



# How the IECEE System can help APEC Member Economies to achieve APEC Goals free and open trade



by  
*Pierre de RUVO*  
*Executive Secretary IECEE*



Asia-Pacific  
Economic Cooperation



## Foreword

The elements, information, and the video pertaining to “Counterfeiting can kill” that are part of this presentation are graciously authorized by NEMA USA, BEAMA UK, INTERPOL, TUV Rheinland Japan, TUV Rheinland Germany, Underwriters Laboratories USA, Intertek USA and many other IECEE Member NCBs.

IECEE expresses great appreciation for these contributions.



# History of IECEE

## IECEE CB Scheme

The CB Scheme, originally operated by the CEE (International (European) Commission for Conformity Certification of Electrical Equipment), was integrated into the IEC in 1985 as the CB Scheme of the IECEE. Today this Scheme is called “Scheme of the IECEE for Mutual Recognition of Test Certificates for Electrotechnical Equipment and Components (CB Scheme)”

IEC

CEE



# ? Conformity Assessment ?

## CONFORMITY ASSESSMENT OF ELECTROTECHNICAL EQUIPMENT PRODUCTS & COMPONENTS

What is this all about?

## ? Conformity Assessment ?

Demonstration that **specified requirements (IEC Standards)** relating to a **product**, process, system, person or body are fulfilled

**Testing, inspection and certification** are part of the concept of Conformity Assessment either as a stand alone activity or all together.

## ? Conformity Assessment ?

### ? **first-party** conformity assessment ?

Conformity assessment activity that is performed by the person or organization that provides the object.  
Example :The Manufacturer may issue a SDoC

## ? Conformity Assessment ?

### ? **second-party** conformity assessment?

Conformity assessment activity that is performed by a person or organization that has a user interest in the object.

*NOTE: Persons or organizations performing second party conformity assessment activities include, for example, purchasers or users of products, potential customers seeking to rely on a supplier's management system, or organizations representing those interests.*



## ? Conformity Assessment ?

### ? third-party conformity assessment?

**Third-party** conformity assessment activity is performed by a person or body that is independent of the person or organization that provides the object, and of user interests in that object.

## IECEE is operating Third Party conformity assessment schemes

*NOTE: Criteria for the independence of conformity assessment bodies and accreditation bodies are provided in the International Standards and Guides applicable to their activities*

## Why Third Party?

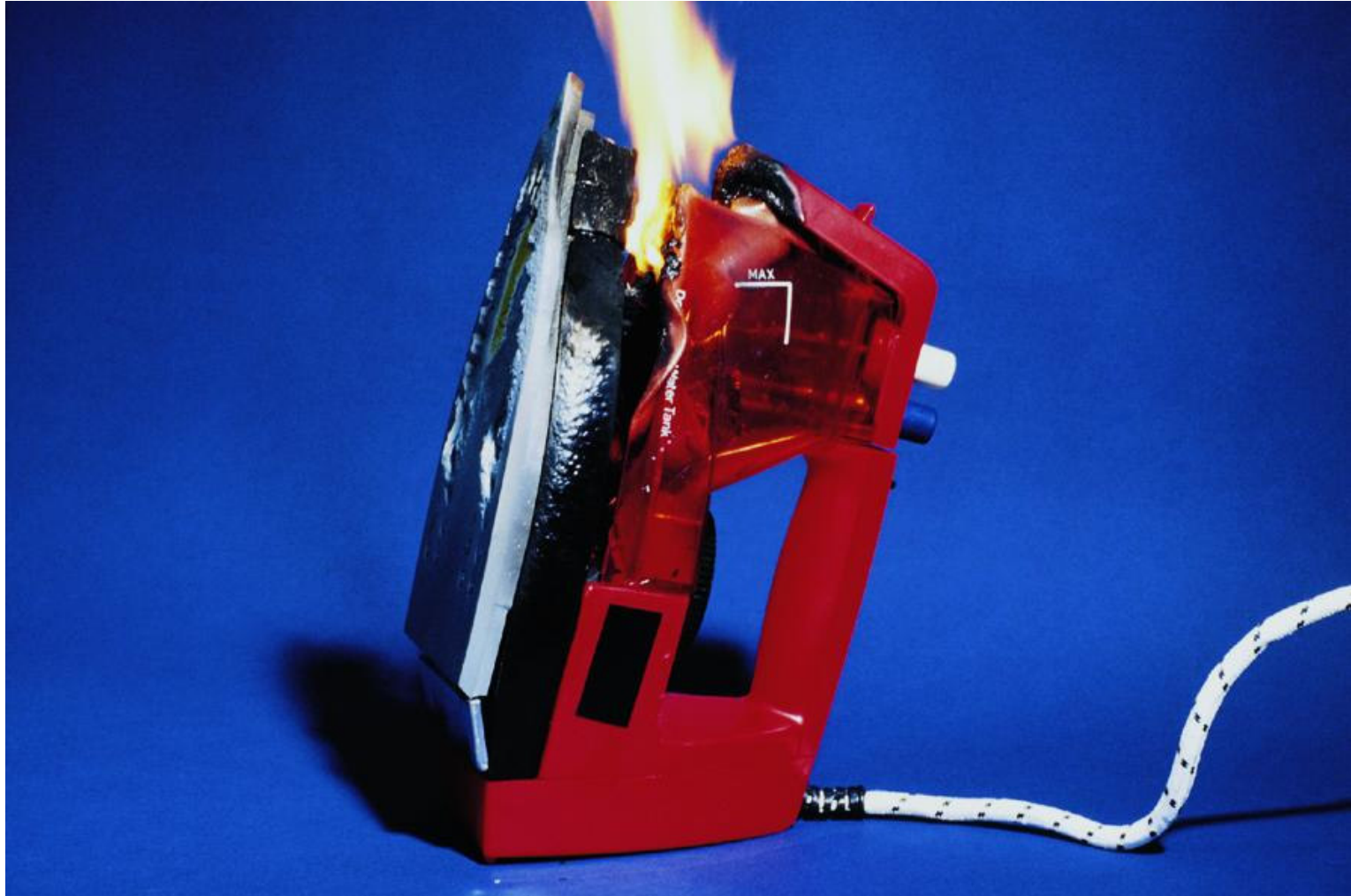
### Why Third Party Testing/Certification?

Thousand of people are seriously injured or killed each year as a result of electrical domestic accidents.

Electrical accidents are the result of a failure to properly design or make changes to electrical and electronic appliances, equipment and components or electrical installations without seeking third party expertise to ensure compliance with the relevant IEC standards.

# Why Third Party?

## The Impact of Counterfeiting



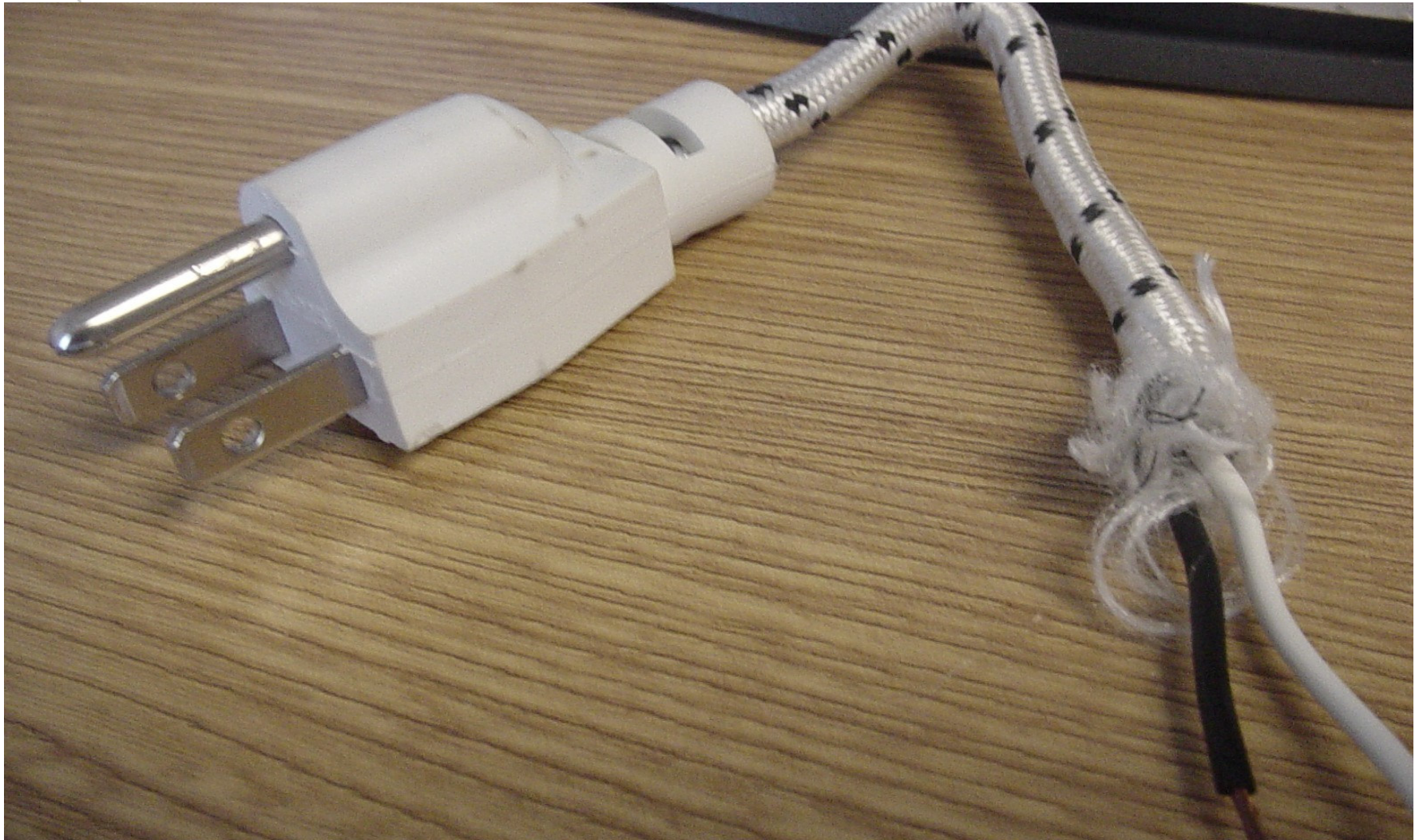
# Why Third Party?

## The Impact of Counterfeiting



# Why Third Party?

## The Impact of Counterfeiting



## Why Third Party?

Electrical accidents are also the result of product piracy and counterfeit because counterfeiters often use low level (quality) materials and avoid key manufacturing steps to reduce the cost of their products, allowing them to be sold at prices that no genuine brand manufacturer can match.

Such counterfeit electrical products can i.e. overheat or cause short circuits and lead to fire, shock or explosion.

# The IECEE CB Scheme



**The CB Scheme is the only Global recognized scheme for the safety of electrical equipment and components that grants compliance with IEC Standards.**

## Counterfeit

**Do counterfeit electrical products really present any health and safety problems?**

It is a fact that counterfeit electrical products can be dangerous and unsafe due to the fact that they use second choice of raw material, have poor assembly and lack third party testing & Certification



## Counterfeiting

### **Counterfeit has reached the electrotechnical sector**

Trademark counterfeiting has reached the electrical sector. Counterfeit electrical products impact both well-known industrial and consumer brands, as well as registered certification marks of IECEE Registered Certification Bodies.

Counterfeit electrical products can generate significant safety hazards and, left undetected, can cause deaths, injuries and substantial property loss in the home and workplace.

