

2014 International IECEx Conference Kuala Lumpur

Prof. Dr.
Thorsten Arnhold
IECEX Chairmen

**Introduction to the
IECEX International Certification System
and the three operational areas
IECEX Certified Equipment Scheme
IECEX Certified Service facility Scheme
IECEX Certified Person Scheme**

Prof. Dr. Thorsten Arnhold – IECEx Chairmen

- **Studies of Electronics and Marketing**
- **21 years of experience in explosion protection**
- **VP Technology of the R.STAHL Group**
- **Professor at the Jena University of applied science**



What makes a technical product safe?



**Design, test, production and operation instruction
according to specifications (law, directives, standards etc.)**

What makes the use of a technical product safe?



Correct selection of the suitable product

How to use a technical product safely?



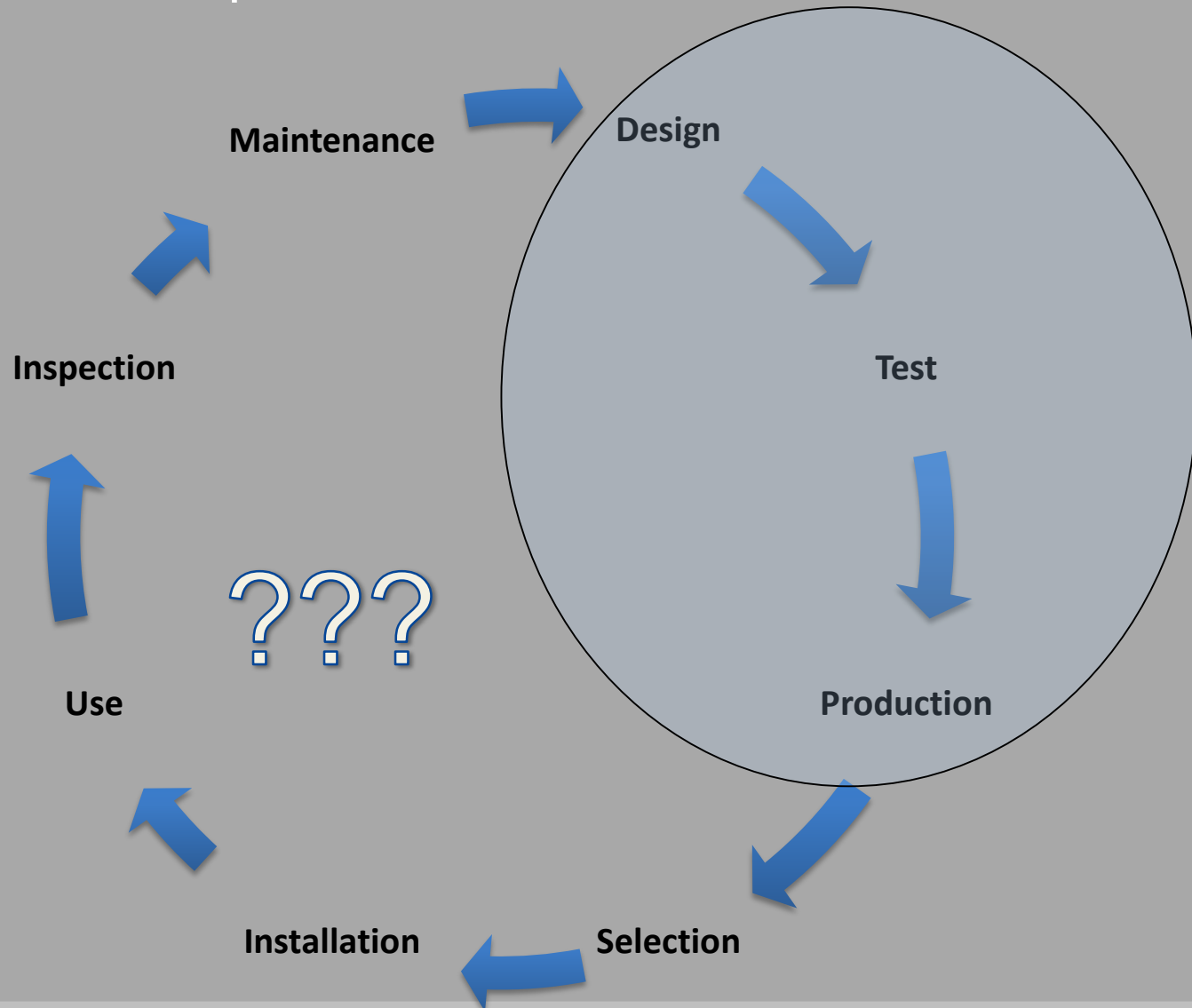
Appropriate rules and procedures for use and competent operators

