

LISTEN.
THINK.
SOLVE.®

Conformity Assessment in Practice - Rockwell Automation Perspective

Timothy Duffy
Rockwell Automation
November, 2010

Agenda

1. Rockwell Automation

2. Product Lifecycle Compliance

3. Regulatory Compliance Trends

4. Organizational Notification

5. Future State & Solutions

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Rockwell Automation At A Glance

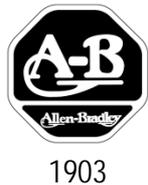
Leading global provider of industrial automation control and information solutions

- US Manufacturer
- Annual Sales ~ \$4.3 billion
- World Headquarters:
Milwaukee, Wisconsin, USA
- Trading Symbol: ROK
- Employees: ~ 19,000
- Serving customers in over 80 countries
- Recognized as one of the world's most ethical companies – 2008, 2009, 2010



The Beginnings: Strong Heritage of Quality, Innovation and Customer Service

Foundation



1994



2010

**Rockwell
Automation**

 *Allen-Bradley* • *Rockwell Software*

*Most valued global
provider of power,
control &
Information solutions*

Serving You Around the World



North America:

300 sales & support locations
9,000+ employees

Latin America:

30 sales & support locations
3,000+ employees

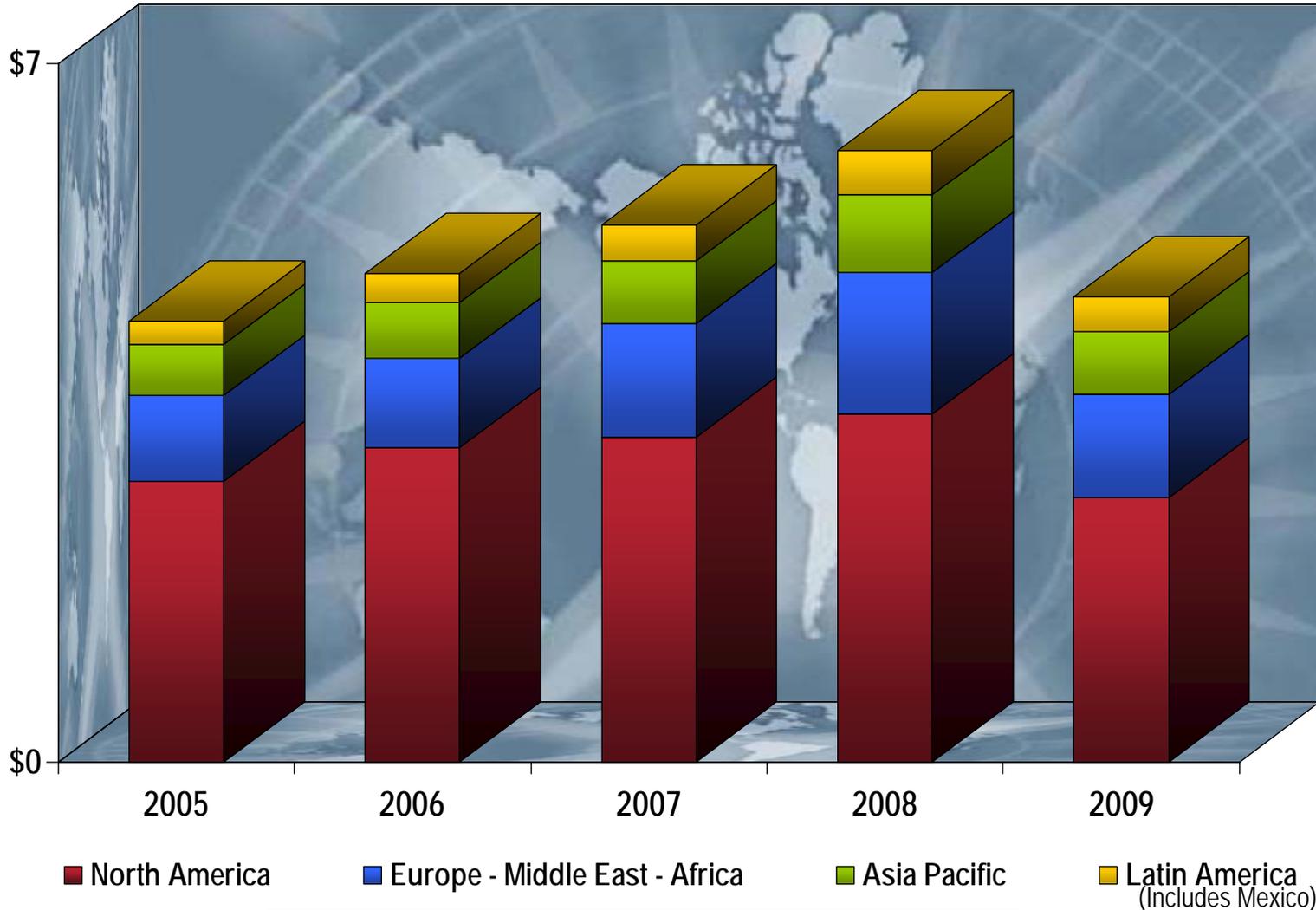
Europe, Middle East & Africa:
90+ sales & support locations
50+ countries
3,800+ employees

Asia Pacific:

60+ sales & support locations
20+ countries
3,200+ employees

Sales by Region

Billions (\$US)



Expanding Our Global Presence

Consumer-Driven Industries Include...

Consumer Packaged Goods



Automotive

Increase flexibility & responsiveness while reducing costs & improving quality.

- Bridgestone
- DaimlerChrysler
 - Ford
 - GM
- Goodyear
- Hyundai
 - JCI
 - Lear
- Magna
- Michelin
- Toyota



Food & Beverage

Satisfy consumer demand, while reducing costs, minimizing waste & improving asset performance.

- Anheuser-Busch
 - Coca-Cola
 - Kellogg
- Kraft/Nabisco
- M&M Mars
 - Nestlé
- PepsiCo/Frito-Lay
 - SABMiller



Household & Personal Care

Meet regulatory challenges & improve quality, consistency, flexibility & time-to-market.

- 3M
- Beiersdorf
- Colgate-Palmolive
 - DuPont
 - Henkel
- Kimberly-Clark
 - L'Oréal
- Procter & Gamble
 - Unilever



Life Sciences

Reduce costs while meeting the demands of ever-changing regulations.

- Abbott Laboratories
- Johnson & Johnson
 - Merck
 - Pfizer
 - Sanofi
- Wyeth-Ayerst

Heavy, Resource-Driven Industries Include...



Water / Wastewater

Achieve low long-term cost & on-demand engineering expertise with scalable solutions.

- A & E Firms
- Consultants
- Design Engineer Firms
- Design Institutes (Asia)
- Global Municipalities
- Privatizers (Europe)
 - Pump OEMs
- System Integrators



Mining / Metals / Cement

Execute real-time control & maintain critical process parameters to respond to customer demands.

- Alcoa
- BHP Billiton
- CEMEX
- Holcim
- Lafarge
- Rio Tinto
- US Gypsum
- Vulcan



Oil & Gas

React to changing production conditions while maintaining operations at peak efficiency.

- BP
- Chevron
- ConocoPhillips
- ExxonMobil
- Shell

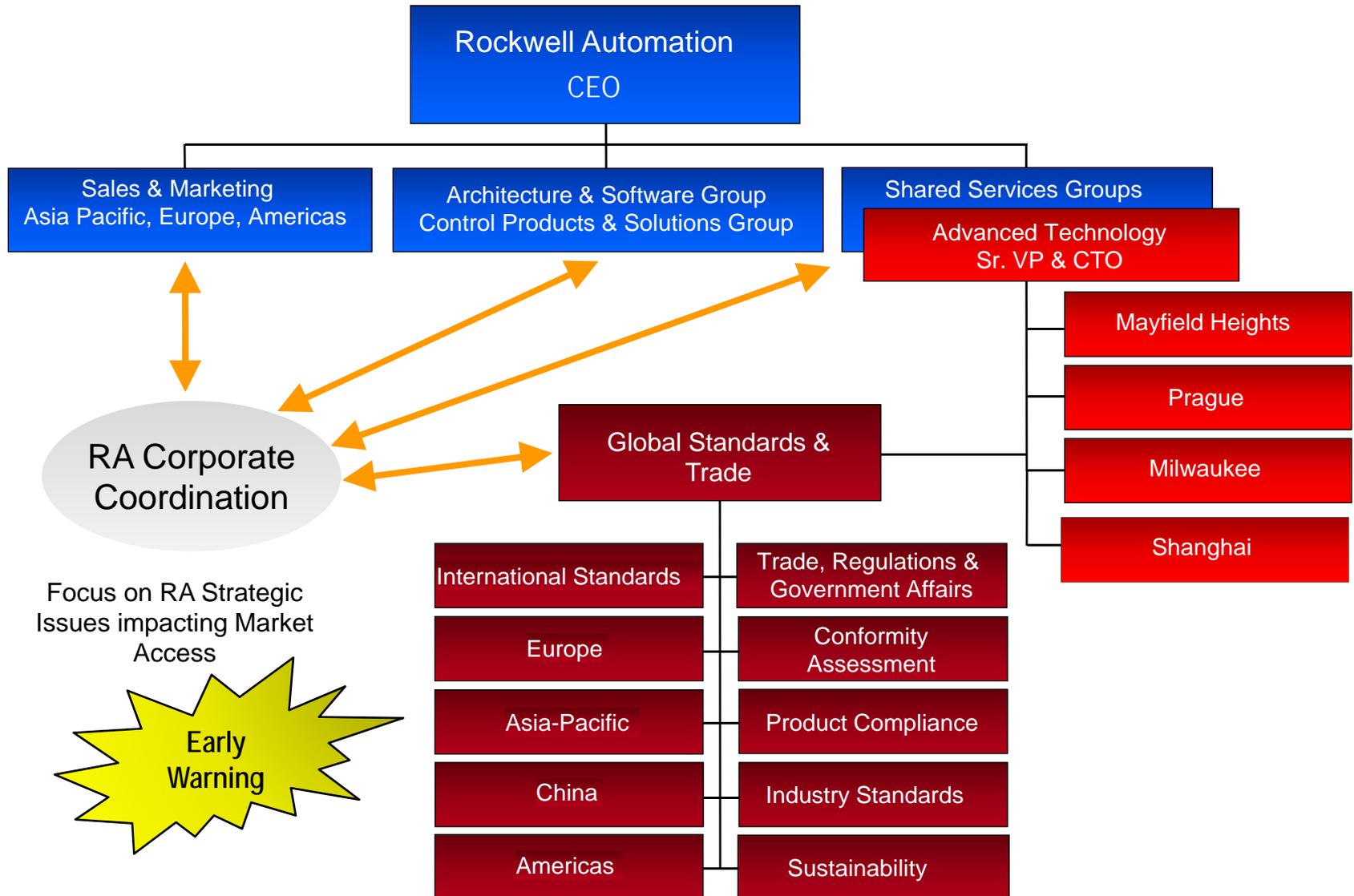


Semiconductor / Electronics

Increase yields while reducing risk & total cost of ownership by using a single automation control & information infrastructure.

- Agilent
- Applied Materials
- ATS Automation
- Axcelis
- IDC / CH2M
- KLA-Tencor
- Novellus
- Praxair
- Seagate

Rockwell Automation Organization



Agenda

1. Rockwell Automation

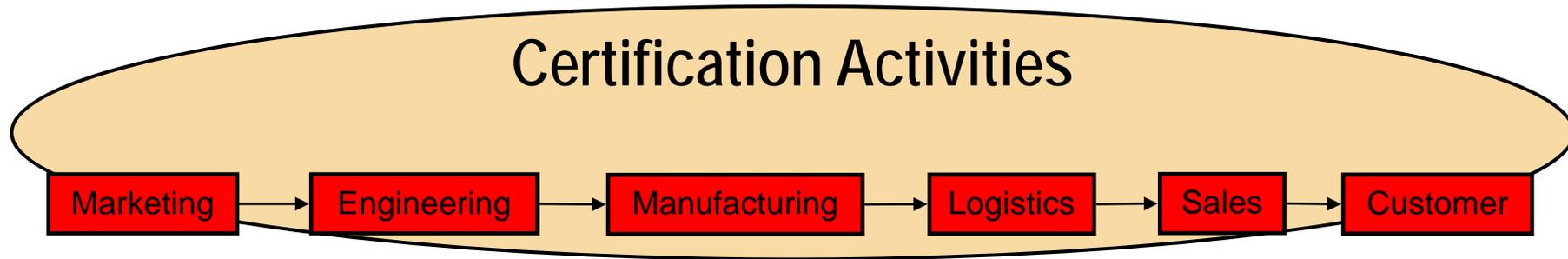
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Life Cycle of a Product



