



ExMC/806/DV
November 2012

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

Title: Re-assessment Report for the continued acceptance of VTT Expert Services Ltd as an Accepted Certification Body (ExCB)

To: Members of the IECEx Management Committee, ExMC

Introduction

In accordance with the 5 year re-assessment plan for the surveillance and monitoring of bodies within the IECEx System, the following document contains the IECEx Re-assessment Report VTT Expert Services Ltd as an Accepted Certification Body (ExCB)

This report is issued for endorsement during the 2013 Fortaleza, Brazil Meeting.

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IECEx Secretariat

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IECEX ASSESSMENT REPORT FOR VTT EXPERT SERVICES Ltd. (IECEX Certification Body ExCB)

Type of Assessment: (please mark)

Initial Assessment for Candidate ExCB

Re-Assessment of ExCB 02 and 04 X

Scope Extension of ExCB X

1. OBJECT AND FIELD OF APPLICATION

1.1. Country:

Finland

1.2. Name of Candidate ExCB

VTT Expert Services Ltd.

1.3. Members of the Assessment Team

Jim Munro – IECEx Lead Assessor

Herbert Peters – IECEx Expert Assessor

Risto Suominen – FINAS Lead Assessor

1.4. Place and Date of Assessment

VTT Expert Services Ltd
Kivimiehentie 4
P.O.Box 1001
FI-02044 VTT

15-16 September 2011

1.5. Assessment References

- i) IECEx 02 IECEx Certified Equipment Scheme covering equipment for use in explosive atmospheres – Rules of Procedure
- ii) IECEx OD 003-2 Procedures for the assessment, surveillance assessment and reassessment of ExCBs and ExTLs
- iii) OD 005-1 IECEx Quality System Requirements for Manufacturers – Part 1: Guidance on the establishment and maintenance of a quality system
- iv) OD 005-2 IECEx Quality System Requirements for Manufacturers – Part 2: Audit Checklist. (This is available in a Word format for use by ExCBs).
- v) IECEx OD 009 Issuing of CoCs, ExTRs and QARs

- vi) IECEx Document OD 025 Guidelines on the Management of Assessment and Surveillance programs for the assessment of Manufacturer's Quality Systems in accordance with the IECEx Scheme
- vii) OD 026 IECEx Certified Equipment Scheme – Guidelines for the qualification of Lead Auditor and Auditors, in accordance with the IECEx System.
- viii) ISO/IEC Guide 65:1996
- ix) IECEx Document OD 17 Drawing and documentation guidance
- x) IECEx 04 IECEx Conformity Mark Licensing System – Regulations

1.6. Scope of Application (to be selected)

Number	Title
60079-0 Edition 6	Explosive atmospheres - Part 0: Equipment - General requirements
60079-2 Edition 5	Explosive atmospheres - Part 2: Equipment protection by pressurized enclosure «p»
60079-5 Edition 3	Explosive atmospheres - Part 5: Equipment protection by powder filling «q»
60079-6 Edition 3	Explosive atmospheres - Part 6: Equipment protection by oil immersion «o»
60079-7 Edition 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
60079-11 Edition 6	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
60079-15 Edition 4	Electrical apparatus for explosive gas atmospheres - Part 15: Construction, test and marking of type of protection "n" electrical apparatus
60079-18 Edition 3	Electrical apparatus for explosive gas atmospheres - Part 18: Construction, test and marking of type of protection encapsulation "m" electrical apparatus
60079-25 Edition 2	Electrical apparatus for explosive gas atmospheres - Part 25: Intrinsically safe systems
60079-26 Edition 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga
60079-27 Edition 2	Explosive atmospheres – Part 27: Fieldbus intrinsically safe concept (FISCO)
60079-28 Edition 1	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation – for 'op is' only

Number	Title
60079-31 Edition 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
61241-0 Edition 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
61241-1 Edition 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosure "tD"
61241-1-1 Edition 2	Part 1: Electrical apparatus protected by enclosures - Section 1: Specification for apparatus
61241-4 Edition 1	Electrical apparatus for use in the presence of combustible dust Part 4: Protection by pressurization "pD"
61241-11 Edition 1	Electrical apparatus for use in the presence of combustible dust – Part 11: Protection by intrinsic safety 'iD'
61241-18 Edition 1	Electrical apparatus for use in the presence of combustible dust Part 18: Protection by encapsulation "mD"

1.7. Candidate ExCB Persons Interviewed

Name	Position
Risto Sulonen	Product Manager
Tiina Ala-Outinen	Manager, Services
Mari Juntunen	Quality Manager
Martti Siirola	Senior Expert
Kari Koskela	Expert

1.8. Legal Entity of the ExCB

VTT Expert Services Ltd is fully state-owned company and a part of VTT Group. The document from the trade register was viewed showed that they were registered as a limited company in 12 November 2009.