How to keep a technical product safe?



Correct inspection and maintenance to keep sufficient level of safety

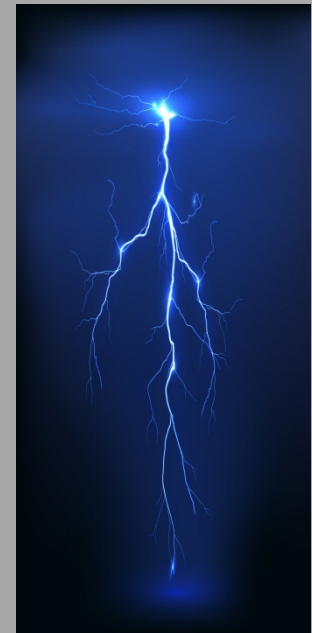
What about products for hazardous areas?



What about products for hazardous areas?

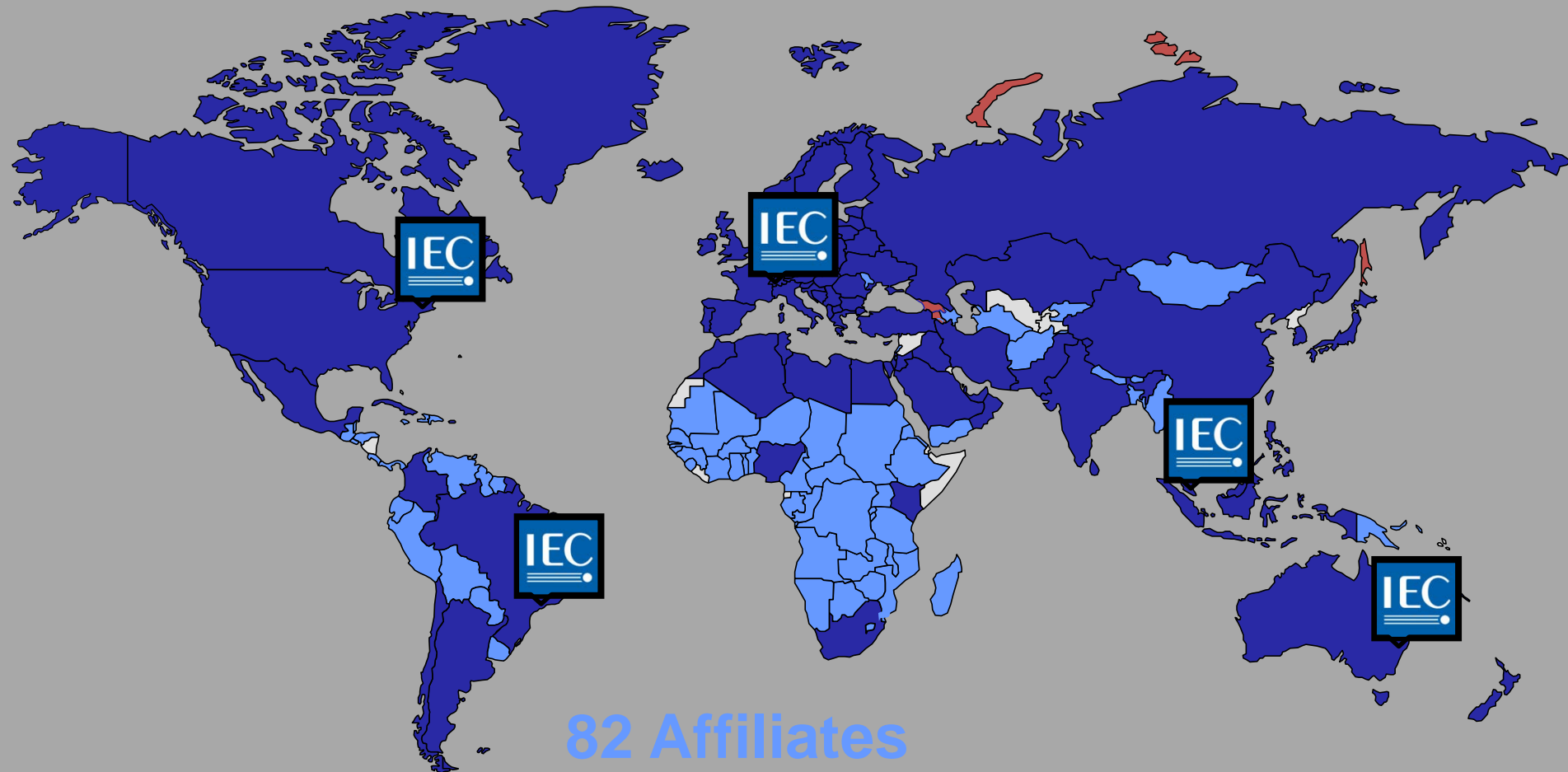


Who is the IEC ?



IEC Family: 164 countries – Global Reach

82 Members



Two Pillars of the IEC



**Standard –
Generation
and
Maintenance**

**Assessment
Conformity
to relevant
Standards**

IEC Structure – Conformity Assessment



**Conformity
Assessment
Board (CAB)**

**Administers / Oversees
Conformity Assessment
Systems**

IECEE

IECEX

IECQ

IECRE



Conformity Assessment Systems

Important Elements of the IECEX System

IECEX Management Committee

„Parlament of IECEX“
administers the operation
reports to IEC CAB



IECEX – Assessor

Assessment of Ex CBs

Assessment of Ex TLs

Basis is ISO/IEC 17065

(former ISO/IEC Guide 65)



Important Elements of the IECEX System

Ex Certification Body (ExCB):

- Issues IECEX – Certificates
- Issues Quality Assessment Reports
- Endorses IECEX Test Reports



Ex Testing Laboratory (ExTL):

- Directly or indirectly linked to a ExCB
- Carries out Type test
- Issues Test reports



Ex Testing and Assessment Group: Organisation of all ExCBs and ExTLs, deals with question of practice relating to tests and assessment.