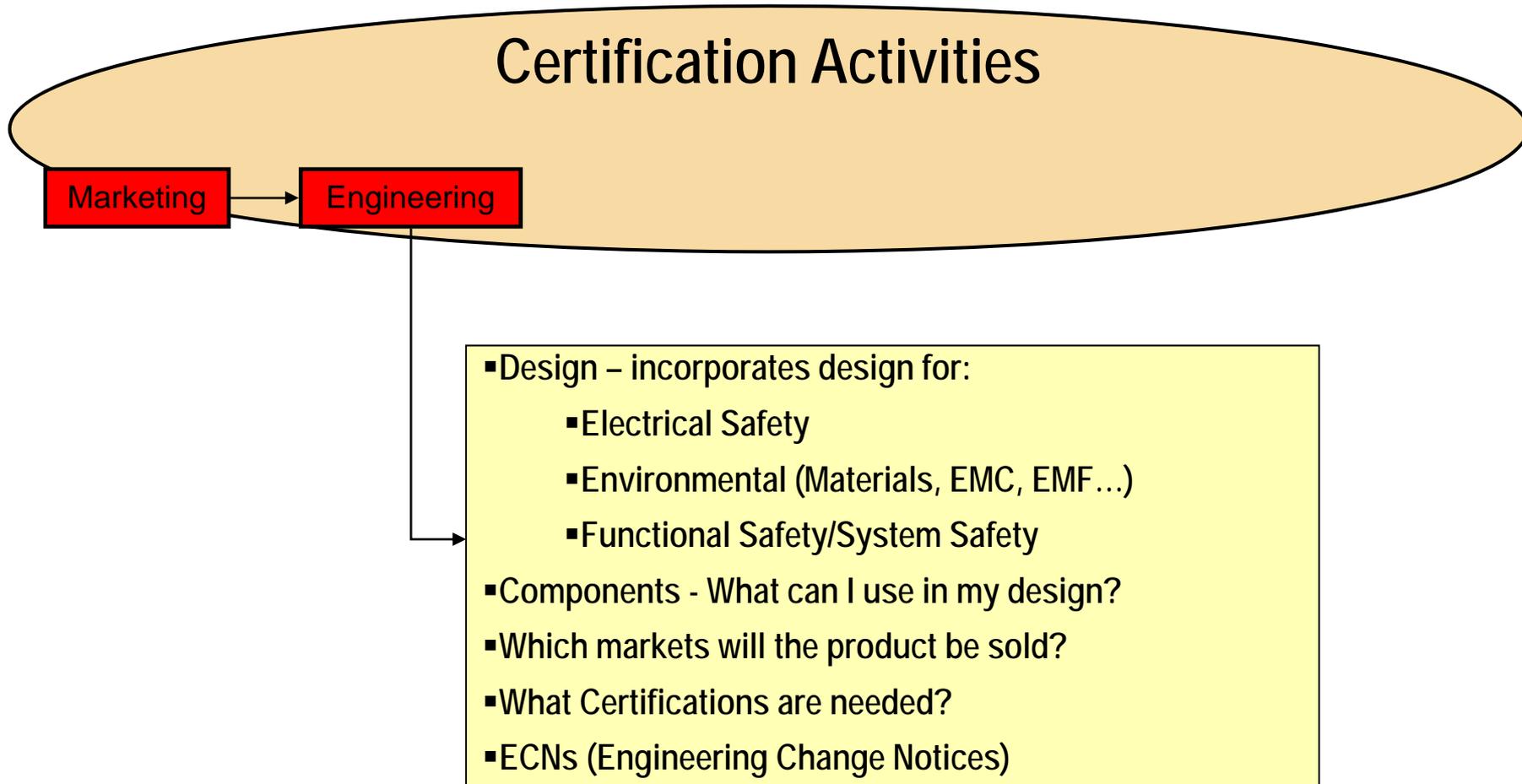
Life Cycle of a Product

Certification Activities

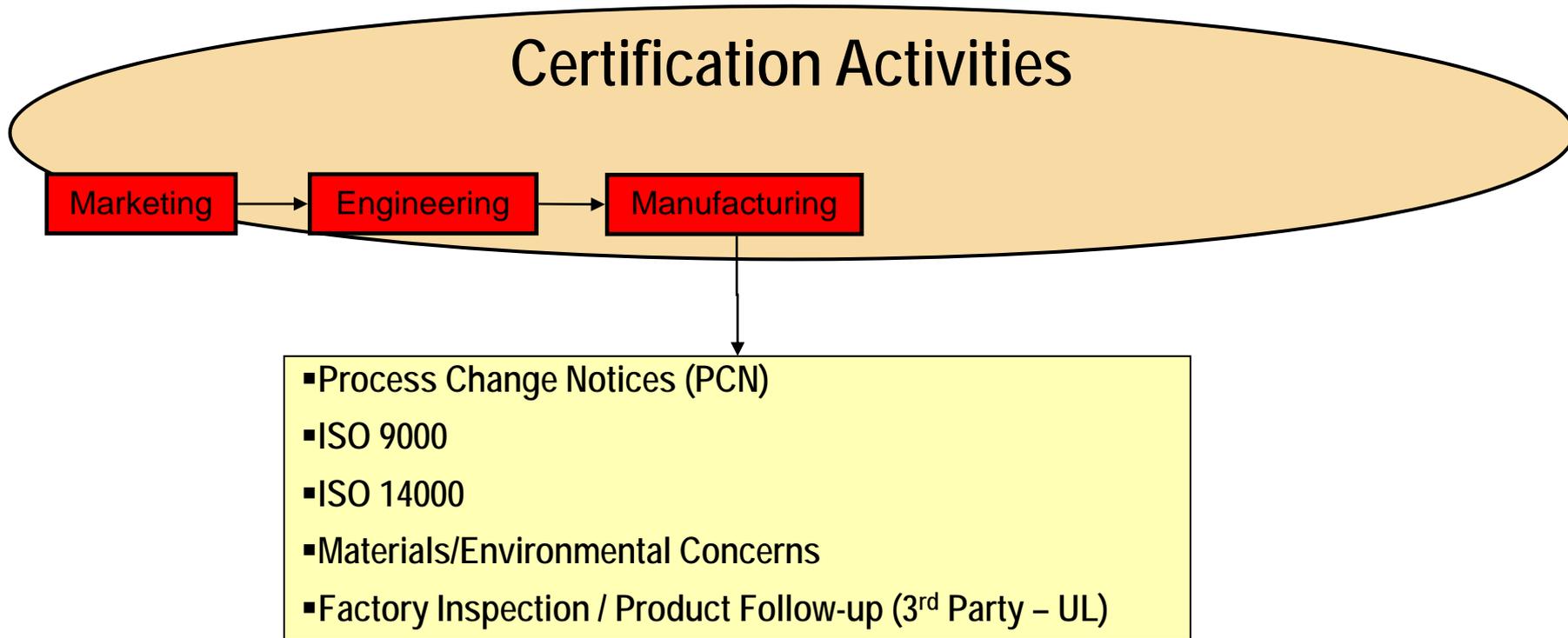
Marketing

- Which Markets/Industries/Applications/Geographies?
- What Brand Strategy
- What is the anticipated product life (obsolescence)?
- Which publications?
 - Product Manuals
 - Brochures
 - Certifications
 - Catalogs

