

STANDARDS BASED CONFORMITY ASSESSMENT PROGRAM BEST PRACTICES *FOR NEW WORKING GROUPS & ALLIANCES*

IEEE CONFORMITY ASSESSMENT PROGRAM (ICAP)

November, 2020

INTRODUCTION TO CONFORMITY ASSESSMENT

UNDERSTANDING CONFORMITY ASSESSMENT

■ What is Conformity Assessment?

- Conformity Assessment is the process or processes that are used to demonstrate that a product or service meets specified requirements (set forth in Standards, Test Plans, etc.)

■ Conformity Assessment Benefits

- Provides manufacturers a proven method of demonstrating compliance to the requirements
- Empowers the end-user to make better purchasing decisions
- Benefits the supplier as products can quickly gain market acceptance
- Increases the likelihood of a stable technology in the market with robust products

■ Conformity Assessment Activities Include:

- Conformance, Commissioning, Interoperability, Inspection, Accreditation
- Test Suite Specification development
- “Catch-all” term to address range of test-related activities

TYPES OF CONFORMITY ASSESSMENT

■ 1st Party / Suppliers Declaration of Conformity (SDOC)

- Self Declaration ; Companies conduct their own testing

■ 2nd Party Conformity Assessment

- Conformity assessment conducted by the end purchaser of products (e.g., Service Providers) to ensure purchased products are deemed compliant or interoperable

■ 3rd Party Conformity Assessment

- Conformity assessment being determined by an independent body.

Related International Standards

■ Accreditation Bodies – ISO/IEC 17011

■ Certification Bodies - ISO/IEC 17065

■ Test Labs – ISO/IEC 17025

BENEFITS OF CONFORMITY ASSESSMENT

- Provide manufacturers a proven method of demonstrating compliance
- Shared resource of testing laboratories and test tools
- Enhance interoperability
- Empower end-user to make better purchasing decisions
- Encourages quicker and wider market acceptance of products
- Facilitates a stable technology in the market with robust products

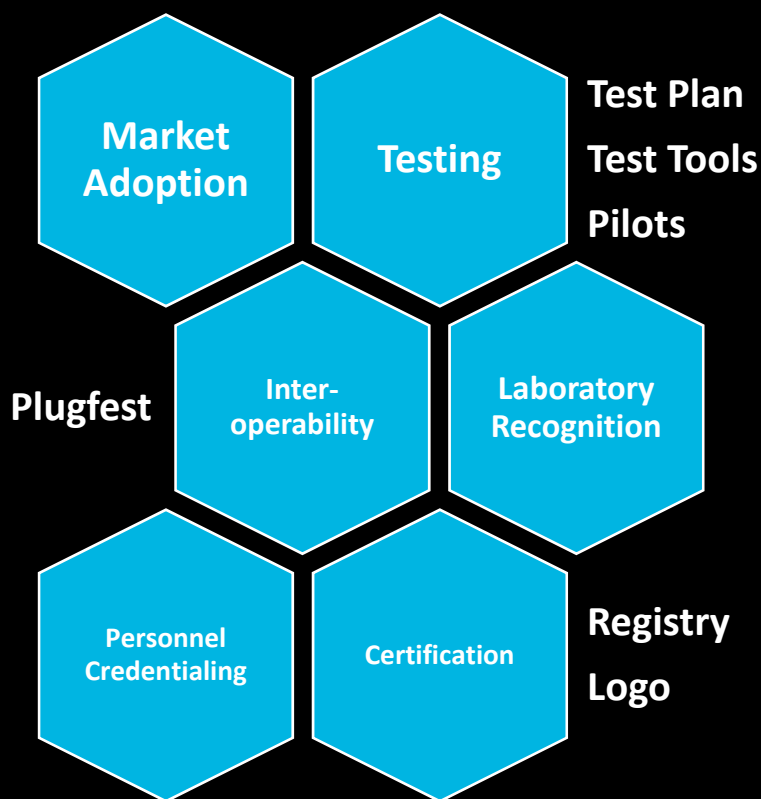
ICAP COMPLETES THE IEEE-SA BUSINESS/STANDARDS LIFECYCLE



ICAP is a Program of IEEE-SA



IS YOUR WORKING GROUP INTERESTED IN CONFORMITY ASSESSMENT?



