Standards Education in Europe and Internationally

SES Webinar - 6/18/2014

Laurent OBERLÉ
- Chairman IFAN WG 16 « Education & training about standardisation »
- Chairman CEN-CENELEC JWG Education about Standardization
- President of Acanor
- Member of SES
I. Introduction about Education & Training in standardization

II. CEN / CENELEC
   - JWG EaS
   - Master & implementation plans on education
   - Performed actions
   - Next steps

III. IFAN
   - What is IFAN?
   - WG16 – Education & training
I. Introduction

Awareness
Learning
Standardization
Strategy
Training
Education
Why initiate Education about Standardization?

- Using standards and participation in standards work enhance economic benefits (on companies level and in general of countries)

- Other parts in the world have understood that and benefit already now (frontrunners Korea and China)
Education is the sole way to involve users in standardization!
Standardization awareness

The cultural evolution necessary to integrate standardization and use of standards in companies is far from being reached!

- But all functions are concerned: Management, sales, marketing, technical,…

- The best way to involve all the functions of the companies in using standardization is education before working: it’s truth worldwide!

= A need to implement standardization education in different levels (not only for technical/engineers schools!)
What is education about standardization?

Learning standardization & standards?

- Strategic importance
- Participate in standardization
- Influence the content of standards
- Implement standards at company level

Teaching & training:
- Pupils
- Students
- Life long learned
Few engineering and technical programs incorporate standardization **BUT:**

- The schools have often “old” collections of standards and not enough linked to their programs
  - No annual adapted budget for buying standards
  - Teachers haven’t learned it before!
  - Difficulties to identify which standards are required in coherence with their pedagogic targets

... even if standards education is mandatory and written in their programs!
The must is to help teachers to find the links pedagogic program/standards

- **F1** Preparation of the materials and quality control
- **F2** Configuration installation startup
- **F3** Maintenance

**F4 Organization**

A4-3: to respect the legal and normative obligations:

→ Standards for individual tests
→ Installations Standards (e.g. NF C15100, IEC 60364 series)
→ Standards / communication
→ Standards for checking the electric safety of the devices

Has been done by ACANOR in France!
Situation in Europe

- Europe is less advanced than other areas!

- Education about standardization is very developed in Asia

➢ Urgent needs for powerful actions and supports in Europe in a competitive world
Situation in Europe

What is done?

- **European Academy on Standardization**
  (www.euras.org)

- European Commission and the Member States **recognize the need, some national initiatives**

- European Standardization Organizations have set-up a **Joint-Working Group on Education about Standardization**

- Some countries are more active than others: next slide!
Activity focus on:

- **Promoting** standardization research
- A **critical evaluation** and thereof in the interest of scientific education
- **Improving** opportunities to publish research results
- **Supporting** the development and professionalization of standards education

**Members:** government, researchers, engineers, scientists, economists,...

**Tools:**

- Platform for exchanging information
- Conferences
- Lectures
A recent survey gave the results below

Aware about EaS activities  National Structure for EaS
Situation in Europe

What is needed?

- Enhancing **knowledge and skills** about standards and standardization through **education and training**

- Engaging **academia and enterprises** to continuously include standardization as part of **lifelong learning**

- **Informing and inspiring students and teachers/trainers** about the **importance** of standards and standardization
II. CEN / CENELEC

EUROPEAN STANDARDIZATION ORGANIZATIONS
Joint Working Group
Education about Standardization

- Created by CEN and CENELEC, with support of ETSI

- Observers from the European Commission and EFTA Secretariat as well as ISO and IEC

- The aim: to raise awareness of standardization and increase the number of people who have a fair and positive knowledge of standardization, its characteristics and its benefit.
EaS approach

The EaS Policy is based on three work streams:

- **Engage Key Stakeholders**: Engaging and involving intermediaries and beneficiaries in activities focused towards target groups.

- **Build Capacity**: Structures built to support working with key stakeholders.

- **Reach Target Groups**: Initiatives which have a direct impact on EaS, aimed at target groups.
Master & implementation plans on education

- **Set the strategy** for education about standardization for the coming years
- **Orchestrated actions** of major stakeholders in Europe
- **Support nationally** coordinated and implemented actions
- **Share best practices**
Link with the EaS policy

A progressive consolidation from the policy to actions!
Who should take initiative?