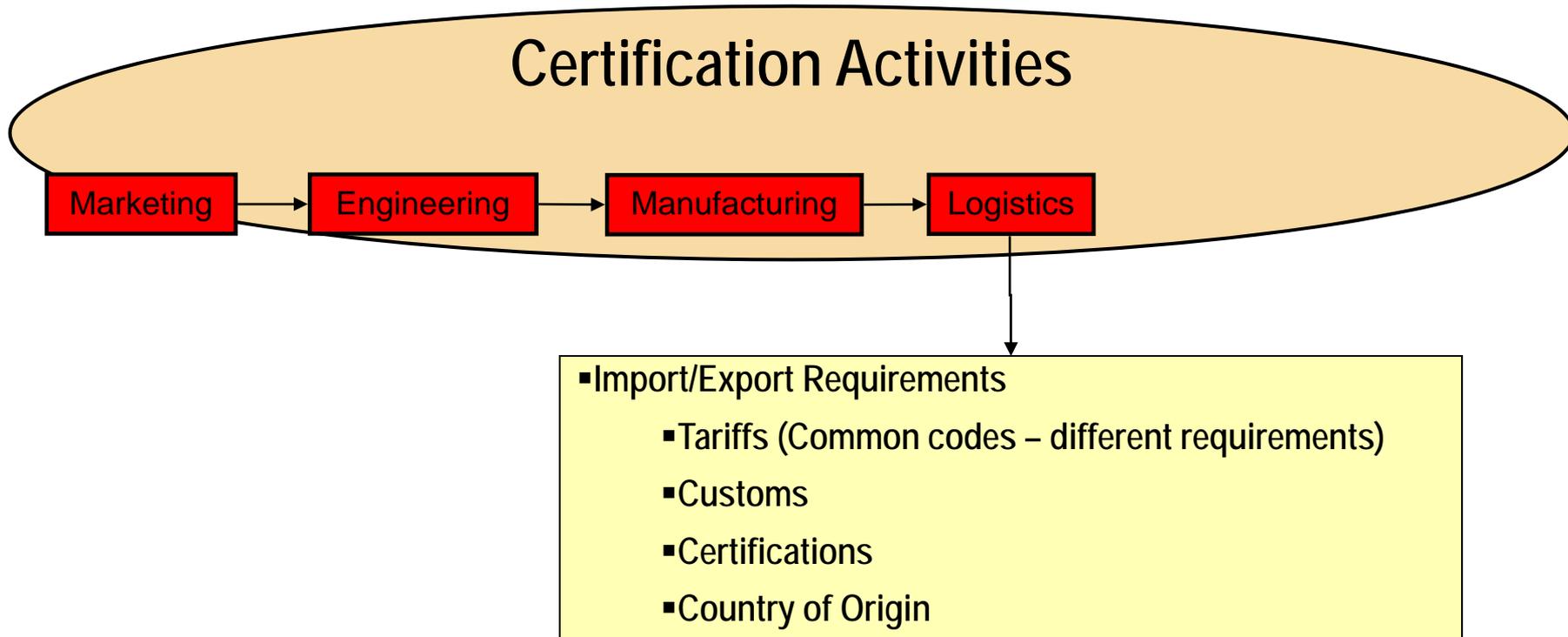
Life Cycle of a Product



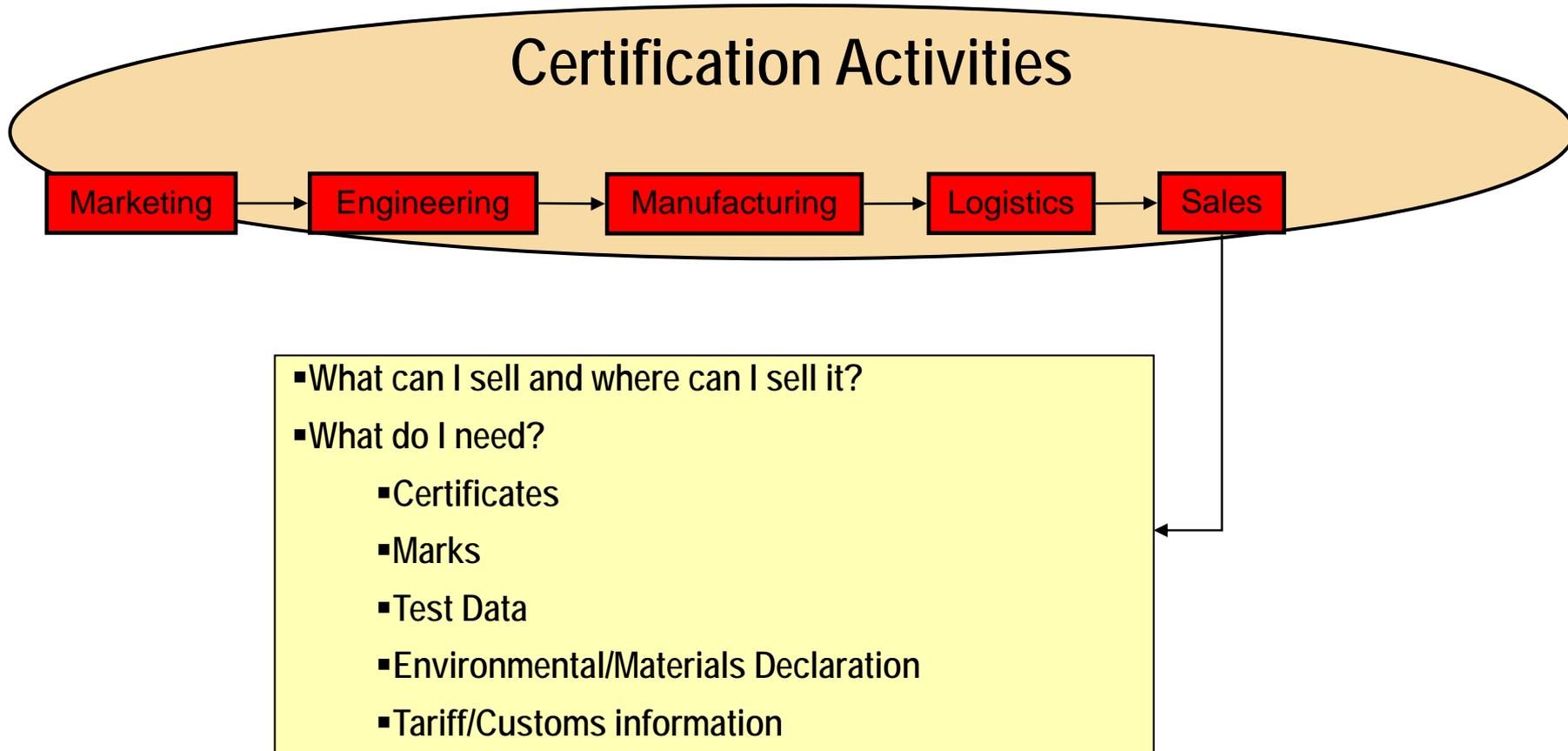
Life Cycle of a Product



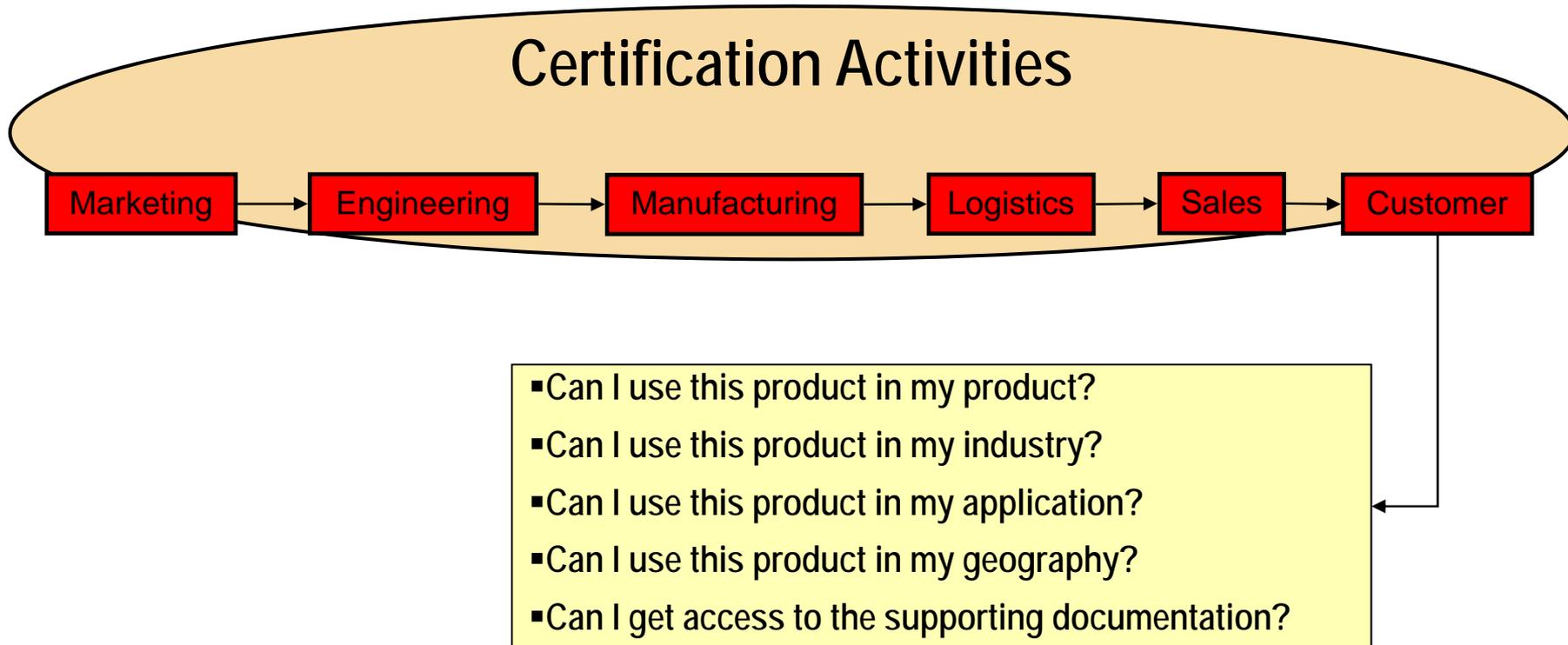
Life Cycle of a Product



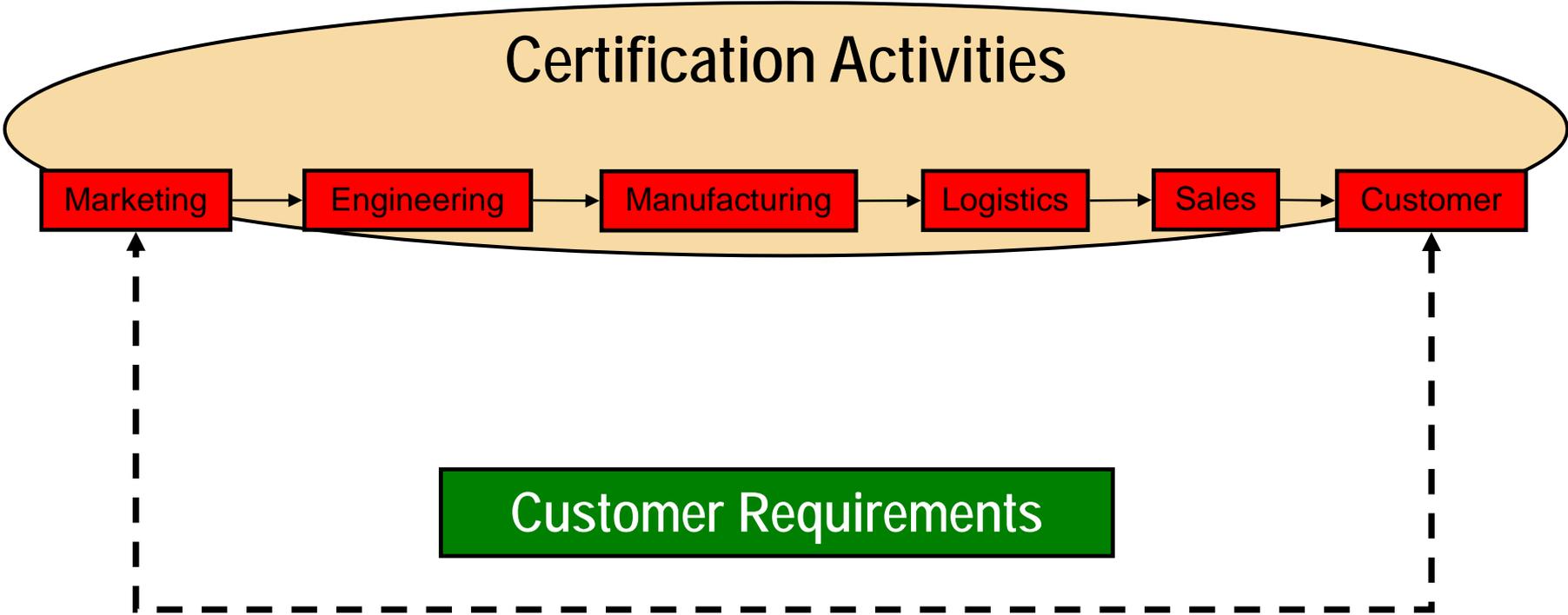
Life Cycle of a Product



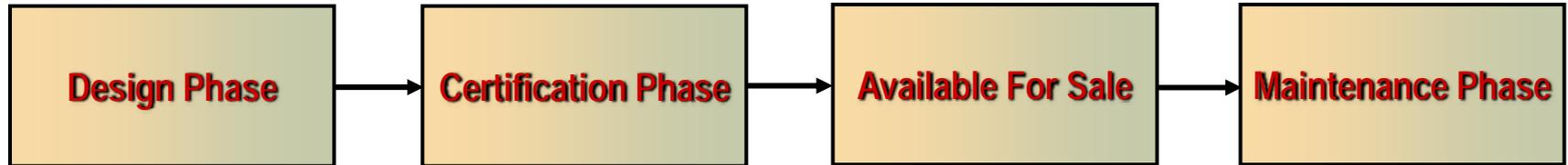
Life Cycle of a Product



Life Cycle of a Product



Generic Certification Process



- These are the basic steps towards achieving most traditional certifications.
- Responsibilities and the types of certifications obtained varies from business to business.
- The requirement for different certifications are driven by;
 - Customer requirements
 - National / Local Regulatory requirements
 - Market requirements
 - Application requirements
- Each Certification has its own unique set of standards covering;
 - Ordinary Locations
 - Hazardous Locations
 - Marine
 - Functional Safety
 - Environmental (EMC, etc.)

Types of Certification - Mayfield Heights

CSA	Canadian Standards Association Certified Process Control Equipment (Class 2252-01)
CSA_IS	Canadian Standards Association Certified for Intrinsically Safe Applications
CSA_IT	Canadian Standards Association Information Technology Equipment – Including Electrical Business Equipment (3862-07)
CSAH	Canadian Standards Association Certified Process Control Equipment for use in Class I, Division 2 Hazardous Locations (2258-02)
CUL	Underwriters Laboratories, Inc. Listed Industrial Control Equipment Certified for Canada (NRAQ7)
CULH	Underwriters Laboratories, Inc. Listed Industrial Control Equipment for use in Class I Division 2 Hazardous Locations Certified for use in Canada (NRAG7)
CULIS	Underwriters Laboratories, Inc. Listed to CSA requirements for Intrinsically Safe location applications
CUR	Underwriters Laboratories, Inc. Recognized Component Industrial Control Equipment Certified for use in Canada
CURH	Underwriters Laboratories, Inc. Recognized Component Industrial Control Equipment for use in Class I Division 2 Hazardous Locations Certified for use in Canada (NRAG8)
CURIS	Underwriters Laboratories, Inc. Recognized to CSA requirements Intrinsically Safe location applications
EEx	Type approval for equipment or protective systems intended for use in potentially explosive atmospheres per the requirements in Directive 94/9/CE
FM	Factory Mutual Research Corporation Approved (Class 3810)
FMH	Factory Mutual Research Corporation Approved for Class I Division 2 Groups A,B,C,D locations (Class 3600, 3611)
FMIS	Factory Mutual Research Corporation Approved for Intrinsically Safe Applications
UL	Underwriters Laboratories, Inc. Listed Industrial Control Equipment (NRAQ)
UL_IT	Underwriters Laboratories, Inc. Information Technology Equipment Including Electrical Business Equipment (MWGQ)
ULH	Underwriters Laboratories, Inc. Listed Industrial Control Equipment for use in Class I Division 2 Hazardous Locations (NRAG)
ULIS	Underwriters Laboratories, Inc. Listed for Intrinsically Safe Applications
ULR	Underwriters Laboratories, Inc. Recognized Component Industrial Control Equipment (NRAQ2)
ULRH	Underwriters Laboratories, Inc. Listed Industrial Control Equipment for use in Class I Division 2 Hazardous Locations (NRAG2)

Types of Certification - Mayfield Heights

LVD	Complies with Directive 73/23/EEC - Low Voltage Directive as amended by 93/68/EEC
Marine	Type approval to the requirements of the granting authority
C-Tick	Complies with Radiocommunications Act: 1992; Radiocommunications (Electromagnetic Compatibility) Standard: 1998; Radiocommunications (Compliance Labeling - Incidental Emissions) Notice: 1998; AS/NZS 2064, 1997 Group 1 Class A has been applied.
ATEX	Complies with 94/9/EC - Equipment and Protective systems intended for use in potentially explosive atmospheres
Func Safe	Complies with IEC 61508

- **Summary:** 31 unique certifications with 9 primary and various secondary standards used in the evaluation of all products
- **Agencies:** (Multiple contacts are used at each agency depending on the type of certification required)
 - UL
 - CSA
 - C-Tick (Australian Authority)
 - FM
 - LCIE
 - DEMKO
 - Marine (American Bureau of Shipping, Bureau Veritas, Det Norske Veritas, Germanischer Lloyd, Korean Register of Shipping, Lloyd's Register, Registro Italiano Navale)
 - TUV (Functional Safety)

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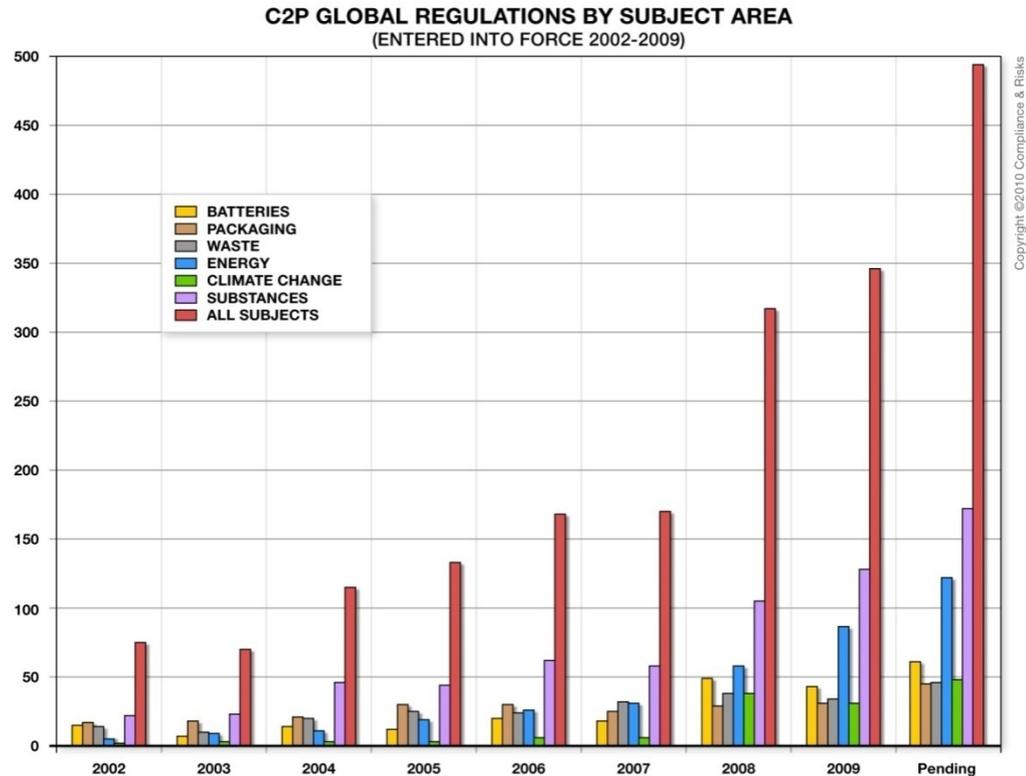
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Environmental Regulations: Escalating Trend



The task of getting and staying compliant is increasingly complex.