1.9. Associated Testing Laboratories

The associated ExTL is also within VTT Expert Services Ltd using common staff.

1.10. Associated Certification Functions

VTT has been registered as ATEX Notified Body (NB) under number 0537 since June 2000.

1.11. National Marks and Certificates

There are no marks and certificates in this area of activity. However, VTT are an IECEx Mark License issuing ExCB

1.12. Financial Support

The operation of VTT Export Services is funded for its day-to-day activities and capital investment through income from its commercial operations.

1.13. *History*

Since its establishment over 60 years ago, VTT has become an important centre of technological expertise and developer of new technologies. The development path of Finland as a whole as well as the events and phenomena of each era are reflected in VTT's history.

VTT's six decades

1940s: President Ryti signs the Act on the Technical Research Centre of Finland
 1950s: The Post-war era
 1960s: VTT becomes Finland's biggest research institute
 1970s: Reorganised research centre moves to Otaniemi
 1980s: Research programmes serving the needs of industry
 1990s: Electronics and information technology research as the engine of development
 2000-2004: Strategic technology themes steer research

VTT started Ex- Testing in 1981, was accepted as a testing laboratory under the old EU directive and became ATEX Notified Body in 2000. It was accepted as an IECEx ExCB and ExTL in 2006.

VTT Expert Services Ltd started in 1 January 2010 and continued all VTT's Ex-testing functions.

1.14. *Standards Accepted*

See clause 1.6 of this report

1.15. *National Differences to IEC Standards*

National differences to IEC standards are those for the European group differences listed in the latest version of the IECEx Scheme Bulletin.

2. ORGANISATION

Tables below to be initially completed by applicant or body being re-assessed

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

Name	Title	Experience
Tiina Ala-Outinen	Service Manger	> 20 years
Risto Sulonen	Product Manager	> 15 years all in Ex

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

Name	Title	Experience
Mari Juntunen	Quality Manager	>10 years

2.3. *Name and Title of Nominated Principal Contact*

Name	Title	Comments
Risto Sulonen	Product Manager	

2.4. Name and Title of Signatories for Certification

Name	Title	Comments
Tiina Ala-Outinen	Service Manger	
Risto Sulonen	Product Manager	
Martti Siirola	Senior Expert	20 years in Ex

2.5. Other Employees in ExCB activity

Name	Title	Responsibility and Experience in Ex
No other employees		

2.6. Organizational Structure

The organizational structure is shown in the following annexes:

Annex A. Overall Organisation Chart of VTT Expert Services

Annex B: Function Organisation Chart for Ex-Team

2.7. Administration (including Indemnity Insurance)

VTT holds current professional indemnity and public liability insurance. This was issued on 1 January 2010 and is ongoing provided that there is no change in the content. The policy was viewed at the assessment.

3. RESOURCES

There are four people employed in the Electrical Ex Apparatus team within Fire Safety and Functionality of Electronics Service Area. However, only three of those staff as shown above operates in an ExCB role. Two of these have long experience in the Ex field and in addition there is the manager of the area, all with the necessary competence for this role. GBEx-OO4 identifies the situations where any of these officers can operate in an ExCB role without there being a conflict of interest, though having worked in an ExTL and when in a manufacturing assessment role.

4. COMMITTEES / Governing Board / Appeals / Advisory Board

VTT Expert Services Ltd has a Governing Body which consists of Executive Manager, Technical Manager and Service Managers. It makes strategic planning and follows how planned targets and finance goals are reached.

VTT Expert Services Ltd also has an Advisory Body for its ATEX-NB-functions and Ex-certifications. It consists of those interested, involved in the process of certification, comprising manufacturers, an end user and one from regulatory authority. It helps to formulate policy matters of the Certification Body, makes an overview of the implementation of its policies and finances. This Advisory Body act as a first Appeal Body and it also ensures that the Certification Body is impartial. The operation of the Advisory Committee is covered in procedure CBEx-001v1.6. The minutes for the meeting in May 2011 were viewed.

5. CERTIFICATION OPERATIONS

5.1. National Approval/Certification Methods

VTT operates as a notified body under ATEX. The procedures for this are addressed in the NBEx-procedures in document handling system, DoHa.

