

ILNAS



Digital Trust in Big Data Breakfast

December 8, 2016

ILNAS / ANEC

PROGRAM

- **Welcome and introduction**
- **Presentation of the National Standards Body**
- **White Paper presentation Digital Trust for Smart ICT & Big Data**
- **Big Data standardization**
- **ICT Technical Standardization in Luxembourg, Conclusion**
- **Discussions**



Introduction

Dr. Jean-Philippe HUMBERT - ILNAS



Presentation of the National Standards Body

Mr. Jérôme HOEROLD - ILNAS

ILNAS, Institut Luxembourgeois de la Normalisation, de l'Accréditation, de la Sécurité et qualité des produits et services

- ▶ **Creation:** Law dated July 14, 2014 (repealing the amended Law of May 20, 2008)
- ▶ **Status:** Public administration under the authority of the Minister of the Economy
- ▶ **Total staff:** 38 civil servants (Nov. 2016)



Luxembourg's Standardization Strategy 2014-2020

PILLAR 1 Information and communication technologies (ICT)

- ▶ Support and constant **development of the standardization field dedicated to ICT**
- ▶ Implementation of the **Luxembourg's Policy on ICT standardization (2015-2020)**
 - Developing the interest and the involvement of the market
 - Promoting and reinforcing the participation of the market
 - Supporting and strengthening the education about standardization and related research activities
- ▶ Detection of **niche opportunities for economic developments**

PILLAR 2 National influence and compliance with legal attributions

PILLAR 3 Products and services

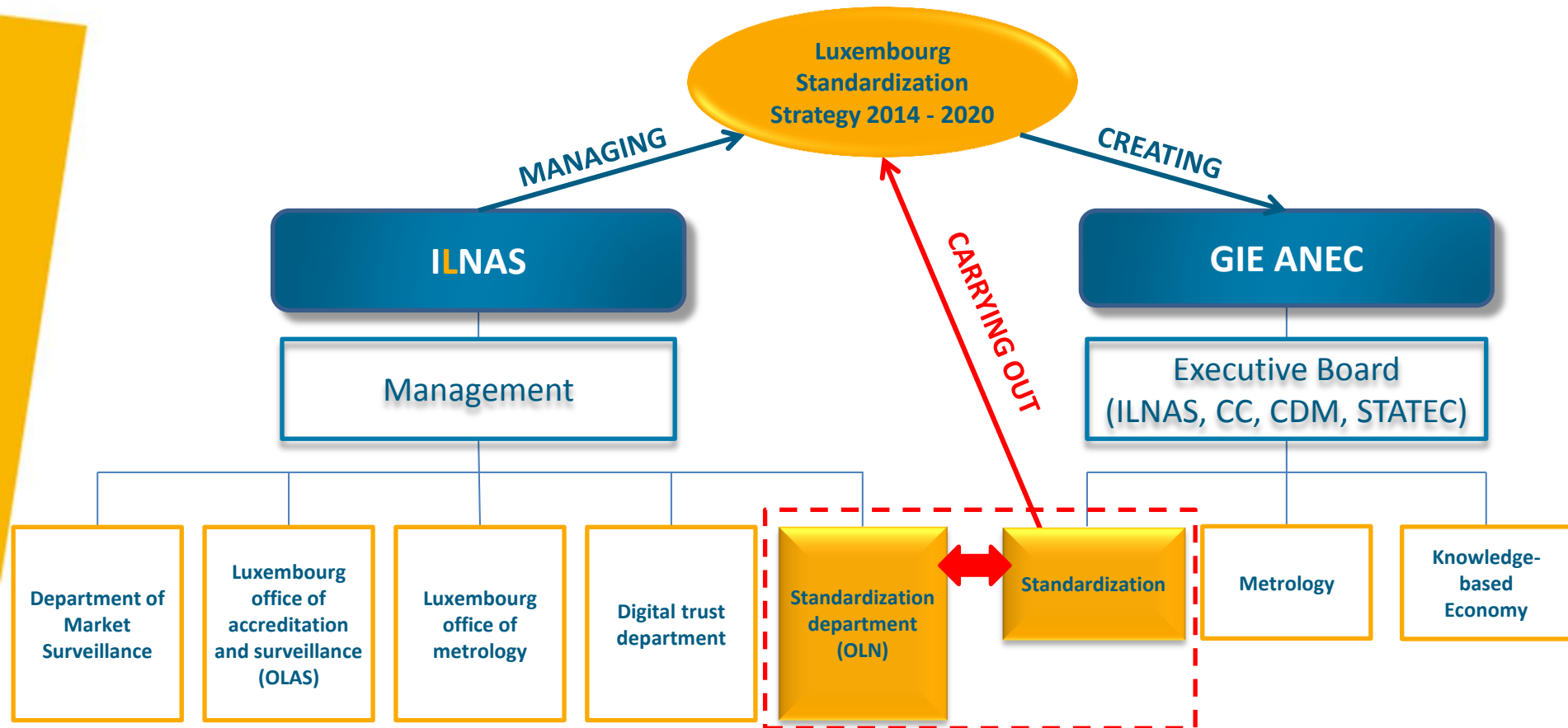
ANEC, Agence pour la Normalisation et l'Économie de la Connaissance