IEEE SA STANDARDS ASSOCIATION

- IEEE offers in-house capabilities & expertise to all IEEE WGs
- Immediate approval of conformity assessment initiatives/committees
- Access to test plan, legal agreement and certification scheme templates
- Access to global testing laboratories
- Use the IEEE Certified Logo and branding



VALUE OF IEEE CERTIFICATION



Convenience

- Intrinsic connection with IEEE-SA working groups and supporting staff
- Enable certification programs based on converging technologies that covers multiple technologies IEEE-SA works on



Credibility

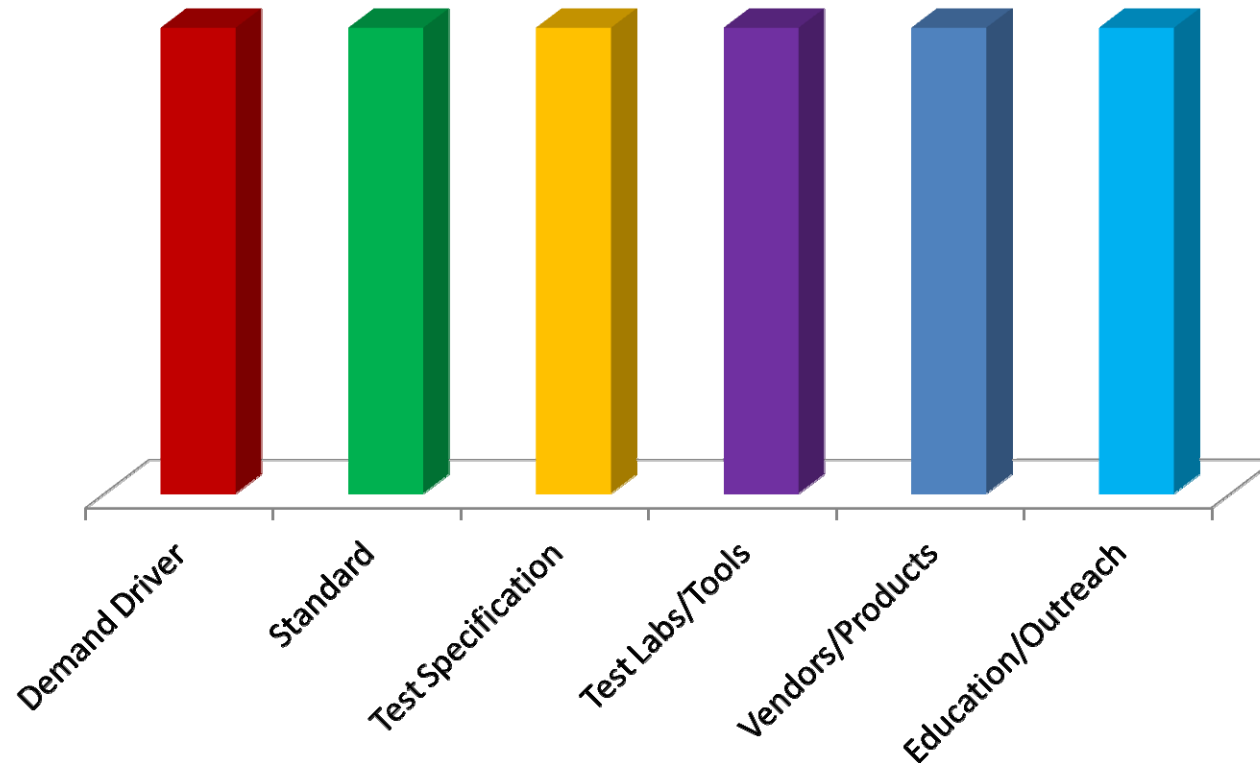
- **Only ICAP certifications come with the IEEE Certification mark**
- IEEE maintained Certified Product Registry



