

**INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC) SCHEME
FOR CERTIFICATION TO STANDARDS RELATING TO EQUIPMENT FOR
USE IN EXPLOSIVE ATMOSPHERES
(IECEx SCHEME)**

Ex Management Committee, ExMC

TITLE: IECEx Assessment Report for the acceptance of *IBExU Institut für Sicherheitstechnik GmbH* as an IECEx Certification Body (ExCB)

INTRODUCTION

This document contains the IECEx Assessment Report for the acceptance of *IBExU Institut für Sicherheitstechnik GmbH* as an IECEx Certification Body (ExCB) within the IECEx Scheme.

The report is hereby submitted for voting.

Please consider the assessment report which is issued for final vote by 2007 07 21.

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IECEx Secretariat

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IECEX INITIAL ASSESSMENT REPORT FOR IBExU Institut für Sicherheitstechnik GmbH, Freiberg (Saxony), Germany IECEX Certification Body (ExCB)

Type of Assessment:

Initial assessment for Candidate ExCB X

1. OBJECT AND FIELD OF APPLICATION

1.1 *Country:*

Germany

1.2 *Name of Candidate ExCB*

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg (Saxony), Germany

1.3 *Members of the Assessment Team*

Heinz S. Berger, Team Leader
Vijay K. Varma, Expert Assessor
Ron J. Webb, Expert Assessor

1.4 *Place and Date of Assessment*

Fuchsmühlenweg 7
09599 Freiberg (Saxony), Germany

16th – 18th October, 2006

1.5 *Assessment References*

- IECEx 02 Second Edition 2003-06
- IECEx Operational Document OD/003
- IECEx Operational Document OD 005V2
- IECEx Operational Document OD/009
- ISO/IEC Guide 65
- IECEx Operational Document OD 017
- IECEx Document ExMC/161/CD (QAR)
- ExCB application documents

1.6 Scope of Application

Number	Title
60079-0	Electrical apparatus for explosive gas atmospheres Part 0: General requirements
60079-1	Electrical apparatus for explosive gas atmospheres Part 1: Construction and verification test of flameproof enclosures of electrical apparatus
60079-2	Electrical apparatus for explosive gas atmospheres Part 2: Electrical apparatus, type of protection 'p' (Pressurization)
60079-5	Electrical apparatus for explosive gas atmospheres Part 5: Powder filling "q"
60079-6	Electrical apparatus for explosive gas atmospheres Part 6: Oil-immersion 'o'
60079-7	Electrical apparatus for explosive gas atmospheres Part 7: Increased safety 'e'
60079-11	Electrical apparatus for explosive gas atmospheres Part 11: Intrinsic safety 'i'
60079-15	Electrical apparatus for explosive gas atmospheres Part 15: Electrical apparatus with type of protection 'n' (Non-Sparking)
60079-18	Electrical apparatus for explosive gas atmospheres Part 18: Encapsulation 'm'
60079-25	Electrical apparatus for explosive gas atmospheres Part 25: Intrinsically safe systems
60079-26	Electrical apparatus for explosive gas atmospheres Part 26: Construction, test and marking of Group II Zone 0 electrical apparatus
60079-27	Electrical apparatus for explosive gas atmospheres Part 27: Field bus intrinsically safe concept (FISCO)
61241-0	Electrical apparatus for use in the presence of combustible dust Part 0: General requirements
61241-1	Electrical apparatus for use in the presence of combustible dust Part 1: Electrical apparatus protected by enclosures
61241-1-1	Electrical apparatus for use in the presence of combustible dust Part 1: Electrical apparatus protected by enclosures Section 1: Specification for apparatus
61241-4	Electrical apparatus for use in the presence of combustible dust Part 4: Type of protection 'pD'
61241-11	Electrical apparatus for use in the presence of combustible dust Part 11: Intrinsic safety "iD"
61241-18	Electrical apparatus for use in the presence of combustible dust Part 18: Protection by encapsulation 'mD'
62086-1	Electrical apparatus for explosive gas atmospheres: Electrical resistance for trace heating: General and testing requirements

1.7 ***Candidate ExCB Persons Interviewed***

Name	Position
Reimund Götze	Deputy Manager Certification, responsible for IECEX Certification
Dr. Jens Neuhäuser	Quality Manager IBExU
Ute Mattutat	Commercial Manager

1.8 ***Legal Entity of the Candidate ExCB***

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg (Saxony), Germany

1.9 ***Associated Testing Laboratories***

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg (Saxony), Germany

1.10 ***Associated Certification Functions***

IBExU is a Notified Body under the ATEX Directive since August 27, 1997. The NB number is 0637.