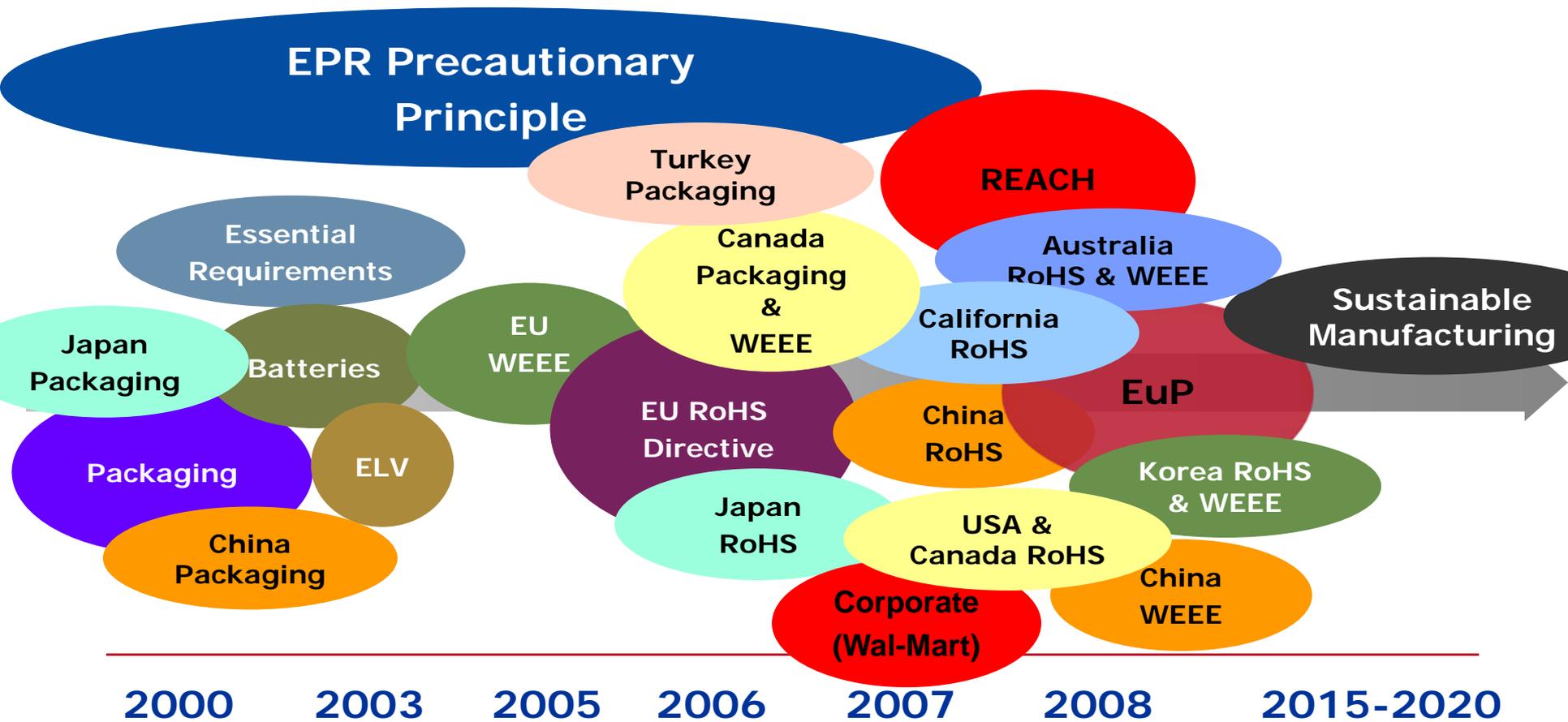
Compliance is becoming more costly and labor-intensive.



It's becoming more difficult to manage compliance accurately – Greater risk of failures.

An Irreversible Trend

Environmental Compliance Example



Compliance is Now Prerequisite for Market Access

Rockwell Automation Regulated Products

Regulatory issues

- Safety:
 - Electrical safety, Hazardous locations, SIL levels, EMC
 - All Rockwell Automaton products are impacted by electrical safety regulatory requirements
- Environmental:
 - Limited number of regulated products -- Regulated since early 2000 with EU Directives
 - Increasing number of regulations with expanding product scope
 - Eventually, all Rockwell Automation product except large stationary machinery will be in scope of most environmental regulations
 - Customer expectations for compliance are beyond regulatory scope
 - Rewrite of EU RoHS will mandate compliance

9.INDUSTRIAL AUTOMATION	
COMPONENTS OF INDUSTRIAL INSTALLATION Out of the scope of WEEE Out of the scope of RoHS	FINISHED PRODUCTS In the scope of WEEE Out of the scope of RoHS
 <p>Drive, Contactor, Inverter, Interface, Programmable Logic Controllers (PLCs), Safety push button, Sensor, Control Panel</p>	 <p>Hand held data logger Bench data logger Energy Meter</p>

Voluntary



Mandatory

What issues are we tracking?

- Safety and Security
 - Electrical Safety
 - Functional Safety,
 - EMC,
 - Cyber Security
- Product Environmental
 - Material Restrictions (REACH, RoHS, TSCA, Canada CMP, Nano-materials)
 - End of life management (WEEE, Batteries, Packaging)
 - Energy (Efficiency, Power consumption of products, systems, solutions)
 - Product Carbon Footprint, GHG emissions
- Social Responsibility
 - Conflict Minerals in US, ISO 26000
- Other Government Mandates
 - Rare earth metals, import/export/customs, Country of Origin

New Issue Identification Methods

- Internal company staff based in country (GST Staff, Logistics, Sales, etc)
- WTO Regulatory Notification via "Notify US" NIST Dept of Commerce
- Industry/Trade Associations – participate and influence
- Suppliers and Business Partners
- Government agencies
 - Participate on Government Advisory Committees (US, Australia, China, EU)
- Trade issue regulatory tracking – Washington Trade Daily, US - Federal Register, EU – Europa,
- Standards Bodies – ANSI, IEC, ISO, SAC, etc
 - Active participation in development of standards & conformity assessment to influence outcome and early warning of requirements
- Safety Agencies – UL, CSA, etc
- Non-traditional sources such as LinkedIn Groups, Google Alerts
- Other industry consortia (e.g., ICSCA)

Goal: Proactive, participatory approach vs. reactive response

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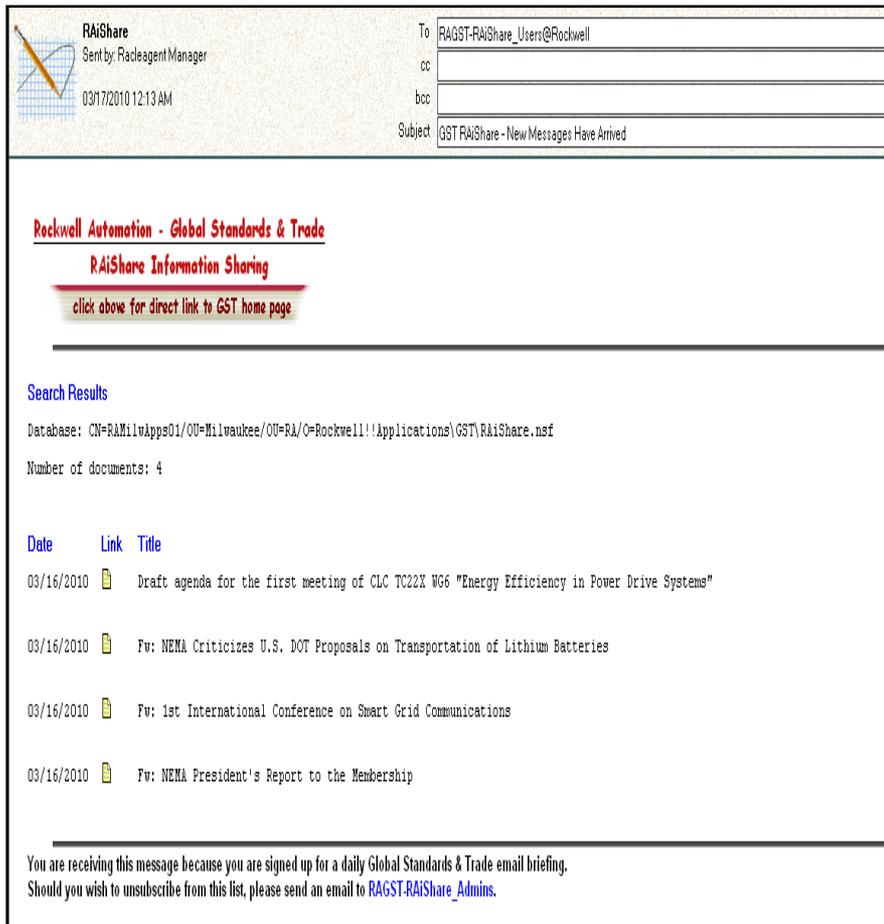
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Internal Notification of Regulatory Impacts

- Internal daily regulatory briefing



RAIShare
Sent by: Racleagent Manager
03/17/2010 12:13 AM

To: RAGST-RAIShare_Users@Rockwell
cc:
bcc:
Subject: GST RAIShare - New Messages Have Arrived

Rockwell Automation - Global Standards & Trade
RAIShare Information Sharing
click above for direct link to GST home page

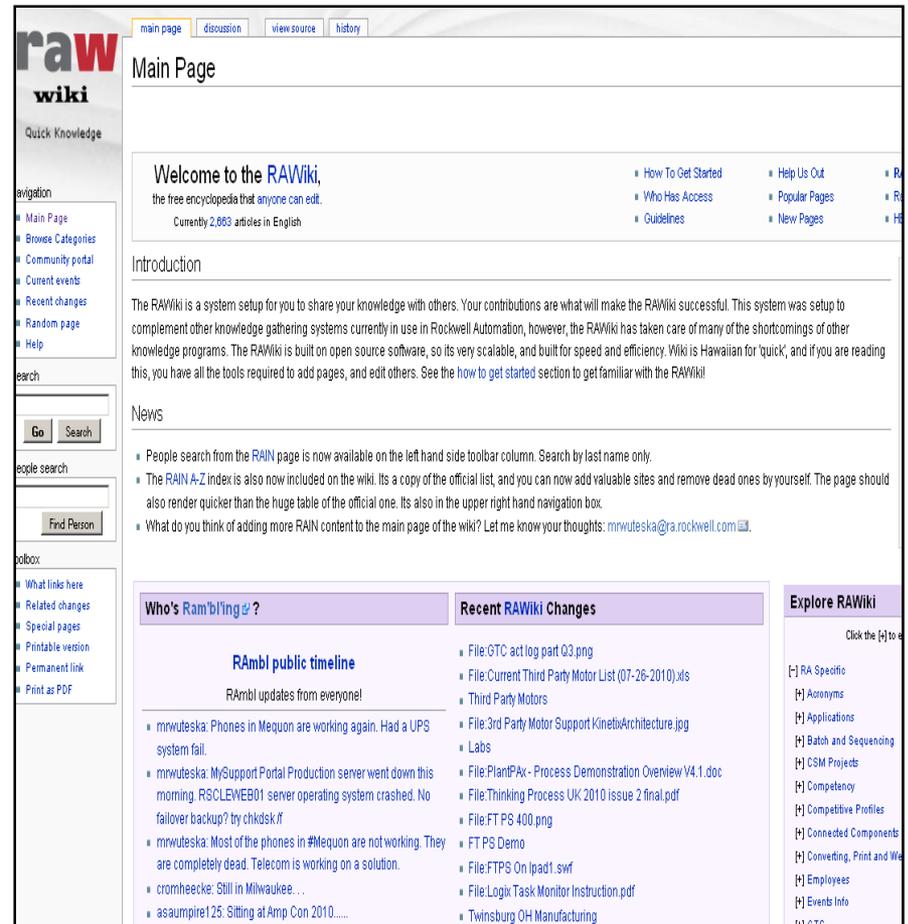
Search Results

Database: CN=RAMilwapps01/OU=Milwaukee/OU=RA/OU=Rockwell1\applications\GST\RAIShare.nsf
Number of documents: 4

Date	Link	Title
03/16/2010		Draft agenda for the first meeting of CLC TC22X WG6 "Energy Efficiency in Power Drive Systems"
03/16/2010		Fw: NEMA Criticizes U.S. DOT Proposals on Transportation of Lithium Batteries
03/16/2010		Fw: 1st International Conference on Smart Grid Communications
03/16/2010		Fw: NEMA President's Report to the Membership

You are receiving this message because you are signed up for a daily Global Standards & Trade email briefing.
Should you wish to unsubscribe from this list, please send an email to RAGST-RAIShare_Admins.

- Rockwell Automation Wiki



raw wiki
Main Page

Welcome to the **RAWiki**,
the free encyclopedia that anyone can edit.
Currently 2,869 articles in English

Introduction

The RAWiki is a system setup for you to share your knowledge with others. Your contributions are what will make the RAWiki successful. This system was setup to complement other knowledge gathering systems currently in use in Rockwell Automation, however, the RAWiki has taken care of many of the shortcomings of other knowledge programs. The RAWiki is built on open source software, so its very scalable, and built for speed and efficiency. Wiki is Hawaiian for 'quick', and if you are reading this, you have all the tools required to add pages, and edit others. See the [how to get started](#) section to get familiar with the RAWiki!

News

- People search from the **RAIN** page is now available on the left hand side toolbar column. Search by last name only.
- The **RAIN A-Z** index is also now included on the wiki. Its a copy of the official list, and you can now add valuable sites and remove dead ones by yourself. The page should also render quicker than the huge table of the official one. Its also in the upper right hand navigation box.
- What do you think of adding more RAIN content to the main page of the wiki? Let me know your thoughts: mrwuteska@ra.rockwell.com

Who's Rambling ?

RAmbl public timeline
RAmbl updates from everyone!

