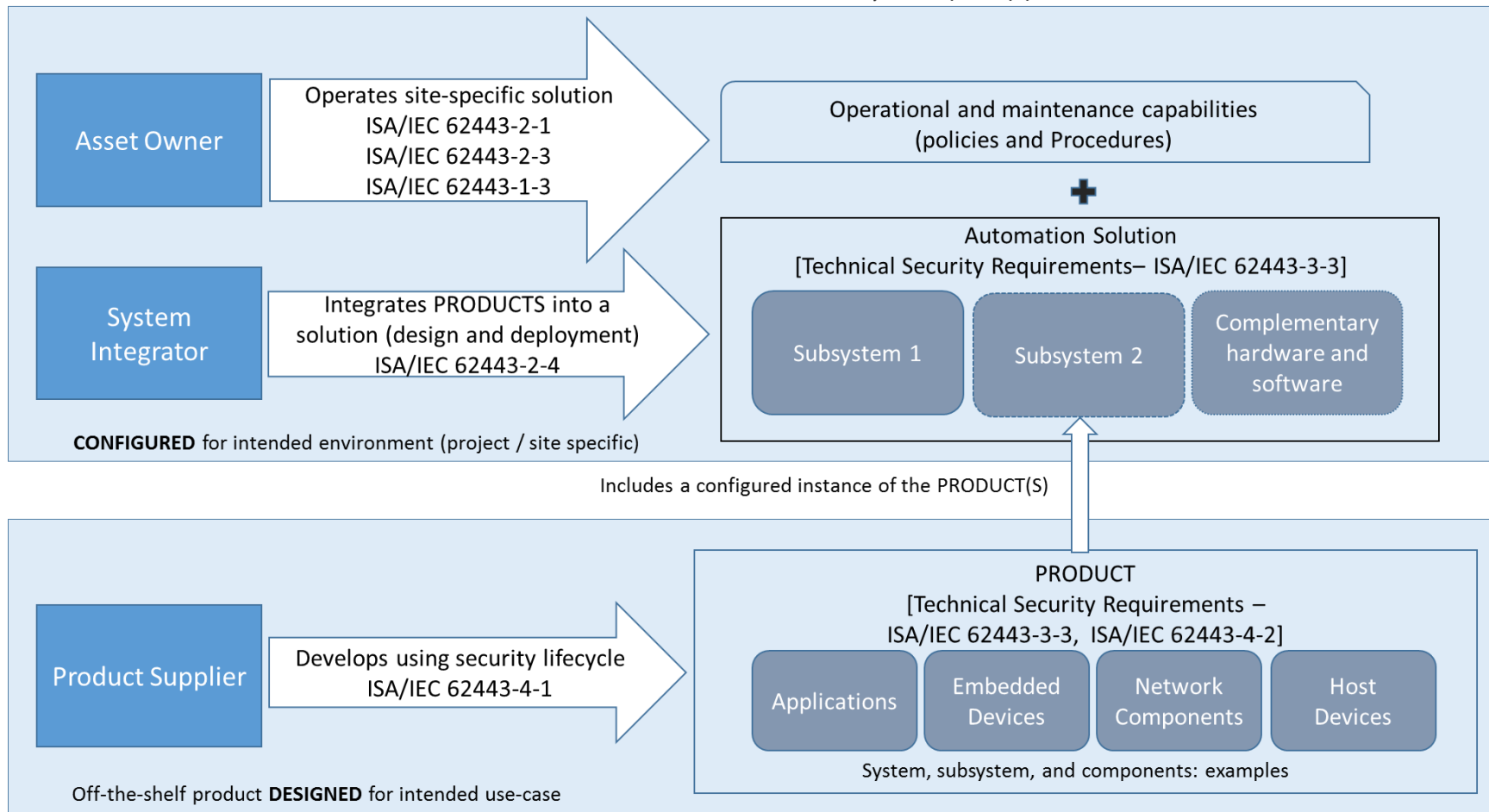


IEC 62443 Standards Family



IEC 62443 Standards Family

Industrial Automation and Control System (IACS) (from ISA 62443-2-4)