Target groups: School pupils, vocational learners, students, industry employees, managers, CEOs
Performed actions

- Model curricula
  - model curriculum for higher education
  - model curriculum for vocational training

- The repository of tools and materials
  - information on initiatives undertaken by standardization organizations
  - education material
  - articles/reports
  - studies/surveys
  - ...

- Conferences
  - 29/06/2012: ESOs held a first dialogue on Education about Standardization
  - 28/05/2013: Small and Medium Enterprise conference
  - 06/2013: Conferences of the International Cooperation for Education about Standardization (ICES) and the European Academy for Standardization (EURAS)
Next steps

- Policy for the ESOs and their members
  - Foster best practices in education about standardization in Europe
  - Steer a series of actions

- Provide guidance
  - Issue questionnaire
  - Share best practices
  - Monitor progress
  - Define what kind of guidance
  - Provide tracking/monitoring of progress
Complementarities between the European and the national level

Mirror organizations & actions should be done in parallel with EaS!
And in future?

National Structure for EaS

With JWG EaS support for setting up a national structure
National model

- To have a **steering group** at national level (governmental, academia, trade associations, other stakeholders)

- To appoint a **person/team in operational charge** at the national standardization bodies, government and academic bodies

- To find **persons who can start** the project in countries where nothing exists yet (3 to 4 persons)

- To appoint an **academic regional responsible person**
Brainstorming Outcomes

Targets of the guidance:
▷ Provide attractive solutions for first steps at national level when they want to install a national structure

Guidance (1/2):
1. Support from national standardization body
2. Money to allocate persons in the standardization body to invest time & effort
3. Provide solutions to solve difficulties e.g.
   • The autonomy of the university
   • Difficulty to change curricula
   • Education is not a national responsibility but curricula are decided by universities or local responsibility
Brainstorming Outcomes

Guidance (2/2):

4. Role of national structure is to track and coordinate existing activities
5. To build upon those existing activities
6. Access to standards for teachers and students
7. To find support from academia and businesses
8. To address differences about education and training on standardization (and standards) at strategic, tactical and operational level
9. To inform and train teachers and trainers
In France: SagaWeb Education: give access to standards for educational purposes for a very low price

Éducation nationale
Consultez la collection complète des normes françaises et européennes en un seul clic

Saga Web vous permet de profiter de fonctionnalités adaptées à vos besoins.

Les +
- 34 000 normes françaises et européennes en texte intégral
- Une solution en ligne
- Un moteur de recherche simple et performant
- Des mises à jour en continu

Un partenariat entre le ministère de l’Éducation nationale et AFNOR pour:
- Accompagner votre démarche pédagogique
- Faciliter l’accès aux textes des normes pour les professeurs et les élèves
- Être plus proche du monde de l’entreprise

Accédez à la lettre des doyens de l’Éducation nationale et aux conditions générales d’abonnement

Pour toutes informations, contactez votre interlocuteur privilégié ou departement-commercial@afnor.org
In France: Website for teachers

http://www.enseignants.afnor.org/comment-acceder-aux-normes

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Sharing Experience...

Past difficulties, brakes:

- Not enough inputs/expression of the needs from professional stakeholders
- Autonomy of universities & scientists not naturally motivated
- More easy to implement in programs for technical diplomas for doing the job than to given a general culture about standardization...
- Teachers/professors sometimes not aware how to present the benefits regarding market access through participation in the standardization process
Discussion about the key points/actions for success

Difficulties / challenges:

- Autonomy of universities, scientists, no motivation
- Not enough education on standardization required in curricula
- Internal standards / sector specific e.g. Chemistry
- Access to identification of standards, strategic aspects in popularization
- No modules adapted to primary objectives
Proposals for improvement

How to do better tomorrow:

1. With support from Trade Associations, in particular if specific WG linked to education
2. Identify 4 champions to ensure the « lead »
3. To focus on the wishes of the “in” sectors like energy efficiency or renewable energy
4. Identify active and strategic partners
5. Create networking
6. To define which skills for which diplomas and life-long training (e.g. IFAN table)
7. Importance to involve research
8. Find a good business model for EaS at national level
In addition... (1/2)

1. Strategic help needed from trade associations
2. Adaptation budget & missions in National Standards Bodies
3. Improve the expression of the needs of governments & stakeholders
4. Exchange experience in order to win in the current: success stories but also failures
5. Taking into account the new standardization challenges, not only focused on products standards but more on systems approach.