## Counterfeiting

# Counterfeit has reached the electrotechnical sector

Although counterfeit products may appear as excellent copies of the genuine product, market control and investigations show that many are sub-standard and fail to pass IEC safety requirements.

However detection based on appearance can be difficult and may only be determined after inspecting suspicious products and performing the relevant safety tests.

## Counterfeiting

# The Impact of Counterfeiting

Counterfeiting of consumer products is a growing problem with significant impacts on consumers, businesses and entire economies.

# Counterfeiting

**Original Bosch Tool**



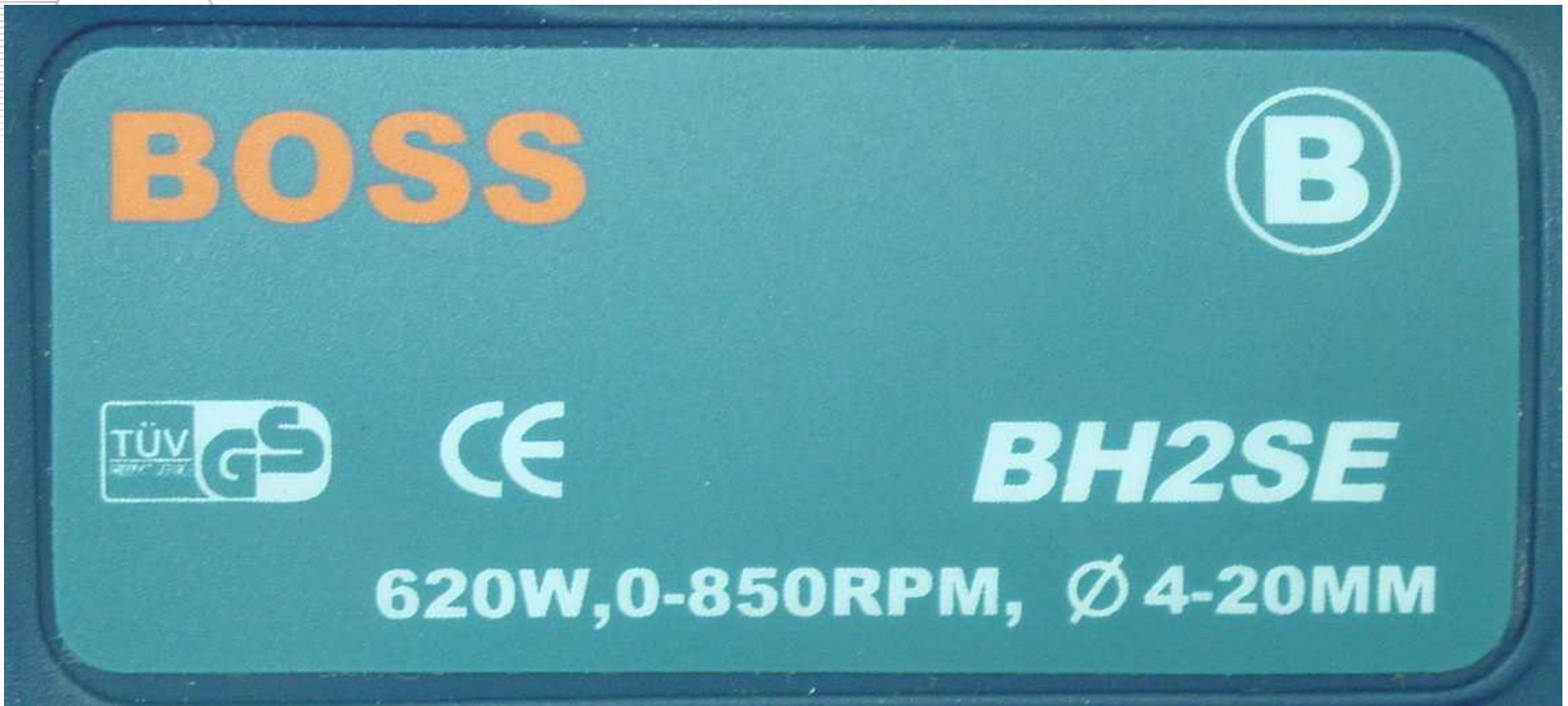
**Copy Tool**



*Information graciously provided and authorized by TUV SUD Germany*

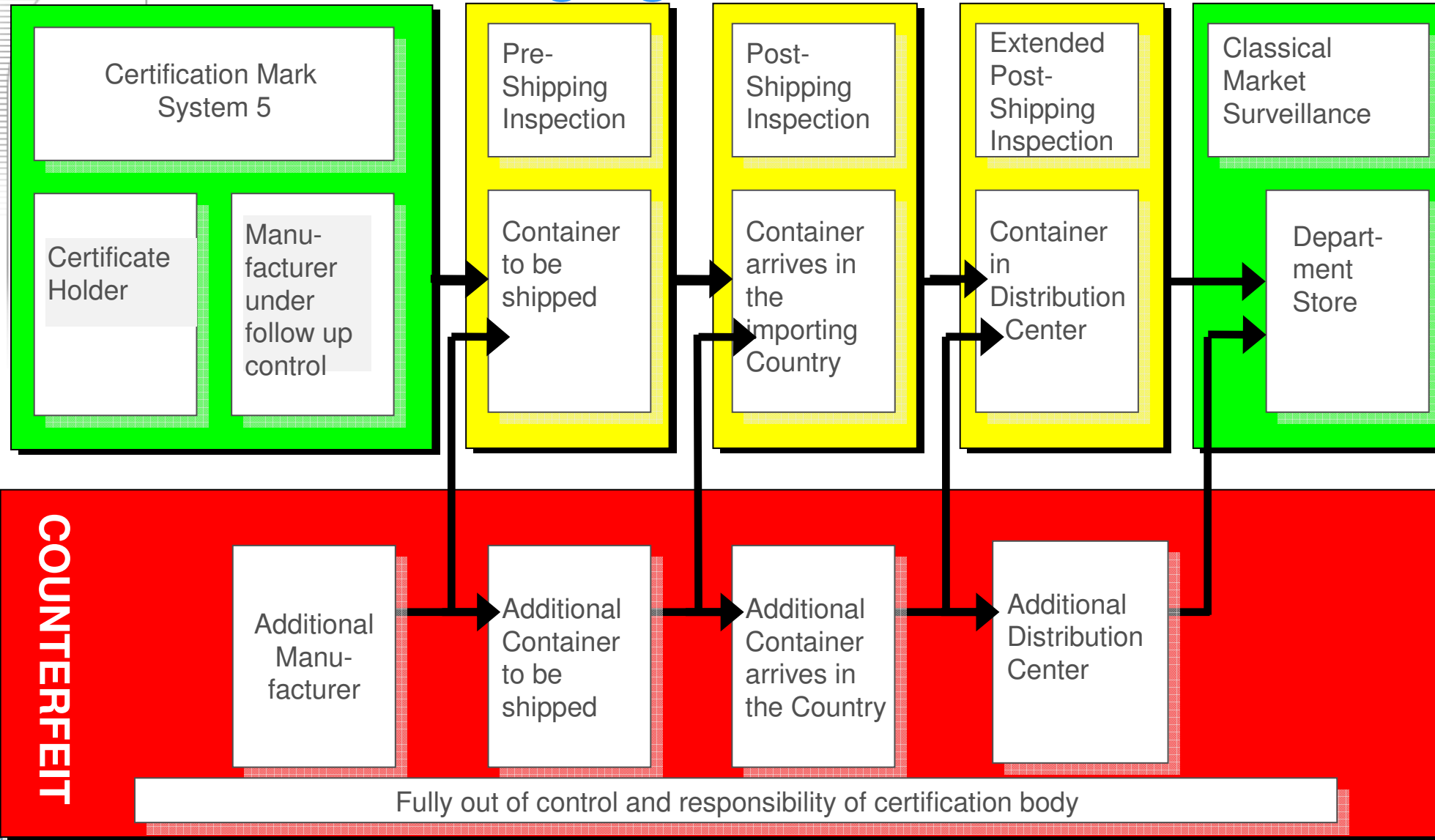
# Counterfeiting

## “Original Copy” Rating Plate



# Typical counterfeit process

## Challenging Mechanism



Information graciously provided and authorized by TUV SUD Germany



What IECEE can do to help fighting counterfeit?

## How to deal with counterfeiting and product piracy

A substantial number of IECEE Member NCBs co-ordinated by Interpol, are committed to stopping the worldwide proliferation of products bearing counterfeited certification marks that may endanger public health and safety



What IECEE can do to help fighting counterfeit?

## How to deal with counterfeiting and product piracy

IECEE Member NCBs are cooperating with police forces, custom authorities and competent authorities on a national and international basis



## How to deal with counterfeiting and product piracy

- by using an alphanumeric, forgery-proof code for your products
- by using our investigation service which collects and analyzes information about illegal production facilities and the sale of counterfeit goods
- by analyzing and reviewing your supply chain to protect your shipments from theft or the infiltration of counterfeit goods
- by implementation of an all-inclusive security management solution (ISO/PAS 28000)

# Counterfeiting

## What IECEE can do to help fighting counterfeit?

- IECEE is establishing a dedicated Task Force « Counterfeit ».
- IECEE central on-line data base can be consulted to check whether CB Test Certificates are real and valid.
- IECEE Member NCBs actively participate with INTERPOL in the Intellectual Property Crime Program



# Counterfeiting

What IECEE can do to help fighting counterfeit?

Public CBTC Area  
Demonstration



## Counterfeiting

**What if I suspect that a certification mark on an electrical product is not genuine?**

Contact the certification organization directly. Most IECEE Members have active anti-counterfeiting programs.

Please consult the IECEE Web Site:

[www.iecee.org](http://www.iecee.org)