Agency for Standardization and knowledge-based Economy

- ▶ **Creation:** October 4, 2010
- ▶ **Status:** Economic Interest Grouping (EIG)
- ▶ **Object:**
 - Promotion, awareness raising and training, applied research in the field of standardization and metrology in order to support companies' competitiveness in Luxembourg
- ▶ **Total staff:** 13 employees (Dec. 2016)
- ▶ **Partners:**



Position




ILNAS Standardization activities in Luxembourg

- ▶ **Create a normative culture in Luxembourg**
 - University Certificate "Smart ICT for Business Innovation" at the University of Luxembourg
 - Promotion in the field of standardization (Newsletter, portail-qualite.lu, LinkedIn, events, ...)
 - Trainings and research in the field of standardization
 - Awareness raising sessions in high schools
 - Communication plan for SMEs

- ▶ **Creation of national standards**
 - National Annexes of the Eurocodes
 - National Annex concerning the Winter Diesel
 - National standard about the living surface
 - Creation of a national standards office in the field of construction

Availability of standards *Standardization catalogue*

- 61 national standards
- 48.000 European standards from CEN and CENELEC
- 58.000 international standards from ISO and IEC
- 7.100 ETSI standards (free) 
- 45.200 DIN standards 

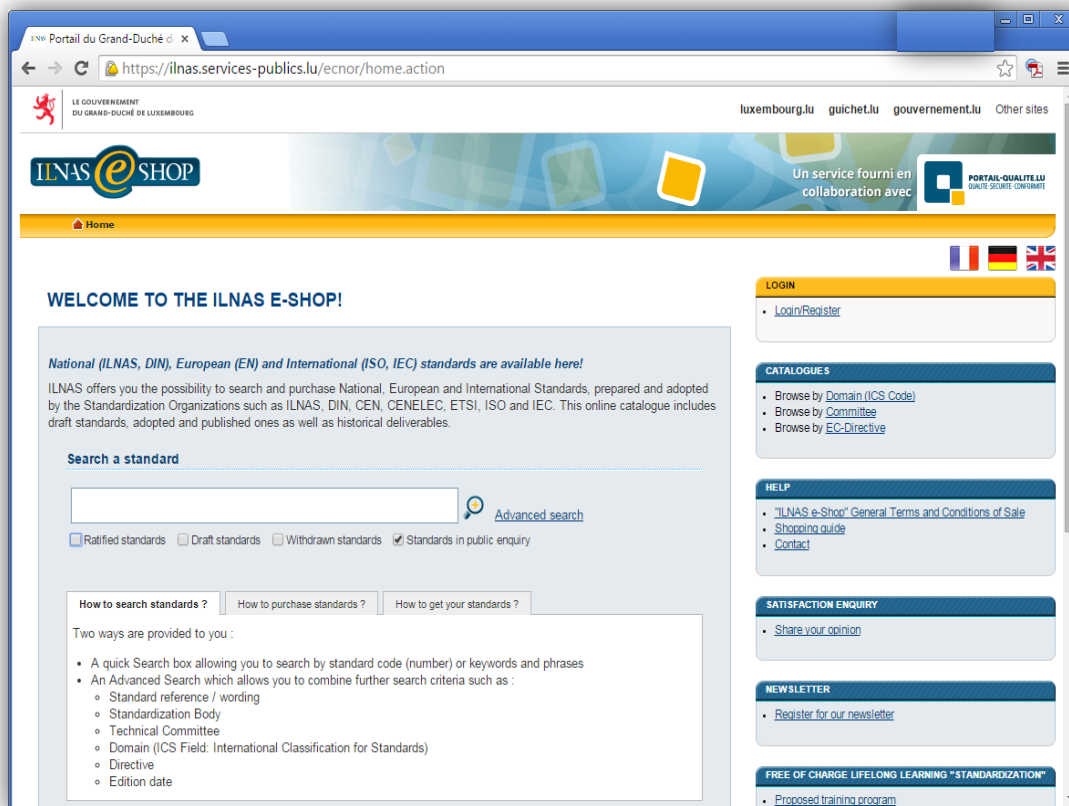


▶ More than **150.000 normative documents** at your disposal

Availability of standards

ILNAS e-shop

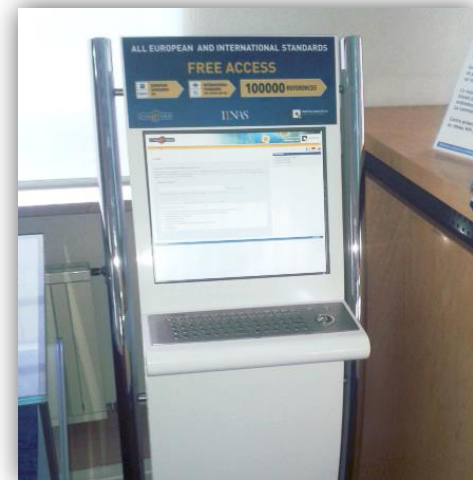
- ▶ Format: electronic
- ▶ Language: French, German and English
- ▶ Competitive prices
- ▶ Free access to documents in public enquiry



Availability of standards

Free access on lecture stations

- ▶ Availability of all EN (CEN,CENELEC et ETSI), ISO, IEC and ILNAS standards (despite DIN)
- ▶ Location of the reading stations:
 1. **Université du Luxembourg**
 - Campus Kirchberg
 2. **House of Entrepreneurship**
 - Kirchberg
 3. **Bibliothèque nationale de Luxembourg**
 - Luxembourg centre-ville
 4. **ILNAS**
 - Esch-Belval
 5. **LIST**
 - Esch-Belval (Maison de l'innovation)
 - Belvaux



Participation in standardization

Different possibilities

- ▶ **How to participate in the development of national, European and international standards ?**
 1. Comment of draft standards in public enquiry
 2. Active participation in a technical committee