5.2. Certification Policy

VTT has a certification policy appropriate to IECEx. It is located in procedure CBEx001 and is as follows:

VTT Expert Services Ltd as an Ex Certification Body is operating as an impartial and independent certification Body according to the VTT Expert Services Ltd's regulations and rules. Operation is confidentially according to the general principles of VTT Expert Services Ltd.

We want to be well known and recognized Certification Body. We offer certification services which give to our customers an access to word wide market area thus improving our customer's competitiveness. We offer our services to all our customers with equal conditions. Our services fulfil the requirements of IECEx Certification Scheme.

Our testing and certification personnel are competent and we also take a full responsibility that possible needed subcontractors fulfil the required competence and confidentially requirements. Our operations are also supported with up to date information management systems.

We are constantly evaluating our operation and are collecting feedback from our customers for that purpose.

5.3. Application for Certification

CBEx-006 addresses the procedures that will be followed when carried out when an applicant seeks an IECEx certificate or ExTR report within the IECEx equipment certification scheme. It also includes VTT Expert Services Ltd's IECEx Certification Terms and Conditions. Hence it is provided to applicants and serves as a detailed guide for them. The procedures were found to satisfy the requirements of IECEx.

5.4. Certification Decision

The taking of the certification decision is in the procedure CBEx-004v1.5. An issue with the approach for making a decision was raised regarding the review of the QARs by the ExCB. An independent review is carried out of the QARs. However, it was determined that the person doing the independent review of the QAR might have been involved in testing of some of the products covered by the QAR and hence might not fit the requirement of acting in an ExCB role as required by IECEx 02 Clause 9.5 and OD009 Step 6 of Section 1. Further, it was found that ISO/IEC 17065 broadens 'evaluation' to also cover 'evaluation of the quality management system'. This means than someone involved in assessment manufacturers could not be involved in a certification decision. As a result of this it was decided by VTT to put in place a new system of decision making which was subsequently done.

5.5. Suspension and Cancellation of Certificates

Changing, withdrawal and cancellation of certificates are being done according to the rules in IECEx 02 - Rules of Procedure. A decision to withdraw a certificate must be made with the agreement of IECEx Advisory Body as shown in procedure CBEx-001.

6. STATISTICS

To be initially completed by applicant or body being re-assessed

6.1. Certificates Issued

The number of certificates issued, under the IECEx Scheme, for the preceding four years for each type of protection are shown below:

Standards	Title	Number of issued certificates				Total
		2009	2010	2011	2012	
						Part 0 included in numbers below
60079-2	Equipment protection by pressurized enclosure "p"	1		1		2
60079-6	Equipment protection by oil immersion "o"					0
60079-7	Equipment protection by increased safety "e"		1	3	2	6
60079-11	Equipment protection by intrinsic safety "i"	5	11	12	18	46
60079-15	Equipment protection by type of protection "n"	2	5	4	4	15
60079-18	Equipment protection by encapsulation "m"					0
60079-25	Intrinsically safe electrical systems				2	2
60079-26	Equipment with equipment protection level (EPL) Ga	3	6	6	3	18
60079-27	Fieldbus intrinsically safe concept (FISCO)	1	4	4	2	11
60079-28	Protection of equipment and transmission systems using optical radiation					0
60079-31	Equipment dust ignition protection by enclosure "t"			2	5	7
61241-1	Protection by enclosure "tD"		4	4	2	10
61241-4	Type of protection "pD"					
61241-11	Protection by intrinsic safety "iD"	1	1	3		5

In addition to the above, VTT also issues ATEX certificates.

7. DOCUMENTATION

7.1. Quality Manual

There is an overall Corporate Governance document for the VTT Group. But this does not impact directly on VTT services since they operate as a separate company. Then there is a VTT Expert Services Quality Manual. This includes links on the intranet to various tools to be used by staff, such as all report information, including the report register. This makes use of the document handling system, called DoHa. Next are the VTT Group instructions and instructions for the specific branches such as Fire Safety and Functionality of Electronic Services under this is Electrical Ex Apparatus team which also has its own specialized instructions.

7.2. Procedures

There are a range of procedures developed specifically for IECEx. These are in the IECEx certification file in DoHa. Two of the major procedures are CBEx-006 *Guide to IECEx Certification* and CBEx-001 *Rules for operation as an Ex Testing and Certification Body*. The procedures were found to be appropriate to IECEx.