Full-Spectrum Service

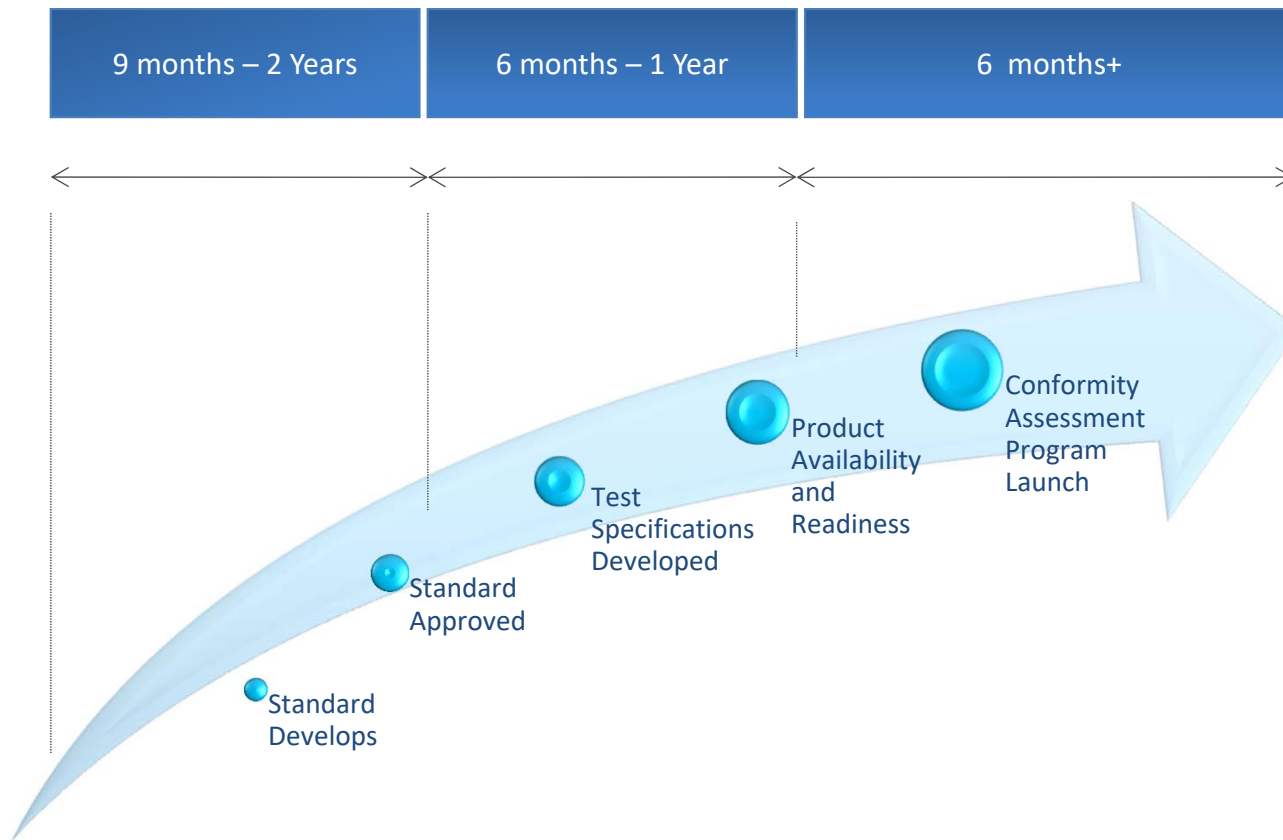
- Turnkey Certification Management program, including Conformance, Interoperability, Inspection, Accreditation
- ICAP strategically aligns with global expert test labs to provide the best level of testing and field evaluation support
- Legal and operational umbrella for testing & conformity assessment programs
- Test Suite & Specification Development
- Self-Validation Suite Development
- Inspection and Verification

PILLARS TO A SUCCESSFUL PROGRAM



Certification Program Development Timeline

Standard –> Test Specs -> Program Launch



IEEE CERTIFICATION MARK

IEEE CERTIFICATION MARK

- **Use of the IEEE Certification mark is only through ICAP managed certification programs**
- Customizable for individuals programs by standard number and/or a short program description, i.e. Telecom, EV Charging, Synchrophasor, IEEE 193X, 2558 etc.