- [mrwuteska: Phones in Mequon are working again. Had a UPS system fail.](#)
- [mrwuteska: MySupport Portal Production server went down this morning. RSACLEWEB01 server operating system crashed. No failover backup? try chkdsk /f](#)
- [mrwuteska: Most of the phones in #Mequon are not working. They are completely dead. Telecom is working on a solution.](#)
- [crombecker: Still in Milwaukee...](#)
- [asaumpire125: Sitting at Amp Con 2010.....](#)
- [File:GTC act log part Q3.png](#)
- [File:Current Third Party Motor List \(07-26-2010\).xls](#)
- [Third Party Motors](#)
- [File:3rd Party Motor Support KineticsArchitecture.jpg](#)
- [Labs](#)
- [File:PlantPAK - Process Demonstration Overview V4.1.doc](#)
- [File:Thinking Process UK 2010 issue 2 final.pdf](#)
- [File:FT PS 400.png](#)
- [FT PS Demo](#)
- [File:FTPS On Ipa01.swf](#)
- [File:Logix Task Monitor Instruction.pdf](#)
- [Twinsburg OH Manufacturing](#)

Explore RAWiki

Internal Notification of Regulatory Impacts

- Intranet and SharePoint Sites

The screenshot displays the Rockwell Automation RAIN intranet interface. At the top, the Rockwell Automation logo is on the left, and a search bar with the text 'Quick People Search' and a dropdown arrow is on the right. Below the logo, navigation links for 'Home', 'Asia Pacific', 'Canada', 'EMEA', 'Latin America', and 'U.S.' are visible. A 'Regions' dropdown menu is also present. The main content area is titled 'Product - Environmental Regulations/Requirements' and is organized into several regional sections:

- United States**
 - Federal/National Regulations
 - State Regulations
 - [Guidance for the Labeling of Mercury Containing Products to meet Regulatory Requirements in several US States](#) - April 17, 2007
 - [Regulatory Guidance for the Transportation of Primary Lithium Cells / Batteries \(Revision 8\)](#) - November 26, 2007
 - o California:
 - [California's Restriction of Hazardous Substances \(RoHS\)](#) - Revision 2, December 2006
 - [Product Regulatory Alert - Lithium Cells/Batteries containing Lithium Perchlorate \(Revised\)](#) - February 13, 2007

- European Environmental Product Directives of Significance to Rockwell Automation**
- [WEEE Directive](#)
- [RoHS Directive](#)
 - o [RoHS and WEEE information for Rockwell Automation](#)
 - o [Rockwell Automation Position Letter on RoHS](#)
- [Dangerous Substances Directive](#)
- [Packaging Directive](#)
- [Batteries Directive](#)
 - o [RA Battery Implementation Requirements \(15 July 2008\)](#)
 - o [EU Batteries Directive - Annex A](#)
 - o [Products Containing Batteries - Annex B](#)
- Japan Environmental Product Regulations/Requirements**
- [The Amendment of the "Enforcement Order of the Law for the Promotion of the Effective Utilization of Resources" and "Judgment Criteria Concerning the Reduction of the Generation of Used Goods", "Judgment Criteria Concerning the Promotion of the Utilization of Recyclable Resources or Reusable Parts."](#)
- China Environmental Product Regulations/Requirements**
- [China RoHS - Guidance for RA Products \(Version 1 - 24 January 2007\)](#)
- [Administration on the Control of Pollution Caused by Electronic Information Products](#)
- Korea Environmental Product Regulations/Requirements**
- [Guidance Document for Korea RoHS/WEEE - November 2007](#)

Internal Notification of Regulatory Impacts

- Internal Conferences, Summits, Workshops
- Quarterly business leadership meetings
- Technical Council – Company-wide technical leadership for product development
- Internal experts in each product group and functional area
- Extranet to business partners
- Updates to specific functional forums/internal councils

Regulatory Tracking - Lessons Learned

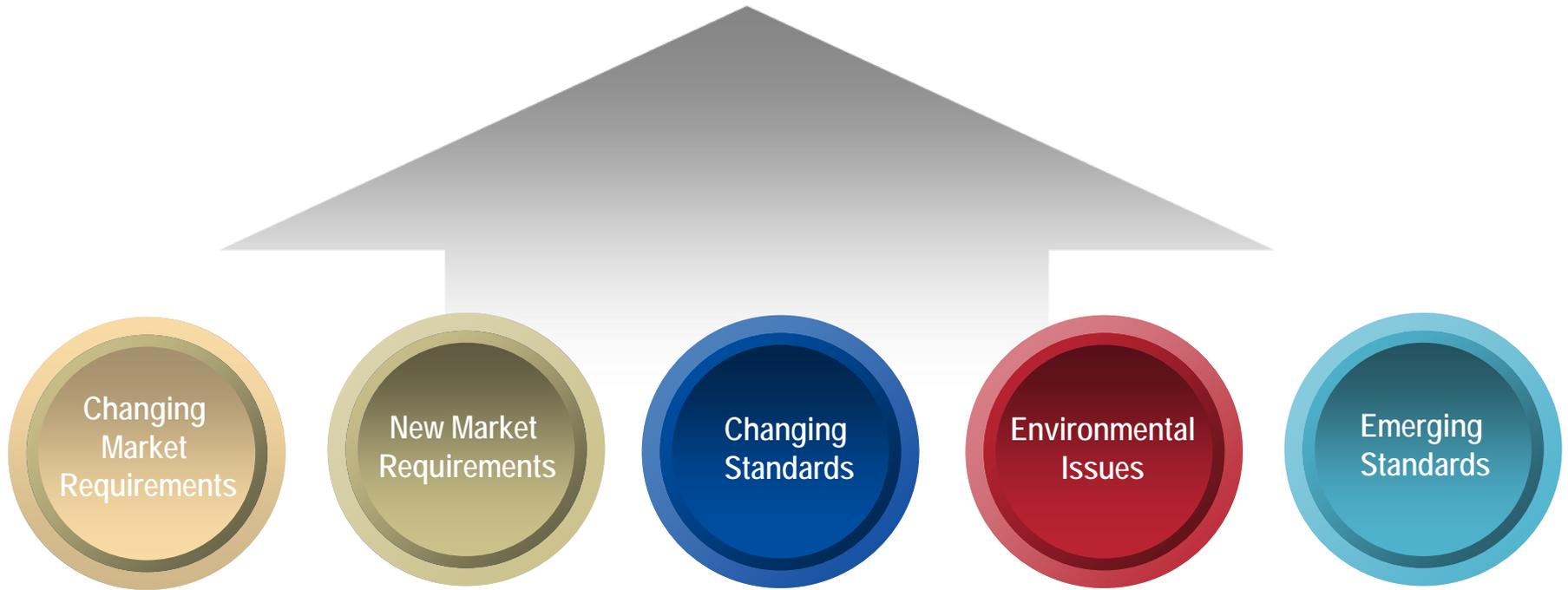
- Centralized organization for tracking, interpreting and notification
 - Regionally dispersed staff with central coordination
 - Process and methodology to track, analyze, interpret and notify
- Strong relationships with external organizations for advanced warning of issues – **Participation for potential to influence outcomes**
- Commitment of Sr. Leadership
 - Clear governance for decision making , strategy and oversight
 - **Recognition that regulatory compliance is a strategic business activity**
- Phased regulatory compliance – not all products in scope of all laws
 - Targeted communications to identified owners in functional areas and business units
- Migration to process based organization with SAP
 - Single architecture with centralized data
 - Regulatory requirements embedded into end to end business processes
- Regulatory requirements incorporated into technology roadmaps – future regulatory impacts considered at design and planning stages

Regulatory Tracking - Challenges

- Rapidly expanding and changing regulatory landscape
 - Lack of global harmonization impacting market access
 - Regulatory landscape growing and changing faster than resources deployed to manage
- Not enough internal regulatory expertise and resource coverage
 - Geographic
 - Subject matter
 - Accurate and timely translations
- Recessive economic conditions past few years
 - Limited resource investment to manage compliance
- Small number of products regulated resulting in pockets of awareness, knowledge and expertise – challenge to leverage across entire global organization
- Complexity of products with long product life and large installed base
 - 300,000 skus, average product utilization life of 20 years
- Despite technology, internal people networks are the most effective and efficient way to manage and achieve compliance
 - People change roles, responsibilities, etc – loss of expertise

Drivers Impacting Sale of RA Product

Global Sale of RA Product



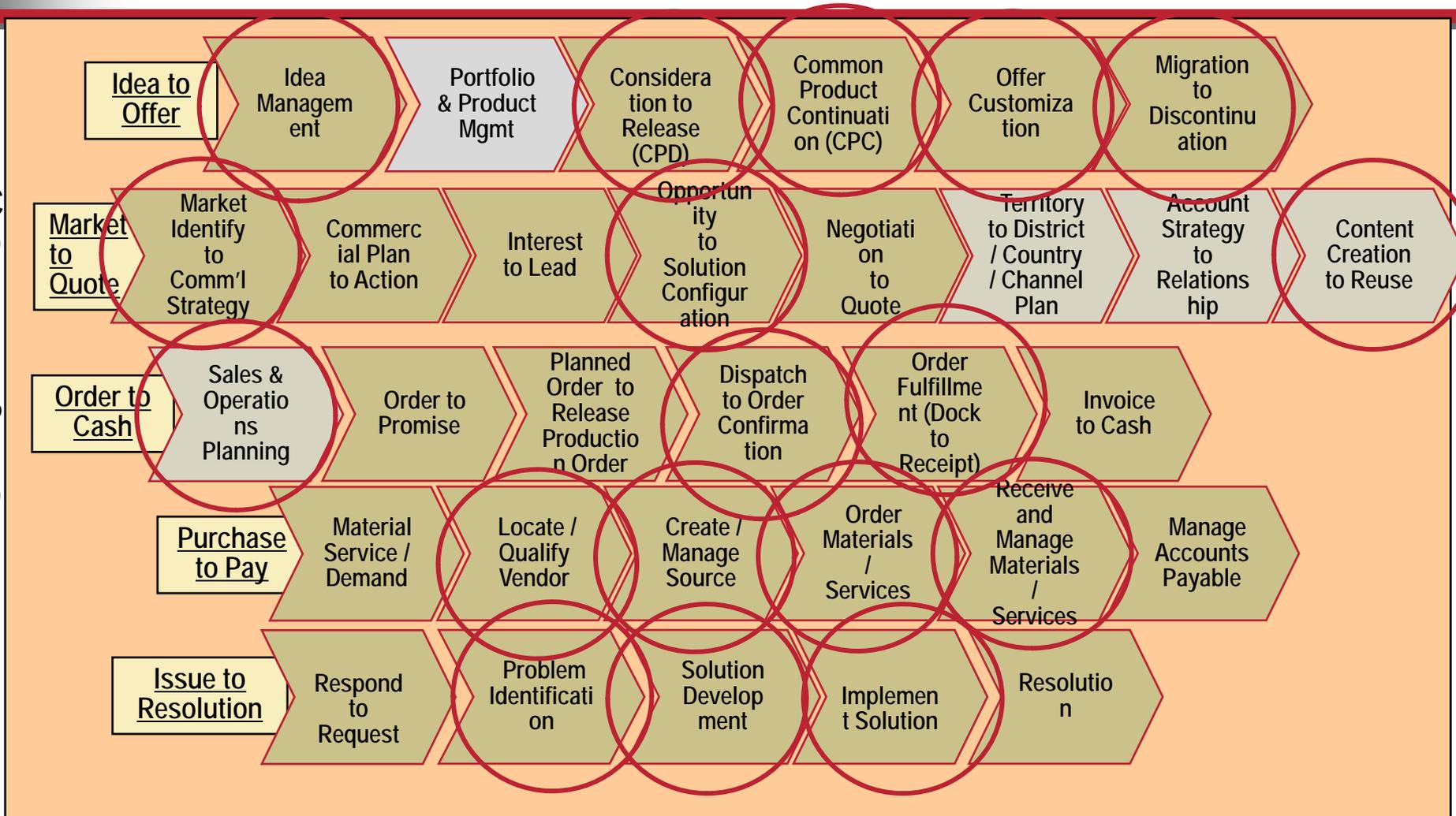
Product Compliance Process

<u>Process</u>	Issue Tracking (Scouting)/ Notification	Decision Making	Implementation	Reporting / Continuous Compliance
<u>Who</u>	GST	Exec Steering Council & Product Compliance Leader	Business Unit or Functional area Owner	Business Unit & Product Compliance Function
<u>Activities</u>	<ul style="list-style-type: none"> Participate & lobby external org. Monitor external requirements – emerging & existing Analyze for impact Provide recommendations to Product Compliance Steering Council Notify org. of issues Support organization 	<ul style="list-style-type: none"> Strategy & Oversight – Exec. Steering Council ID strategy, process & owner Implementation plan Training to org. Data requirements Support implementation 	<ul style="list-style-type: none"> Procedures Execution Training Conformity Assessment Communications 	<ul style="list-style-type: none"> External & Internal Audit Compliance tracking Verify Actions Reporting Continual Compliance
<u>Outcomes</u>	<ul style="list-style-type: none"> ID compliance req. & risks to market access Recommendations for implementation Impacted products 	<ul style="list-style-type: none"> Execution Plan – scope, cost, timing, training, communication 	<ul style="list-style-type: none"> Institutionalized Process Certification Documentation & Data 	<ul style="list-style-type: none"> Permanent corrective/preventive action verified Effectiveness Monitoring
<u>Interaction Points</u>	<ul style="list-style-type: none"> External orgs. Import/Export Exec. Steering Council Product Compliance 	<ul style="list-style-type: none"> Customer/Supplier interface Data management Communications Sourcing - Supply Chain Mgt 	<ul style="list-style-type: none"> Business process management Data management Operations/Logistics 	<ul style="list-style-type: none"> CAPA Process Reports Metrics / KPIs

RA End to End Processes

C
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Product Compliance Touches Many Processes