<http://members.iecee.org/>



# IECEE CB Scheme



# The ideal Target

One test

One certification

One mark



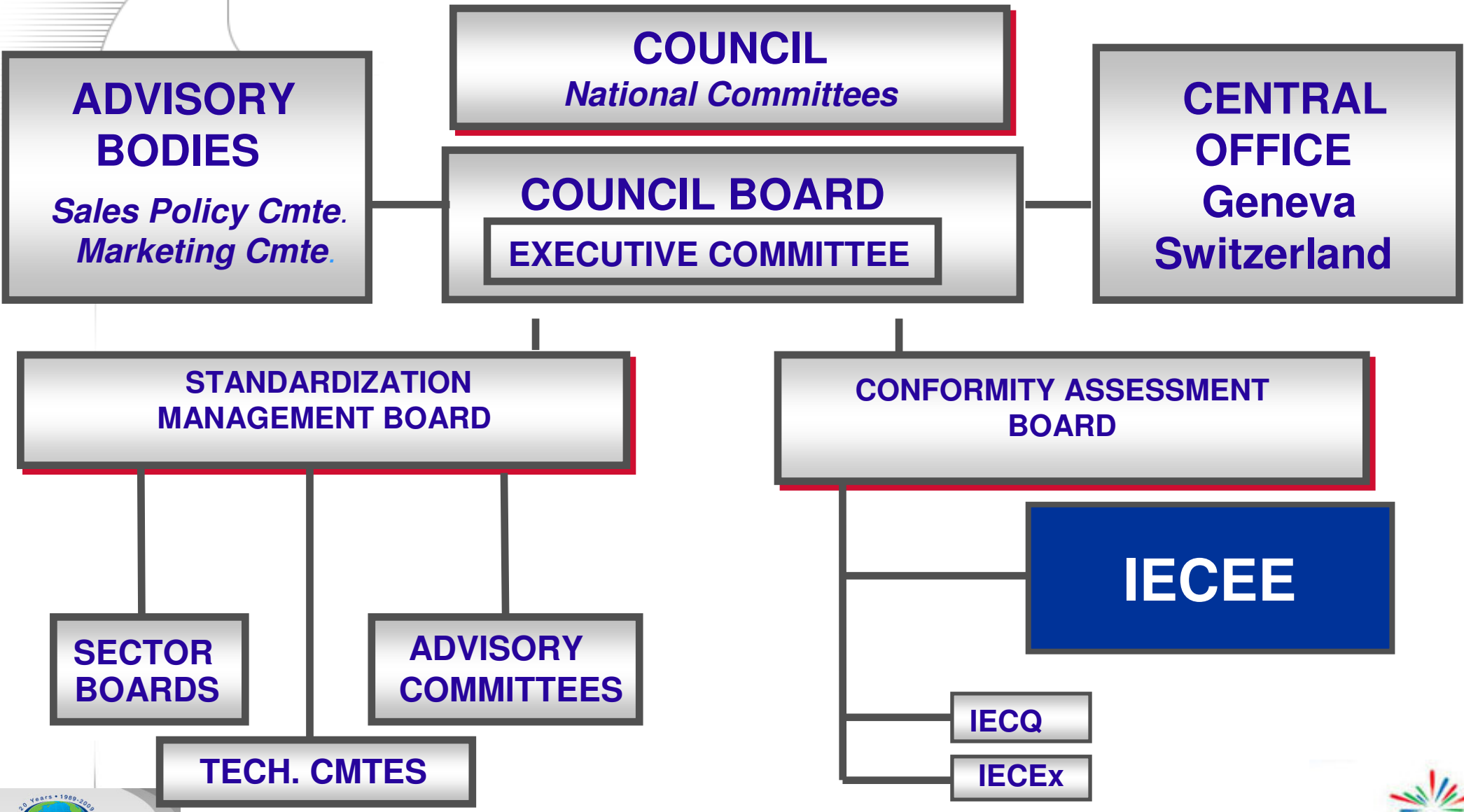
# Today's achieve Target

- ▶ One test
- ▶ One international certificate
- ▶ One or more certification marks as needed or direct acceptance in the market place by Regulators, Customs, Retailers, Buyers, Vendors, etc..



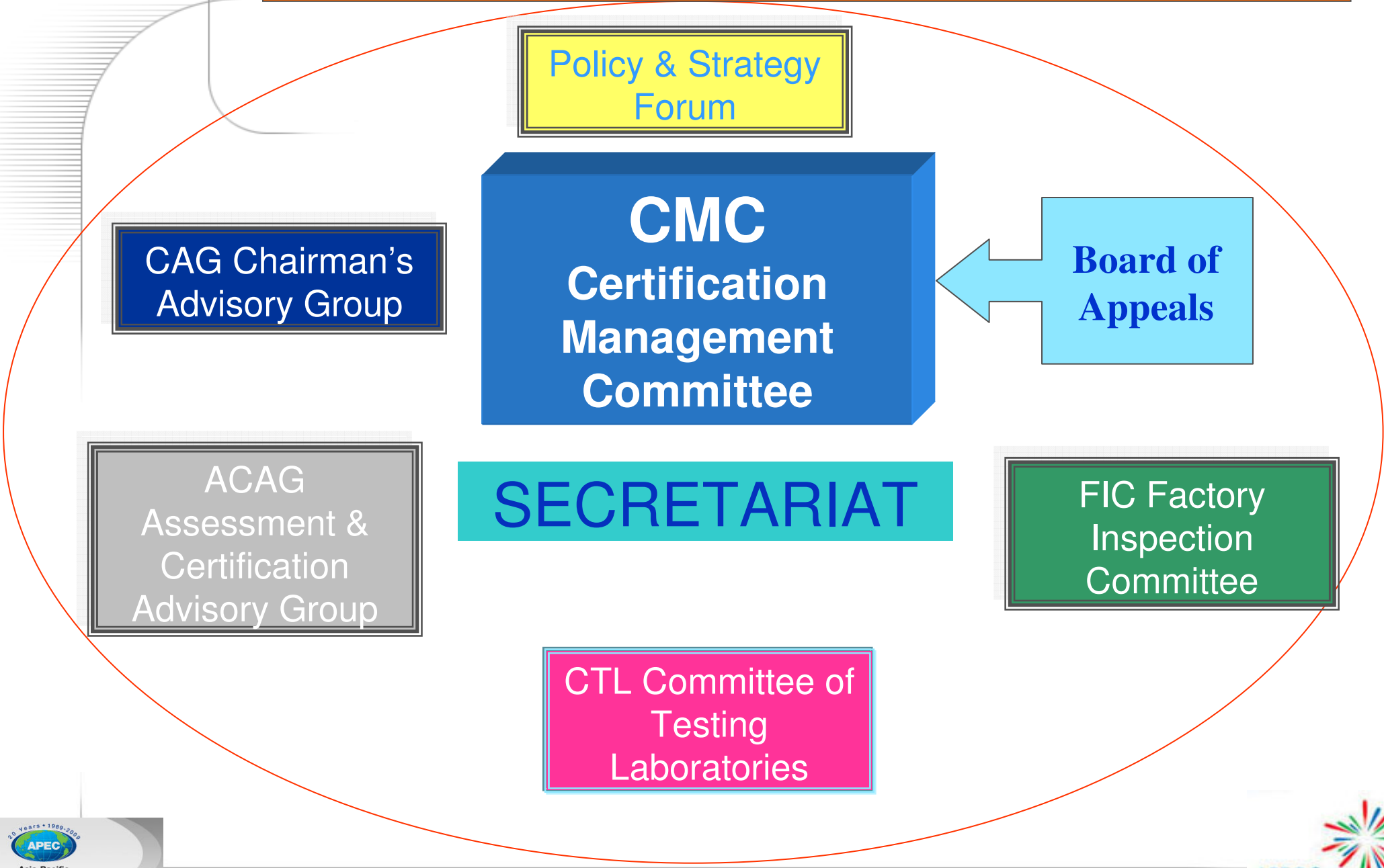


# IECEE Organization & Structure





# IECEE Organization & Structure





# IEC Systems and the CAB

## CONFORMITY ASSESSMENT BOARD

### IECEE

System for conformity testing and certification of Electrotechnical equipment and components

### IECEX

Scheme for explosive environments

### IECQ

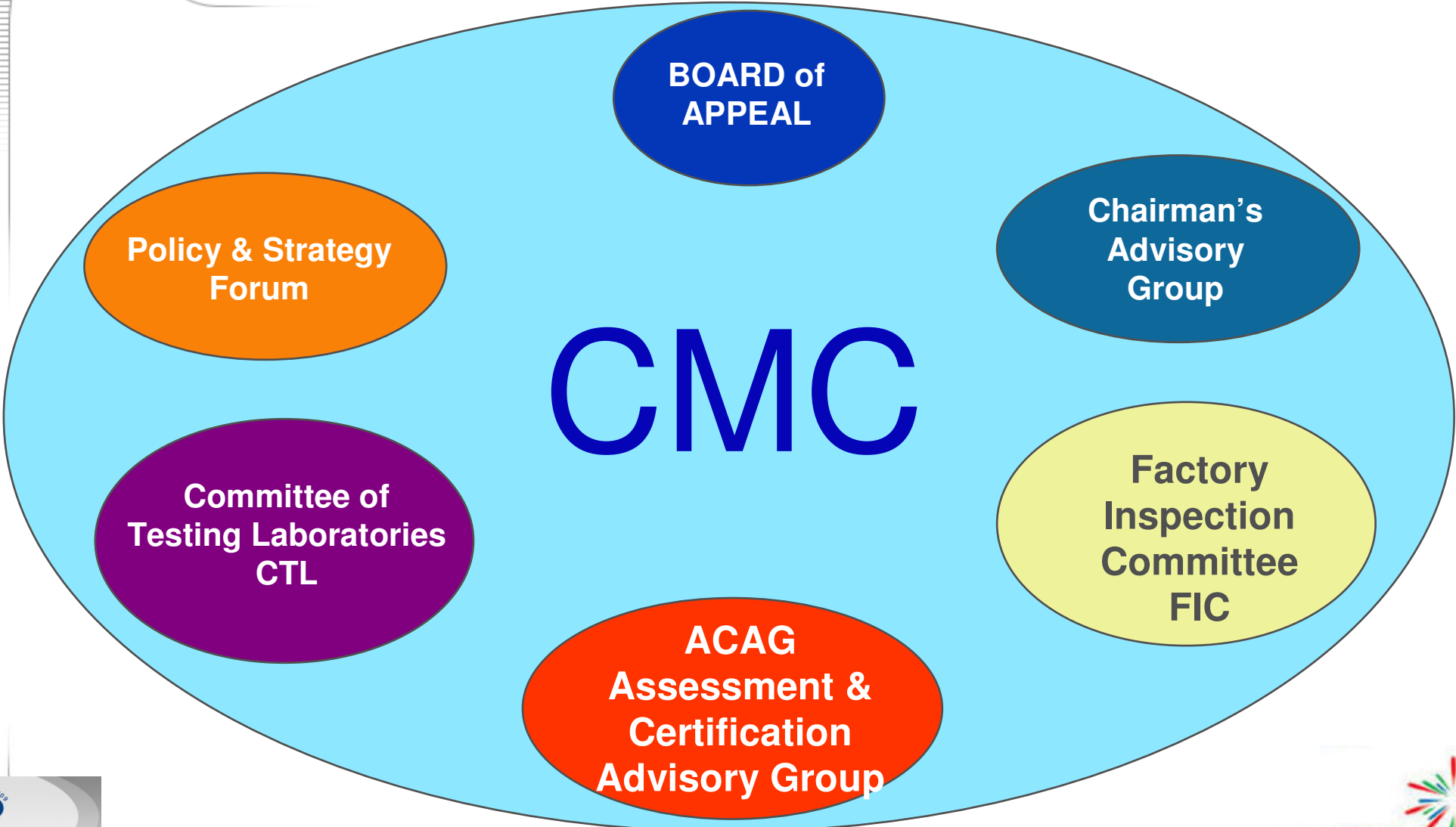
Quality assessment system for electronic components

### CB Scheme

Mutual recognition of test results

CB FCS (full certification, including assessing QMS & Factory Audit/Inspection)

# IECEE Organization & Structure



# IECEE Pillars

FIC

ACAG

CTL



## Assessment & Certification Advisory Group - ACAG

- ▶ To monitor the Peer Assessment and Re-assessment programme
- ▶ To determine common understanding and approach on ISO/IEC Guide 65 and ISO/IEC 17025
- ▶ To legislate over Conformity Assessment issues for approval by the IECEE Management Committee - CMC
- ▶ To evaluate the Assessment Reports of candidate NCBs and CBTLs and make recommendations to the IECEE Management Committee -CMC