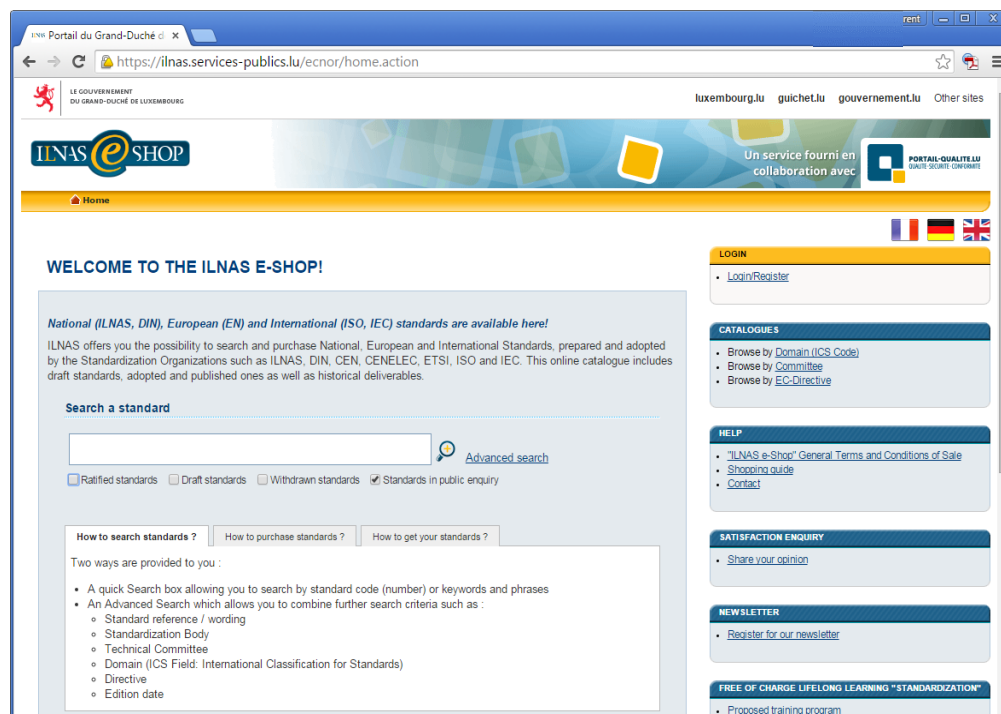
Participation in standardization

1. Public enquiry

- ▶ Navigate in the ILNAS e-shop in order to comment a draft standard which is in the stage of public enquiry



- ▶ <https://ilnas.services-publics.lu>



The screenshot shows the ILNAS e-shop website. The header includes the Luxembourg Government logo and the text 'LE GOUVERNEMENT DU GRAND-DUCHÉ DE LUXEMBOURG'. The main navigation bar features the ILNAS eSHOP logo and a banner for 'Un service fourni en collaboration avec PORTAL-QUALITEU'. The main content area is titled 'WELCOME TO THE ILNAS E-SHOP!' and provides information about the availability of National (ILNAS, DIN), European (EN), and International (ISO, IEC) standards. It includes a search bar with an 'Advanced search' link and radio buttons for 'Ratified standards', 'Draft standards', 'Withdrawn standards', and 'Standards in public enquiry' (which is selected). Below the search bar, there are three tabs: 'How to search standards?', 'How to purchase standards?', and 'How to get your standards?'. The 'How to search standards?' tab is active, showing two ways to search: a quick search box and an advanced search with criteria like Standard reference, Standardization Body, Technical Committee, Domain (ICS Field), Directive, and Edition date. The right sidebar contains sections for LOGIN, CATALOGUES, HELP, SATISFACTION ENQUIRY, NEWSLETTER, and FREE OF CHARGE LIFELONG LEARNING "STANDARDIZATION".



WELCOME TO THE ILNAS E-SHOP!

National (ILNAS, DIN), European (EN) and International (ISO, IEC) standards are available here!

ILNAS offers you the possibility to search and purchase National, European and International Standards, prepared and adopted by the Standardization Organizations such as ILNAS, DIN, CEN, CENELEC, ETSI, ISO and IEC. This online catalogue includes draft standards, adopted and published ones as well as historical deliverables.