7.3. Records

The Ex - Team maintains an Excel spreadsheet showing all Ex – Certificates (other than IECEx certificates) and Quality Assessment reports issued. The list is available to the public on request. Since the IECEx certificates are listed in the IECEx website, VTT does not maintain a spreadsheet for these. Two of the major procedures are CBEx-006 *Guide to IECEx Certification* and CBEx-001 *Rules for operation as an Ex Testing and Certification Body*. The procedures were found to be appropriate to IECEx.

7.4. Document Change Control

Documentation is kept systematically up to date in electronic form in server in DoHa (Document Handling/control). Documents are reviewed periodically to check those that need updating. There is a procedure for making changes to documents. Updated versions are checked and accepted. Changes, for example in work instructions, are shown in the updated documents. Changes are also advised to persons involved in operation.

8. CONFIDENTIALITY

The VTT Expert Services employment contract requires every employee to sign a confidentiality agreement. Examples of confidentiality agreements for both staff and the Advisory Committee were viewed and found to be satisfactory.

9. PUBLICATIONS

The Ex -Team advertises its services on the homepage of VTT Expert Services Ltd. There are separate brochures dealing with IECEx and ATEX.

10. NATIONAL ACCREDITATION

Up to the date of the assessment visit VTT had not held national accreditation in the Ex field as a certifying body. However, they have applied and FINAS evaluated their application during this joint assessment. National accreditation was subsequently issued as S017 (see Annex C), noting they now hold valid accreditation.

11. RECOGNITION AND AGREEMENTS

VTT Expert Services has agreements with KOSHA in Korea and TuV Rheinland and UL do Brasil Ltda.

12. INTERNAL AUDIT AND PERIODIC MANAGEMENT REVIEW

The operation was last internally audited in May 2011 according to the audit plan. The internal auditor had been accepted by organisation to audit according to ISO/Guide 65 (EN 45011), ISO/IEC 17025 and ISO/IEC 17020. The report from audit was quite informative. Four non-conformities were also recorded. Non-conformities were also recorded in the HAKE-database. All Non-conformities were dealt with and have been closed.

VTT Expert Services-level management reviews occur once or twice a year. At the time of the assessment visit, the last Service area management review had been made on October 2010. The records of the meeting showed that relevant people took in reviews and important items like impartiality, resources, and internal audit results were addressed. The next review was planned for November 2011. The assessment team found the management review to meet the requirements of the IECEx.

13. SUBCONTRACTING, USE OF OTHER LABS AND USE OF OTHER LOCATIONS

Testing at manufacturer's locations is covered by operation rule CBEx-003 which references OD 024. Agreements have been signed with a couple of manufacturers. A sample of these was signed and found to be satisfactory. Also a checklist for this manufacturer that had been completed using Annex A of OD024 was reviewed and found to be satisfactory. VTT were putting in place a program for review of this assessment and intend to have this coincide with visits for the QARs.

Details of subcontractors are contained in form CBEx-005v1.2, a copy of which has been included in the site assessment report. This form also separately lists manufacturers subject to witness testing. Tests for IEC 60079-28 are conducted at Aalto University under the strict direction and control of VTT using new VTT procedure T136-309v1.0.

14. TRAINING

There is an annual training plan and record that is on the intranet. For outside training the plan is dependent on those receiving the training to enter the appropriate data. A staff training plan was reviewed and found to be appropriate, eg records for Markus Mentula who commenced 11 March 2011 were noted as an example.

15. ASSESSMENT OF MANUFACTURERS AND ISSUE OF QARS

The procedures for carrying out assessment of manufacturers are addressed in CBEX-006. It was noted at the time of the assessment that these would need updating to address the introduction of ISO/IEC 80079-34 to replace OD005-1.

The following QARs were reviewed:

IECEX QAR FI/VT/VT/QAR11.0001/00 Delcon Oy

IECEX QAR FI/VT/VT/QAR08.0002/02 ABB Electrical Machines

Both were satisfactory and documented the assessments well.

16. COMPLAINTS AND APPEALS (Including appeals to IECEx)

In the first instance appeals are expected to be addressed by the VTT Advisory Committee, but provision is then made for appeals to go to IECEx. This is addressed in IECEx guide CBEx-006, a copy of which is made available to applicants, and also in CBEx-001. The appeals process meets IECEx requirements.