Important documents of IEC Ex

IECEX Certificate of Conformity (CoC):

Document indicating the conformity of a product or a service to (a) specific standard(s). Based on ExTRs and QARs.



IECEX Test report (ExTR)

Document issued by a ExTL that includes a documented record of the obtained test and assessment results.

ExTR Reference No.

IECEX TEST REPORT IEC 60079-0 Explosive atmospheres – Part 0: Equipment – General requirements	
ExTR Reference Number.....	
ExTR Free Reference Number.....	
Compiled by + signature (ExTL).....	(enter typed name here) (enter signature here)
Reviewed by + signature (ExTL).....	(enter typed name here) (enter signature here)
Date of issue.....	
Ex Testing Laboratory (ExTL).....	
Address.....	
Applicant's name.....	
Address.....	
Standard.....	IEC 60079-0:2007, 5 th Edition
Test procedure.....	IECEX System
Test Report Form Number.....	ExTR60079-0

IECEX Quality Assessment Report (QAR):

Document which presents the results of an on-site assessment of the manufacturers/service providers Quality Management System



Schemes within the IECEx System

IECEx System

IECEx Equipment Scheme
Certification of Ex Equipment



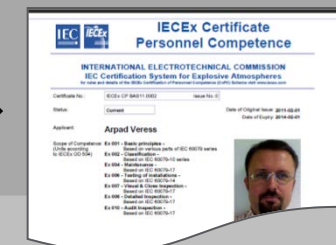
IECEx Conformity Mark License Scheme



IECEx Services Scheme
Certification of Ex Service Providers, eg
Repair and overhaul workshops + Install.