Rockwell Automation Compliance

Capability-Maturity Model



RA at present

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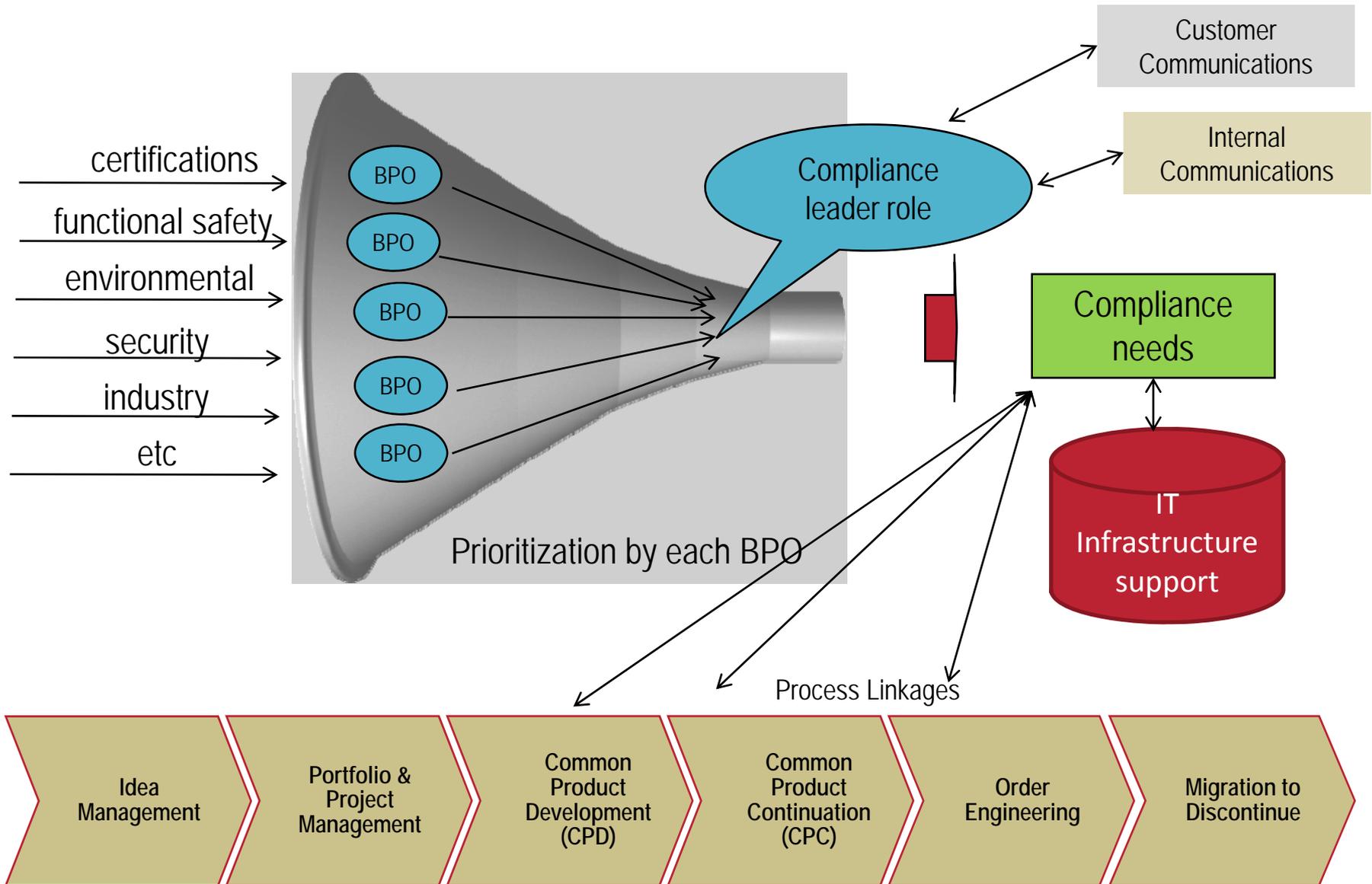
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Desired Internal Future State



Internal Future State Vision

- Clear global ownership for each product compliance management processes
- Common global product compliance management processes
 - Clear common procedure defining the content, format, maintenance and governance of policies, procedures, work instructions, guidelines and records.
- Linkage between regulations, standards, policies and supporting procedures to ensure compliance with changing requirements.
- Ongoing review of policies and procedures to ensure adequacy, relevance and compliance with requirements (confirm applicability, change/supersede, obsolete/archive if irrelevant).
- Open information
 - Document and process access to anyone/anywhere, with appropriate security controls.
- Product compliance documentation search capability.
 - Document / Data management system

Market Access Goal

- Manufacturer's goal is to design and build one product that is accepted in all markets of the world
 - use harmonized standards (one standard)
 - redundant testing eliminated (one test)
 - ease of access to markets
 - reduced tariffs
 - minimal or reduced regulations on products
 - Some regulations may be necessary for Health, Safety, Environment
 - acceptance of previous evaluation(s) / certification(s)

CA Confidence & Acceptance

- Current Mechanisms to Achieve Confidence in (and acceptance) of Conformity Assessments Performed in Other Countries:
 - MRAs between Governments
 - least successful with regards to Product Certification
 - National Treatment of Conformity Assessment Bodies (CAB) e.g., US-CAN
 - Arrangements Between CABs, Assessors or Accreditors
 - Supplier's Declaration of Conformity
 - Manufacturers have greater control in the Certification process and thus time to market
 - EU and Australia are current examples
 - May utilize third party organizations
 - Confidence in system derived through market forces and surveillance
 - CAB Participation in Data Exchange Schemes (IECEE CB Scheme)

One Standard

- Harmonized Standards as the Basis for CA
- Benefits of Country adopted IEC Standards
 - One product or system accepted in multiple markets
 - Lower production and inventory cost
 - Lower cost of needed conformity assessments
- IEC Standards in the Global Marketplace
 - Global Standards are the ideal –
 - One standard, one product, one test with worldwide acceptance & worldwide protection
 - Different Climate, Culture, Infrastructure may Require National/Regional Differences
 - Initiative within IEC (Global Relevance) would include differences related to climate / infrastructure within the standard

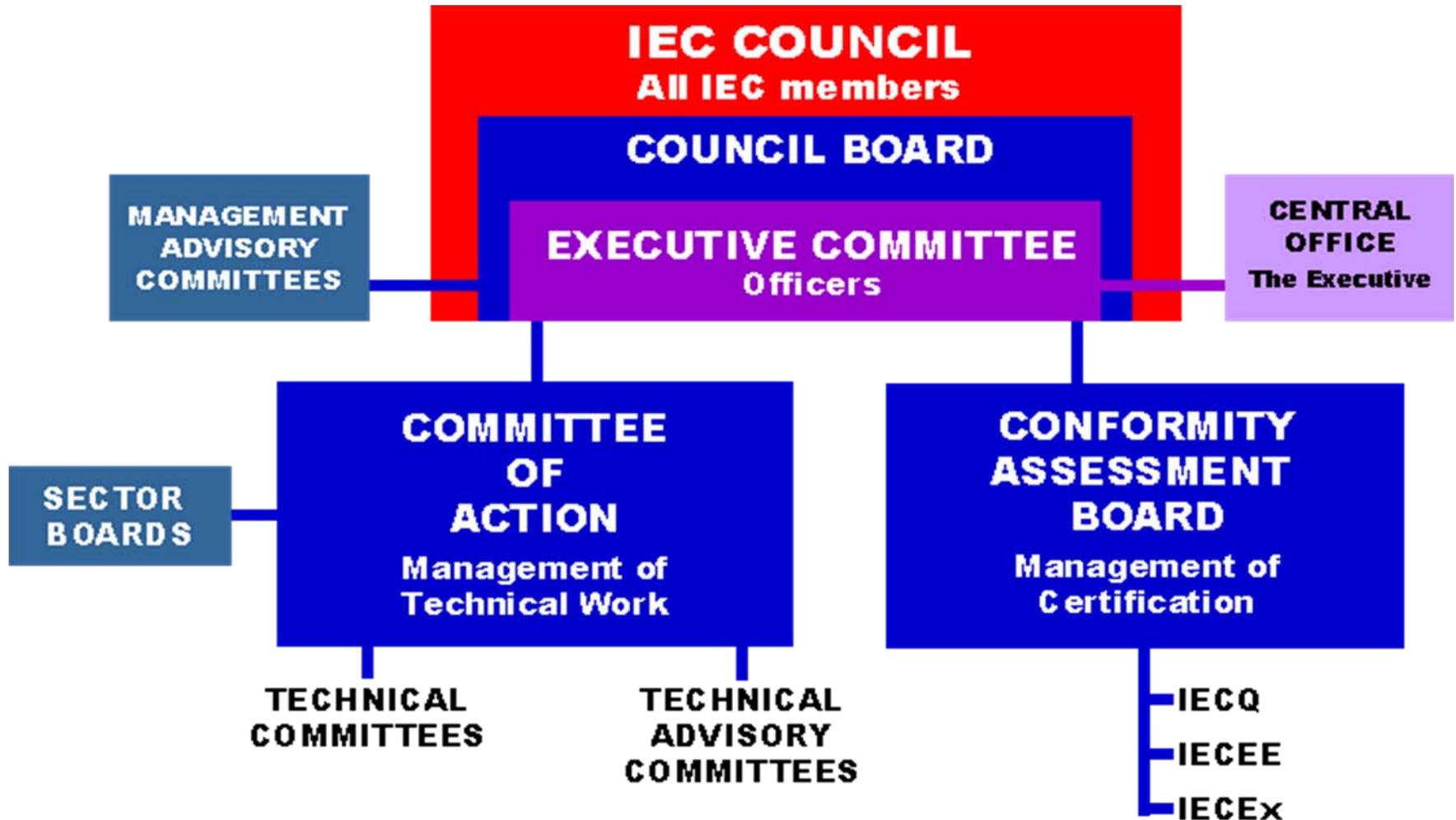
One Test

- Manufacturer' Goal – eliminate redundant testing (one test)
- Methods of achieving maximum test acceptance worldwide....
 - Further harmonization of standards to the IEC standards
 - One product designed to Harmonized International Standard (IEC)
 - Expanded participation in the IECEE CB Scheme
 - Identify new standards for inclusion in the Scheme
 - Increase participation by non-IEC countries in the IEC Conformity Assessment Schemes
 - Increase participation in and use of the IECEx Scheme

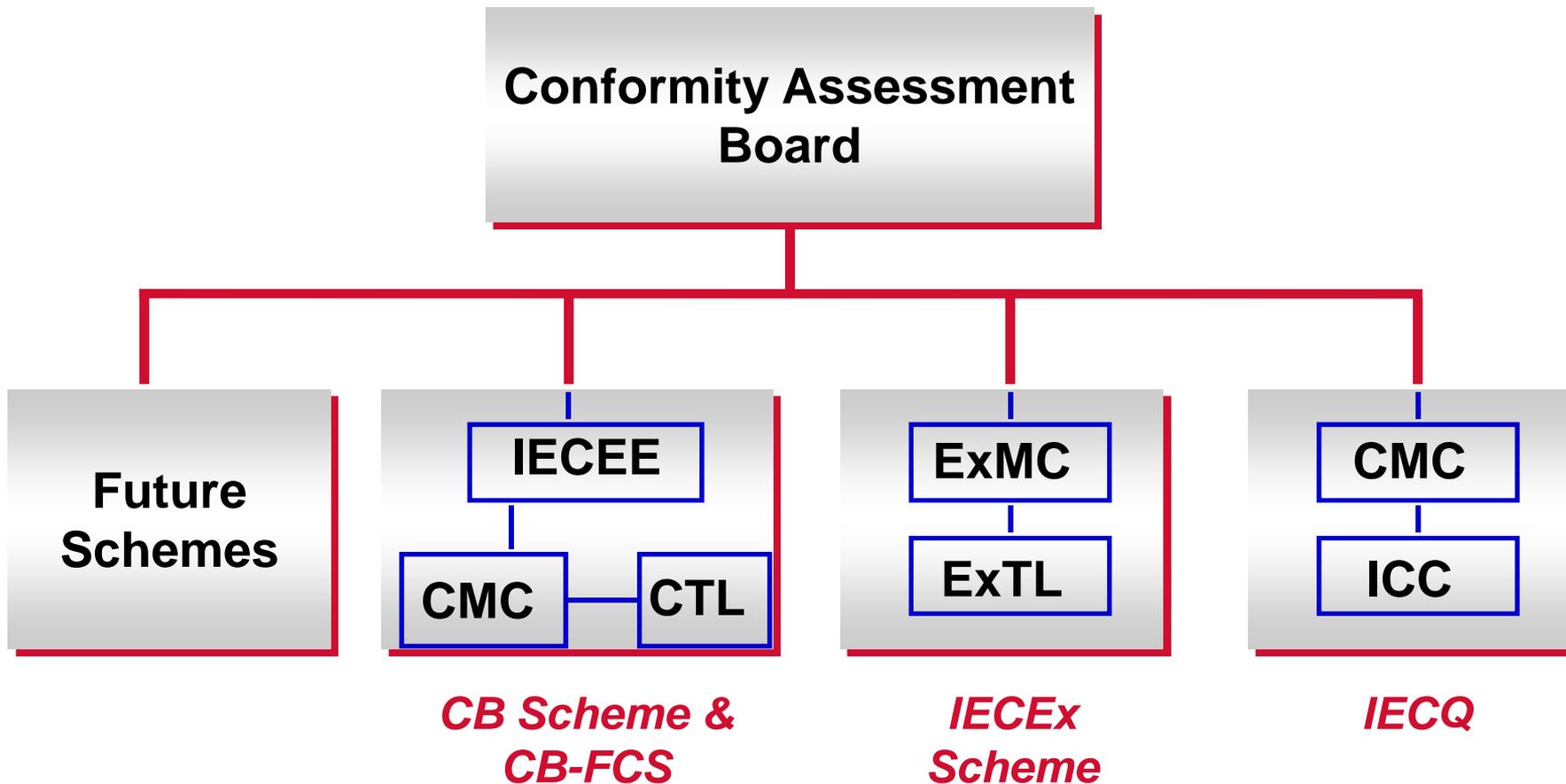
IEC Conformity Assessment Programs

- IECQ - Quality Assessment for Electronic Components
- IECEx System – Scheme for Certification to Standards for Safety of Electrical Equipment for Explosive Atmospheres
- IECEE System - CB Scheme - Conformity Testing Scheme for Recognition of Results of Testing to Standards for Safety of Electrical Equipment

IEC Organization Chart



IEC Conformity Assessment Board



IECEE CB Scheme - Conformity Testing Scheme for Recognition of Results of Testing to Standards for Safety of Electrical Equipment

IECEx - Scheme for Certification to Standards for Safety of Electrical Equipment for Explosive Atmospheres

***One test to IEC Standards
(including national
differences) to reduce or
eliminate retesting in
member countries***

.....

Faster to market!!!

CB Scheme Overview

- International system for acceptance of test reports for electrical products.
 - Essentially a data exchange program based on mutual trust
 - Allows a manufacturer to transport work done at a third party laboratory in one country to a participating laboratory in another country
 - Purpose of the exchange is to obtain the certification or CA mark that is required for market access in the second country.
 - A manufacturer utilizing a CB Scheme test report issued by one organization may obtain national certification from ALL other member countries of the CB Scheme.
- Countries may only participate if there is a national standard, based on the IEC standard, with minimal deviations (Harmonized Standards)
- Operation requires reciprocal recognition of test results to simplify certification or approval at national levels
- Downside – Still requires additional Certification Marks.

