



Workshop for Caribbean to promote the
development and implementation of
Conformity Assessment programmes

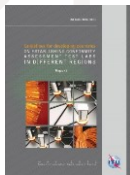
St. Augustine, Trinidad and Tobago, 2-4 December 2014

C&I Guidelines for building Testing Labs: Regional Test Centres and Feasibility Study

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C&I Guidelines

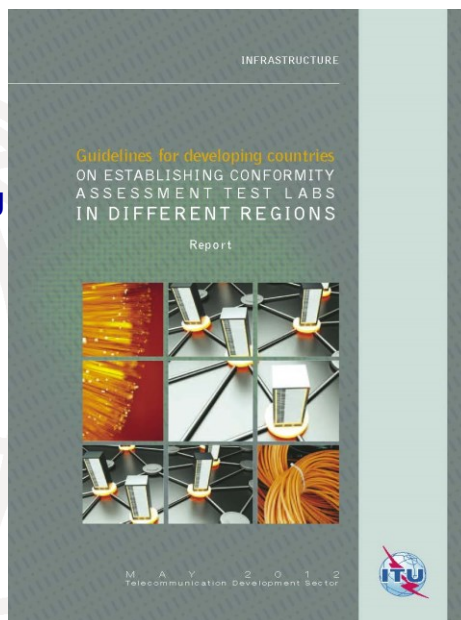


Guidelines for developing
countries on Establishing
Test Labs in different
Regions



Feasibility Study for the
establishment of a
Conformance Testing
Centre

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



Guidelines [here](#)

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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](#)**

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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 Bodies, Conformity Assessment Bodies, and **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** related to telecommunication products and systems
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- 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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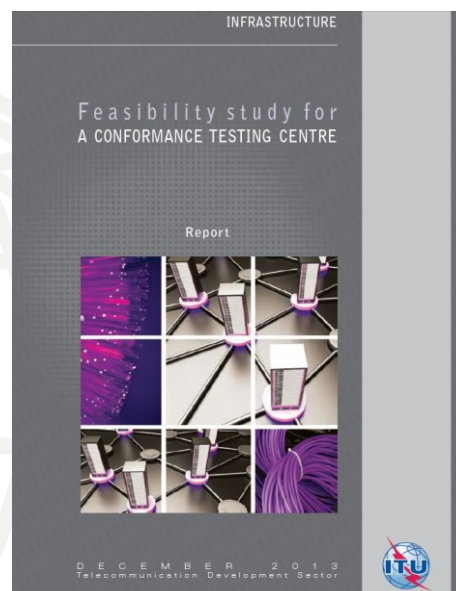
Funding and Training Sources



- UNIDO, major Banks in each region, specialized funding agencies for telecoms projects and others
- Requirements to access funds vary from low interest loans, to grants, seed funding and cost underwriting
- Repository of international telecom training organizations
- Costs of training may vary from just travel to and from location, to government and supplier subsidized training, to private for-profit training

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Feasibility Study for the establishment of a Conformance Testing Centre



Feasibility Study [link](#)

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Feasibility Study for a Conformance Testing Centre



- The feasibility study describes environments, procedures and methodologies to establish, manage and maintain a testing centre covering different kinds of conformance and interoperability testing areas
- Different Type Approval Testing domains are considered (e.g. electromagnetic compatibility, safety, fixed and mobile networks, broadcast)

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Feasibility Study for a Conformance Testing Centre(cont.)



The feasibility study addresses:

- Resource management and organization
- Vendor management
- Test list cycle and management
- Investment and cost estimation
- Test campaign management
- Test Plant and laboratory management
- Instrumentation maintenance and management
- Quality Aspects (ISO/IEC 17025)
- Investment costs estimation

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

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

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

Steps to an ISO 17025 Compliant Test Lab

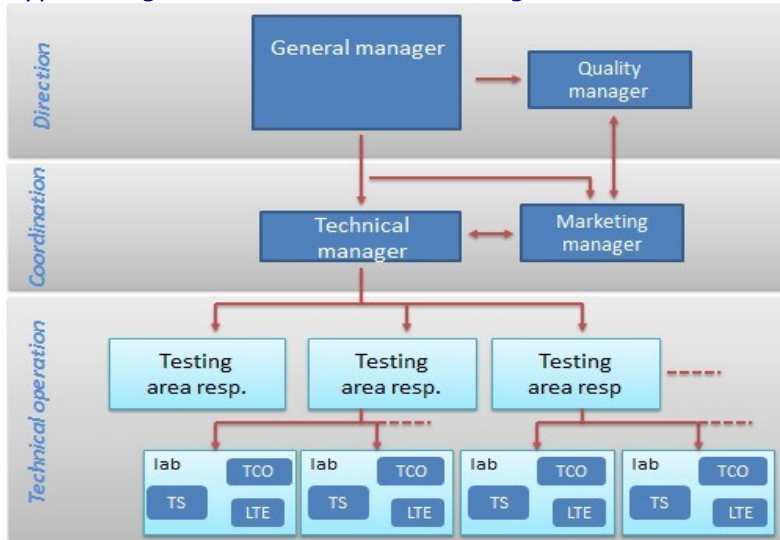
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Feasibility Study for building a Conformance Testing Centre (cont.)



Typical Organization Chart of a Testing Lab:



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Feasibility Study for building 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

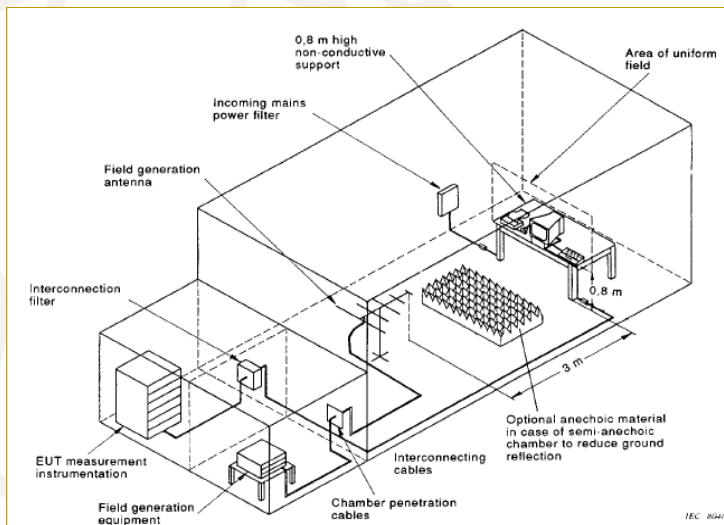
Broadband access laboratory (BBA):

- 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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Laboratorios	Activity	m ²	Location Rent 1 000 EUR/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
management						10	
cross activities (*)						24	
TOTAL		5 400	700	1 000	15 900	180	520

Thank you!!



[C&I Portal](#)

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