1.11 ***National Marks and Certificates***

Presently there is no such mark in use.

1.12 ***Financial Support***

IBExU GmbH is a 100% private owned company. IBExU is self funded relaying to revenues based on certificate fees, auditing fees and testing activities.

1.13 ***History***

Almost 75 year-old tradition in Freiberg

The foundation of the "Sächsischen Versuchsstrecke an der Bergakademie Freiberg" in 1928 (to 1991: "Institut für Bergbausicherheit (IfB)", department: fires and explosions) was the beginning of the development of a scientific and testing technical centre for the special subjects of fire and explosion prevention in Central Germany.

From 1949 until 1991 the "Institut für Bergbausicherheit (IfB, Versuchsstrecke Freiberg)" was the "Staatshoheitrechtliche Institut der DDR" for the blasting essence, fire and explosion protection for mining and industry.

With the reunification, the "IfB" was annulled formally in 1991. In December 1990 was the foundation of **IBExU** Institut für Sicherheitstechnik GmbH with support of the "Bundesministerium für Wirtschaft" with the objective to proceed the scientific know how of the "IfB" and the work of the "Versuchsstrecke Freiberg" for the protection of human beings, real values as well as the environment against the hazards generated by accidents.

IBExU developed into a European recognized institution for research, technical engineering

services and safety tests in the special fields of plant- and processing engineering safety and accident prevention as well as protection against fire, explosions and emission. The work of **IBExU** guarantees complete solutions in the mentioned subjects, even for very complex problems. The scientific and technical engineering staff of various special subjects has special professional experiences since many years.

IBExU has resources at an unique fund of scientific-technical knowledge and experiences on account of the management of the materials stored since the foundation of the "Versuchsstrecke Freiberg", such as R & D reports, expert's opinions and results of determinations of safety characteristics, certificates including all examination certificates issued in the former GDR.

Appropriate equipment in the laboratories and large-scale trial plants, such as explosion tanks or detonation pipes, in the open-air area are available for examinations and tests conforming to standards and quality.

1.14 **Standards Accepted**

See clause 1.6 of this report.

1.15 **National Differences to IEC Standards**

German National Differences to IEC standards are listed in the latest version of the IECEx Scheme Bulletin.

2. **ORGANISATION**

2.1 **Names, Titles and Experience of the Senior Executives**

Name	Title	Experience in Ex	Overall
Tammo Redeker	Prof. Dr.	35	36
Reimund Götze	Dipl.-Ing.	12	32

2.2 **Name, Title and Experience of the Quality Management Representative**

Name	Title	Experience in Ex	Overall
Jens Neuhäuser	Dr. rer. nat.	4	14

2.3 **Name and Title of Nominated Principal Contact**

Name	Title
Reimund Götze	Dipl.-Ing.

2.4 **Name and Title of Signatories for Certification**

Name	Title
Tammo Redeker	Prof. Dr., Head of IBExU
Reimund Götze	Dipl.-Ing., Deputy Manager Certification

2.5 *Other Employees in ExCB activity*

Name	Title	Responsibility
Jens Neuhäuser	Dr.rer.nat.	QAR (Quality System)
Burkhard Hille	Dipl.-Ing. FH	QAR (all protection techniques)
Alexander Henker	Dipl.-Ing. FH	QAR (all protection techniques)
Rene Dietrich	Technician	QAR (all protection techniques)
Ute Mattutat	Dipl.-Betriebswirtin	Business Administration

2.6 *Organizational Structure*

See **Annexes 1 and 2** for the organizational structure of IBExU ExCB.

The CV's of personnel involved in IECEx activities were checked and found to be acceptable.

2.7 *Administration*

2.7.1 *Administrative Structure*

IBExU is operating an administration office in order to support the ExCB activities.

2.7.2 *Indemnity Insurance*

IBExU presented insurance confirmation of the AXA Versicherungs AG, Cologne, Germany, showing adequate coverage. The insurance is valid for one year and can be renewed for another year.