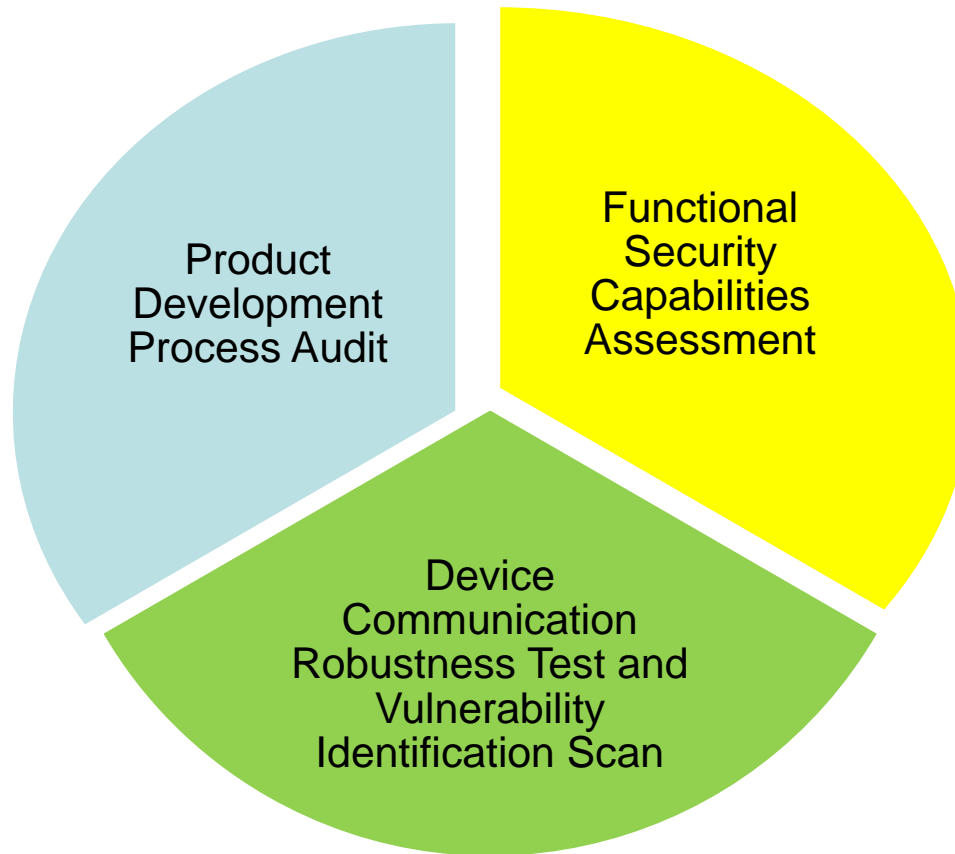
Three ISA Secure® certifications available

- 1. Embedded Device Security Assurance (EDSA) product certification**
 - IEC 62443-4-2**
 - IEC 62443-4-1**
 - Vulnerability Identification Test**
 - + Communication Robustness Test**

- 2. System Security Assurance (SSA) product certification**
 - IEC-62443-3-3**
 - IEC 62443-4-1**
 - IEC 62443-4-2**
 - Vulnerability Identification Test**
 - + Communication Robustness Test**

- 3. Security Development Lifecycle Assurance (SDLA)**
 - process certification**
 - IEC-62443-4-1**

360 Degree Product Evaluation



More than just testing!



Certified Device

ISA Secure

ISA Secure[®]

Embedded Device Security Assurance (EDSA)