6. Difficulties for a national education system:
   - Not enough open access to the standards for each school, teacher and pupil
   - How to identify the relevant standards for the each diploma
   - Political aspects
   - Internal standards in some sectors (e.g. chemistry)
It’s really time to go together

1. from a volunteer organisation ...

2. ...to a more structured and stronger organization in each national member state!
III. IFAN

INTERNATIONAL FEDERATION OF STANDARDS USERS
What is IFAN?

The International Federation of Standards Users

- Founded in 1974
- Independent, non-profit-making, international association of national organizations
- Companies, professional and trade associations, and governmental agencies
What is IFAN?

Strategic objectives

1. Promoting the development and use of international standards

2. Cooperate with governmental organizations to promote the use of references to international standards or to their national adoptions in regulations

3. Influencing the international standardization system

4. Promoting the principle that conformity assessment structures, schemes and procedures respond to standards users' needs

5. Supporting development of standards for a sustainable world

6. Supporting education and training related to standardization

7. Facilitating the distribution of information on standards, standards development and conformity assessment
What is IFAN?

Actual working groups:

- WG 1 "Promotion and standardization awareness"
- WG 3 "Standards access and distribution"
- WG 8 "Conformity assessment"
- PG 14 "Social Responsibility"
- WG 15 "Standardization strategies"
- **WG 16 "Education and training"**
- WG 17 "IP and standards"
- WG 18 "Membership Development"
Scope:

1. **Specify the knowledge** about standardisation needed in different organizations & their divisions.

2. **To support and promote initiatives** in Education and Training in the standardisation field at international, regional and national levels.

3. **To observe initiatives and inform** the communities concerned by standardisation (stakeholders, users, education professionals, experts,...) on Education and Training in the standardisation field at international, regional and national levels.

4. To support, facilitate and encourage **networking** in this field.
WG16 - Education & training

IFAN Guide 4: 2014
Different needs for different roles

- Degrees of knowledge necessary for the topics related to standardization
- Possible methods to apply training / education

<table>
<thead>
<tr>
<th>Functions</th>
<th>Standardization role</th>
<th>Standards identification process</th>
<th>Integration of the content for relevant standards</th>
<th>Take into account sustainable development</th>
<th>Integration of management systems</th>
<th>Product compliance</th>
<th>Standardization lobbying</th>
<th>Business Intelligence in standardization</th>
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<tbody>
<tr>
<td>CEO &amp; Senior management</td>
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<td>Marketing &amp; sales</td>
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<td>R&amp;D and innovation</td>
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<td>Laboratories &amp; internal certification</td>
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<td>Purchasing</td>
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<td>Quality, safety and social responsibility</td>
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Legend:
- • • • Good knowledges
- • • Substantial knowledges
- • Some understanding

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**IFAN Guide 4: 2014**

**Different needs for different roles**

Example for CEO & Senior management:

<table>
<thead>
<tr>
<th>Activities related to standardization</th>
<th>Knowledge necessary</th>
<th>Know-how</th>
</tr>
</thead>
</table>
| ● Strategic importance when formulating policy and making management decisions | A good knowledge of:  
● the need to comply with standards and regulations for the different marketplaces  
● the role trade associations can play in the development of standards at the international level  
● their role in management systems and company management system policies | ● Risks and opportunities identification  
● Global implementation process  
● Influence process |
| ● Sustainable and social responsibility management systems | **A substantial knowledge of:**  
● why sustainable development should be taking into account in the strategy of a company in a moving world marketplace with limited resources.  
**Some knowledge of:**  
● the way to influence the content of the standards from the company strategy perspective  
● identification methods and global applications of regulations, standards, normative and others relevant documents that have to complied with for new products or services | |
| ● Others management systems | | |
### IFAN Guide 4: 2014