3. **RESOURCES**

A total of seven (7) employees are involved in certification activities which includes administration, certificate release, manufacturer auditing, general handling, customer service, accreditations, training, etc.). Four (4) persons thereof are listed as Technical Certifiers (technical decisions on certification applications)

4. **COMMITTEES /GOVERNING BOARD/APPEALS/ADVISORY BOARD**

IBExU has formed a Board of Appeal consisting of three persons. The duties of the board are described in the Quality Manual.

5. **CERTIFICATION OPERATIONS**

5.1 *National Approval/Certification Methods*

IBExU operates according to the European conformity assessment procedures for Ex, the ATEX directive 94/9/EC.

5.2 *Certification Policy*

The certification policy of IBExU is described in the Quality Management Guide, QH Part 3, Revision 1, "Certification Policy for activities according to the IECEx Scheme".

5.3 *Staff Work Instructions*

Certification staff work instructions are available with document VA 09 7 001.

5.4 *Application for Certification*

IBExU has developed a special IECEx application form. IBExU have systems in place to process applications in accordance with IECEx Scheme rules and procedures, eg OD 009

6. STATISTICS

Number of certificates issued under the ATEX directive or other standards in the preceding four years for each type of protection:

Standards	Number of Ex certificates issued				
	2003	2004	2005	2006	
Gas atmosphere					
IEC 60079-0/ EN 50014					part 0 included in below num- bers
IEC 60079-1/ EN 50018	31	21	24	9	85
IEC 60079-2 / EN 50016	3	1	5	1	10
IEC 60079-5/ EN 50017	3	2	2	0	7
IEC 60079-6/ EN 50015	0	1	1	0	2
IEC 60079-7/ EN 50019	47	30	22	17	116
IEC 60079-11/ EN 50020	60	50	47	33	190
IEC 60079-15/ EN 50021	5	9	7	5	26
IEC 60079-18 / EN 50028	13	8	4	7	32
IEC 60079-25/ EN 50039	6	4	3	1	14
IEC 60079-26/ EN 50284	4	3	11	6	24
IEC 60079-27	0	0	0	0	0
Combustible dust					
IEC 61241-0					part 0 included in below num- bers
IEC 61241-1	0	0	5	4	9
IEC 61241-1-1/ EN 50281-1-1	28	31	24	10	93
IEC 61241-4	0	0	0	0	0
61241-11	3	3	3	1	10
61241-18	0	0	1	0	1

7. DOCUMENTATION

7.1 *Document and Change Control*

Document and change control of documentation is described in procedure QH 015, revision 1, and dated 2003/06/20 and meets the requirements of ISO/IEC Guide 65

8. RECORDS

Presently the Certification Body uses a list showing all Ex certificates issued. All relevant information is given. IECEx CoCs will be listed on the IECEx homepage. IBExU maintain a records management system that ensures all security of records is maintained, including those records retained in electronic form.

9. CONFIDENTIALITY

Paragraph 4 of the employment contract describes the issue of confidentiality. The assessment confirmed that this was in place.

10. PUBLICATIONS

IBExU has presently a list of certificates issued under the ATEX directive. This list is available to interested persons on request. IECEx Certificates of Conformity will be listed in the public accessible IECEx Homepage.

IBExU issued several brochures for marketing reasons. Furthermore, a homepage is maintained and to reach under www.ibexu.de.

11. NATIONAL ACCREDITATION

IBExU holds accreditations for DIN EN 45011 (equivalent to ISO/IEC Guide 65) from the German Accreditation Service ZLS, for DIN EN 45012 (equivalent to ISO/IEC Guide 62) from the German Accreditation Service ZLS and a Notification Certificate from the Federal Ministry of Labour and Social Affairs of Germany for the ATEX Directive 94/9/EG. The Notified Body number is 0637. The certificates concerning Guide 65 and Guide 62 are valid until December 31st, 2011. See **Annexes 4, 5 and 6** for the certificates.

12. RECOGNITION AND AGREEMENTS

IBExU has an agreement with TÜV SÜD Automotive GmbH, Munich, Germany.

Recognition of certificates is according to the ATEX directive 94/9/EC from Notified Body to Notified Body.

13. QUALITY MANUAL

IBExU has a quality manual following ISO 9001:2000 and holds a certification from SGS, issued on September 21, 2006 and valid until September 20, 2009. See **Annex 3** for the certificate.