IEC 62443-4-1

IEC 62443-4-2

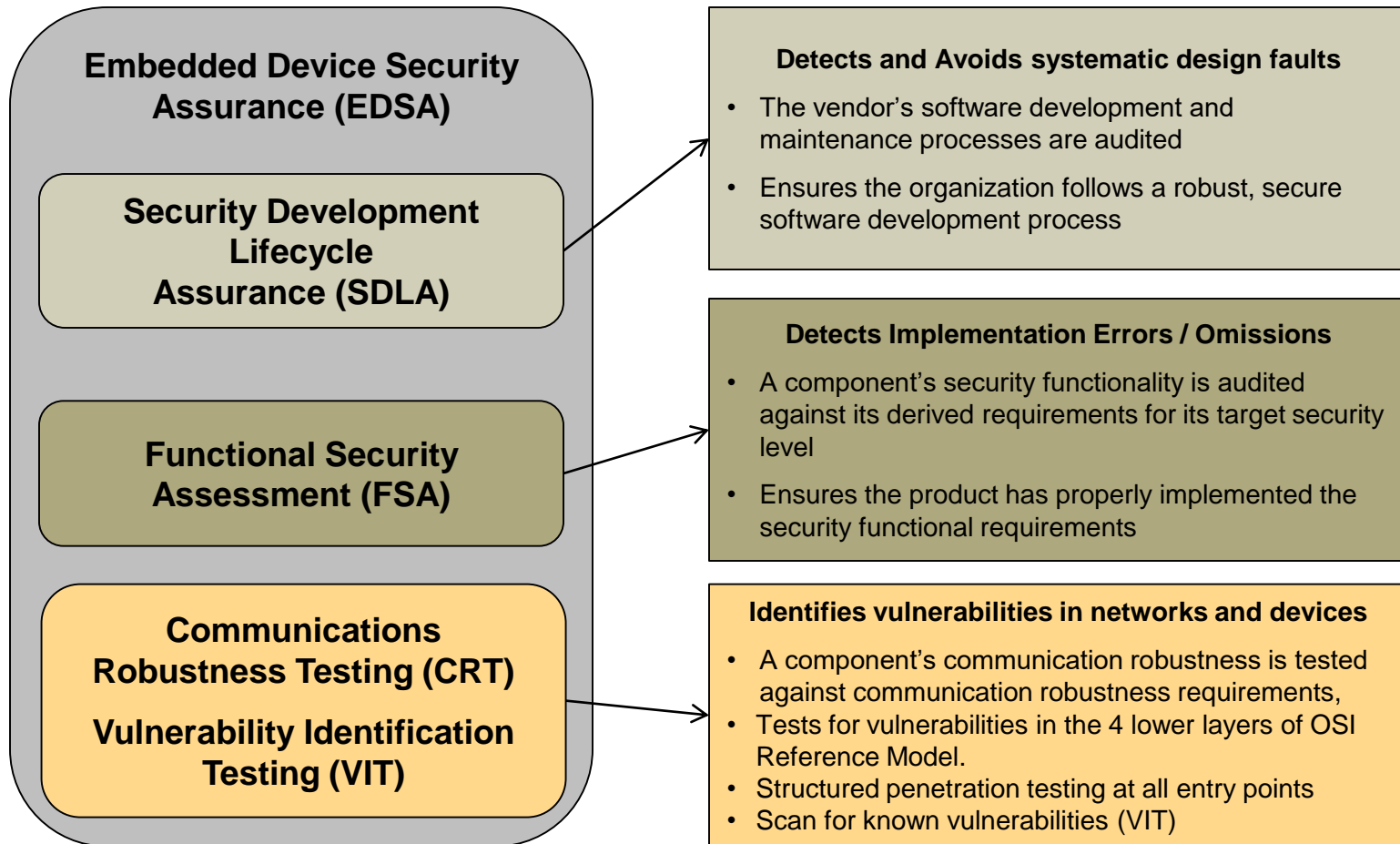


ISA Secure

EDSA

- Certification that the supplier's product is robust against network attacks and is free from known security vulnerabilities
- Meets requirements of IEC 62443-4-1 and IEC 62443-4-2 for embedded devices (will be revised when IEC 6443-4-2 is published)
- Independent certification of the product's security capabilities and security capability level (SL) as defined by the IEC 62443 standards

ISASecure EDSA Certification Program





Certified System

ISA Secure

ISA Secure® System Security Assurance (SSA)