IECEx Certified Persons Scheme (CoPC)
Competency to work in Ex field (New)



IECEX Equipment Scheme

Type Test => ExTR



IECEX Equipment Scheme
Certification of Ex Equipment + Systems



Site assessment of the
Manufacturers QM –
System => QAR

IECEX “Certificate of
Conformity”



IECEX “Component
Certificate”



IECEX “Unit
Certificate”



Products covered by IECEx

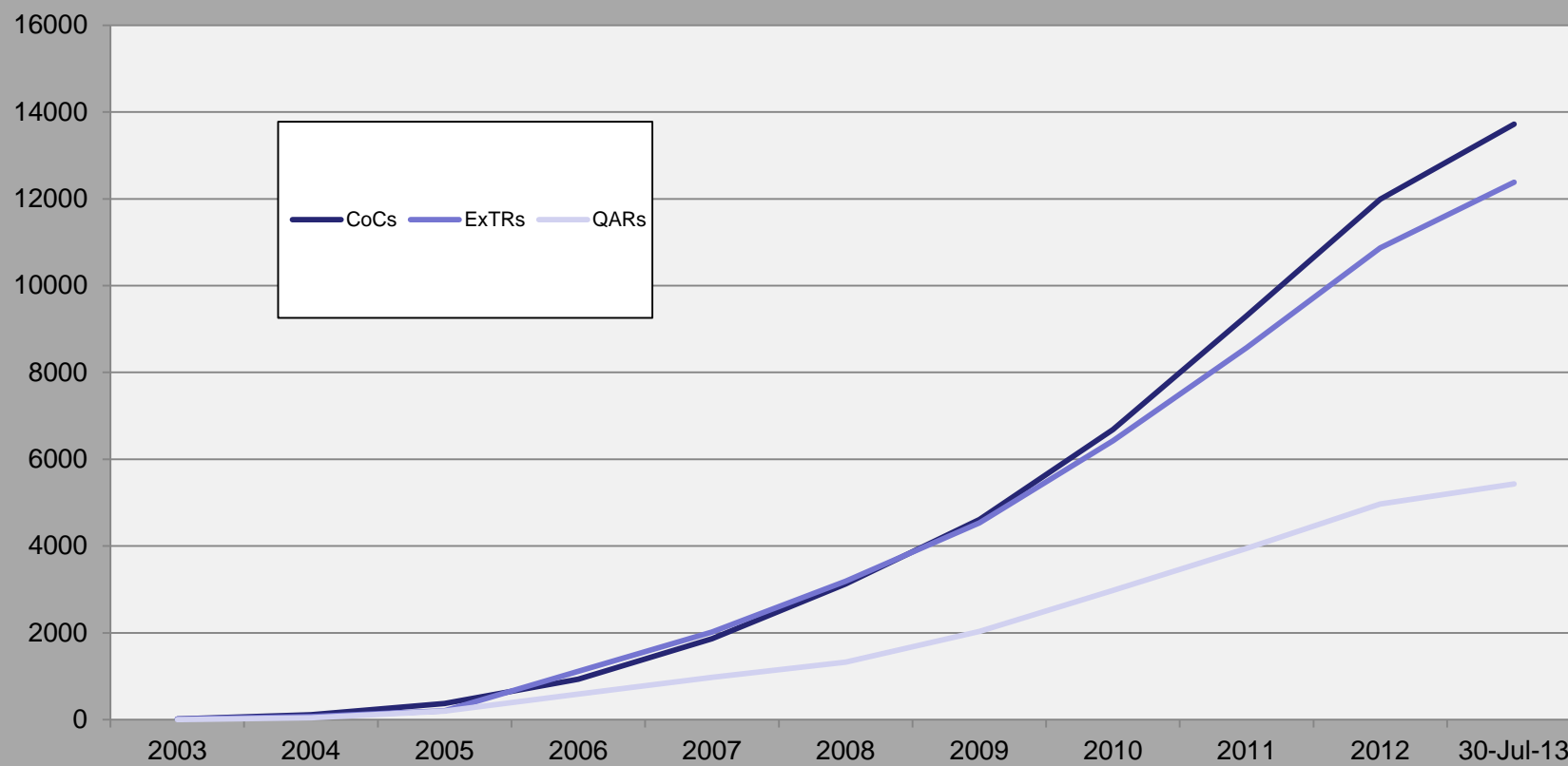


Systems covered by IECEx



IECEX - Equipment Scheme - a success story

Cumulative Growth of IECEx Equipment Certificates and Reports



Schemes within the IECEx System

IECEx System

IECEx Equipment Scheme
Certification of Ex Equipment



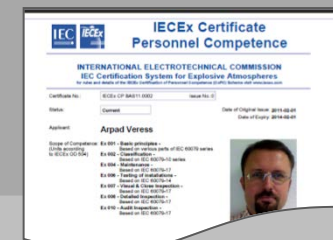
IECEx Conformity Mark
License Scheme



IECEx Services Scheme
Zertifizierung des Ex Service Anbieters, z.B.
Reparatur + gründliche Überprüfung + Install.



IECEx Certified Persons Scheme
(CoPC)
Competency to work in Ex field (New)



IECEX Service Facility Scheme

People



- Knowledge
- Skills
- Experience
- Training

Technical



- Machinery
- Measurement
- Calibration

Quality



- Quality Management
- Commitment



iecex.iec.ch:

[Home / Search](#)[Certified Equipment](#)[Conformity Mark Licenses](#)[Certified Persons](#)

View by:

["All ExCBs" Certificates](#)[Certificate ref. number](#)[IECEx Cert. Body \(ExCB\)](#)[Applicant](#)[Applicant Location](#)[FARs](#)

Services:

[Export to MS Excel](#)[Operational Manual](#)

IECEx CoC Certified Service Facility

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:

IECEx BAS S0013

issue No.:1

Certificate history:

Issue No. 1 (2012-6-13)

Issue No. 0 (2011-1-27)

Status:

Current

Date of Issue: 2012-06-13

Applicant:

ABB Pte Ltd

2 Tuas Lane

638611

Singapore

Type of Service:

Repair and Overhaul according to IEC 60079-19

Type of Protection:

Flameproof Enclosure "d"

Increased Safety "e"