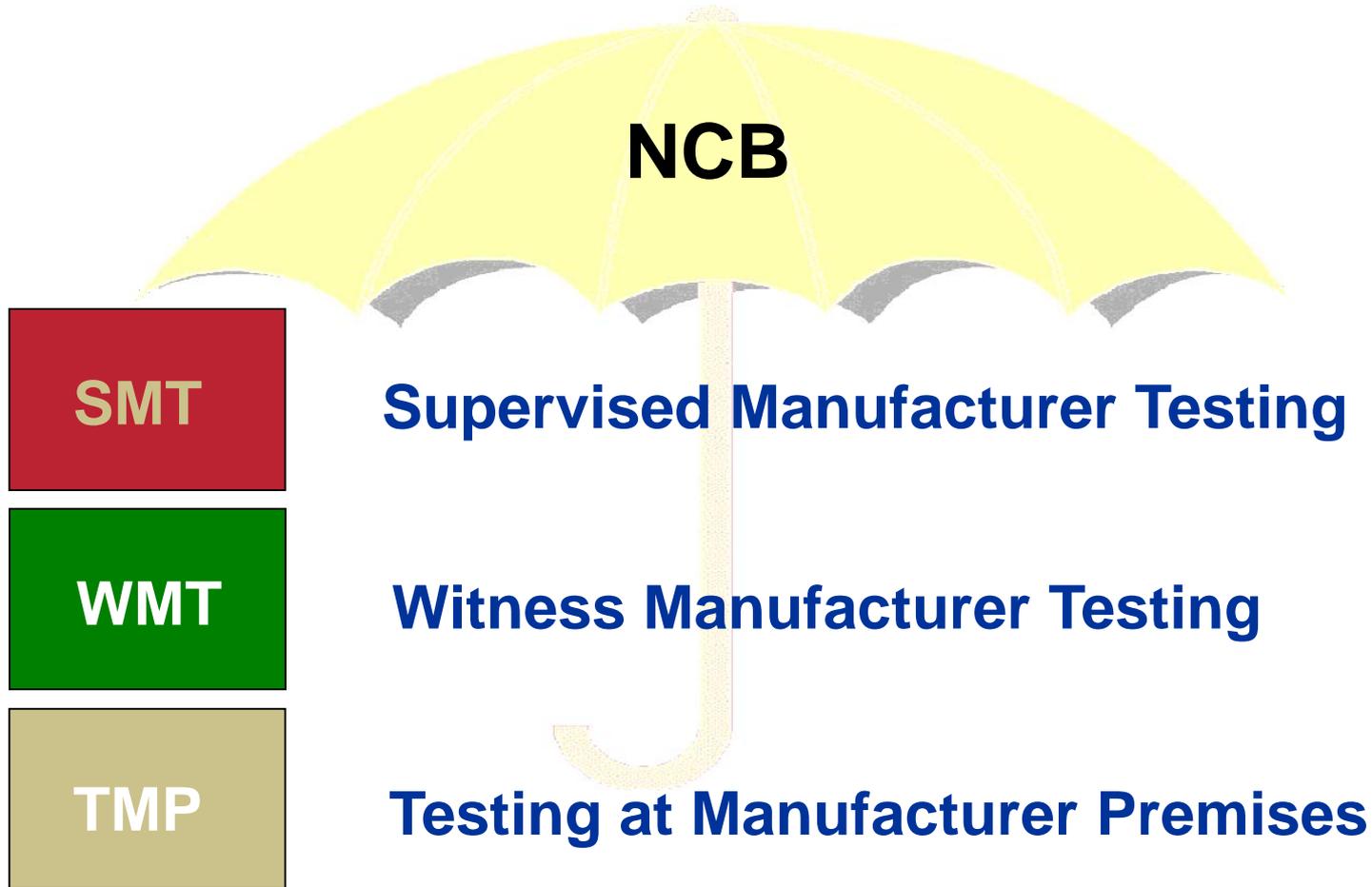
IECEE participating countries

	Argentina		India		Romania
	Australia		Indonesia		Russia
	Austria		Ireland		Serbia
	Belgium		Israel		Singapore
	Brazil		Italy		Slovakia
	Canada		Japan		Slovenia
	China		Kenya		South Africa
	Croatia		Korea Rep. of		Spain
	Czech Rep.		Malaysia		Sweden
	Denmark		Mexico		Switzerland
	Finland		Netherlands		Thailand
	France		New Zealand		Turkey
	Germany		Norway		Ukraine
	Greece		Poland		United Kingdom
	Hungary		Portugal		United States
					Uruguay

The CB Scheme

- International network of certification bodies and their testing laboratories
- Each participating nation has 1 or more NCB
- Manufacturer specifies conditions **and desired** markets
 - Certification Body conducts evaluations to IEC Stds + National Differences in countries of choice
 - Certification Body conducts product testing and certification
 - Certification Body provides CB Test Certificate and CB Test Report
 - Chosen Certification Body can assist the manufacturer in obtaining the CA mark needed for market access.
- IEC Schemes have been expanded to non-IEC countries
- Manufacturer's testing is allowed

Manufacturer's Testing Laboratories



CB Scheme Conformity Assessment Process

- Submit products to a NCB/CBTL for review, testing, and CB Scheme certificate / report.
- TMP or WMT –
 - Test product at a manufacturer's facility with a representative from NCB/CBTL witnessing 100% of tests.
 - Laboratory must meet given criteria of ISO/IEC 17025.
 - NCB/CBTL will review test data and issue CB Scheme certificate/report.
- SMT
 - Evaluate and certify a manufacturer's laboratory facilities for compliance to ISO/IEC 17025.
 - Conduct tests under Supervised Manufacturer's Testing (SMT) program.
 - NCB/CBTL will review test data, audit/witness tests, and issue CB Scheme certificate/report.

CB Scheme - RA Categories of Products

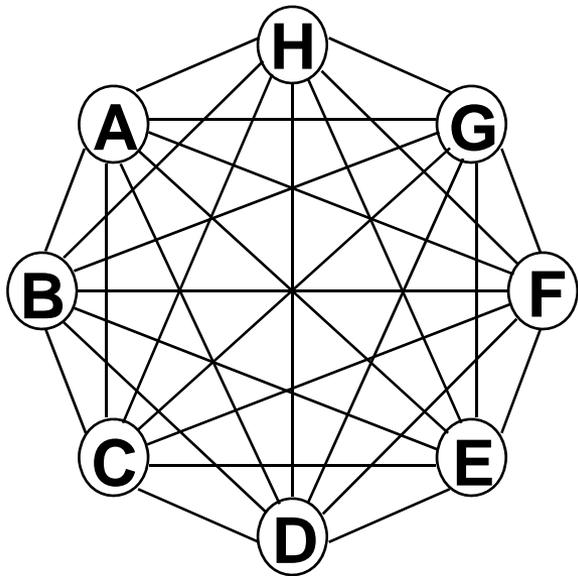
Categories	Products	IEC Standards
EMC	Electromagnetic Compatibility	CISPR 11, CISPR 12, CISPR 13, CISPR 14, CISPR 15, CISPR 16, CISPR 20, CISPR22, CISPR 24, CISPR 25 , 60034, 60118, 60204, 60255, 60478, 60533, , 60728, 60870, 60945, 60974, 61000 , 61007, 61009, 61204, 61326, 61543, 61547, 61812, 62040, 62041, 62052, 62053, 62054, 62153, 62233, 62236
INST	Installation accessories and connection devices	60083, 60309, 60320, 60423, 60614, 60669, 60670, 60684, 60799, 60807, 60884, 60974, 60998, 60999, 61058, 61076, 61084, 61210, 61238, 61242, 61316, 61386, 61537, 61800 , 61950, 61984, 62094, 62208
MEAS	Measurement, Control and Laboratory equipment	60414, 61010, 61131 , 61557
OFF	IT and office equipment	60825, 60950 , 62040, 62310
POW	Low voltage, high power switching equipment	(60158), 60439, 60947 , 62019, 62026
PROT	Installation protective equipment	60127, (60257), 60269, 60282, 60529 , 60755, 60898, 61008, 61009, 61540, 61643

Peer Assessment - Confidence is Key

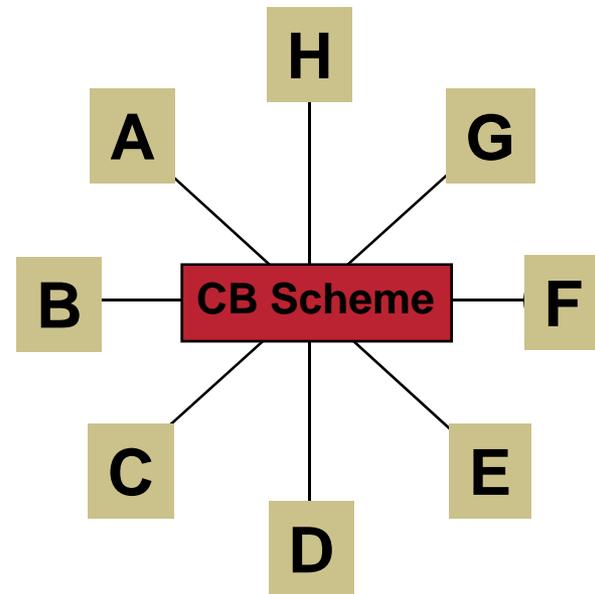
- Method to verify competence and build confidence
 - develop **confidence** in other laboratories abilities to allow acceptance of testing data **without additional checks**
- Peer Assessment - Why It Works:
 - Goes further than ISO/IEC 17025 and Guide 65
 - Uses true experts in Testing and Certification
 - Uses Qualified assessors in every product category
 - Receives permanent feedback from TCs and CTL
 - Counterchecks the test reports
- Mutual Acceptance of Test Certificates and Test Reports
 - Each report verified / accepted help build confidence
- Promotes confidence among the Members of the Scheme
 - ensures that a level of safety is maintained by all participating labs