Product Service





## IECEE-CTL

### CTL - Committee of Testing Laboratories



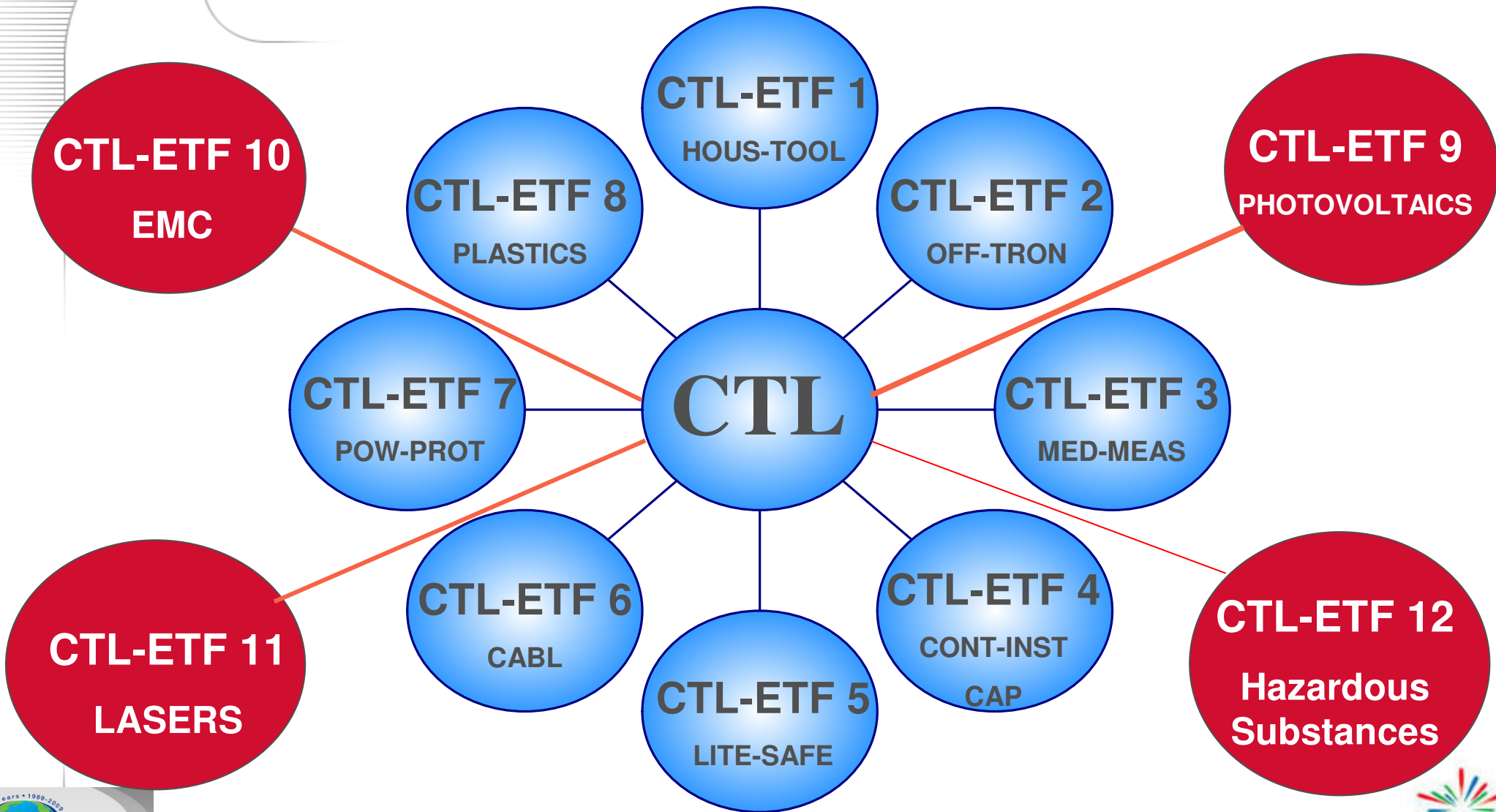
**Joe GRYN**  
CTL Chairman



**John M. Thompson**  
CTL Secretary

- The Technical branch of the IECEE
- Composed by experts from Worldwide Testing Laboratories
- Composed by experts from Worldwide Certification Bodies
- Achieve the necessary reproducibility of test results
- Agrees on uniform understanding of IEC Standards
- Agrees on common test methodologies
- harmonize the design and use of the test equipment
- Organize Proficiency Testing Programmes
- Organizes Workshops

# CTL – Expert Task Forces



## FIC - Factory Inspection Committee



**Dr. Wolfgang Kreinberg**  
FIC Chairman



**Dieter Fitz**  
FIC Secretary

**The FIC is composed by experts in Factory Audits, Inspections, Follow up services**

**The FIC is the Factory Inspection Committee tasked to develop Procedures and Audit/Inspection Forms to be used as either a stand alone service or as part of the CB Full Certification Scheme.**





# IECEE-FIC

## FIC - Factory Inspection Committee

To provide services related to Factory Audit/Inspection as a stand alone element of the Conformity Assessment Programme.

This Service can be used either as an element of the Supplier Declaration of Conformity SDoC or to upgrade a Certification System 1



into a

Certification System 5



# Global Trade & Conformity Assessment

Local – Regional – Global

Conformity assessment, perceived slow, steady, bureaucratic

Conformity assessment models were developed in isolation

Due to increased global trade, manufacturers identified the need to find improvements in efficiency and profitability

# Global Trade & Conformity Assessment

- ▶ Factors creating barriers to success:
  - Limited harmonized standards
  - Multiple inspection / audits
  - Lack of uniform conformity assessment requirements
- ▶ New certification programs and marks developing

# IECEE CB Scheme

Market changes...increasing flow of goods



- ▶ **GLOBAL MARKETS**
- ▶ **INCREASING HARMONIZATION OF PRODUCT SPECIFICATIONS**
- ▶ **WORLDWIDE ACCEPTANCE OF TEST RESULTS**

# IECEE CB Scheme

## Time to Market is essential



- ▶ In Manufacturing and Trade every day counts
- ▶ Buyers, Users and Governments need assurance of compliance



### Aim of the IECEE CB Scheme

**The aim of the CB Scheme is to provide Manufacturers seeking worldwide market access through third party certification marks, the most economic and cost effective procedures within the best certification timeframes.**

## Advantages of CB Scheme

- ▶ **More rapid testing and certification**
- ▶ **More universal product recognition**
- ▶ **Acceleration of Product Acceptance**
- ▶ **Direct acceptance by the Regulators & Authorities in many countries**
- ▶ **Direct acceptance by the Retailers and Buyers**
- ▶ **Expanded markets**
- ▶ **Faster product movement from plants to markets**

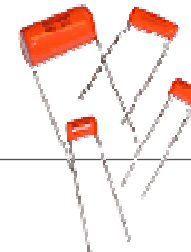
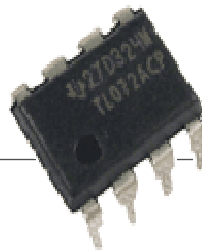
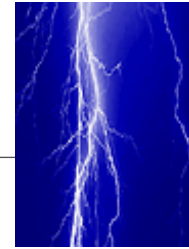
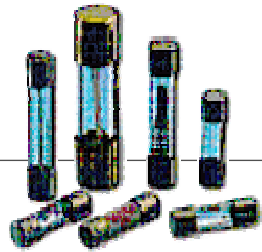
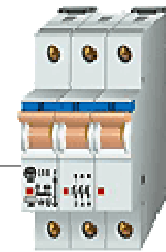
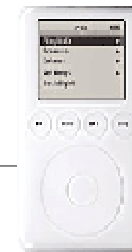
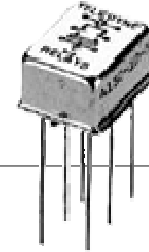
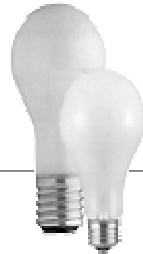
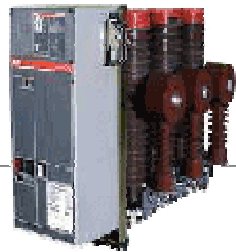
- ▶ Product-based, not system-based
- ▶ Users of IEC Standards, but structured to accommodate national differences
- ▶ Membership based
- ▶ Governed by the Certification Management Committee
- ▶ Self financing
- ▶ Daily operated by IECEE C.O. Secretariat
- ▶ Overseen by IEC-CAB



# Objectives of the IECEE CB Scheme

- ▶ A global solution for a global market
- ▶ Provision of a framework for global conformity assessment
- ▶ Use of IEC Standards to facilitate international trade
- ▶ Elimination of multiple testing
- ▶ Elimination of multiple quality audits
- ▶ Increased access to market by covering national differences
- ▶ Reduced time to market
- ▶ Increased confidence among acceptance interests
- ▶ Reduced costs – increased trade
- ▶ Acceptance by regulators

## THE SCOPE OF THE CB SCHEME



# IECEE CB Scheme

**Safety, Performance, Sourcing  
IECEE**

**Information  
Technology  
(TC 108)**

**Multimedia  
(TC 100)**

**Fibre optics  
(TC 86)**

**Cables, wires,  
waveguides (TC 46)**

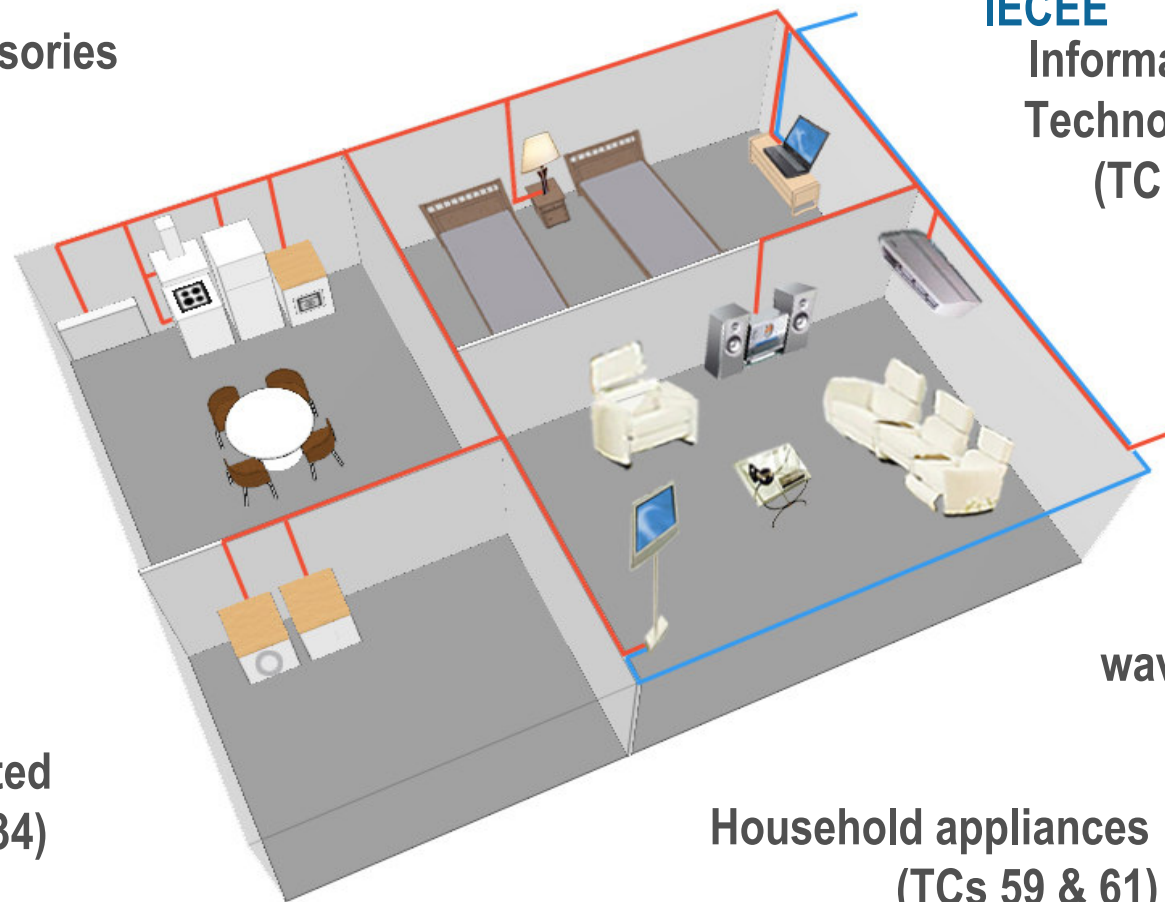
**Household appliances  
(TCs 59 & 61)**