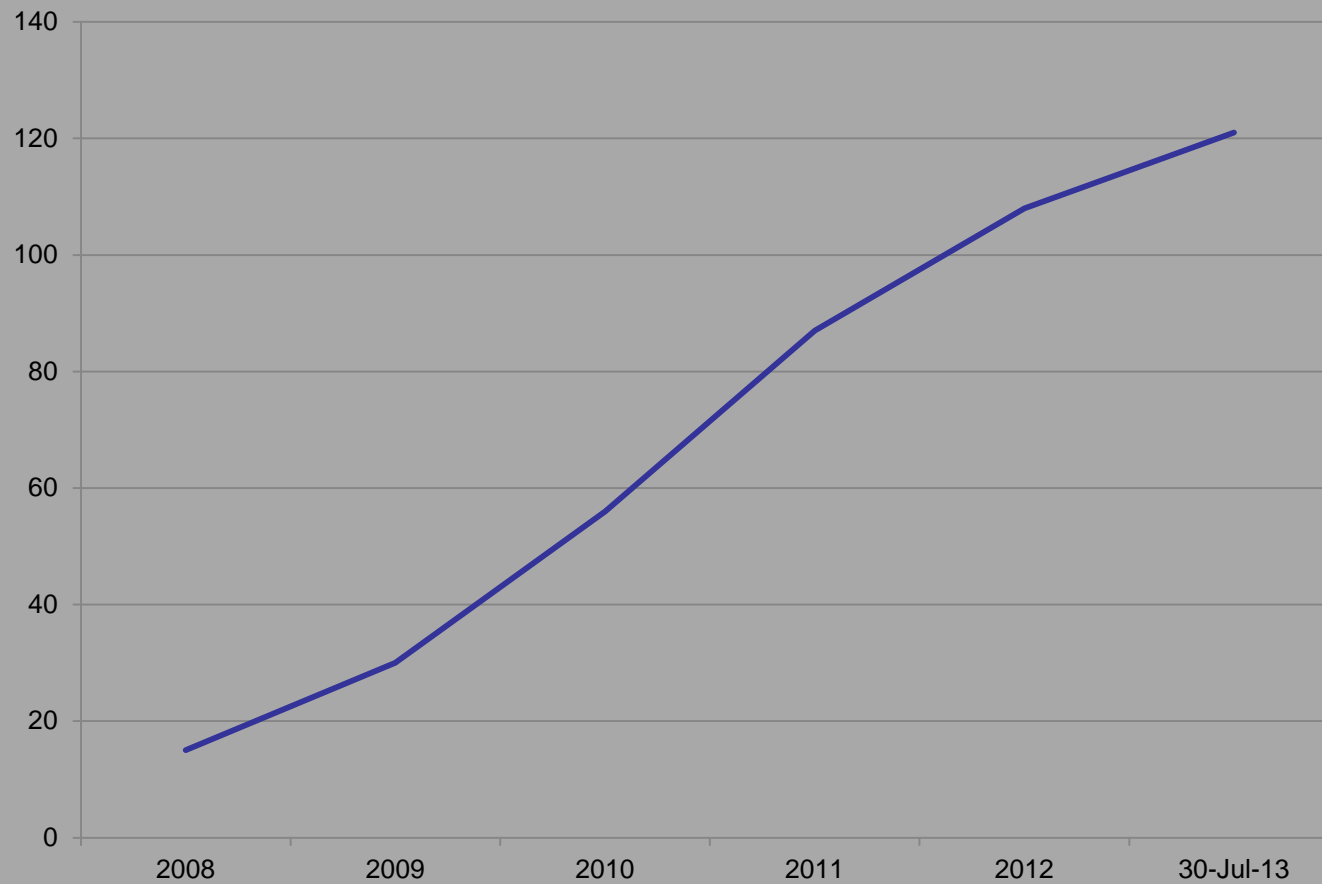
Type of Protection "n"

Scope of Service:

On site Repair and Overhaul of Exd, Exe, Exde, Exn Rotating Machine and enclosures .
Off site work limited to replacement of machine bearings.Locations covered
by this Certificate:

as above

Service Facility Certificates - Cumulative Total



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Inspection & Maintenance



Schemes within the IECEx System

IECEx System

IECEx Equipment Scheme
Certification of Ex Equipment



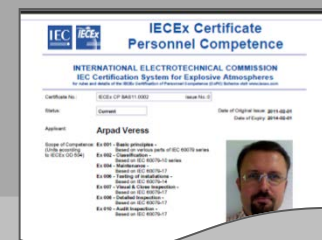
IECEx Conformity Mark License Scheme



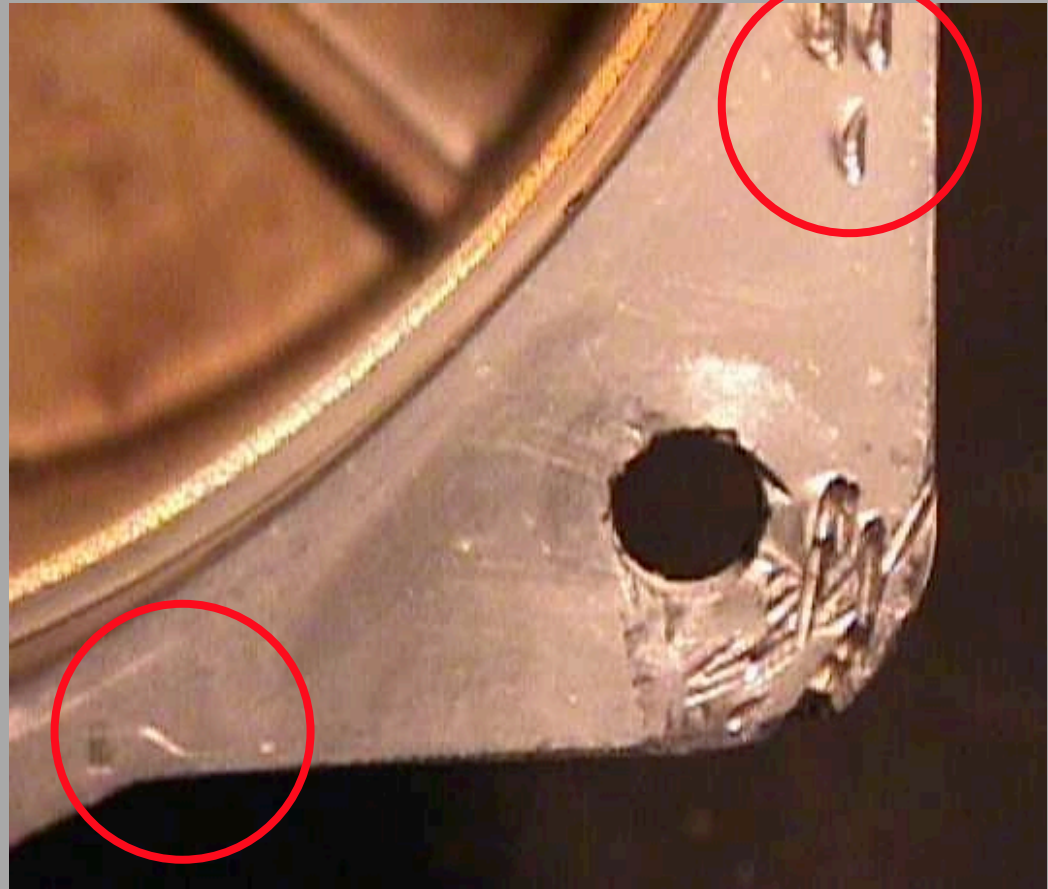
IECEx Services Scheme
Certification of Ex Service Providers, eg
Repair and overhaul workshops + Install.



IECEx Certified Persons Scheme (CoPC)
Competency to work in Ex field (New)



Examples of errors due to lack of competence



IECEX Certified Persons Scheme – Flexibility of Competence

Unit Ex 001:
Basic Principles

Unit Ex 002: Zone
Classification

Unit Ex 003:
Installation

Unit Ex 004:
Maintenance

Unit Ex 006: Test
el. Installations

Unit Ex 005: Over-
haul & Repair

Unit Ex 007: Visual
& close Inspection

Unit Ex008:
Detailed Insp.

Unit Ex 009: Design
Electr. Installation

Unit Ex 010: perform
Audit insp. of install.

Knowledge



Practical skills



Practical experience



Certification Process

Appropriate Mix of Competences to be certified

Ex CB examines:

IECEx Certified Person



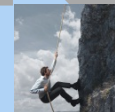
Knowledge



Skills



Experience

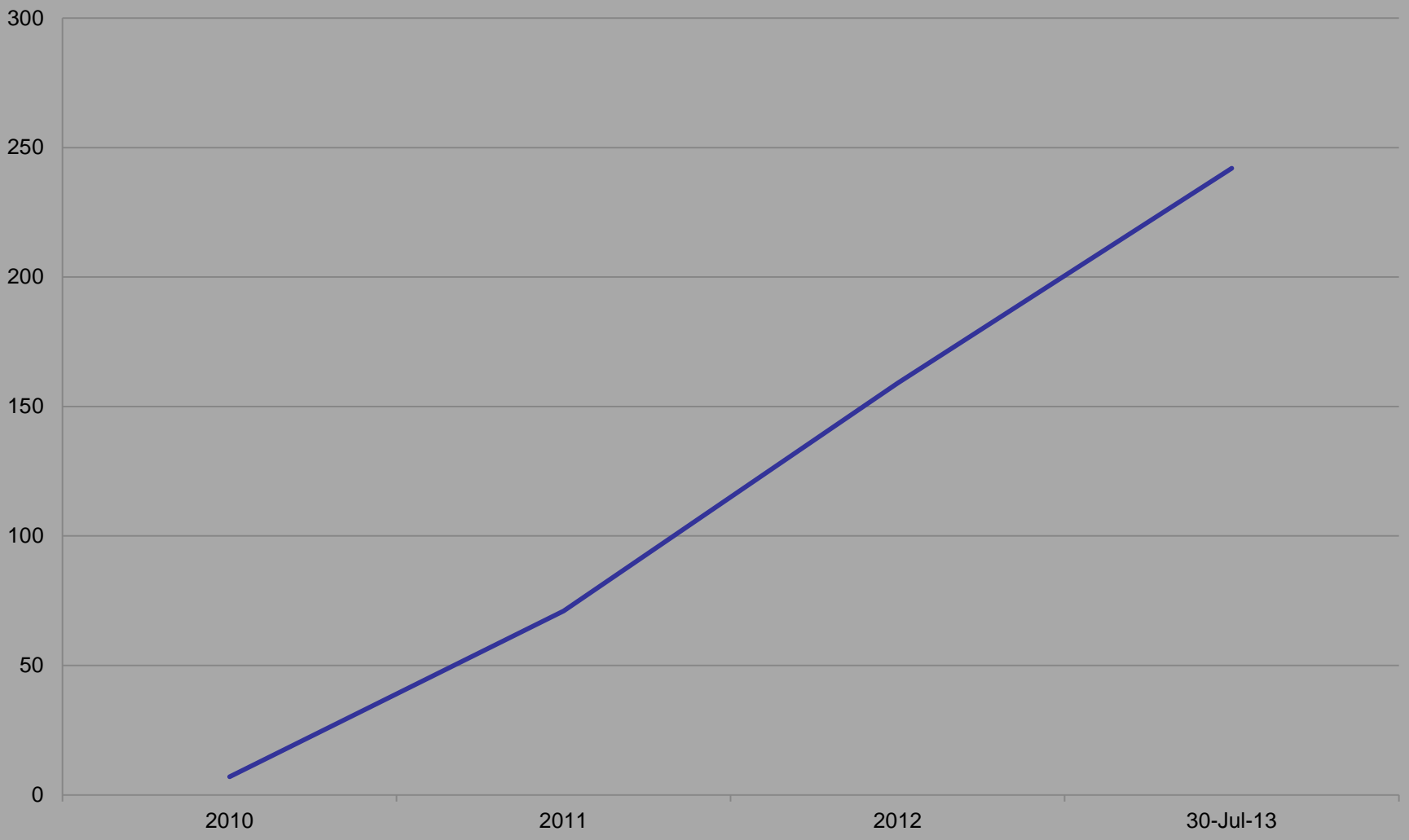


IECEx Certificate Certified person	
INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres <small>For rules and details of the IECEx scheme visit www.iecex.org</small>	
Certificate No.	KEMA CP00000
Date of issue	2009-01-08
Approval	Expert Member Institution KEMA
Field of Competence	Installations according to IEC 60079-14 Installation according to IEC 60079-10 Area Classification according to IEC 61880-10 Project according to IEC 60079-20
Scope of Competence	L1 as per appropriate doc 1. 2. 3. 4. 5. 6. 7.
PCRB Reference No.	As on file by EACB
<small>This certificate is issued as evidence that the Applicant has assessed and found to comply with the IECEx Scheme requirements, relating to the field and scope of competence under review. This certificate is placed subject to the conditions as set out in IECEx Scheme Rules, IECEx CB and Operational Documents as attached.</small>	
Appointed for issue on behalf of the IECEx	None
Certification body	None
Position	Certification Authority
Signature (only on paper copy)	
Date (only on paper copy)	
<small>1. This certificate may only be reproduced in full. 2. This certificate is not transferable and remains the property of the issuing body. 3. The issue and validity of this certificate may be verified by visiting the www.iecex.org website.</small>	
KEMA Quality B.V. <small>Recognized by the IEC Ex Approval The Netherlands</small>	



Surveillance – Re Assessment

Certified Personnel Scheme - Cumulative Total



The DNA of IEC Conformity Assessment



Thank you