The quality manual consists of three levels: the general part, the procedures and the work instructions. It is available on the Intranet of IBExU.

The quality manual is complete and covers all aspects required.

14. INTERNAL AUDIT AND PERIODIC REVIEW

Internal audits are described in procedure VA 17 5 001, Revision 6, dated 2006/05/31. The internal audit plan of 2006 was presented, some of the audit reports were checked and found to be acceptable. The audit plan for 2007 is under preparation.



ExMC/369/DV
May 2007

The periodic management review is described in procedure QH 019, Revision 2, dated 2003/07/18. The minutes of the 2005 meeting was presented and comprehensive information was found. The 2006 management review is planned for the first quarter of 2007.

15. COMPLAINTS

Complaints are handled according to certification policy procedure QH – Part 3, Revision 1, clause 11. Complaint registration and handling is according to procedure AA 13 5 001, Revision 5, dated 2006/04/21.

16. WITHDRAWAL AND CANCELLATION OF CERTIFICATES

Withdrawal and cancellation of certificates is described in procedure in the Quality Manual Part 3, Revision 2, and clause 11.

17. SPECIAL FACTS TO BE NOTED

IBExU GmbH operates a certification procedure using “Technical Certifiers”. The Technical Certifier is an expert having competence in one or more functions within the conformity assessment process. The functions are: testing, verification of test reports, auditing and certification.

Personnel involved in IECEx activities are listed on a competence matrix (scope of standards against personnel and their functions). Evidence was given during the assessment that no infringement of independency occurs.

Subcontracting/Witness testing

Resistance to light tests according to standard IEC 60079-0, clause 26.10 and IEC 61241-0, clause 23.4.7.5, are performed by the “Forschungsinstitut für Leder und Kunststoffbahnen FILK”, 09599 Freiberg, Germany, Meissner Ring 1 - 5. The institute holds an accreditation certificate for ISO/IEC 17025. The certificate is valid until December 2007. Based on the accreditation certificate, the assessment team decided not to make a site visit to this laboratory.

Clauses 33.10, 33.11 and 33.12 of standard IEC 60079-15, 3rd edition, are performed by TÜV SÜD Automotive GmbH, Munich, Germany. The laboratory is an accepted IECEx TL.

Quality Assessment Reports (QARs)

The following ATEX Quality reports were checked and found to be acceptable:

- # IB-05-3-211 (manufacturer located in Germany): with this QAR the protection technique “ib” is covered;
- # IB-04-3-136 (manufacturers located in Germany and Italy): with this QAR the protection technique “d” is covered;
- # IB-06-3-071 (manufacturer located in Germany): with this QAR the protection techniques “ib”, “d”, “e” and “m” are covered;
- # IB-06-3-040 (manufacturer located in Germany): with this QAR the protection techniques “d”, “ia” and “ib” are covered;
- # IB-06-3-140 (manufacturer located in Germany): with this QAR the protection technique “ia” is covered.

Training

Training is described in procedure QH - Part 3, Revision 1, clause 4. An extensive training plan for 2006 was presented.

18. COMMENTS

During the assessment, the audit team made observations leading to action items. It concerned IECEx certification policy, staff work instructions, the board of appeal and subcontracting. All the action items were resolved, satisfying the assessment team towards the recommendation for acceptance. Copies of additional supporting information for this assessment have been provided to the applicant and the IECEx Secretariat.