**Different needs for different roles**

#### Example for Marketing & Sales:

<table>
<thead>
<tr>
<th>Activities related to standardization</th>
<th>Knowledges necessary</th>
<th>Know-how</th>
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</thead>
<tbody>
<tr>
<td>● Role of standards and regulation in the development of products, services, processes, etc.</td>
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<tr>
<td>● Strategic importance when formulating policy and making management decisions</td>
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<td>● Business intelligence in standardization</td>
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<td>● Sustainable and social responsibility management systems</td>
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<tr>
<td>● Others management system</td>
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<td></td>
<td>A <strong>good knowledge of:</strong></td>
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<td></td>
<td>● their role in management systems and company management system policies</td>
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<td><strong>A substantial knowledge of:</strong></td>
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<td></td>
<td>● the need to comply with standards and regulations for the different marketplaces.</td>
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<td>● the value of compliance with standards in a competitive world marketplace</td>
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<td></td>
<td>● the value and methodology of obtaining business knowledge about the development and use of standards and regulations</td>
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<td>● why sustainable development should be taking into account in the strategy of a company in a moving world marketplace with limited resources</td>
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<td><strong>Some knowledges of:</strong></td>
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<td></td>
<td>● identification methods and global applications of regulations, standards, normative and others relevant documents that have to complied with for new products or services</td>
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<tr>
<td></td>
<td>● Standards and technical regulation identification per area</td>
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<td>● Standards and technical regulation survey for anticipating</td>
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<td>● Mapping understanding and identification for targets monitoring</td>
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<td></td>
<td>● How to participate in the standardization process</td>
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<td></td>
<td>● General knowledge about sustainable management systems &amp; Mix marketing/product</td>
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</tbody>
</table>
Others actions made by Acanor in France

Partnerships with chambers of commerce:

- Conferences: electrical, mechanical, agroalimentary topics
- Help for catalogue, tools and training for consultants making standardization prediagnosis in companies

<table>
<thead>
<tr>
<th>Prediagnoses “Panorama RNR” (Regulations, normative &amp; others references)</th>
<th>MITER</th>
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</thead>
<tbody>
<tr>
<td>Synopsis</td>
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<tr>
<td>Introduction letter to the catalog of services of prediagnoses</td>
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</tbody>
</table>

**DESCRIPTIVE CARDS OF THE STANDARD SERVICES**

<table>
<thead>
<tr>
<th>1. Conformity and responsibility manufacturer for products (or of equipment)</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Resale of products or goods of equipment</td>
<td>2</td>
</tr>
<tr>
<td>3. Work or service provider</td>
<td>3</td>
</tr>
<tr>
<td>4. Environmental panorama of a site or a community</td>
<td>4</td>
</tr>
<tr>
<td>5. Durable opportunity development of a community or a company</td>
<td>5</td>
</tr>
<tr>
<td>6. Energy environment</td>
<td>6</td>
</tr>
<tr>
<td>7. Protection of the tangible properties of an establishment</td>
<td>7</td>
</tr>
<tr>
<td>8. Hygiene and safety of a site</td>
<td>8</td>
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</tbody>
</table>

**METHODOLOGICAL TOOLS**

<table>
<thead>
<tr>
<th>Preliminary questionnaire common to all the services</th>
<th>9</th>
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<tbody>
<tr>
<td>Checklists specific to each service + example of graph of evaluation</td>
<td>10</td>
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</tbody>
</table>
THE BENEFITS OF STANDARDS EDUCATION AND TRAINING FOR USERS:
Experiences from different continents
Wednesday 17 September 2014 – 14:30-17:00
PARIS (Organized by AFNOR, member of ACANOR)

- **Welcome addressed** by IFAN President, Ross WRAIGHT and ACANOR President, Laurent OBERLE

- **Keynote addressed by** Olivier PEYRAT, Director General – AFNOR and ISO Finance Vice-President

- **Education and training to standards and standardization: the corporate viewpoint**
  - What the VolksWagen experts expect from education on standards? (to be confirmed)
  - Why train the technical staff to standards? The Rolls Royce experience. Keith ALLEN (to be confirmed)

- **Awareness to Standardization in Higher Education: a joint initiative from Total Professeurs Associés (TPA) and AFNOR**

- **The user associations**
  - The IFAN chart by Laurent OBERLE
  - The Indonesian experience – MASTAN
  - The North-American offer by the Standards Engineer Society (SES) – XXX

- **The Academia**
  - The francophone African education and training offers to promote the use of standardization
  - Teaching standardization in China
  - KARAJ Islamic Azad University
  - The ISO programme
Thanks for your attention!

Questions ?
Contact details

- Group Manager for Standardization & Lobbying
- In charge of relation with education organizations

- President of Acanor, «French standards users »
- Chair IFAN WG 16 - Education & training about standardization

- Chair JWG Education about Standardization

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