

# Equipment certification and importation procedures

## *Ensuring quality and combating counterfeiting*

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Livingstone, 13-15 October 2014



## Outline of conformity assessment process

End users – gain independent assurance that products meet their requirements



Certification body – issues conformity assessment certificate; accredited & recognised internationally



Testing Laboratory – performs tests on products & issue test reports; accredited by a national authority and recognised internationally



Standards Development Organisation – produces base specification & associated test specifications

## Why standardise?

- Ensure interoperability
  - Compatibility between equipment from different sources
    - Manufacturers
    - Users (e.g. network operators)
  - Interface characteristics & system behaviour
    - Between systems
    - Between components within a system
- Reduce barriers to trade
- Provides governments and regulators with best practices



## Why test conformance?

- Avoid equipment incompatibilities due to:
  - Different interpretations of a specification
  - Errors in implementation
  - Choice of different options



## Why assess conformity and certify?

- Give confidence that products requirements are met
- Benefits the user as they can make better purchase decisions
- Benefits the supplier as products may more easily gain market acceptance
- Helps level the industry playing field & encourages competition
- WTO Technical Barriers to Trade Agreement recognises *“the important contribution that...conformity assessment schemes can make...by improving efficiency of production and facilitating the conduct of international trade”*
- Provides governments and regulators with best practices



## Conformity assessment – fundamentals of product certification (ISO / IEC Guide 67)

- “As products are designed, produced, distributed, used and ultimately disposed of, they may give rise to societal concerns. A very frequent concern is simply whether a product is what it appears to be. Concerns can involve such product attributes as safety, health or environmental impacts, durability, compatibility, suitability for intended purposes or for stated conditions, and similar considerations.”
- Product certification benefits consumers as they are able to make better purchase decisions about products and also benefit suppliers as by demonstrating conformity they may more easily gain market acceptance.

## Design of conformity assessment scheme

- Certification scheme should be related to the degree of risk associated with non-compliance considering such aspects as safety, health or environmental impacts, durability, compatibility and suitability for intended use
- Cost should not be excessive
- Should ensure transparency and neutrality



## Consideration of Risk

- “The type of activity undertaken to demonstrate conformity of product with requirements is often determined by the consequences of nonconformity.
- When consequences are insignificant or not severe, society may (require) expect little or no demonstration of conformity of product since the problems generated can be easily addressed and solved after they occur. In these cases the supplier's claims may be sufficient but they may be complemented by third-party product certification on a voluntary basis.
- However, where the consequences of nonconformity are significant, society may demand completion of activities that demonstrate conformity to requirements prior to allowing the product on the market, concurrent with the product appearing on the market, or both. One method of providing such assurance is through product certification.”

## **Product Certification**

- Should address the concerns of users by instilling confidence regarding fulfillment of requirements
- May be used by suppliers to market their products
- Should not require excessive resources and so be overly expensive

## **Testing Options (ISO/IEC Guide 65 )**

- Initial testing of a product and assessment of its suppliers' quality systems, followed by surveillance that takes into account the factory quality system and the testing of samples from the factory and the open market OR
- Initial testing and surveillance testing OR
- Type testing only

## ISO/IEC 17000 Series – Conformity assessment

ISO/IEC 17000:2004 Vocabulary and general principles.  
ISO/IEC 17001:2005 Impartiality - Principles and requirements  
ISO/IEC 17002:2004 Confidentiality - Principles and requirements  
ISO/IEC 17003:2004 Complaints and appeals - Principles and requirements  
ISO/IEC 17004:2005 Disclosure of information - Principles and requirements  
ISO/IEC 17007: 2009 Guidance for drafting normative documents suitable for use for conformity assessment  
ISO/IEC 17011:2004 General requirements for accreditation bodies accrediting conformity assessment bodies  
ISO/IEC 17021:2011 Requirements for bodies providing audit and certification of management systems  
ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories  
ISO/IEC 17030:2003 General requirements for third-party marks of conformity  
ISO/IEC 17040:2005 General requirements for peer assessment of conformity assessment bodies and accreditation bodies  
ISO/IEC 17050-1:2007 Supplier's declaration of conformity - Part 1: General requirements  
ISO/IEC 17050-2:2004 Supplier's declaration of conformity - Part 2: Supporting documentation