**Electrical accessories  
(TC 23)**

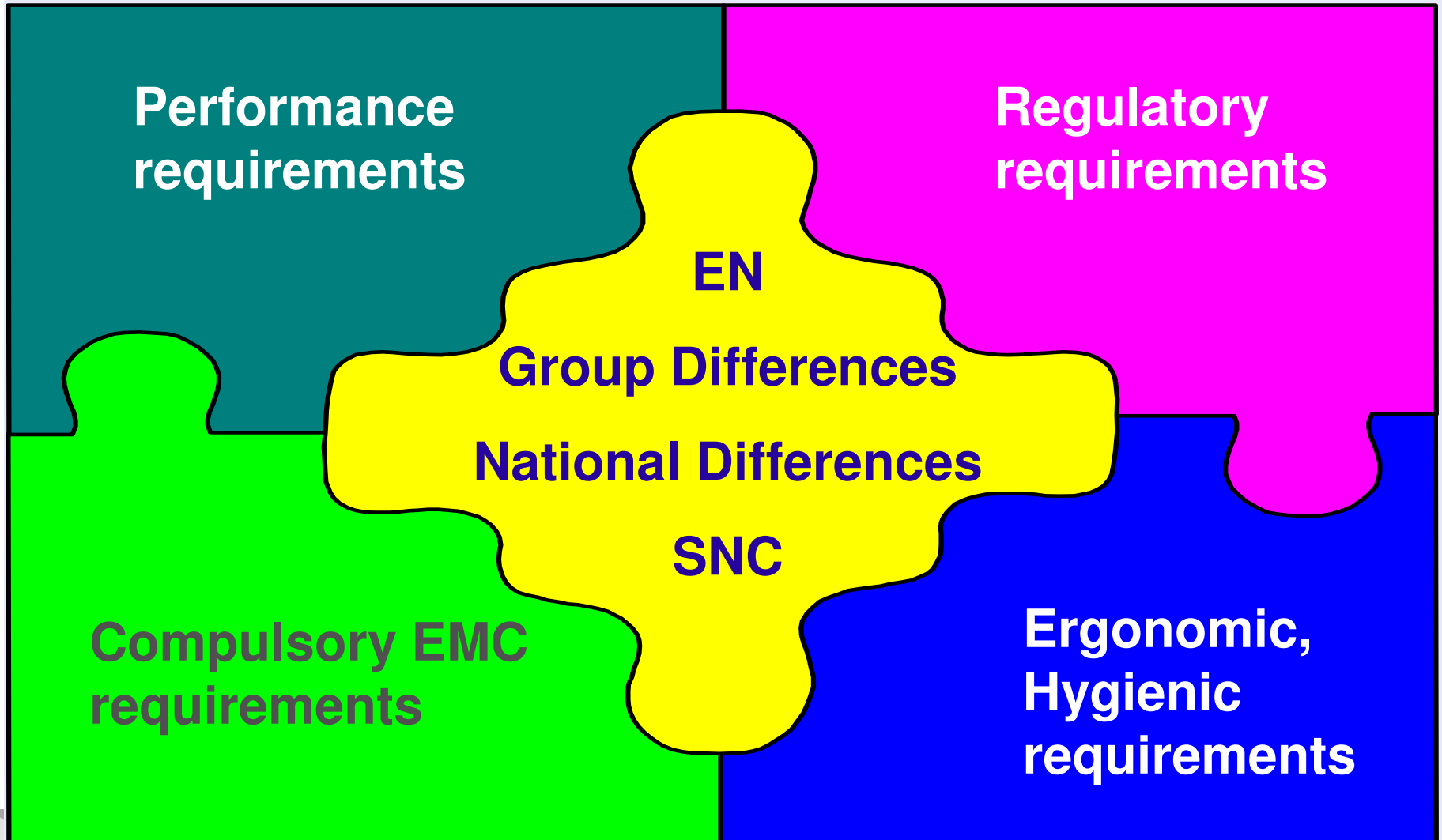
**Luminaires  
(TC 34)**

**Electric cables  
(TC 20)**

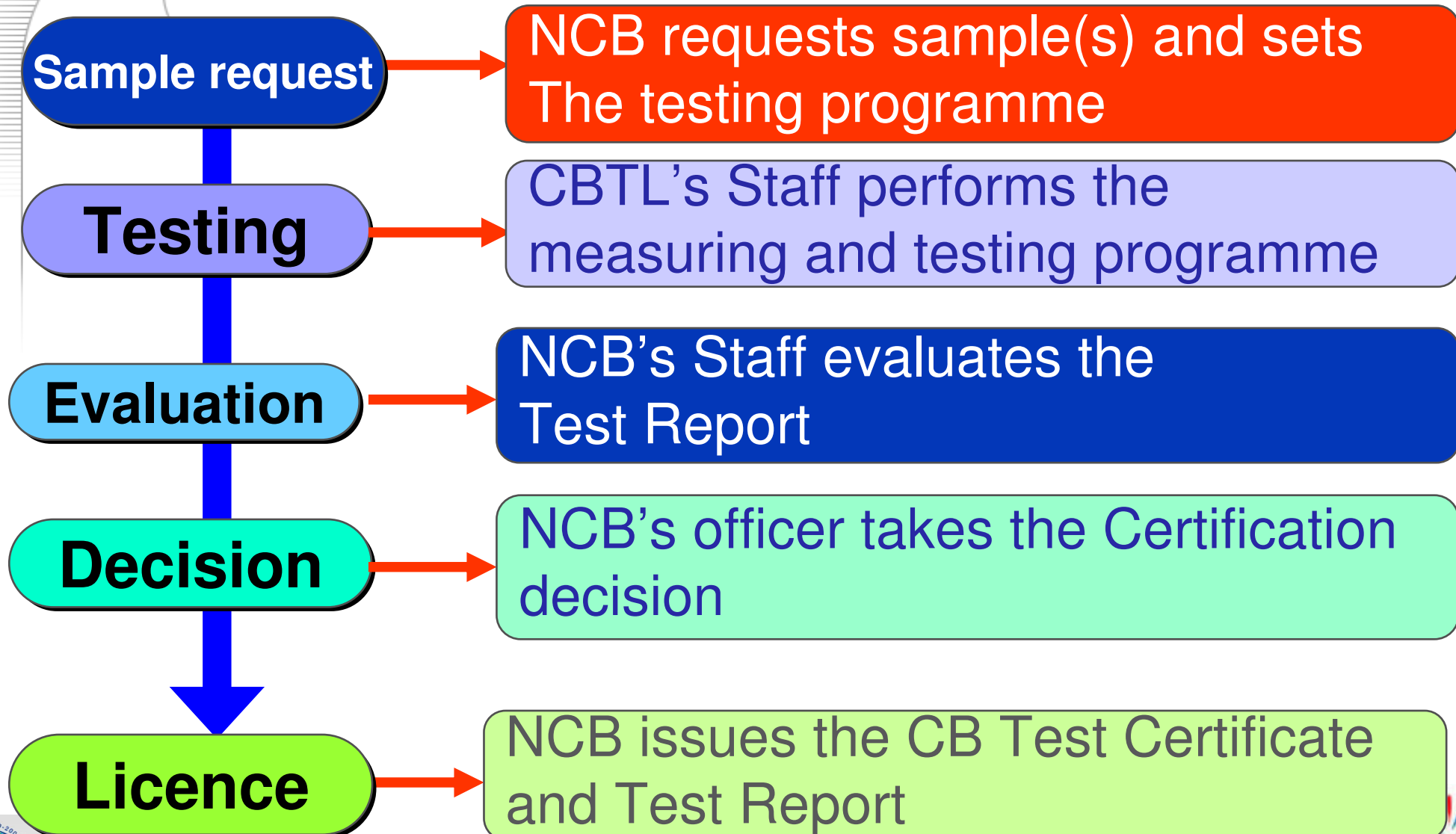
**Lamps and related  
equipment (TC 34)**



## IECEE of CB and FCS Schemes also include...



## THE CB SCHEME PROCESS

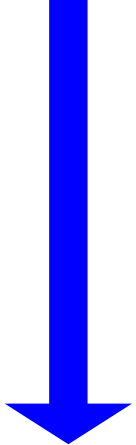


# IECEE CB Scheme

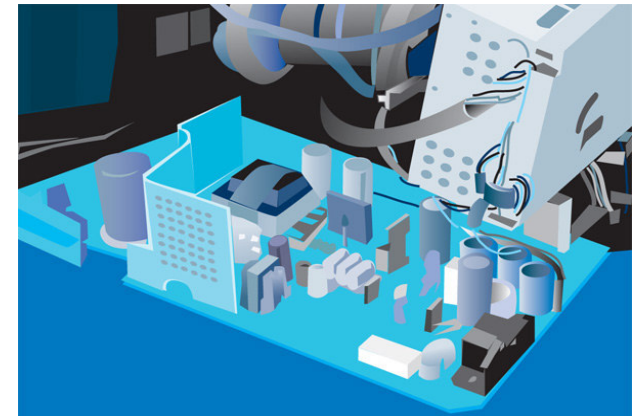
**Sample request**

**NCB requests sample(s) and sets  
The testing programme**

**Type  
Test  
Program**



Manufacturer develops an electrical product and sends it for testing so it can be certified



A laboratory tests the product for conformity to **IEC standards** and if necessary also to National Differences and issues a Test Report