Search a standard

[Advanced search](#)

Ratified standards Draft standards Withdrawn standards Standards in public enquiry

[How to search standards ?](#)[How to purchase standards ?](#)[How to get your standards ?](#)

Two ways are provided to you :

- A quick Search box allowing you to search by standard code (number) or keywords and phrases
- An Advanced Search which allows you to combine further search criteria such as :
 - Standard reference / wording
 - Standardization Body
 - Technical Committee
 - Domain (ICS Field: International Classification for Standards)
 - Directive
 - Edition date

LOGIN

- [Login/Register](#)

CATALOGUES

- Browse by [Domain \(ICS Code\)](#)
- Browse by [Committee](#)
- Browse by [EC-Directive](#)

HELP

- ["ILNAS e-Shop" General Terms and Conditions of Sale](#)
- [Shopping guide](#)
- [Contact](#)

SATISFACTION ENQUIRY

- [Share your opinion](#)

NEWSLETTER

- [Register for our newsletter](#)









FREE OF CHARGE LIFELONG LEARNING "STANDARDIZATION"

- [Proposed training program](#)

RÉSULTATS DE LA RECHERCHE

 TRIÉ PAR 10 RÉSULTATS PAR PAGE RÉSULTAT(S) 1 - DES 173 1 2 3 4 5 ... 18

APERÇU PARTIEL GRATUIT	PRIX	LANGUE	
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<p>prEN ISO 20863 Edition 02/2017 </p> <p>Chaussures - Méthodes d'essai pour contreforts et renforts - Aptitude au collage (ISO/DIS 20863:2015) TC/SC : CEN/TC 309 Statut : Draft - Actif</p> <p><i>A l'heure actuelle pas de version électronique de cette norme en ligne pour l'édition linguistique: EN, FR.</i> <i>N'hésitez pas à contacter normalisation@ilnas.etat.lu</i></p>	D  Commenter	€ 0.00	DE  
<p>prEN ISO 4885 Edition 03/2017 </p> <p>Produits ferreux - Traitements thermiques - Vocabulaire (ISO/DIS 4885:2015) TC/SC : ECISS/TC 100 Statut : Draft - Actif</p> <p><i>A l'heure actuelle pas de version électronique de cette norme en ligne pour l'édition linguistique: EN, FR.</i> <i>N'hésitez pas à contacter normalisation@ilnas.etat.lu</i></p>	DE  Commenter	€ 0.00	DE  
<p>prEN ISO 17708 Edition 03/2017 </p> <p>Chaussures - Méthodes d'essai applicables à la</p>			

LOGIN

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 RECHERCHER UNE NORME


[Recherche avancée](#)

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OFFRE DE FORMATION CONTINUE GRATUITE
"NORMALISATION"

- [Programme des cours proposés](#)
- [Prochaines sessions de formation](#)
- [Formulaire d'inscription](#)

Participation in standardization

2. National delegate in standardization

- ▶ **Who can participate ?**
 - Every socio-economic actor with a certain expertise

- ▶ **Cost of participation ?**
 - Free participation in Luxembourg


- ▶ **National experts register (Nov 2016)**
 - 239 persons registered
 - 646 registrations in technical committees

Registre national des délégués en normalisation - Novembre 2016

Nombre d'inscriptions aux comités techniques :

ILNAS/OIN	24
CEN	191
CENELEC	18
CEN/CENELEC	3
CEN/CENELEC/ETSI	2
ECISS	20
ISO/IEC	152
ISO	227
IEC	9
Total	646

Nombre de personnes inscrites : 239

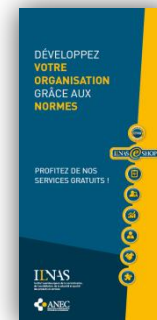
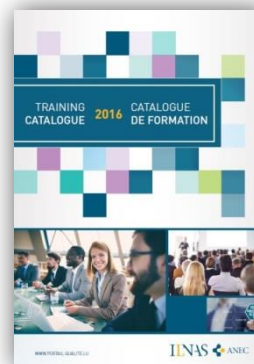