IEC 62443-3-3

IEC 62443-4-1

IEC 62443-4-2



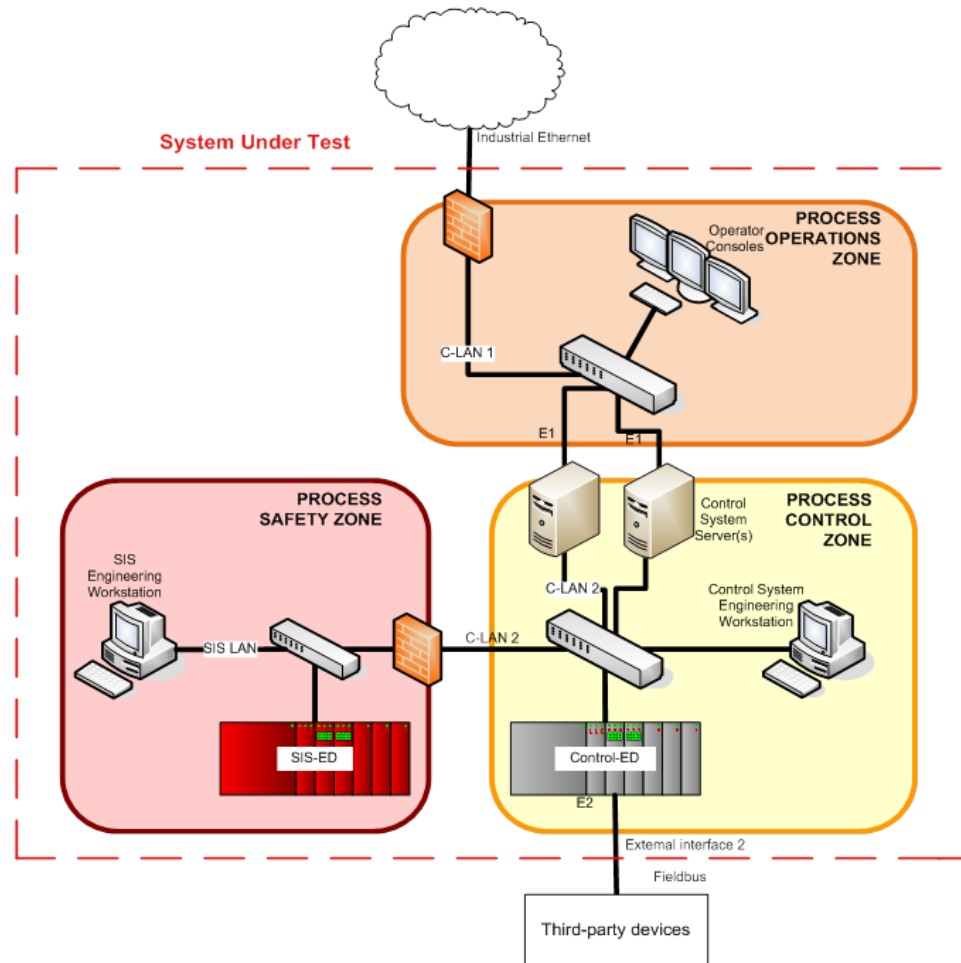
ISA Secure

SSA Overview

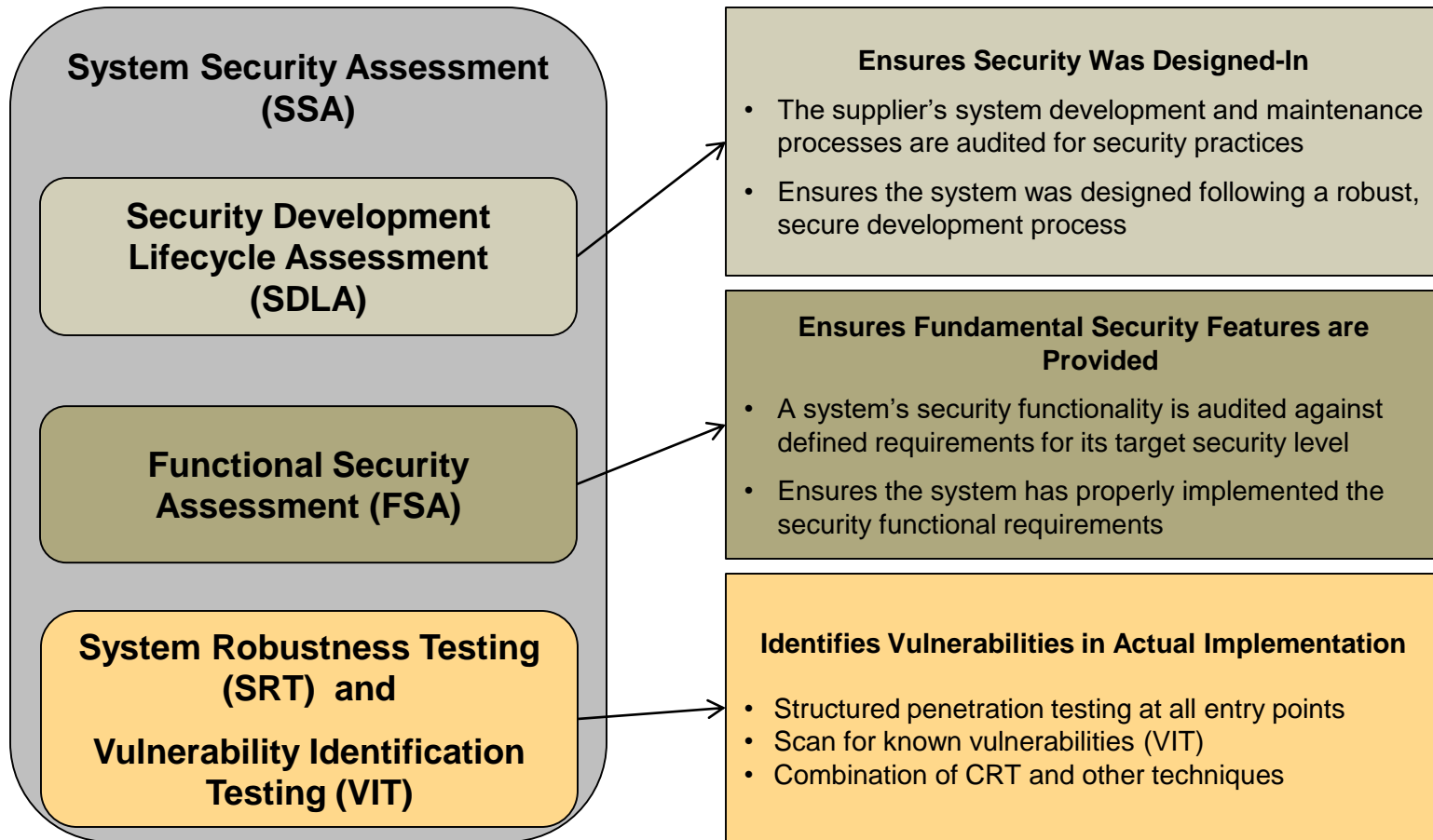
- Certification that the supplier's product is robust against network attacks and is free from known security vulnerabilities
- Meets requirements of IEC 62443-3-3, IEC 62443-4-1 and, IEC 62443-4-2
- Independent certification of the product's security capabilities and security capability level (SL) as defined by the IEC 62443 standards

What is a “System” ?

