



Workshop for Maghreb Countries to promote the development and implementation of conformity assessment programmes



Speed up your compliance

Feasibility Study for Building a Testing lab

S3-3

Tunis (Tunisia), 9-11 December 2014

- The realization of a technology feasibility study aims to:
 - Confirm or make a selection from the proposed labs to build (conformity / interoperability).
 - Determine whether the project is technically feasible.

- In practice, the steps of checking the technological feasibility are:
 - Realization of a matrix "technical constraints / cost / labs to build"
 - Make decision (continuation of the project, changing targets or abandonment).
 - Type of Laboratory :
 - Conformance & Regulatory Labs (EMC, Electrical Safety & RF (Radio, SAR, OTA))
 - Interoperability & performance Labs for different technologies:
 - GSM/GPRS/EDGE, WCDMA, HSPA, LTE™,
 - WiMAX™, Bluetooth®, Wi-Fi®,
 - RFID, NFC,
 - DECT, SRD or PSTN



Requirements



- Feasibility study requires to accurately determine
 - technological,
 - human
 - and financial to implement
- Internal expertise
- External expertise



Conformance and interoperability



Conformance

External structure

Minimum requirements of safety and good operation inside the environment

Interoperability

protocol /internal structure

the rules with which systems have to comply in their communication with other systems.



Conformance labs



- Electromagnetic compatibility (EMC) lab
- Safety lab
- Health tests (Specific absorption rate SAR) lab
- Efficient use of spectrum (Radio) lab



Interoperability labs



- Broadband access lab
- Mobile value added services lab
- Personal area network lab
- Fixed test plant
- Mobile test plant

This feasibility study describes

- environments,
- procedures
- and methodologies

to be adopted to

- establish,
- manage
- and maintain a testing centre covering different conformance and interoperability testing areas

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Establish

A green, rounded rectangular button with a white shadow, containing the word 'Manage' in white text.

Manage

A blue, rounded rectangular button with a white shadow, containing the word 'Maintain' in white text.

Maintain

Establish

Manage

Maintain



How to build a new laboratory?

General requirements



Regulatory & Institutional



Civil infrastructure



Acquisitions



Capacity building



Regulatory & institutional



- Texts of law adoption
- Market control authorities
- Notifying authorities
- Standardisation body
- Metrology body
- Accreditation body
- Scope to be covered
- MRA signing

- Architecture plan
- Civil engineering constraints
- Power supply constraints
- Climatic constraints
- Fire protection constraints

- Anechoic chambers
- Shielded rooms
- Instruments
- Softwares
- ...

- Fixing the needs
- Writing and launching tender books
- Acquisitions reception
-



Capacity building



- Trainings for:
 - Regulatory requirements
 - Learning standards
 - Management system
- Assistance to
 - Writing tender books
 - Writing technical procedures
 - Quality management system
 - ✓ Quality manual
 - ✓ Quality procedures
 - Uncertainty budget
- Pre-audit for laboratory accreditation

Establish

Manage

Maintain



Testing activity



- plan test campaigns;
- trace test lists and test cases;
- manage product/service under test;
- manage laboratories list;
- trace bugs;
- export basic test reports;
- monitor testing activities.
- Outsourcing in case of non-competence



Accreditation according to the standard ISO 17025

- ISO / IEC 17025 contains the criteria to prove the competence of a laboratory.
 - Management requirements
 - Technical requirements
- Accreditation is a formal recognition of the independent competence of a laboratory requirements



RQ Of the CERT

RQ Of the test Laboratory

CERT Quality Manual

Quality and Administrative
General and specific
procedures



Quality Manual of Testing Laboratories of the CERT

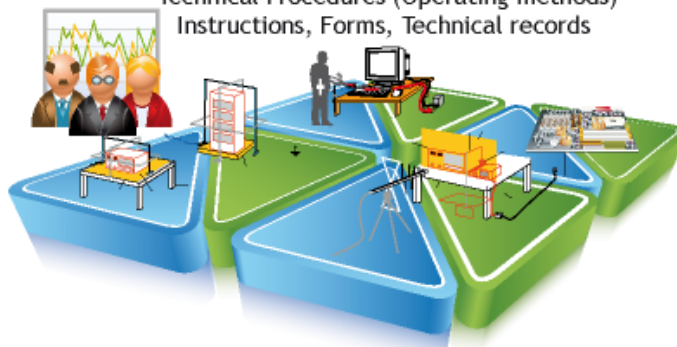
Procedures,
Instructions, Sheets
Quality records