19. RECOMMENDATION

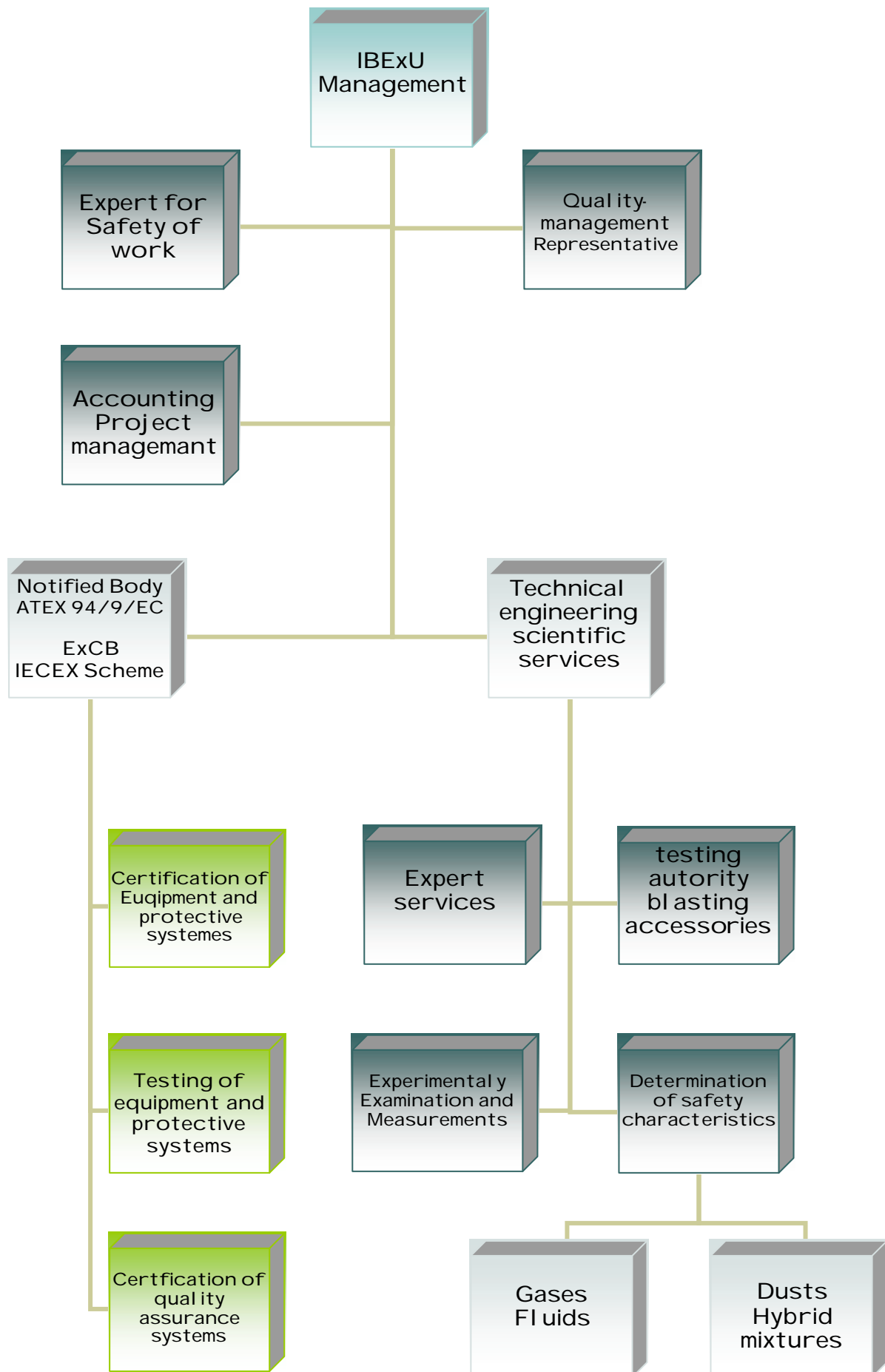
Based on the initial assessment performed between October 16th and 18th, 2006, the assessment team recommends acceptance of IBExU GmbH as an IECEx Certification Body for the scope listed in clause 1.14 of this report.