- Industrial Control System (ICS) or SCADA system
- Available from a single supplier
- Supported by a single supplier (could be a system integrator)
- Components are integrated into a single system
- May consist of multiple Security Zones
- Can be identified by a product name and version
- Off the shelf; not site or project engineered yet



ISASecure SSA Certification Program



“An ISASecure Certified Development Organization”

IEC 62443-4-1

ISASecure®
Security Development Lifecycle Assurance
(SDLA)

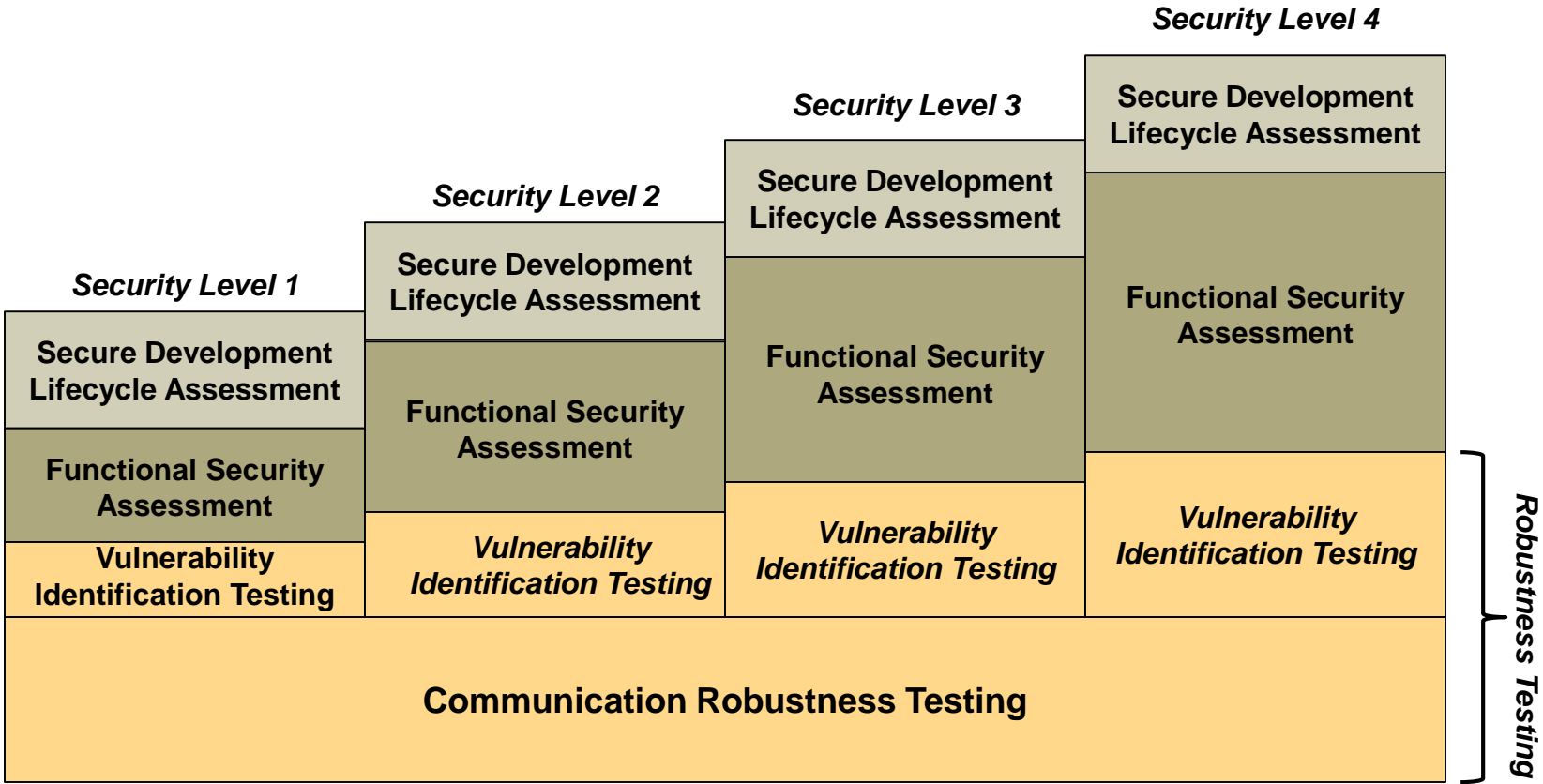
SDLA Overview

- Certification that the supplier's product development sites have work process include security considerations throughout the lifecycle.
(Development organization process certification-site specific)
- Meets requirements of IEC 62443-4-1
- Based on several industry-recognized security development lifecycle processes

SDLA Practice Areas- ISA/IEC 64443-4-1

1	Security Management (SM)	The purpose of the security management practice is to ensure that the security-related activities are adequately planned, documented and executed throughout the product's lifecycle
2	Specification of Security Requirements (SR)	The processes specified by this practice are used to document the security capabilities that are required for a product along with the expected product security context
3	Secure by Design (SD)	The processes specified by this practice are used to ensure that the product is secure by design including defense in depth.
4	Secure Implementation (SI)	The processes specified by this practice are used to ensure that the product features are implemented securely.
5	Security Verification and Validation Testing (SVV)	The processes specified by this practice are used to document the security testing required to ensure that all of the security requirements have been met for the product and that the security of the product is maintained when it is used in its product security context.
6	Security Defect Management (DM)	The processes specified by this practice are used for handling security-related issues of a product that has been configured to employ its defense in depth strategy (Practice 3) within the product security context (Practice 2)
7	Security Update Management (SUM)	The processes specified by this practice are used to ensure security updates associated with the product are tested for regressions and made available to product users in a timely manner
8	Security Guidelines (SG)	The processes specified by this practice are used to provide documentation that describes how to integrate, configure, and maintain the defense in depth strategy of the product in accordance with its product security context