## ISO/IEC conformity assessment guides

ISO/IEC Guide 23 Methods of indicating conformity with Standards for third Party certification Systems  
ISO/IEC Guide 28 Conformity assessment - Guidance on a third-party certification system for products  
ISO/IEC Guide 60 Conformity assessment - Code of good practice  
ISO/IEC Guide 65 General requirements for bodies operating product certification schemes  
ISO/IEC Guide 67 Conformity assessment – fundamentals of product certification  
ISO/IEC Guide 68 Arrangements for the recognition and acceptance of conformity assessment results



## Market regulatory spectra

### Telecommunications Regulation



Ex-ante  
Sector-specific regulation

Ex-post  
General competition law

### Consumer Protection



Specific mandatory  
conformity assessment

General consumer  
protection legislation

## Mandatory Conformity Assessment

### Examples

- USA
- Canada
- EU

## USA

- The FCC oversees the authorization of equipment using the radio frequency spectrum in the USA [<http://transition.fcc.gov/oet/ea/>].
- Such equipment may not be imported or marketed unless it meets the technical standards specified by the FCC. Depending upon its capabilities equipment may be subject to:
  - **verification** (in which manufacturers test the device),
  - **declaration of conformity** (which requires testing by an accredited test laboratory) or
  - **certification** (which is issued by the FCC or a designated Telecommunications Certification Body based on test results submitted by the supplier).
- FCC provides a database on equipment authorisations
  - [<https://apps.fcc.gov/oetcf/eas/reports/GenericSearch.cfm>]

## Canada

- The Certification and Engineering Bureau of Industry Canada [<http://www.ic.gc.ca/eic/site/ceb-bhst.nsf/eng/Home>] provides a certification service for radio and terminal equipment in Canada.
- The Industry Canada Certification and Engineering Bureau maintain lists of terminal equipment [http://www.ic.gc.ca/eic/site/ceb-bhst.nsf/eng/h\\_tt00050.html](http://www.ic.gc.ca/eic/site/ceb-bhst.nsf/eng/h_tt00050.html) and radio equipment [http://www.ic.gc.ca/eic/site/ceb-bhst.nsf/eng/h\\_tt00020.html](http://www.ic.gc.ca/eic/site/ceb-bhst.nsf/eng/h_tt00020.html) that has been certified for use in Canada.



## European Union

- The Radio and Telecommunications Terminal Equipment (R&TTE) Directive (199/5/EC) [[http://ec.europa.eu/enterprise/sectors/rtte/index\\_en.htm](http://ec.europa.eu/enterprise/sectors/rtte/index_en.htm)] defines a harmonised regulatory framework for the approval of terminal equipment in the European Union.
- It is based on supplier declaration of conformity to basic requirements intended to ensure that the equipment is safe to use and does not cause interference with other equipment.
- The Croatian Post and Electronic Communications Agency provides a database of equipment approved in accordance with the EU R&TTE directive [<http://www.hakom.hr/default.aspx?id=561>]

## Limitations of mandatory conformity assessment

- No guarantee that the device will work properly or interoperate with other devices
- Does not help identify counterfeit equipment

## **ITU Plenipotentiary Resolution 177 “Conformance and interoperability”**

“instructs the Director of the Telecommunication Development Bureau, in close collaboration with the Director of the Telecommunication Standardization Bureau and the Director of the Radiocommunication Bureau

2) to assist Member States in addressing their concerns with respect to counterfeit equipment,”

and

“invites Member States and Sector Members to bear in mind the legal and regulatory frameworks of other countries concerning equipment that negatively affects the quality of their telecommunication infrastructure, in particular recognizing the concerns of developing countries with respect to counterfeit equipment,”

## **WTDC-14**

- Resolution 47 “Enhancement of knowledge and effective application of ITU Recommendations in developing countries, including conformance and interoperability testing of systems manufactured on the basis of ITU Recommendations
- Resolution 79 “The role of telecommunications/ICTs in combating and dealing with counterfeit telecommunication/ICT devices”

## Anti-counterfeiting

- Unique identification
- Authentication system (on-line databases)
- Secure supply chain / equipment lifecycle management