# IECEE CB Scheme

**Sample request**

NCB requests sample(s) and sets  
The testing programme

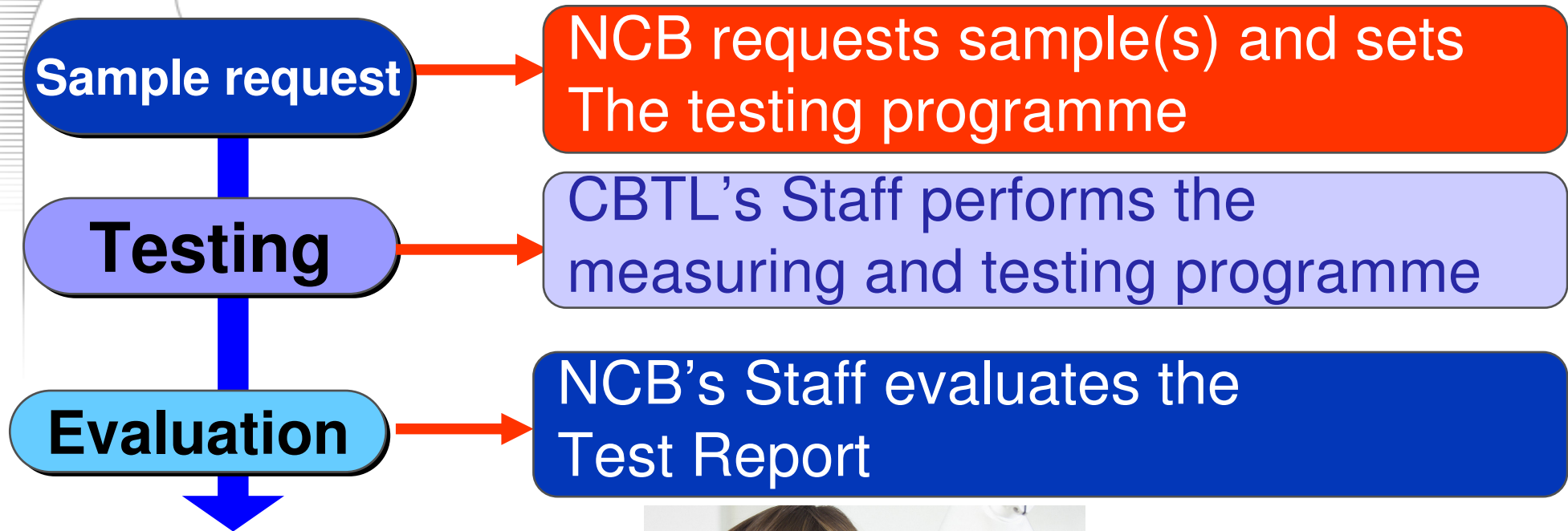
**Testing**

CBTL's Staff performs the  
measuring and testing programme





# IECEE CB Scheme



Sample request

Testing

Evaluation

Decision



NCB's officer takes the Certification decision

# IECEE CB Scheme

Sample request

Testing

Evaluation

Decision

Licence



				Ref. Certif. No.	
IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME		SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC			
CB TEST CERTIFICATE			CERTIFICAT D'ESSAI OC		
Product Produit		<input type="checkbox"/> Additional information on page 2			
Name and address of the applicant Nom et adresse du demandeur					
Name and address of the manufacturer Nom et adresse du fabricant					
Name and address of the factory Nom et adresse de l'usine					
<small>Note: When more than one factory, please report on page 2 Note: Lorsque il y a plus d'une usine, veuillez utiliser la 2<sup>ème</sup> page</small>					
Ratings and principal characteristics Valeurs nominales et caractéristiques principales					
Trademark (if any) Marque de fabricant (si elle existe)					
Model / Type Ref. Ref. De type					
<small>Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire, peuvent être indiquées sur la 2<sup>ème</sup> page</small>					
<small>A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la</small>					
<small>As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat</small>		<input type="checkbox"/> Additional information on page 2			
This CB Test Certificate is issued by the National Certification Body Ce Certificat d'essai OC est établi par l'Organisme National de Certification					
Date:		Signature:			

NCB issues the CB Test Certificate and Test Report

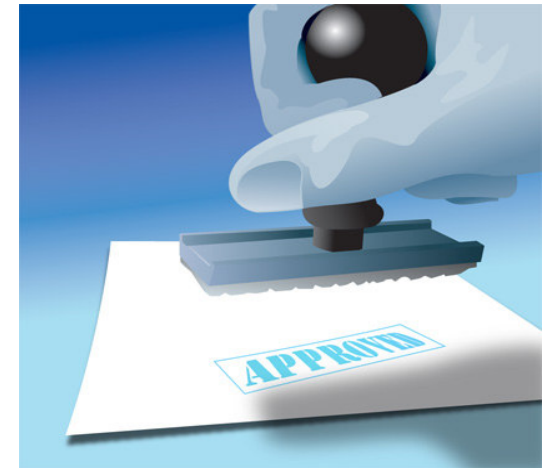


- ▶ Manufacturer now wishes to sell the product in another country where the market requires a Domestic Certification Mark or Approval.
- ▶ Manufacturer provides the CB Test certificate and Test Report to a Certification Body member of the IECEE in the second country



## Multilateral Acceptance by the IECEE Member NCBs

- ▶ Second NCB recognizes the CB Test Results and CB Test Certificate that have already been granted by the Issuing NCB and grants its certification mark/approval
- ▶ Manufacturer may now affix the NCB's mark/approval of conformity of the second country to the product and may export the product to that country

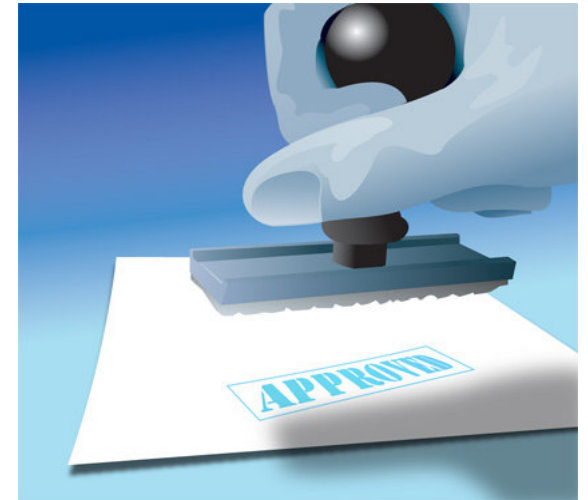


## Regulatory Authority

- ▶ Manufacturer now wishes to sell the product in another country where the market requires Regulatory compliance.
- ▶ Manufacturer provides the CB Test certificate and Test Report to the Regulatory Authority



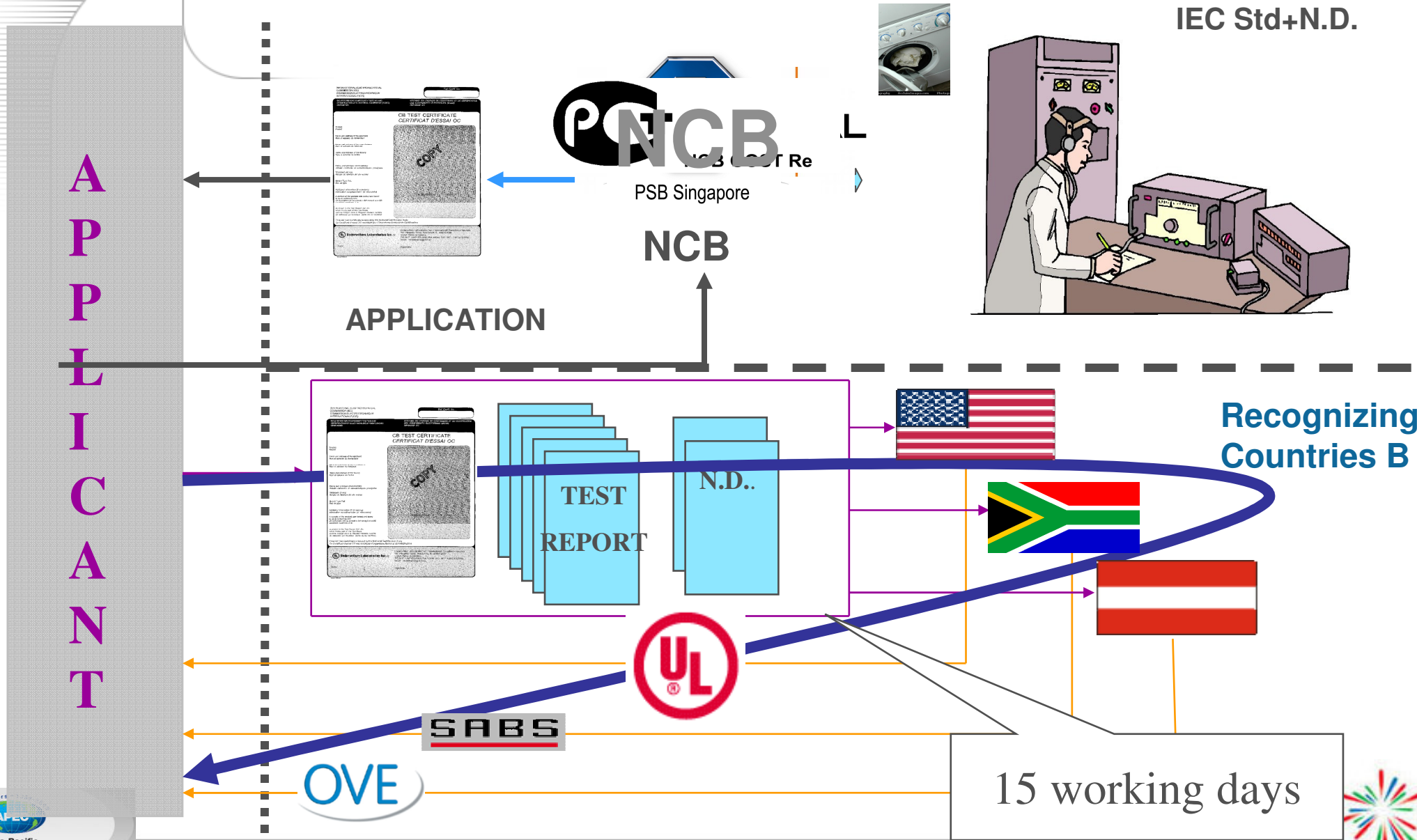
- ▶ Regulatory Authority reviews the CB Test Certificate and CB Test Report and ...
- ▶ ...grants access to the relevant Market





# IECEE CB Scheme

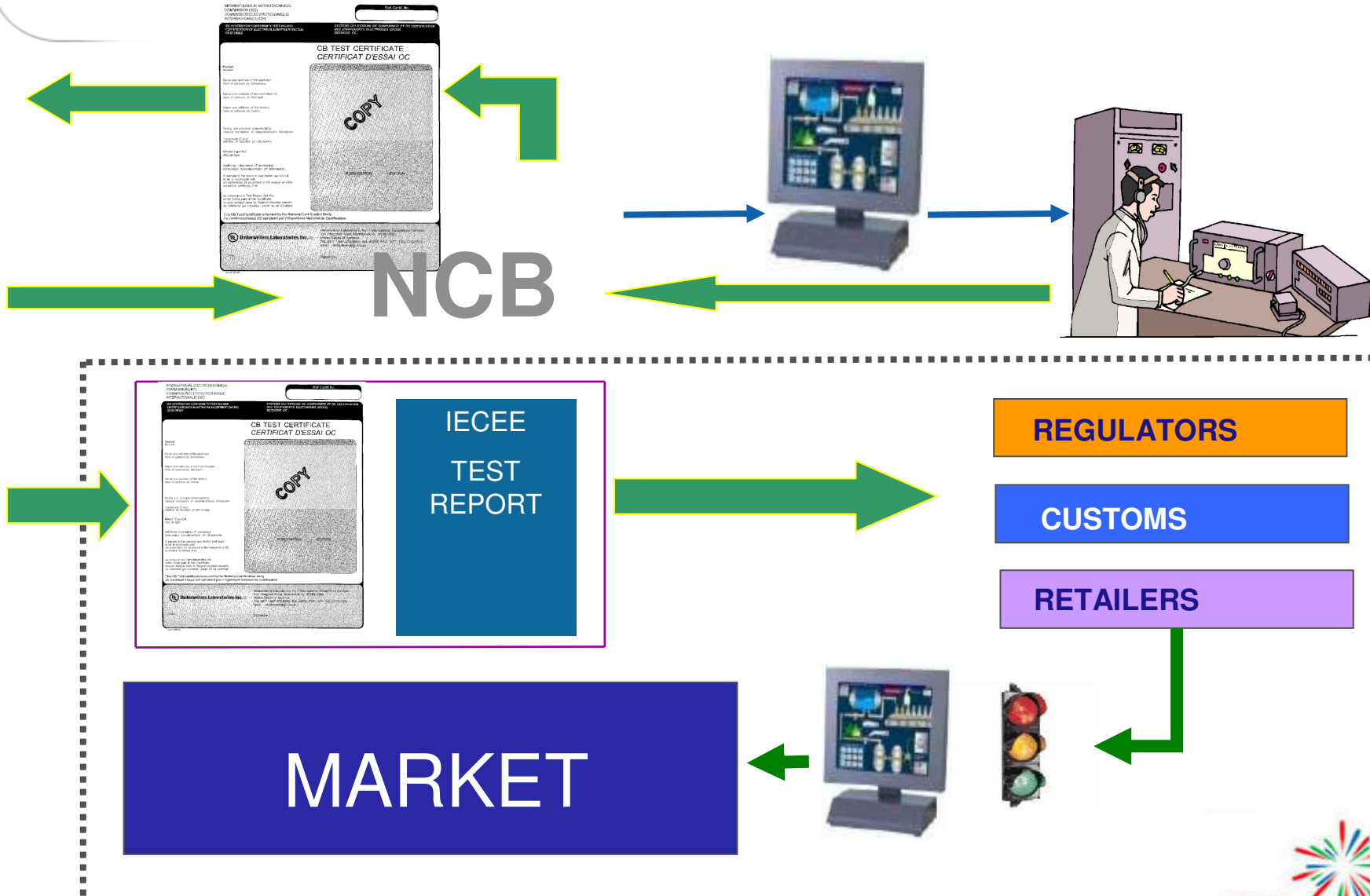
## Process



# IECEE CB Scheme

## DIRECT ACCEPTANCE BY THE MARKET PLACE

A P P L I C A N T



# Custom Officers.....

- ▶ Custom Officers reviews the CB Test Certificate and CB Test Report and ...depending the country's organization they either grant access to the domestic market or their green light to the National Certification Body for further process