ISASecure Product Certification Levels



ISASecure EDSA Certified Devices-March 2018

Supplier	Type	Model	Version	Level	Test Lab
Honeywell Process	Safety Manager	HPS 1009077 C001	R145.1	EDSA 2010.1 Level 1	exida
RTP Corporation	Safety manager	RTP 3000	A4.36	EDSA 2010.1 Level 2	exida
Honeywell Process Solutions	DCS Controller	Experion C300	R400	EDSA 2010.1 Level1	exida
Honeywell Process	Fieldbus Controller	Experion FIM	R400	EDSA 2010.1 Level 1	exida
Yokogawa	Safety Control System	ProSafe-RS	R3.02.10	EDSA2010.1 Level 1	exida
Yokogawa Electric	DCS Controller	CENTUM VP	R5.03.00	EDSA 2010.1 Level 1	CSSC-CL
Hitachi, Ltd.	DCS Controller	HISEC 04/R900E	01-08-A1	EDSA 2010.1 Level 1	CSSC-CL
AZBIL (formerly Yamatake)	DCS Controller	Harmonas / Industrial-DEO / Harmonas-DEO	R 4.1	EDSA 2010.1 Level 1	CSSC-CL
Schneider Electric	Field Process Controller	FCP280	S91061	EDSA 2010.1 Level 1	exida
Schneider Electric	Tricon CX			EDSA 2020.1 Level 1	TUV Rheinland
Beijing Consen Technologies	Safety Related PES	TSxPlus V1.0	CM01-A-V001	EDSA v20 Level1	TUV Rheinland
HIMA Paul Hildebrandt GmbH	Safety Related PES	HIMAX X	CPU 01 FW Version 8.8 & COM 01 FW Version 9.2	EDSA v2.0 Level T1	TUV Rheinland
TOSHIBA CORPORATION	DCS Controller	CIEMAC-DS/nv (TOSDIC-CIE DS/nv)		EDSA 2010.1 Level 1	CSSC-CL
Schneider Electric	Safety Related Programmable Electronic System	TRICONEX Communication Module TCM	4355X, Firmware Revision Build 290 (TCM2) 288	EDSA 2.0.0 Level	TUV Rheinland
ABB	Controller	HPC800 Controller	HCA800B1	EDSA 2010.1 Level 1	exida
Tri-Sen Systems Corporation	Safety Related Programmable Electronic System	TSxPlus V1.0	CM01-A-V001	EDSA 2.0.0 Level 1	TUV Rheinland

ISASecure® EDSA Certified Products

azbil



北京康吉森自动化设备技术有限责任公司
Beijing Consen Automation Control Co., Ltd.



Honeywell



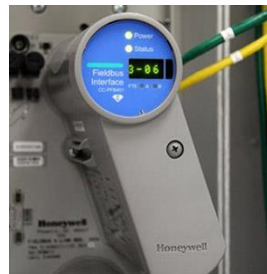
HITACHI
Inspire the Next



Honeywell



Honeywell



Honeywell



ISASecure® EDSA Certified Products



TOSHIBA

Leading Innovation >>>



ABB

ISASecure SDLA Process Certified Development Organizations

Supplier	Locations	SDLA Version	Security Level (1-4)	Certification Body
Schneider-Electric	Foxboro, MA, USA	Version 1	SDLA Level 1	exida
Schneider-Electric	Worthing, UK	Version 1	SDLA Level 1	exida
Schneider-Electric	Lake Forest, CA USA	Version 1	SDLA Level 1	exida
Schneider-Electric	Calgary AB, Canada	Version 1	SDLA Level 1	exida
Schneider-Electric	Hyderabad, India	Version 1	SDLA Level 1	exida
Honeywell Process Solutions	Phoenix, AZ	Version 1	SDLA Level 1	exida



ISASecure® EDSA Product Certificates

The manufacturer may use the marks:





Reports:
RTP 1103060 R003
IEC 61508 Functional Safety Assessment Report V1 R1
RTP 1103060 R004 Security Assessment Report V1 R1

Validity:
This assessment is valid for RTP3000 Dual, Triple and Quad systems with Node Processor 3000/02, Firmware A4.36 or later.