IEEE CERTIFIED PRODUCTS REGISTRY




CERTIFIED PRODUCTS REGISTRY

- A public registry:
- Administered by the certification body/authority
- A venue for manufacturers to publicize their certified products
- A resource for end-users to verify product models that are compliant
- May address derivative products and software/firmware modifications
- May differentiate conformance to various versions of standards and/or test plans

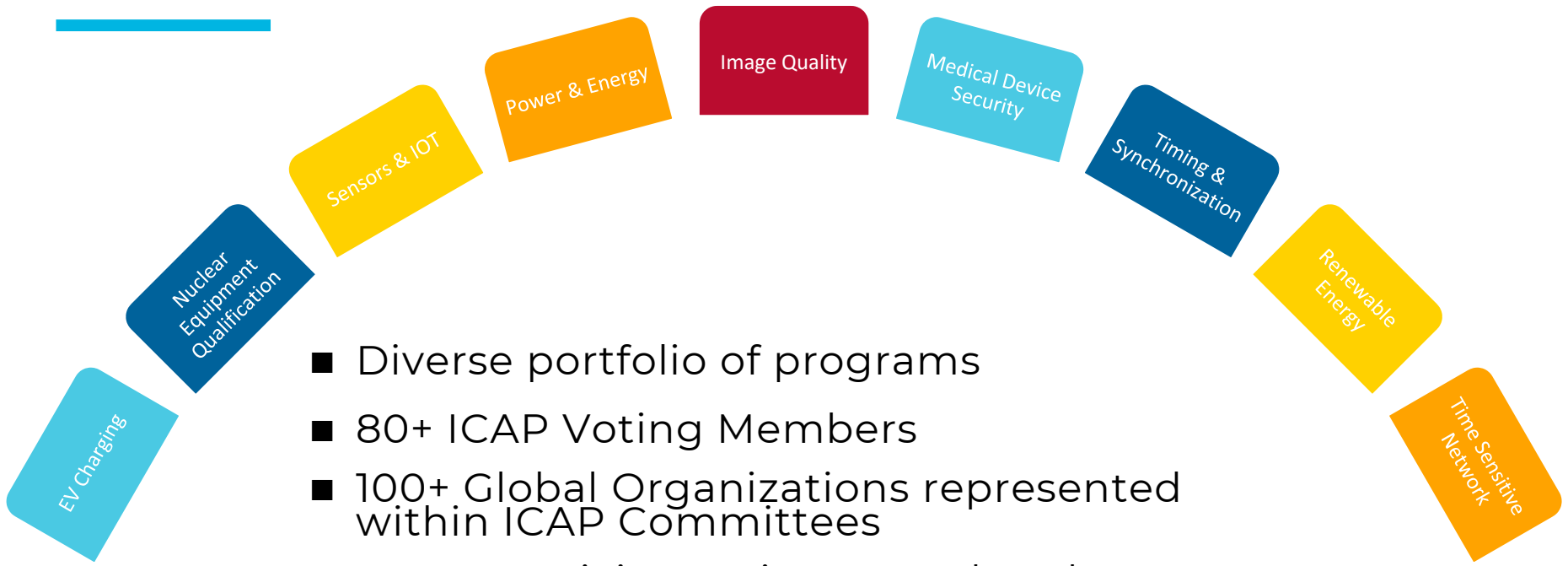
ICAP authorized test laboratory, in accordance with the related Test Suite Specifications. Products listed in this registry may utilize the IEEE certification mark which is globally recognized and accepted.

Phasor Measurement Unit (PMU) Certification Registry

ICAP Authorized Test Laboratory	Consumers Energy
Standard	IEEE C37.118.1a™-2014
Test Suite Specification	IEEE Synchronphasor Measurement Test Suite Specification, Version 2 - 2015

Company Logo	Applicant Name	Product Name	Model Number	Firmware Version
	Schweitzer Engineering Laboratories, Inc.	Axion	SEL-2240	SEL-2241-R134-V1-Z001001-D21050417
	Siemens AG	SIPROTEC-5 PMU	6MD85 (50HZ Nominal Frequency)	V07.xx
	Vizimax	PMU 010000	RMEN35000	21997-1 v1.1.4.2

WHY ICAP?