Heinz S. Berger. Team Leader	Vijay K. Varma Expert Assessor	Ron J. Webb Expert Assessor
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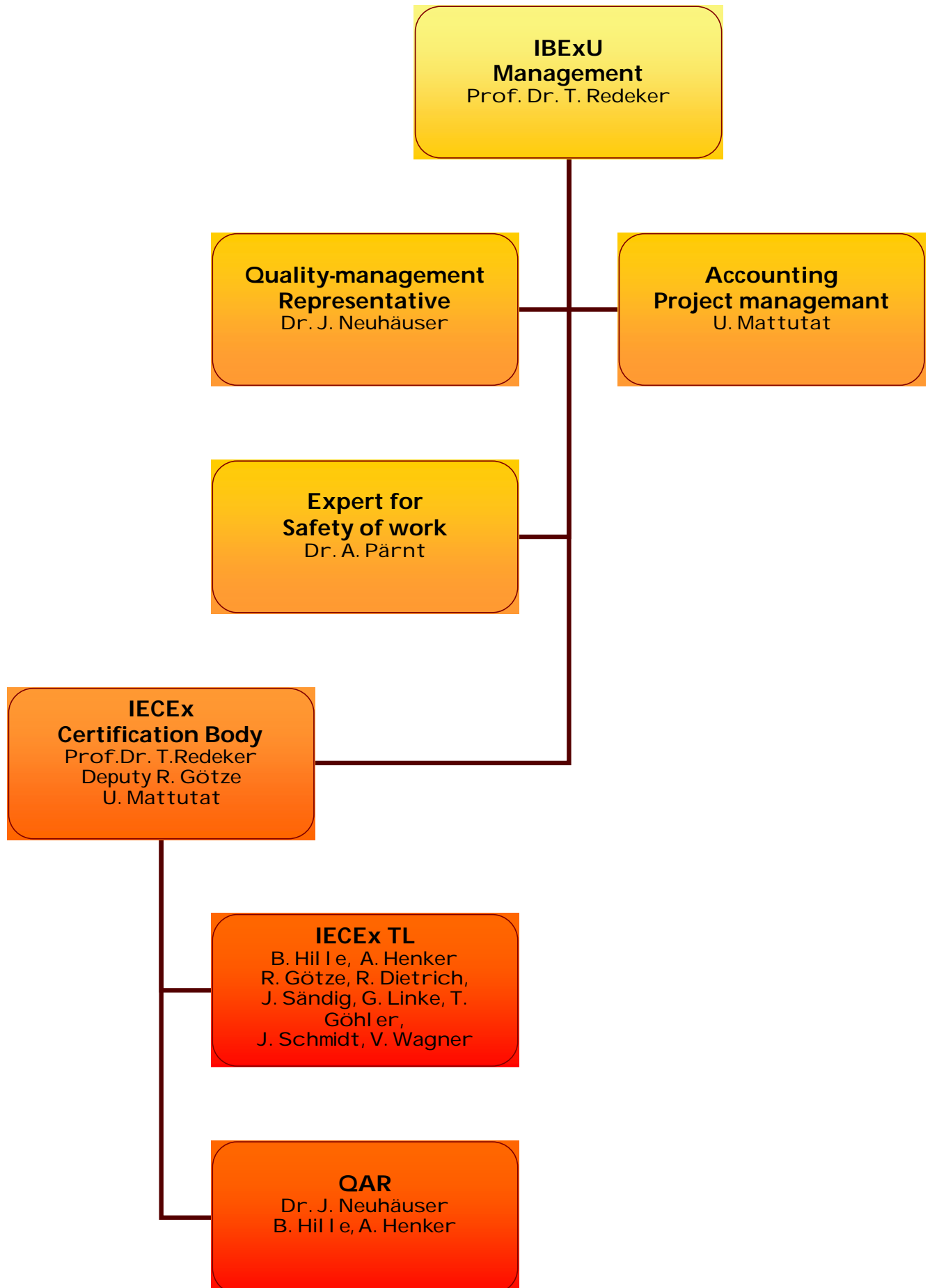
Date: March 14th, 2007

List of Annexes:

- Annex 1: Overall Organization Chart of IBExU
- Annex 2: Organization Chart for IECEx Operation
- Annex 3: ISO 9001 Certificate SGS
- Annex 4: Accreditation Certificate ISO/IEC Guide 65
- Annex 5: Accreditation Certificate ISO/IEC Guide 62
- Annex 6: Notification Certificate for ATEX Notified Body # 0637

Organisation Chart of IBExU
(annex 1)

ExMC/369/11 Organisation Chart of IECEX CB Operation
(annex 2)



The management system of

IBExU Institut für Sicherheitstechnik GmbH

Fuchsmühlenweg 7
DE-09599 Freiberg
Germany

has been assessed and certified as meeting the requirements of

ISO 9001:2000


For the following activities

**Safety tests and engineering services especially
for explosion protection**

Further clarifications regarding the scope of this certificate and the applicability of
ISO 9001:2000 requirements may be obtained by consulting the organization