17. SPECIAL FACTS TO BE NOTED

17.1. Supporting Documentation

Copies of additional supporting information for this assessment have been provided to the applicant and the IECEx Secretariat. These are included in a site assessment report and include:

- Details of issues raised and how these have been resolved
- Checklist for ISO/IEC Guide 65
- Assessors' notes

17.2. Cooperation with FINAS

This assessment was carried out jointly with Risto Suominen of FINAS. There was cooperation on the various aspects of the assessment and reporting, with IECEx assessors providing expert Ex knowledge to the process. Separate reports were produced for IECEx and FINAS.

18. COMMENTS (Including issues found during assessment)

18.1. Issues found and resolved

The following is a summary of issues found and resolved to the satisfaction of the assessment team:

- There was an issue with how the certification decision was made. The procedures were updated to resolve this by including the manager of the area in the process.
- Procedures were changed to ensure the records of training of staff are complete.

18.2. ExMark Scheme

This assessment also covered re-assessment to the ExMark Scheme. The procedures for the ExMark Scheme are covered in CBEx-007. The only change that has had to be made to this document since original acceptance was to take account of the change to the operation within VTT Expert Services Ltd. VTT has license agreements with three bodies.

19. RECOMMENDATION

Based on the assessment performed on 16 and 17 September, VTT is recommended for continued acceptance in the IECEx scheme as an IECEx Certification Body (ExCB) according to the scope of the standards listed in this document, including the scope extension for IEC 60079-28 for 'op is'.



ExMC/806/DV
November 2012

Jim Munro
IECEX Lead Assessor

Herbert Peters
IECEX Expert Assessor

Risto Suominen
FINAS Lead Assessor

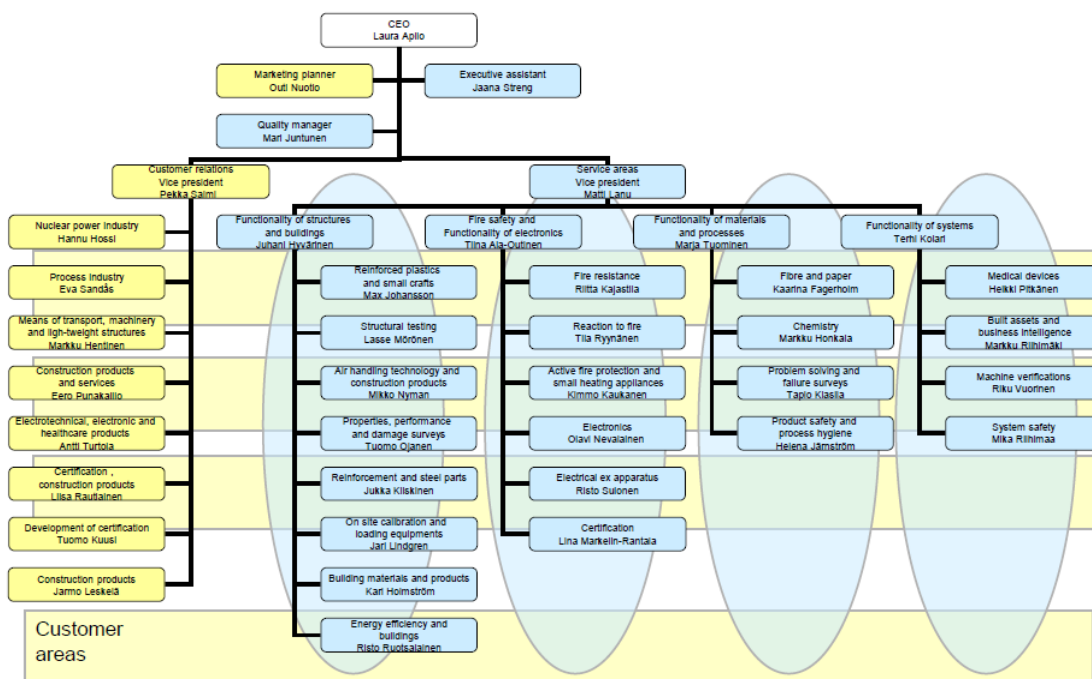
Date: 27 September 2012

List of Annexes:

- A. Overall Organisation Chart of VTT Expert Services
- B. Function Organisation Chart for Ex-Team
- C. Certification Accreditation