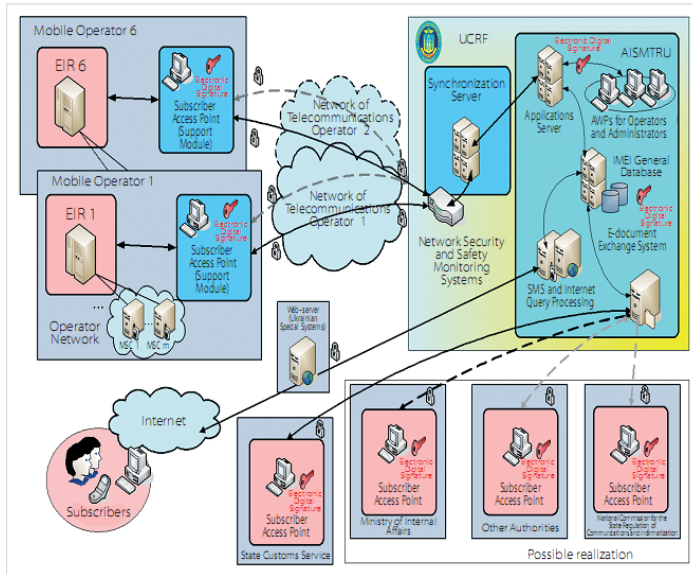
## Turkey

Central Equipment Identity Registry Structure

[[http://www.telkoder.org.tr/files/2-report/Annual Activity Report 2010 ENG.pdf](http://www.telkoder.org.tr/files/2-report/Annual_Activity_Report_2010_ENG.pdf)]



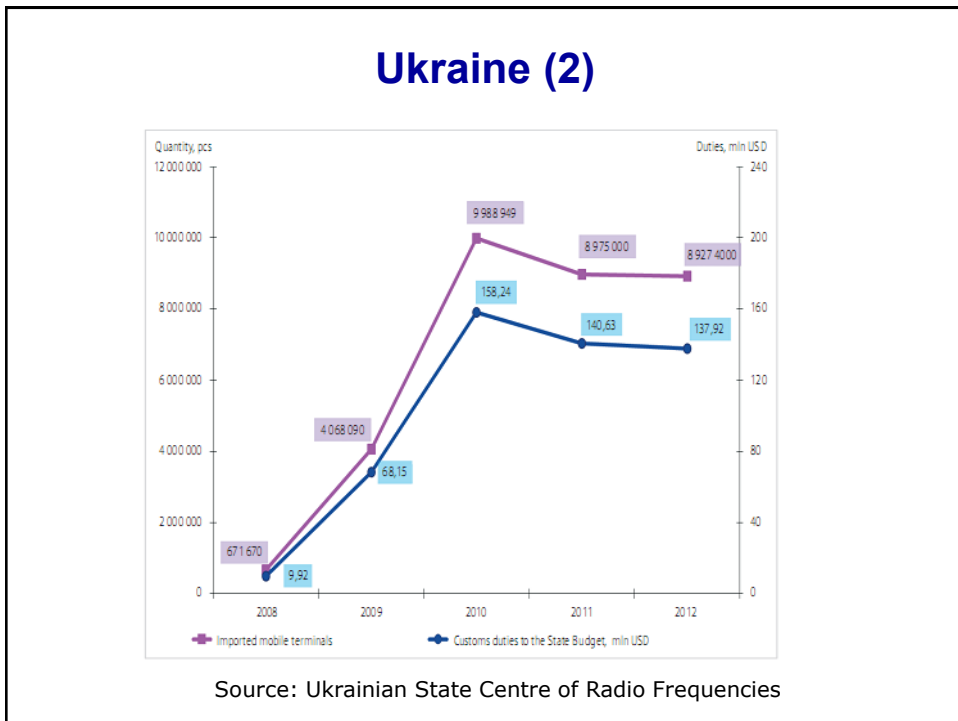
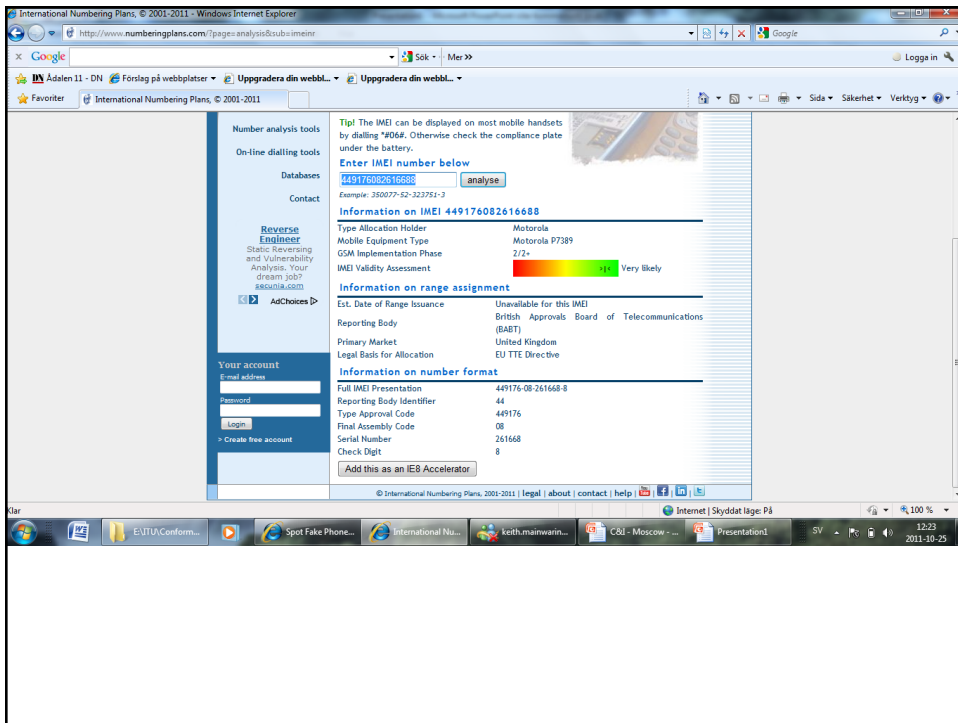
# Ukraine