Peer Assessment Agreements

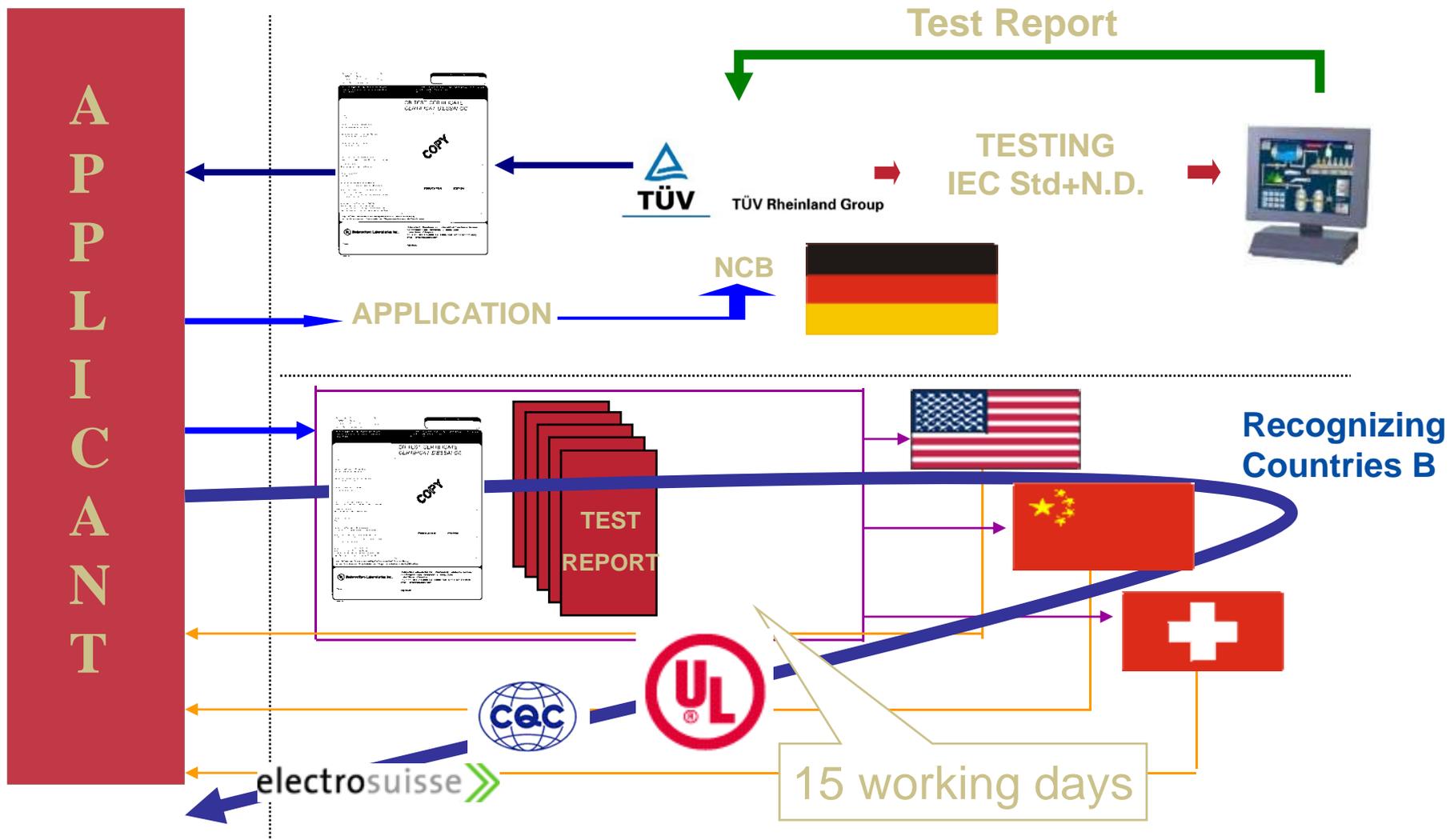
Bilateral Recognition



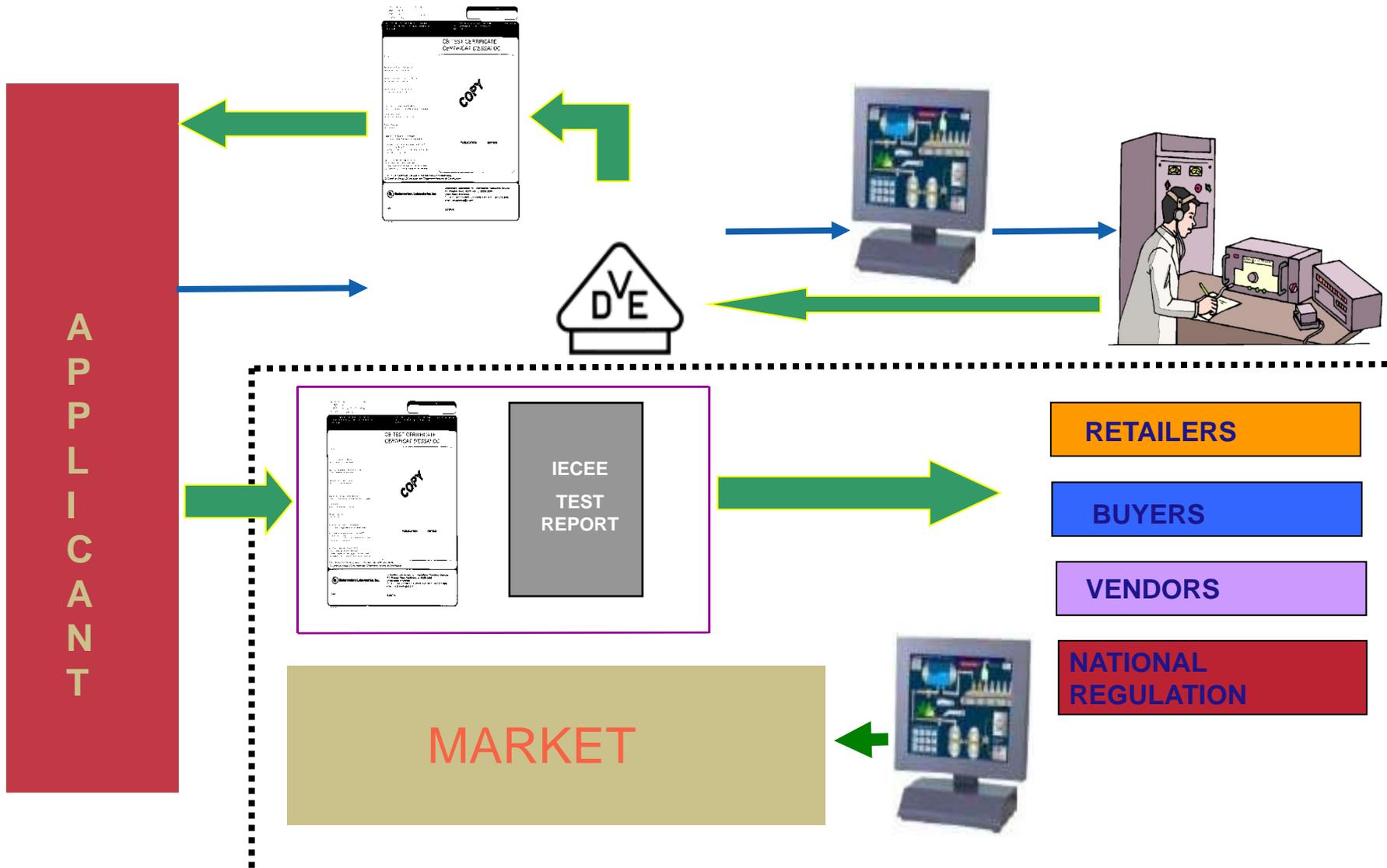
Peer Assessment Multilateral



IECEE CB Scheme Process



Direct access to a market ?



What is IECEx?

- The IECEx Scheme is an International Conformity Assessment Scheme covering Electrical Apparatus for Explosive Atmospheres, as the Internationally accepted means of demonstrating conformity with IEC Standards prepared by IEC TC31
- Why have IECEx?
 - Reductions of costs associated with:
 - Multiple/Re-Testing/Assessments
 - Delays in accessing markets
 - Access to new products and technology by smaller markets.

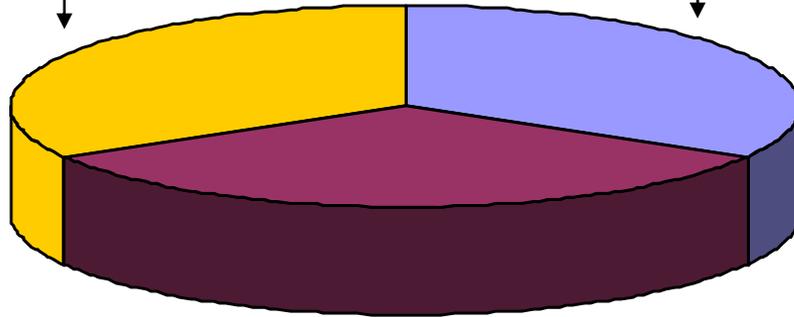
Areas where Ex equipment are used

- Automotive refueling stations or petrol stations
- Oil refineries, rigs and processing plants
- Chemical processing plants
- Printing industries, paper and textiles
- Hospital operating theatres
- Aircraft refueling and hangars
- Surface coating industries
- Underground coal mines
- Sewerage treatment plants
- Gas pipelines and distribution centres
- Grain handling and storage
- Woodworking areas
- Sugar refineries
- Metal surface grinding, especially aluminum dusts and particles

Core Elements of IECEx Certification

Testing of Samples
(Type Test)

Initial Assessment of
Manufacturer's Quality
System (factory audit)



On-going Surveillance
(factory audits)

Back Edit Quit Save New Print

IEC **IECEx** **IECEx Certificate of Conformity**

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx TSA 03.0000X** Issue No.: **0**

Status: Draft Current Suspended Cancelled

Date of Issue: **2003-07-26** Page 1 of 4

Applicant Name: **SAMPLE CERTIFICATE**

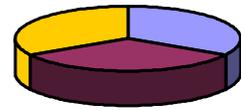
Applicant Address: **32 Sample Street
SAMPLE TOWN NSW 2000**

Applicant Country: **Australia**

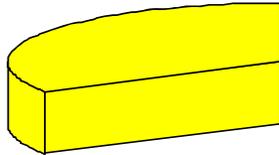
Electrical Apparatus: **Portable Radios**

Optional accessory: **Nil**

Core Elements of IECEx Certification



Testing of Sample(s)

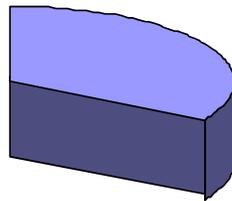


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Conduct Testing to IEC Standard(s)

Compile & issue an ExTR

Initial Factory Audit



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Document Review and on-site factory audit of manufacturer, by ExCB - same as CCC, UL, ...

QAR is produced

Surveillance Factory audit



=

ExCB, IECEx CoC issuer, responsible for On-site factory audit - same as CCC, UL, ...

IEC CA Schemes - So What???

- Market Access Concerns
 - Increasing number of countries are establishing or revising conformity assessment (CA) systems
 - New CA Marks required for each new system
 - New CA systems may require testing and evaluation in-country and only by in-country laboratories (China, Mexico, Brasil, Argentina...)
 - Manufacturers are required to invest more time and money to determine requirements and demonstrate compliance

What Certification?: Mark du jour!

- Increasing number of economies are establishing or revising certification systems
- New Marks maybe required for each new system



- New Certifications may require testing, evaluation in-country & only by in-country laboratories
- More time & money to determine requirements & demonstrate compliance



Examples of Benefits / Role of CA Schemes

- Australia –
 - IECEEx Scheme – direct to market with certificate
 - IECEE CB Scheme – direct to market for RA affected products
 - 47 declared items – circuit breaker and residual current devices
- China – CCC Certification
 - Certification required – Active participation in IECEE CB Scheme and Ex Scheme
 - Will accept CB Certificates with **in-country differences** to gain CCC Mark
 - Mandatory Ex Certification?
- Russia – GOST-R
 - Certification required – current options
 - RA Russia staff assist
 - TuV acts as agent – requires CB Scheme style report
 - Work directly with Russian agency
 - CB Scheme report – accepted with little or no additional effort

Examples of Benefits / Role of CA Schemes

- Brazil – INMETRO for IECEx
 - In-country testing
 - Certification required for all equipment marked for Ex
 - Joining IECEx Scheme
- Argentina S-Mark
 - Cross purpose products stopping shipments
 - Import documentation now requiring certification review by accredited labs
 - IECEE CB Scheme accepted
- South Africa – SABS Import Certificate
 - Import documentation (RCC) with certification review required
 - Affects power products – attestation products are safe to connect to grid
 - CB Scheme report & certificate easiest method
- ATEX
 - Required for EU
 - Meeting requirements for IECEx Scheme meets ATEX requirements

Summary of CB Scheme Advantages

- Acceleration of Product Acceptance
- More rapid certification
 - One stop testing even though certification / product acceptance still has to be obtained country by country
- Expanded markets
- Faster product movement from plants to markets
 - Speeds market access by reduced testing and easier access to CA Marks
 - Reduction of trade barriers and opening up of new markets.
- Gets manufacturer's products to market faster & cheaper.
 - Manufacturers must still comply with the requirements of the body the issues the CA mark

Internal Rockwell Automation Recommendations

- Solutions –
 - Identify markets (geographic / industry / application) required, associated standards used and certifications needed.
 - Specify the use of the CB Scheme and Ex Scheme in all new certifications
 - Budget \$\$ to include the money now to avoid pain, retesting and additional time later.
 - Include the need in SAP MRD or Certification request

IECEE CB Scheme and IECEx Scheme represent the most cost effective mechanism for certification for multiple markets

Flow of Goods

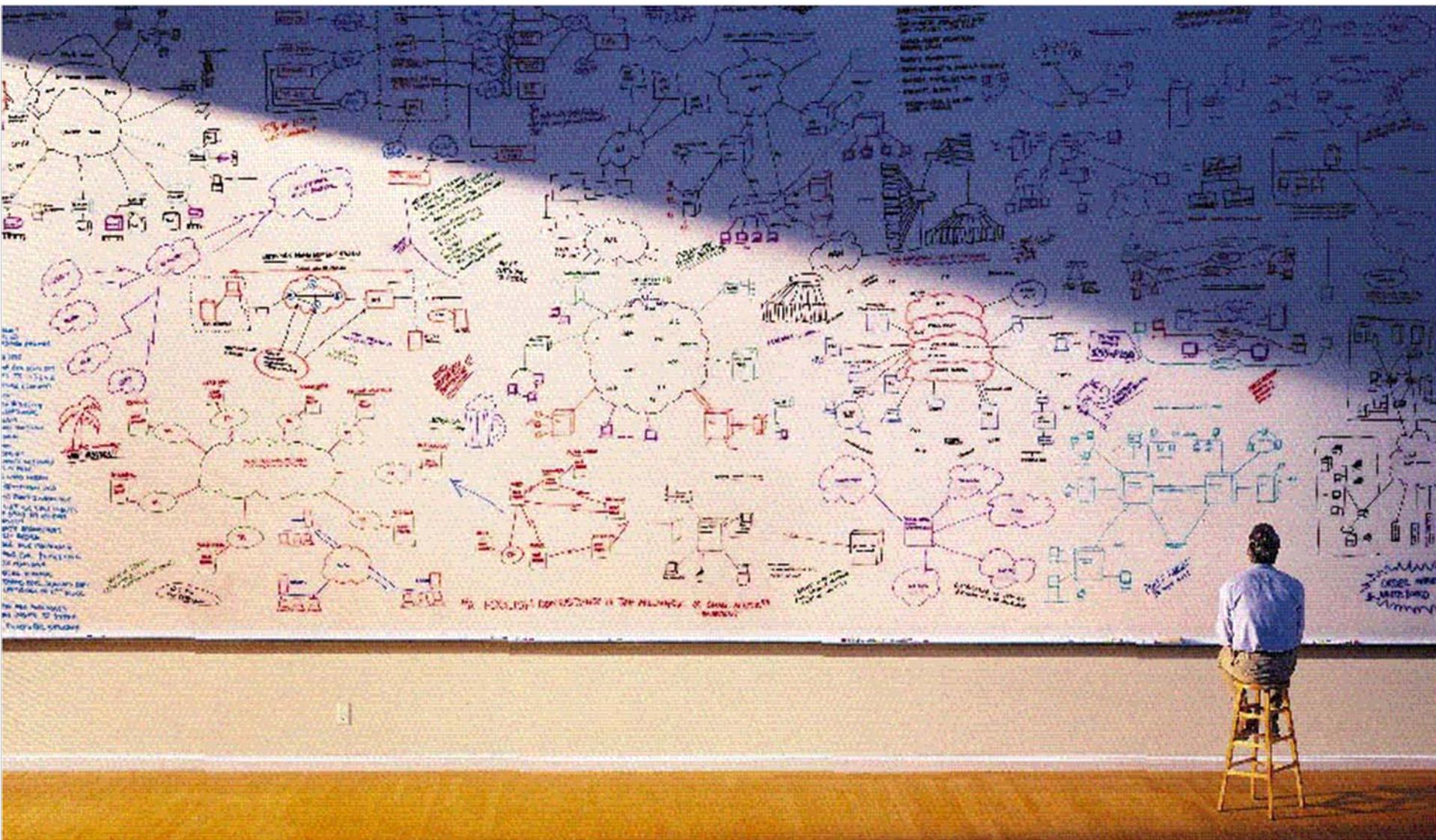


Data acceptance – helping to increase the flow of goods

Summary

- Globalization and competition are leading to rapid changes, we need to continue to:
 - Reduce technical barriers to trade
 - Continue to harmonize standards
 - Reduce or Eliminate redundant testing **and certification**
 - Reduce costs to all stakeholders...
 - Allow for shorter time to market (short life cycle of products)
 - Allow multiple mechanisms for market access
- Design, Manufacturing, Distribution and Sales Authority for global companies are distributed in different countries
 - Local access to Certification products should be available for each authority within a company
 - As manufacturing companies are distributed, certification products must also be distributed

Questions?



LISTEN.
THINK.
SOLVE.®

Thank you

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