Quality plan by activity (Ex: CEM)

Technical Procedures (Operating methods)
Instructions, Forms, Technical records

Technical unit



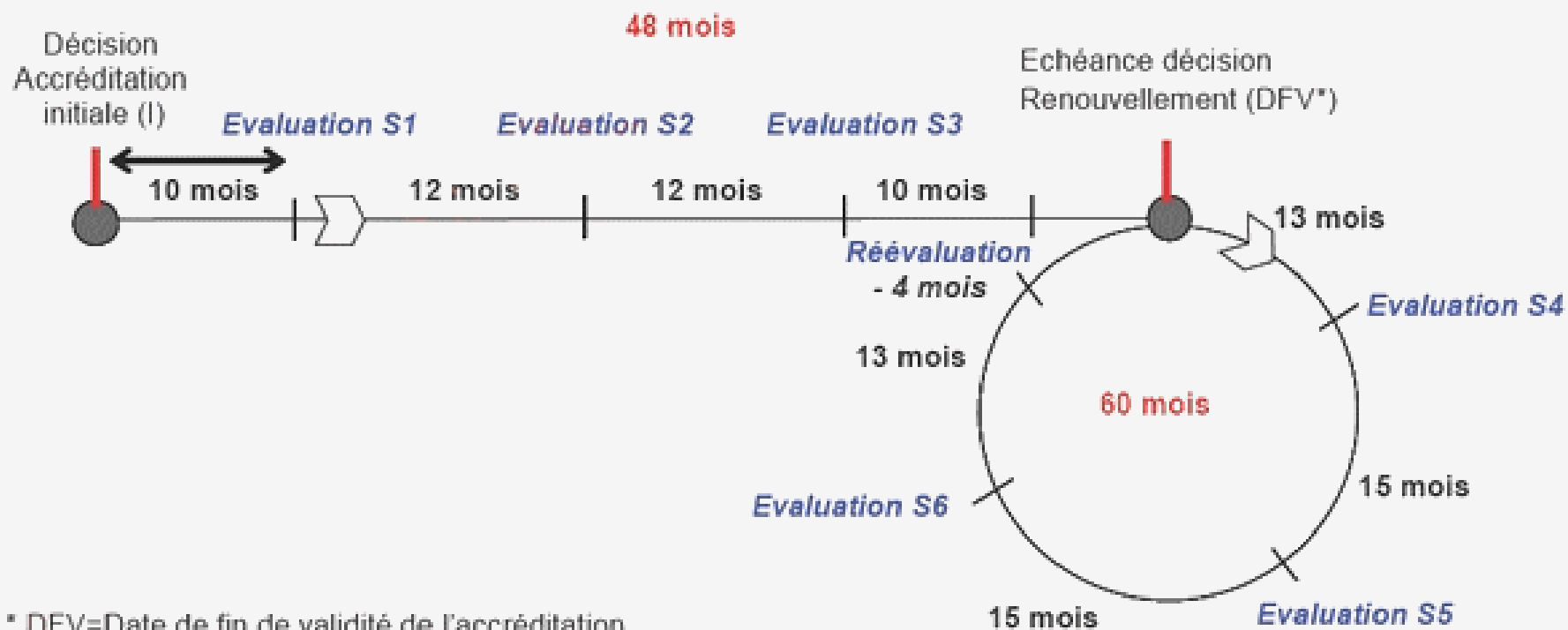
Structure of the Documentary System

Establish

Manage

Maintain

- Instrumentation maintenance
 - Periodic calibration
 - Software updates
 - Hardware maintenance
- Accreditation renewal
- Investment
- Standards watch
- General maintenance





Maintaining technical capacity





Thank you