- Diverse portfolio of programs
- 80+ ICAP Voting Members
- 100+ Global Organizations represented within ICAP Committees
- 1000+ participants in ICAP related certification programs and events (Workshops, Panel Sessions, Round Tables)

VALUE-ADD OR BI-PRODUCTS OF CONFORMITY ASSESSMENT

Alliance or Committee formation

- Participate in conformity assessment program development (voting rights)
- Package services for program development

Technical Documents

- Test Suite Specifications, Test Plans, White Papers, Implementation Guides, etc

Smart Registries

- Interactive and searchable content of products
- Metadata Dictionary

Software-as-a-Service (SaaS)

- Management of test, certification and reports during life of deployment of products

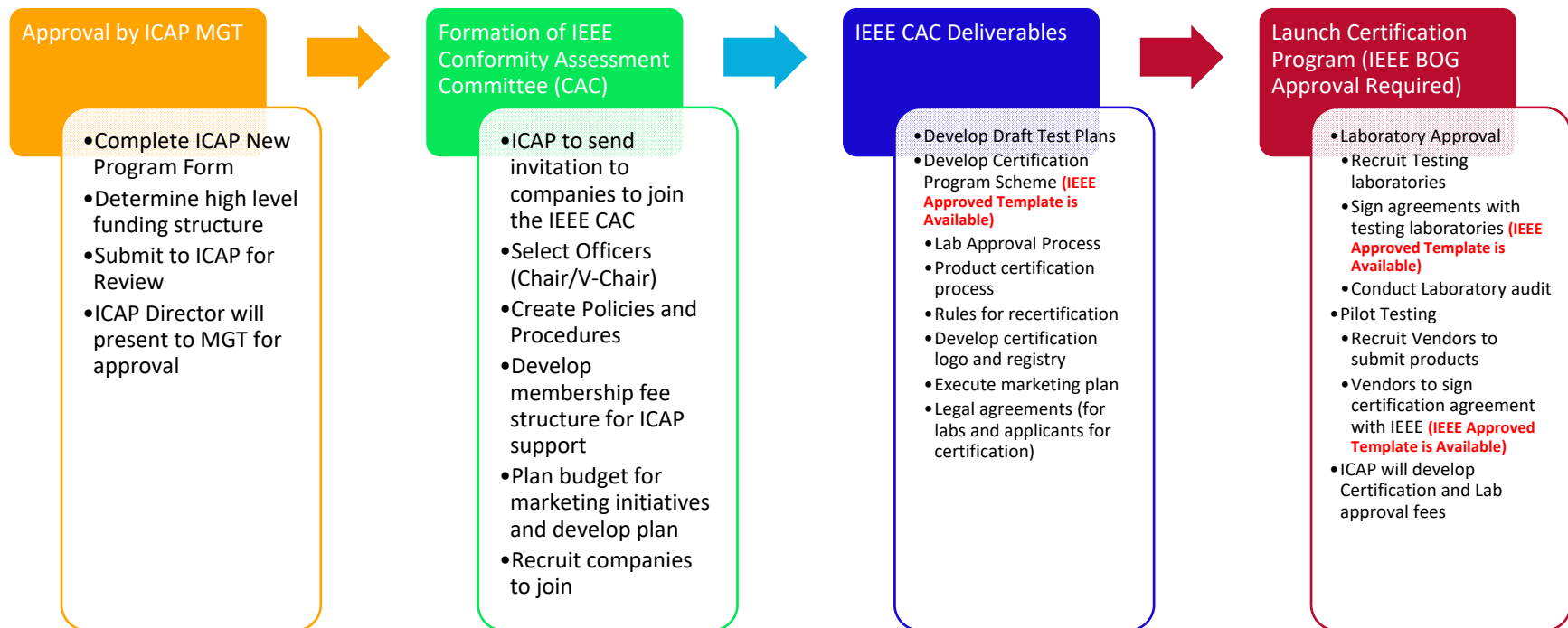
Workshops & Training

- Educational (professional development)
- Personnel credentialing (e.g. PMP)

