Conformance and Interoperability (C&I) Validation Workshop for EAC Region

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ITU Guidelines and Feasibility Study for building Testing Labs

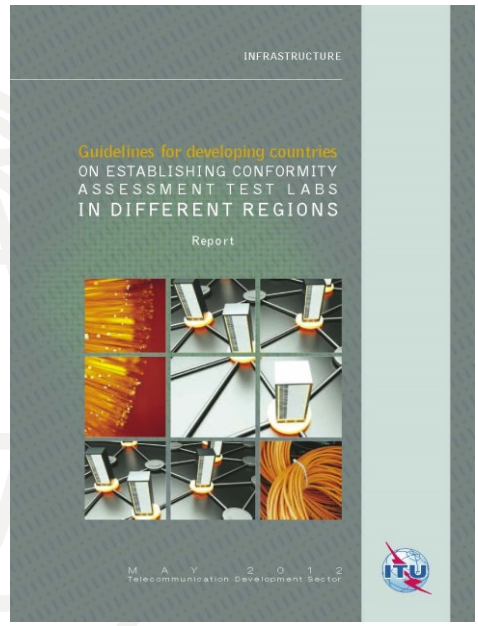
Riccardo Passerini
Head Telecommunication Technologies and Network Development
ITU-BDT, Focal Point Q.4/2 riccardo.passerini@itu.int

C&I Guidelines

Guidelines for developing countries on Establishing Conformity assessment Test Labs in Different Regions

Feasibility Study for the establishment of a Conformance Testing Centre

3. Guidelines for developing countries on Establishing Conformity assessment Test Labs in Different Regions



Guidelines here

C&I Guidelines

Guidelines for developing countries on Establishing Conformity assessment Test Labs in Different Regions (2012)

This set of guidelines is the first publication on C&I, its valuable content includes information concerning:

- **The process required for building testing labs**
- **A site analysis (e.g. existing testing labs, know-how)**
- **Collaboration mechanisms**
- **Best practices**
- **Reference standards and ITU Recommendations**
- **And more... *access to the Guideline here***

Guidelines for Developing Countries for Establishing Test Labs in Different Regions

http://www.itu.int/ITU-D/tech/ConformanceInteroperability/ConformanceInterop/indexGuidelines.html

- ***Status*** in the regions and needs
- ***Funding and Training Sources***
- ***Criteria*** to establish Accreditation and Conformity Assessment Bodies ***International Telecommunications Testing Centres (ITTCs)***
- Economics and ***Cost Implications*** for ITTCs
- ***Roadmap*** for ITTC rollout

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Conclusions from Guidelines

- Members to:
  - advise the ITU of ***interoperability problems***
  - Regulators to establish market access requirements
  - assess ***legislation and regulations***
  - ***prioritize areas of*** **concern** for products and systems
- Establishment of Accreditation Bodies and approach to ***MRAs and MLAs***
- Establishment of ***Test Centres*** on a regional basis, wide areas and possibly common infrastructures

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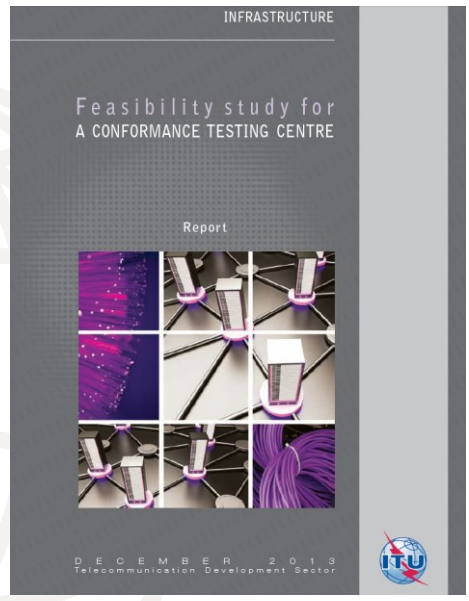
Steps to Establish an ISO 17025 Compliant Test Lab

- Management requirements and systems
- Lab requirements, test methods and procedures, audits, equipment handling, technical competence
- Document control, calibration records and staff records
- Handling of test reports and calibration certificates
- Service to customers and handling of complaints

4. Feasibility Study for the establishment of a Conformance Testing Centre



Feasibility Study link

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C&I Guidelines

Feasibility Study for the establishment of a Conformance Testing Centre (2013)

This feasibility study describes environments, procedures and methodologies to be adopted to establish, manage and maintain a testing center covering different kind of conformance and interoperability testing areas. Different Type Approval Testing domains (e.g. electromagnetics, safety, fixed and mobile networks, broadcast) will be considered.

The feasibility study address all necessary aspects: i) Implementation; ii) Functional Model of Type Approval Institution; iii) Sustainability of operations; iv) Pricing policies; v) Proposal of the Organization Scheme; vi) Technical requirements for Type Approval Laboratories; vii) Staff requirements; viii) Project Implementation Recommendations; and ix) Investment costs estimation.