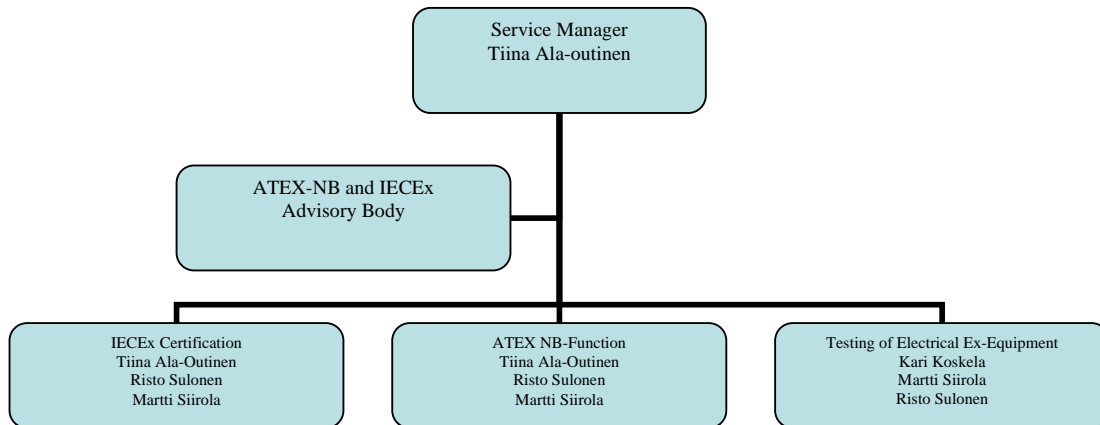
Annex A

Overall Organisation Chart of VTT Expert Services



Annex B

Function Organisation Chart for Ex-Team



Annex C Certification Accreditation

S017/M15/2011
22.12.2011
16.05.2014

Liite 1 / *Appendix 1*
Päätöksen päiväys / *Date of decision*
Päätöksen viimeinen voimassaolopäivä / *Date of expiry*

Sivu / *Page* 1(2)

AKKREDITOITU SERTIFIOINTIELIN

ACCREDITED CERTIFICATION BODY



VTT EXPERT SERVICES OY
VTT EXPERT SERVICES LTD.

Tunnus <i>Code</i>	Sertifiointielin <i>Certification body</i>	Osoite <i>Address</i>	Puh./fax/e-mail/www <i>Tel./fax/e-mail/www</i>
S017	VTT Expert Services Oy <i>VTT Expert Services Ltd.</i>	(Kemistintie 3, Espoo) PL 1001 02044 VTT (Kemistintie 3, Espoo) P.O.Box 1001 FI-02044 VTT FINLAND	Puhelin: 020 722 111 Fax: 020 722 6251 E-mail: etunimi.sukunimi@vtt.fi www.vttexpertservices.fi Phone int.:+358 20 722 111 Fax int.:+358 20 722 6251 E-mail: forename.surname@vtt.fi www.vttexpertservices.fi

PÄTEVYYSALUELUETTELO

SCOPES OF ACCREDITATION

S017	Yksikkö tai toimintoala <i>Department or section of activity</i>	Liite <i>Appendix</i>	Päätöksen päiväys <i>Date of decision</i>
	Rakennustuotteiden sertifiointi <i>Certification of construction products</i>	Liite 1.01	22.12.2011
	Rakennustuotedirektiivin 89/106/ETY tarkoittaman arviointilaitoksen (ilmoitetun laitoksen) toiminta <i>The operation of the Notified body as defined in the Construction product directive 89/106/EEC</i>	Liite 1.02	22.12.2011
	Räjähdyksaarallisiin tiloihin tarkoitetut sähkölaitteet <i>Certification of Apparatus for potentially explosive atmosphere</i>	Liite 1.03	22.12.2011

S017/M15/2011

Liite 1 / *Appendix 1*

Sivu / *Page 2(2)*

22.12.2011

Päätöksen päiväys / *Date of decision*

16.05.2014

Päätöksen viimeinen voimassaolopäivä / *Date of expiry*

S017	Yksikkö tai toimintoala <i>Department or section of activity</i>	Liite <i>Appendix</i>	Päätöksen päiväys <i>Date of decision</i>
	Laivavarustedirektiivin 96/98/EY tarkoittaman arviointilaitoksen (ilmoitetun laitoksen) toiminta <i>The operation of the Notified body as defined in the Marine Equipment Directive 96/98/EC</i>	Liite 1.04	22.12.2011
	Rautatiedirektiivin 2001/16/EY ja 2004/49/EY tarkoittaman arviointilaitoksen (ilmoitetun laitoksen) toiminta <i>The operation of the Notified body as defined in the Directive 2001/16/EC and 2004/49/EC</i>	Liite 1.05	22.12.2011