Interoperability Plugfests/Events

- Opportunity to demonstrate functioning of products as part of a larger system

SAMPLE PROCESS FOR CA PROGRAM DEVELOPMENT



THANK YOU

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Standards.ieee.org/icap

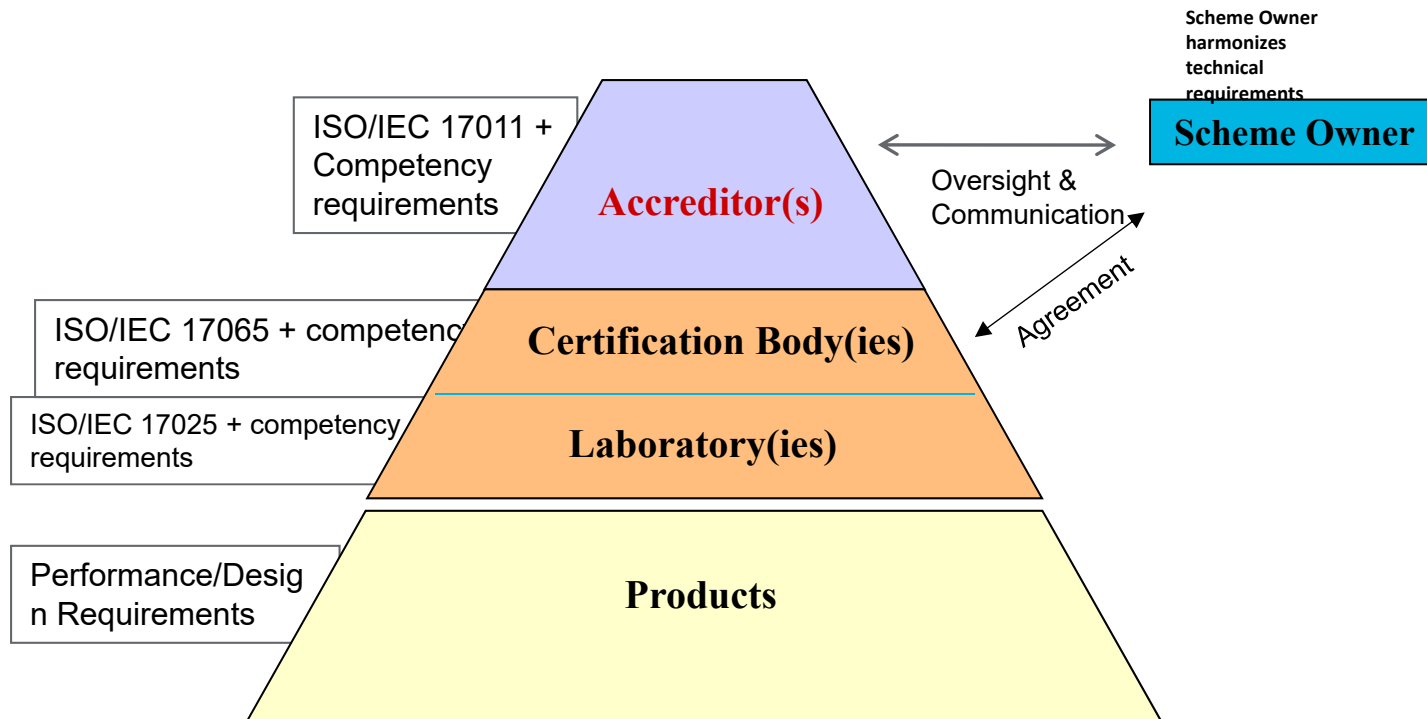
Social Media

[linkedin.com/in/rsubramaniam](https://www.linkedin.com/in/rsubramaniam)

Twitter: @mr_ravin

BACKUP SLIDES

CONFORMITY ASSESSMENT CERTIFICATION SCHEME – SINGLE SCHEME



Courtesy of G.Gillerman @ NIST