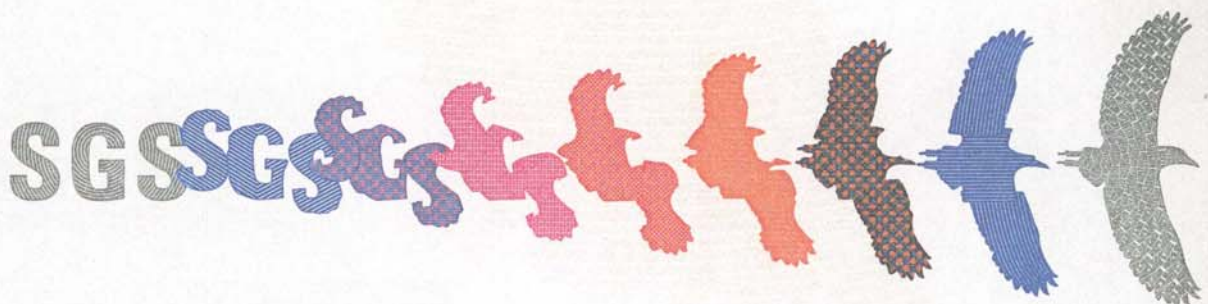
This certificate is valid from 21/09/2006 until 20/09/2009
Issue 4. Certified since 25/03/1997

Authorised by



SGS-ICS Gesellschaft für Zertifizierungen m.b.H. und Umweltgutachter
Raboisen 28 D-20095 Hamburg (Germany)
t +49 (0)40 30.101.361 f +49 (0)40 33.04.098 www.de.sgs.com

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AKKREDITIERUNG



Die Zentralstelle der Länder für Sicherheitstechnik (ZLS)

bestätigt hiermit, dass die

**Zertifizierungsstelle für Produkte
der
IBExU Institut für Sicherheitstechnik GmbH Institut an der
Technischen Universität Bergakademie Freiberg
Fuchsmühlenweg 7, 09599 Freiberg**

die Anforderungen des § 11 Abs. 1 des Geräte- und Produktsicherheitsgesetzes
und der Norm DIN EN 45011 erfüllt und die Kompetenz besitzt,

**Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in
explosionsgefährdeten Bereichen**

im Geltungsbereich des GPSG und der EG-Richtlinie 94/9/EG
entsprechend den Bestimmungen des Akkreditierungsbescheides

Nr. ZLS-G3926.1-2006/10

zu zertifizieren.

Die Akkreditierung ist gültig bis zum **31.12.2011**.

Reg.-Nr.: **ZLS-ZE-559/06**

München, den 15.12.2006

Dipl.-Wirtsch.-Ing. (FH) Huber
Leiter der ZLS

AKKREDITIERUNG



Die Zentralstelle der Länder für Sicherheitstechnik (ZLS)

bestätigt hiermit, dass die

**Zertifizierungsstelle für QS-Systeme
der
IBExU Institut für Sicherheitstechnik GmbH Institut an der
Technischen Universität Bergakademie Freiberg
Fuchsmühlenweg 7, 09599 Freiberg**

die Anforderungen des § 11 Abs. 1 des Geräte- und Produktsicherheitsgesetzes
und der Norm DIN EN 45012 erfüllt und die Kompetenz besitzt,

**QS-Systeme für Geräte und Schutzsysteme zur bestimmungsgemäßen
Verwendung in explosionsgefährdeten Bereichen**

im Geltungsbereich des GPSG und der EG-Richtlinie 94/9/EG
entsprechend den Bestimmungen des Akkreditierungsbescheides

Nr. ZLS-G3926.1-2006/11

zu zertifizieren.

Die Akkreditierung ist gültig bis zum **31.12.2011**.

Reg.-Nr.: **ZLS-ZQ-316/06**

München, den 15.12.2006

A handwritten signature in blue ink, appearing to read 'Huber', is placed over the date.

Dipl.-Wirtsch.-Ing. (FH) Huber
Leiter der ZLS

The Federal Republic of Germany

represented by the

Federal Ministry of Labour and Social Affairs

has notified

to the Commission of the European
Community and
the Member States of the European Union

the

IBExU Institut für Sicherheitstechnik GmbH

Fuchsmühlenweg 7

09599 Freiberg

according to the Directive

94/9/EG

based on the official accreditation through the Central Authority
of the Länder for Safety
(Zentralstelle der Länder für Sicherheitstechnik)



Bonn, 18 June 2001

EU identification number

0637

p.p.

Norbert Barz