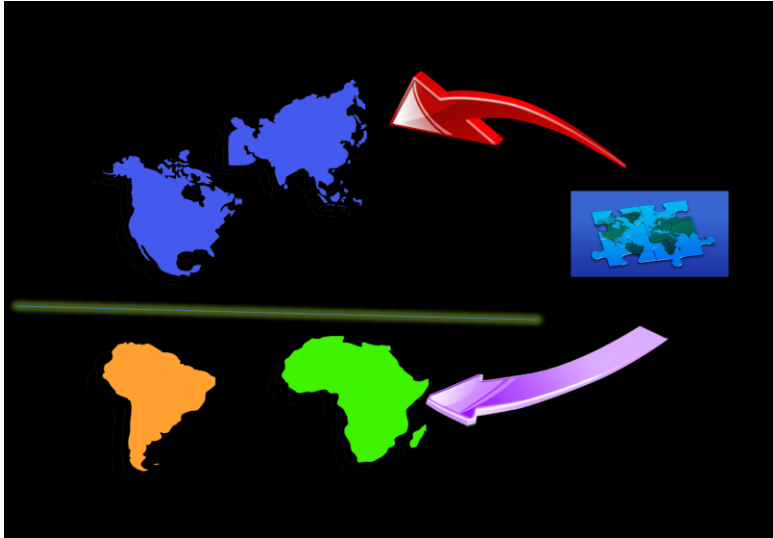
Source: Ukrainian State Centre of Radio Frequencies



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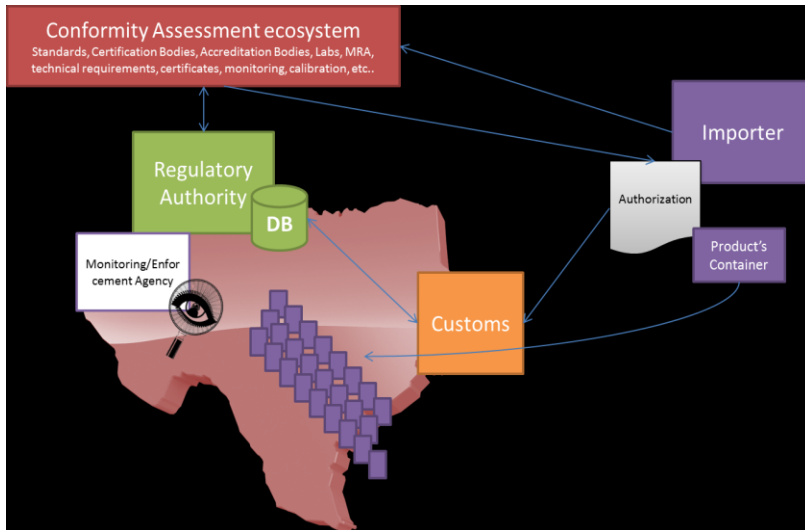


## Anatel observation



Source: Anatel, Brazil

## Proposed by Anatel



## **Putting equipment onto the market**

- **Technical Requirements**
  - **Conformity assessment**
  - **Certification and MRAs**
    - **Registration & Authentication of Certificates**
  - **Supplier declaration**
    - **Registration & Authentication of Suppliers**
- **Ensure genuine product is put on sale**
  - **Registration and Authentication of Devices**

## **Conclusion**

- **Integrate systems for equipment:**
  - **Approval (testing, certification etc.);**
  - **Importation; and**
  - **Authenticity (i.e. checking that it is the genuine article).**
- **Requires secure databases with access to all appropriate parties**

**Thank You!**

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