## The CB FCS Scheme



**The CB FCS Scheme is an alternative to the CB Scheme and is based on the ISO/IEC System 5 Conformity Assessment. Compared to the CB Scheme (System 1b) it implies, in addition, the Initial Factory Inspection, Factory surveillance inspection, re-testing, market control, etc..**

# The CB FCS Scheme

## The 8 elements of the CB FCS Scheme

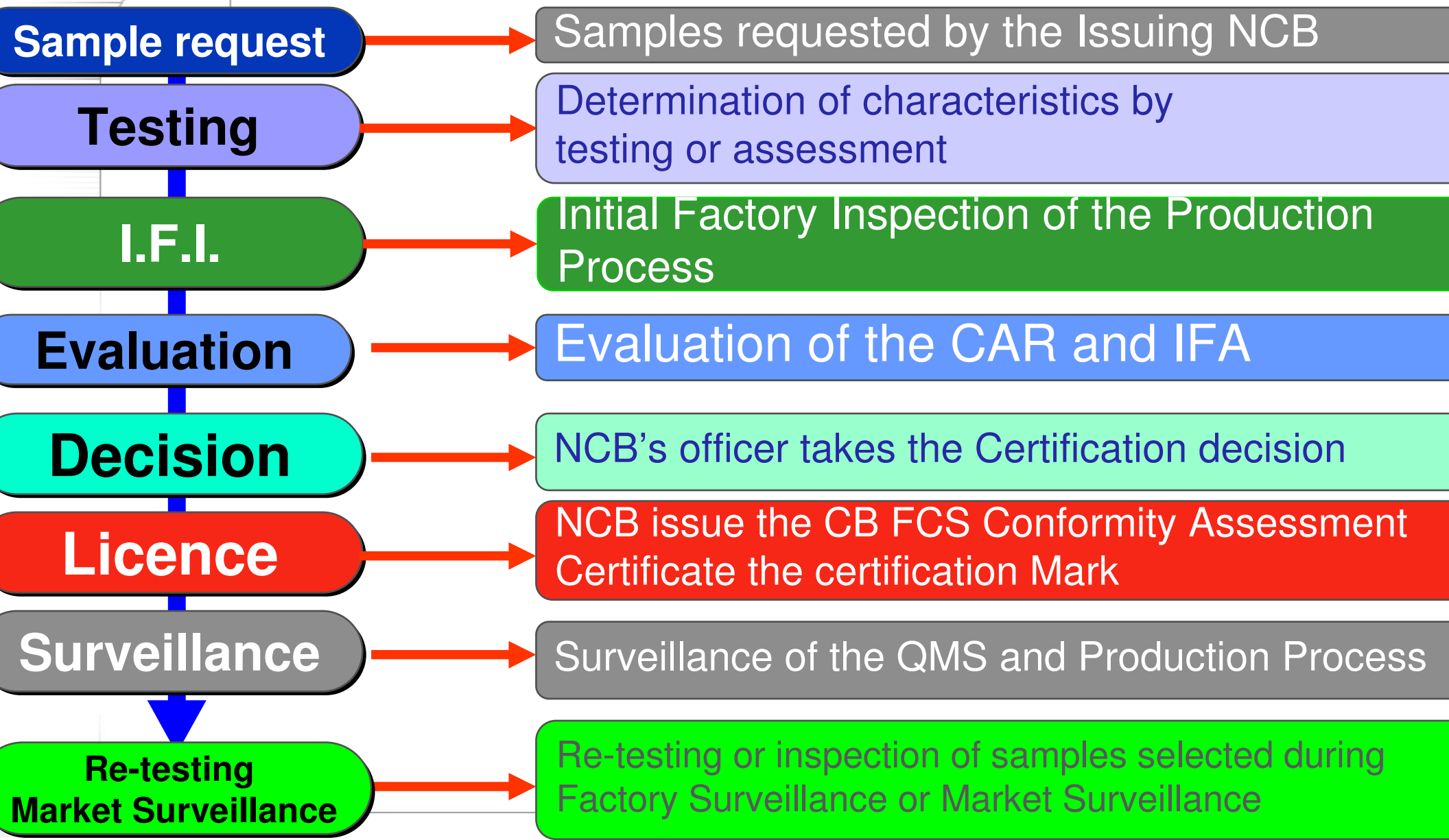
$$4 + 4 = 8$$





# The CB FCS Scheme → ISO System 5

## Process








# The CB FCS Scheme



IEC – IECEE CB-FCS  
FULL CERTIFICATION SCHEME

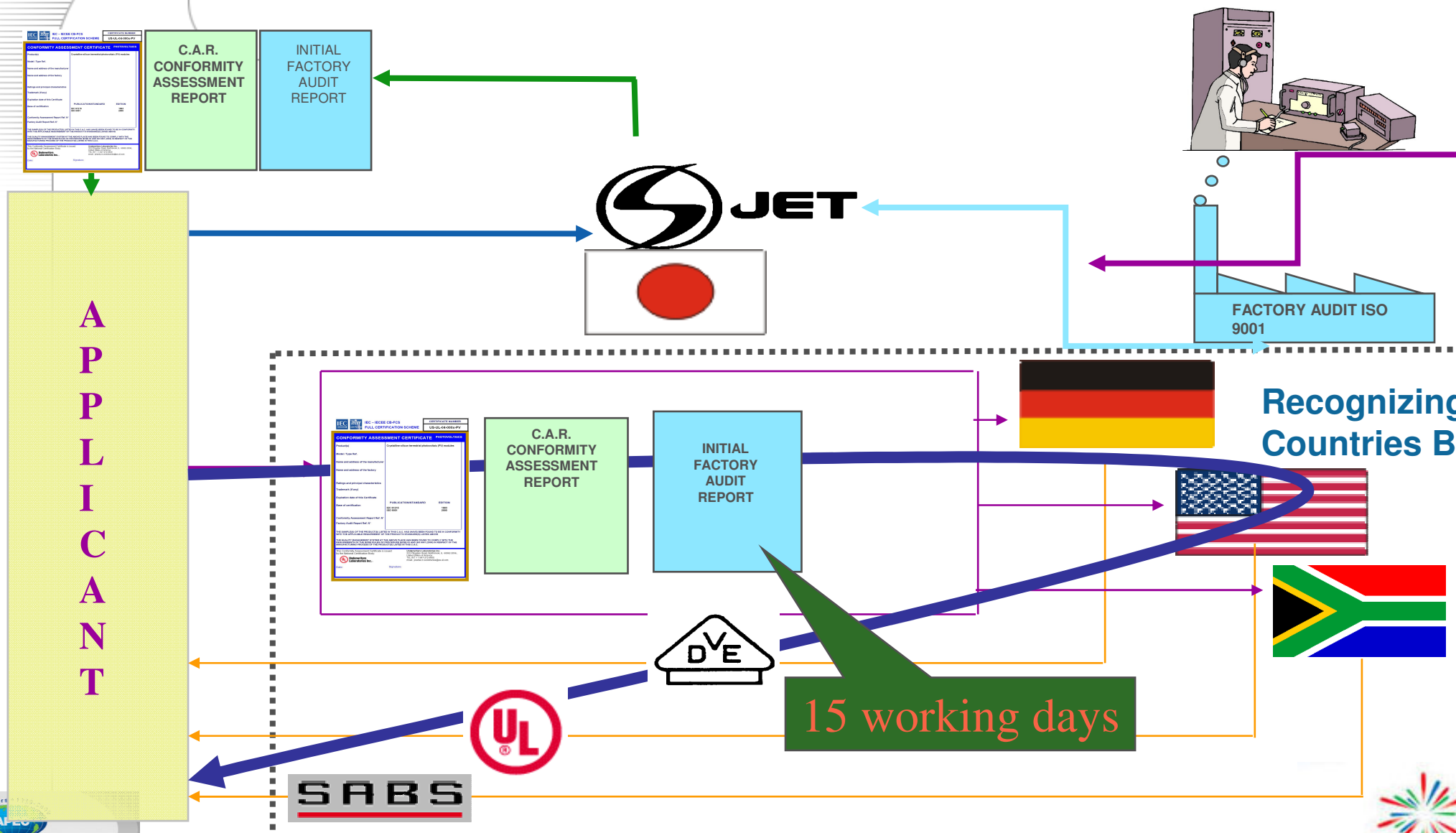
CERTIFICATE NUMBER
US-UL-04-0001-PV

CONFORMITY ASSESSMENT CERTIFICATE		PHOTOVOLTAICS
Product(s)	Crystalline silicon terrestrial photovoltaic (PV) modules	
Model / Type Ref.	BP3160, BP3150, and BP3140	
Name and address of the manufacturer	BP Solar 630 Solarex Court, Frederick, MD 21703, USA	
Name and address of the factory	1. BP Solar, 630 Solarex Ct., Frederick, MD 21703, USA 2. Tata BP Solar India Ltd., Electronic City Phase II, Plot 43 (F) Abd 44 (F), Hosur Rd., Bangalore Km-561229, India 3. BP Solar Espana S A, Ave De Fuentenueva 12, Monterrey I, Poligono Industrial San Sebastian De Los Reyes, 28709 Madrid, Spain 4. Ba Da Electronics, Yu Wu District, Fu Cheng, Dongguan Guangdong, China 5. BP Solar, 2 Australia Ave, Homebush Bay, New South Wales 2127, Australia	
Ratings and principal characteristics	The Range of the certified values and characteristics are available in the Conformity Assessment Report Ref. N° 18811881	
Trademark (if any)		
Expiration date of this Certificate	24 May 2007	
Base of certification	PUBLICATION/STANDARD	EDITION
	IEC 61215 ISO 9001	1993 2000
Conformity Assessment Report Ref. N°	E140754-V1-S1-20040517-CAR	
Factory Audit Report Ref. N°	Included in E140754-V1-S1-20040517-CAR Report	
<p>THE SAMPLE(S) OF THE PRODUCT(S) LISTED IN THIS C.A.C. HAS (HAVE) BEEN FOUND TO BE IN CONFORMITY WITH THE APPLICABLE REQUIREMENT OF THE PRODUCT'S STANDARD(S) LISTED ABOVE</p> <p>THE QUALITY MANAGEMENT SYSTEM AT THE ABOVE PLACE HAS BEEN FOUND TO COMPLY WITH THE REQUIREMENTS OF THE IECEE RULES OF PROCEDURE IECEE 03 AND ISO 9001 (2000) IN RESPECT OF THE MANUFACTURING PROCESS OF THE PRODUCT(S) LISTED IN THIS C.A.C.</p>		
This Conformity Assessment Certificate is issued by the National Certification Body:  <b>Underwriters Laboratories Inc.</b>		Underwriters Laboratories Inc. 333 Pfingsten Road, Northbrook, IL 60062-2096, United States of America TEL INT + 1-847-272-8800 email: jolanta.m.wroblewska@us.ul.com
Date: 24 May 2004	Signature:  JOLANTA M. WROBLEWSKA	



# The CB FCS Scheme

## Market access route via Recognizing NCBs



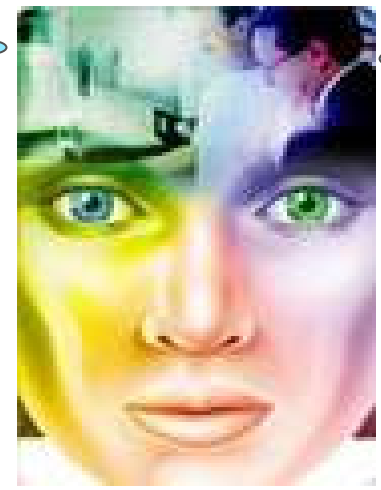


# Which Scheme suits my needs?

ISO Sytem 1

?