This assessment is valid until September 1, 2014.
Revision 1.1 August 12, 2011



Certificate / Certificat Zertifikat / 合格証

RTP 1103060 C001

exida hereby confirms that the:

RTP 3000

Manufactured by:
**RTP Corporation
Pompano Beach, FL USA**

Has been assessed per the relevant requirements of:

IEC 61508: 2010 Parts 1-7
and meets requirements providing a level of integrity to:

**IEC 61508: Systematic Integrity-SIL 3 Capable
Random Integrity: Type B Element**
and

ISASecure™ Embedded Device Security Assurance 2010.1
and meets requirements providing a level of integrity to:

Level 2

Safety Function:
The RTP-3000 reads inputs, performs its programmed safety function, and generates outputs.

Application Restrictions:
The unit must be properly designed into a Safety Instrumented Function per the Safety Manual requirements. The unit must be operated in a network and operational environment per the Security Manual requirements.



Michael Medoff
Evaluating Assessor

Heinz Gall
Certifying Assessor

Page 1 of 2

Certificate




968/EDSA 1000.00/17

Product tested	Safety-Related Programmable Electronic System	Certificate holder	Schneider Electric Systems USA, Inc. 26561 Rancho Parkway South Lake Forest, CA 92630 USA
Type designation	TRICON System V11.2 Tricon Communication Module TCM 4351 A/B/AB Firmware Revision 6415 Build 275 Tricon Communication Module TCM 4352 A/B/AB Firmware Revision 6415 Build 275		
Scope and result	ISASecure Embedded Device Security Assurance (EDSA) 2010.1 The system complies with the requirements of ISASecure EDSA 2010.1 - Level 1.		
Specific requirements	For the use of the system the safety and security considerations as documented in the product and user guides must be considered.		

The issue of this certificate is based upon an examination, whose results are documented in Report No. 968/FSP 1104.02/15 dated 2015-11-26.
This certificate is valid only for products which are identical with the product tested.

TÜV Rheinland Industrie Service GmbH
Bereich Automation
Funktionale Sicherheit
Am Grauen Stein, 51105 Köln
Köln, 2017-06-09


© TÜV, TÜV and TÜV are registered trademarks. Utilization and application require prior approval.

H. Gall
Dipl.-Ing. Heinz Gall




Adobe Acrobat Document

ISASecure® SDLA Process Certificates



The manufacturer may use the mark:



ISASecure® is a Trademark of ASCI. All rights reserved.

Revision 1.0 November 1, 2016
Valid until October 31, 2019

Reports:
SCH 1608125 R001 V1R1
Certification Report

Validity:
This Certificate is restricted to the specified version of the referenced Security Development Lifecycle set forth in this Certificate. Furthermore, the Lifecycle shall be used in a network and operational environment meeting the assumptions in the Certification Report.

ISASecure® Chartered Laboratory:
exida
64 North Main St.
Sellersville, PA 18960
License: ISCI-CL0001
ACLASS Cert No: AT-1531

T-076, V1R1

Certificate / Certificat
Zertifikat / 合格証

SCH 1608125 C001


exida hereby confirms that the
Security Development Lifecycle Process
Practiced by
Schneider Electric Software
Calgary, AB Canada


Has been assessed per the relevant requirements of:


ISASecure® Security Development Lifecycle Assurance (SDLA) Program
Version 1.3

And meets the requirements for:


LEVEL 2




 Authorized Representative



The manufacturer may use the mark:




ISASecure® is a Trademark of ASCI. All rights reserved.

Revision 1.2 Nov 15, 2016
Valid until Nov 30, 2019

Reports:
HPS 1505160 R001 V1R1
Certification Report

Validity:
This Certificate is restricted to the specified version of the referenced Security Development Lifecycle set forth in this Certificate. Furthermore, the Lifecycle shall be used in a network and operational environment meeting the assumptions in the Certification Report.

ISASecure® Chartered Laboratory:
exida
64 North Main St.
Sellersville, PA 18960
License: ISCI-CL0001
ACLASS Cert No: AT-1531


ANSI Accredited Program
PRODUCT CERTIFICATION
#1094

T-076, V1R1

Certificate / Certificat
Zertifikat / 合格証

HPS 1505160 C001


exida hereby confirms that the
Standard HPS Iterative Process (HIP)
Practiced by
Honeywell Process Solutions
Phoenix, AZ
USA


Has been assessed per the relevant requirements of:

ISASecure® Security Development Lifecycle Assurance (SDLA) Program
Version 1

And meets the requirements for:

LEVEL 1




 Authorized Representative

ISASecure Recognized Test Tools

ISASecure test tool specifications and recognition process ensures that all test tools meet ISASecure requirements and provide consistent test outcomes.