Terms of Reference here

C&I Guidelines

Feasibility Study for the establishment of a Conformance Testing Centre (2013)

Preview: Steps to an ISO 17025 Compliant Test Lab

- **ISO 17025 establishes a set of management requirements and systems**
- **Lab requirements, test methods and procedures, audits, equipment handling, technical competence**
- **Document control, calibration records and staff records**
- **Handling of test reports and calibration certificates**
- **Service to customers and handling of complaints**

Feasibility Study for the establishment of a Conformance Testing Centre

The feasibility study will addresses:

1. **Implementation**
2. **Functional Model of Type Approval Institution**
3. **Sustainability of operations;**
4. **Pricing policies**
5. **Proposal of the Organization Scheme**
6. **Technical requirements for Type Approval Laboratories**
7. **Staff requirements**
8. **Project Implementation Recommendations**
9. **Investment costs estimation**

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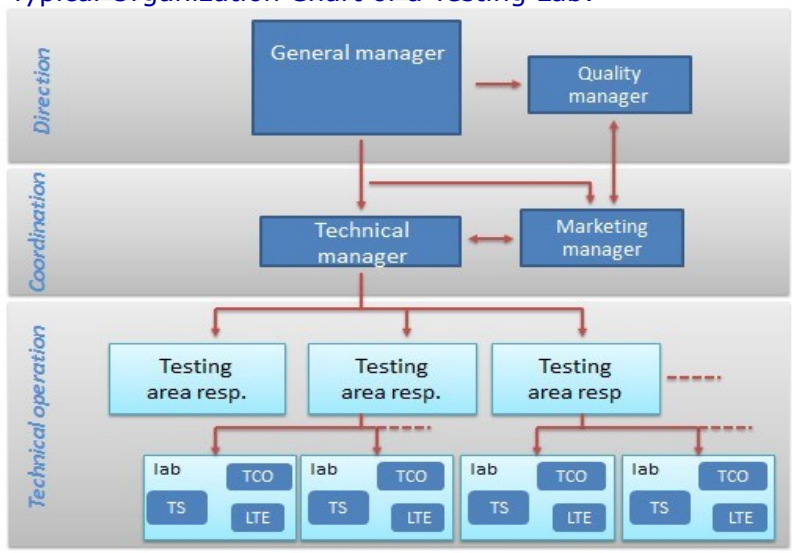
Feasibility Study for the establishment of a Conformance Testing Centre

Typical Organization Chart of a Testing Lab:



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Feasibility Study for the establishment of a Conformance Testing Centre (cont.)

Testing laboratory infrastructures:

Area of competence
▪ Specific Absorption Rate lab
▪ User experience lab
▪ Broadband access lab
▪ Mobile value added services lab
▪ Electrical safety & protection lab
▪ Electroacoustic lab
▪ Electromagnetic compatibility lab
▪ Radio & Signalling lab
▪ Powering efficiency lab
▪ Quality of material lab
▪ Personal area network lab
▪ Fixed Test plant
▪ Mobile Test plant

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Feasibility Study for building a Conformance Testing Centre (cont.)

Overview 1

Broadband access laboratory (BBA):

- The scope of the broadband access laboratory is to evaluate all different equipment and functionalities used in next generation access networks, ranging from the physical layer to networking aspects
- In particular xDSL transmission performances and optical parameters are tested for copper and fiber solution in relation to the different architectural choices (FTTx)

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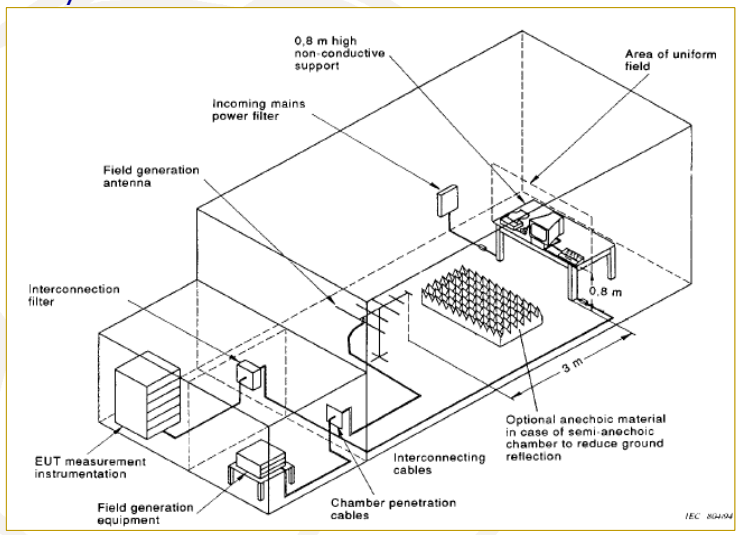
Overview 2

EMC: Typical set-up for table top equipment for radiated immunity tests



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Laboratory	Activity	m²	Location Rent1 000 EU R/year	Utility 1 000 EUR /year	Instrument Asset 1 000 EUR	Number of staff	Instrument Opex 1 000 EUR /year
SAR	Specific absorption rate lab	150	19	28	800	4	25
USX	User experience lab	130	17	24	100	6	0
BBA	Broadband access lab	300	39	56	1 400	7	5
VAS	Mobile value added services lab	40	5	7	0	3	0
EPS	Electrical safety and protection lab	80	10	15	1 200	4	25
ELA	Electroacoustic lab	250	32	46	800	4	5
EMC	Electromagnetic compatibility lab	300	39	56	1 600	5	5
RSL	Radio and signalling lab	250	32	46	2 000	12	10
PWR	Powering consumption lab	80	10	15	200	2	5
QML	Quality of material lab	250	32	46	1 300	6	15
WIF	Personal area network lab	170	22	31	500	5	5
TPF	Fixed test plant	900	117	167	3 000	33	120
TPM	Mobile test plant	2 500	324	463	3 000	55	300
DTT	Digital terrestrial (DVB -T2)	40	50	50	150	2	20
TOTAL		5 440	748	1 050	16 050	148	540