ISO Sytem 5










The Manufacturer decides the most appropriate «vehicle» to be used for marketing his products in the market place

# IECEE PARTICIPATING COUNTRIES

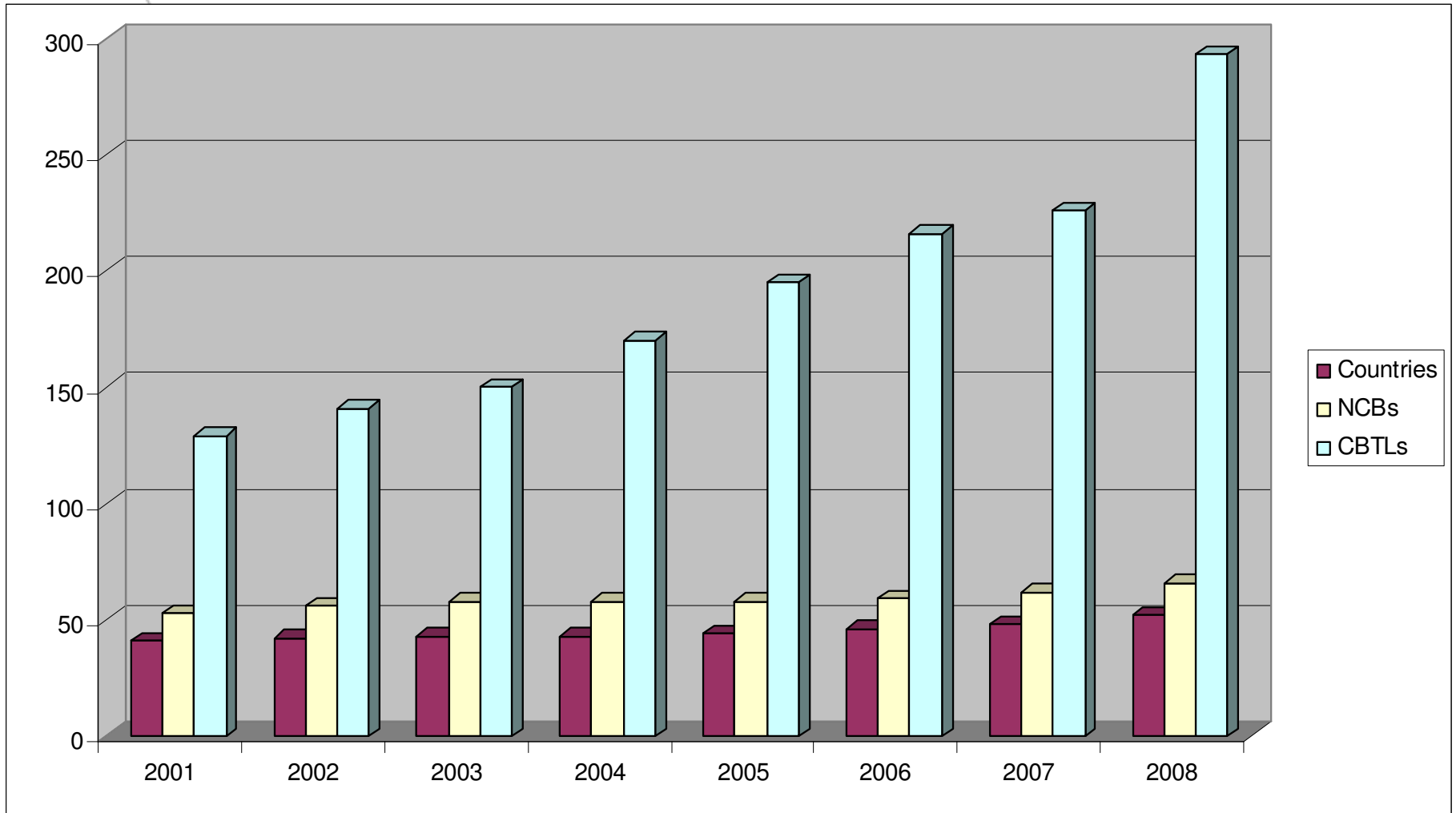
- |  |            |  |               |  |              |  |                      |
|--|------------|--|---------------|--|--------------|--|----------------------|
|  | Argentina  |  | Finland       |  | Malaysia     |  | Slovakia             |
|  | Australia  |  | France        |  | Mexico       | 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

# LEVELS OF MEMBERSHIP

	MEMBER BODY	NCB(s) NATIONAL CERTIFICATION BODY	CBTL(s) TESTING LABORATORY	MANUFACTURER'S TESTING LABORATORIES
Level 3 ***	Full Rights 	Issuing and Recognizing 	Associated with the NCB 	Under the Responsibility of the NCB 
Level 2 **	Full Rights 	Recognizing only 		
Level 1 *	Full Rights 			

# IECEE Members

	Countries	NCBs	CBTLs	ACTLs
2001	41	53	129	0
2002	42	56	141	0
2003	43	58	150	0
2004	43	58	170	0
2005	44	58	195	0
2006	46	59	216	0
2007	50	62	234	10
2008	51	66	268	25
2009	52	66	273	25



# CB Certificates Statistics

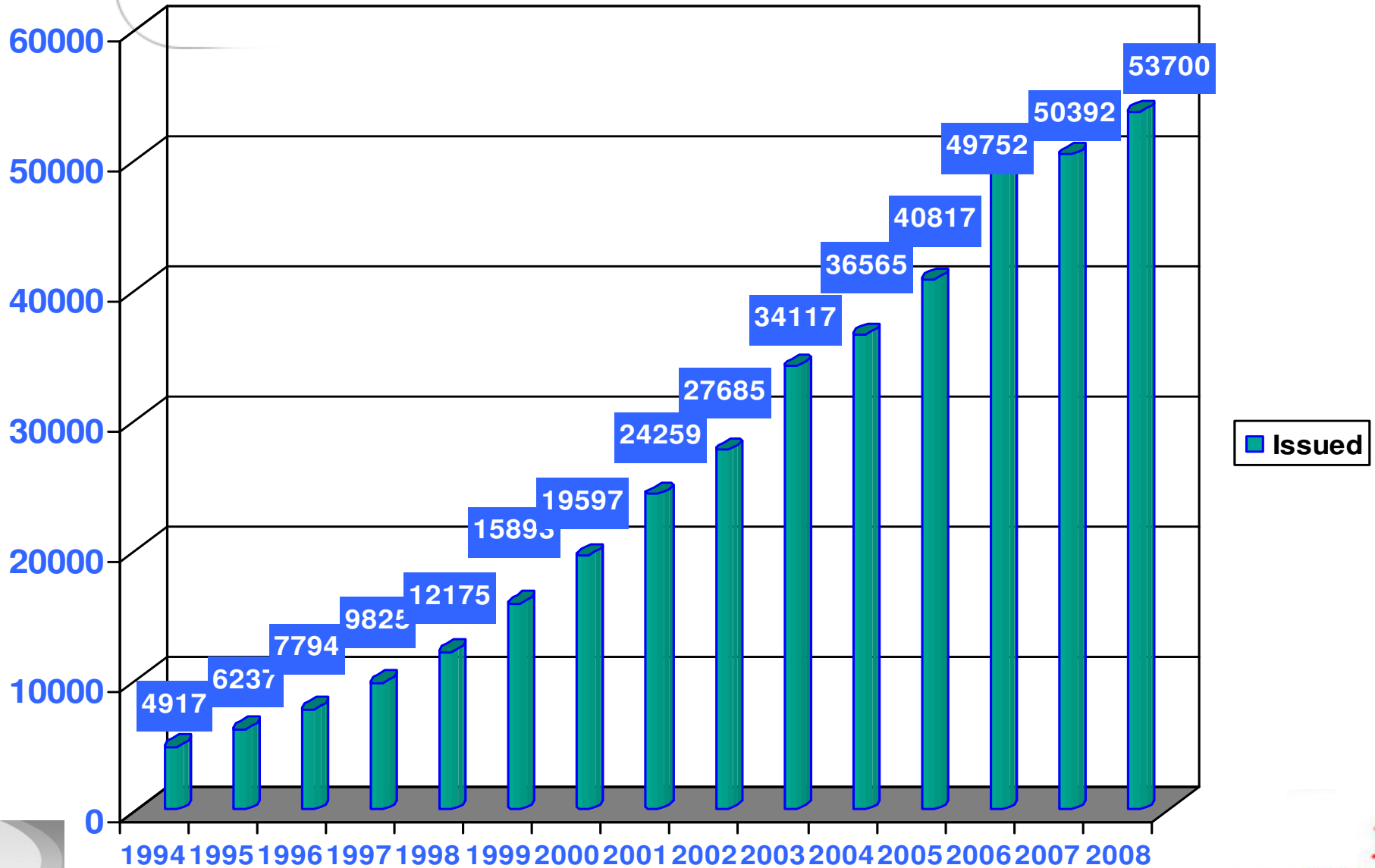
2008 has resulted in another great year with a significant growth with 53.700 CB Test Certificates issued.

A significant number of CB Test Certificates are directly recognized by Customs, Retailers and Regulatory Authorities to provide direct access to the global markets.



# IECEE Facts & Statistics

## IECEE serves World Trade



## Conclusions

The right Passport to access the worldwide market

**Because Globalization and Competition are leading to rapid changes, technical barriers to trade remain a serious problem and the industry is anxious about time to market, the shortening life cycle of products and the need to reduce costs...**



## Conclusions

### Benefits for Developing Countries

1. **Protecting the Domestic Market from non-conforming products (junks) by importing safe IECEE certified electrical products, equipment and components**
2. **Attending Forums and Workshops thus sharing and exchanging information with the best experts in Certification and Testing activities**
3. **Building the structure to set a national level a Certification Body and Testing Laboratory fulfilling the highest standards worldwide**

## Benefits for Industry

1. Opening up the worldwide Global Market
2. Optimization of production & certification costs
3. Expanded development of technologies within the country

The CB Scheme, in its fullest extent, proves de facto that certification and testing costs can be reduced through the use of...

**1** stop testing.



**Thank you**

**any questions ?**