Supplier	Product Name	Test Coverage
Tenable	Nessus	Vulnerability Identification Testing against US-CERT NVDB
Beyond Security	beSTORM EDSA	CRT, SRT and network robustness
Hitachi	Raven	CRT, SRT and network robustness
Synopsys	Defensics X	CRT, SRT and network robustness
Wurldtech	Achilles Satellite	CRT, SRT and network robustness
CNCERT/CC & Beijing Xinlian Kehui Technology Co., LTD	Acheron 2.2	CRT, SRT, and network robustness



ISASecure Roadmap-new work

1. Collaborating with Building Control Systems (BCS) stakeholders to ensure ISASecure certifications properly address BCS.
2. Align EDSA with ISA/IEC 62443-4-2 Component requirements
 - a) Include network components, applications, and host systems
3. Collaborating with European Union – ERNCIP CA program
4. Reaching out to other stakeholders including UL, industry groups such as ASHRAE, LOGIIC, CABA, NAMUR, DoD;
5. Seek to harmonize certifications globally-EU, Japan, USA, AP
6. Expanding protocols to include in CRT test requirements

2016 ISASecure Building Control Systems Working Group

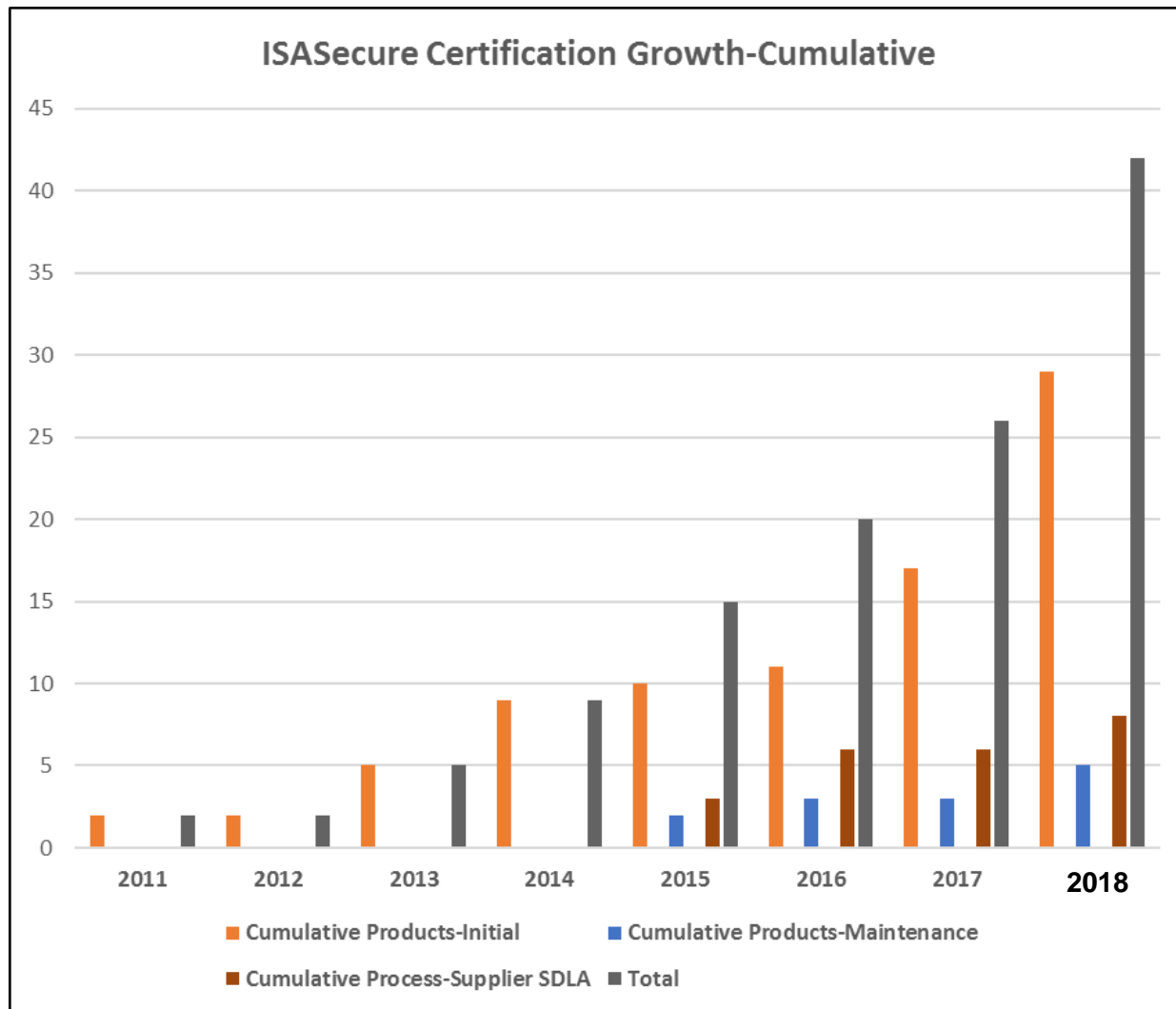
Participating Organizations



Mike Chipley-PMC Group, LLC
Jim Sinopoli-Smart Buildings, LLC

Download Working Group Final Report at
<http://isasecure.org/en-US/Building-Control-Systems-Report>

ISASecure Certification Growth



Thank You

Andre Ristaino

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Research Triangle Park, NC 27709 USA

Phone: +1 919-990-9222 Mobile: +1 919-323-7660

Email: aristaino@isa.org

Web Site: www.isasecure.org