1, av du Swing - L-4367 Belvaux - Tél. : (+352) 24 77 43 40 - Fax : (+352) 24 79 43 40 - Email : normalisation@ilnas.etas.lu - www.portail-qualite.lu

mercredi 16 novembre 2016 Approuvé par Jérôme HOERDLE Page 1 sur 66

Products and services

- ▶ ILNAS, in collaboration with G.I.E. ANEC, offers the following products and services to the national market :
 - Diffusion of normative information
 - Training and awareness sessions
 - Standards watch
 - Standards analysis (ICT)
- ▶ These products and services are provided for free on simple demand



Stay informed about ILNAS activities

Portail qualité:
www.portail-qualite.lu

ILNAS e-shop:
ilnas.services-publics.lu

PORTAIL-QUALITE.LU
 QUALITE-SECURITE-CONFORMITE

Sécurité & Santé Métrologie Accréditation & Notification Confiance numérique Normes & Normalisation Propriété intellectuelle Evaluation de la conformité & Récompenses

07-04-2015

Résultats de l'enquête de satisfaction auprès des délégués nationaux en normalisation

Dans le cadre de sa démarche qualité, ILNAS a récemment mené une enquête d'évaluation de la satisfaction auprès de la communauté nationale des délégués, afin d'identifier ses attentes et connaître son appréciation des services actuellement proposés. Un questionnaire a ainsi été communiqué aux 180 experts inscrits au registre national des délégués en normalisation en février 2015.

[Lire la suite](#)

Voir toutes les actualités

Accédez aux principaux services

ILNAS e-SHOP

Un service fourni en collaboration avec **PORTAIL-QUALITE**

WELCOME TO THE ILNAS E-SHOP!

European and international standards on your hand!

ILNAS offers you the possibility to search and purchase European and/or international Standards, prepared and adopted by the European and International Standardization Organizations such as CEN, CENELEC, ISO and IEC. This online catalogue includes draft standards, adopted and published ones as well as historical deliverables.

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- [Participating sessions](#)
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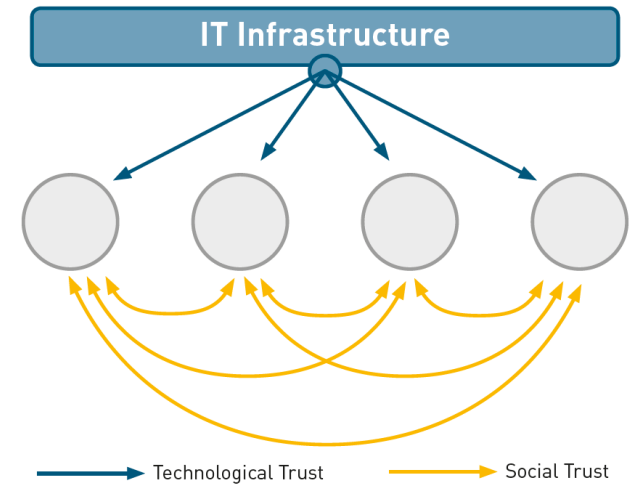


White Paper
Digital Trust for Smart ICT – Big Data
October 2016

Dr. Joseph EMERAS - ANEC GIE

Trust Introduction

- ▶ Fundamental elements of trust
 - **Expectancy**
 - trustor anticipates a specific behavior from the trustee;
 - **Belief**
 - trustor has confidence that the expected behavior occurs
 - based on the evidence of the trustee's competence, goodwill, and integrity;
 - **Risk willingness**
 - trustor is prepared to take a risk for that belief.
 - trustee behavior is beyond the control of the trustor.
- ▶ **Expectancy, belief, and risk willingness** are both *social* and *technological* trust components at the same time.





White Paper
**DIGITAL TRUST
FOR SMART ICT**
Version 3.0, October 2016



1

SMART ICT, A DEFINITION AND INTRODUCTION
TO THE CONCEPTS

2

DIGITAL TRUST FOR SMART ICT: ECONOMIC
CHALLENGES AND PROSPECTS

3

DIGITAL TRUST FOR SMART ICT: TECHNICAL
APPROACHES

4

STANDARDIZATION TO LEVERAGE DIGITAL
TRUST

5

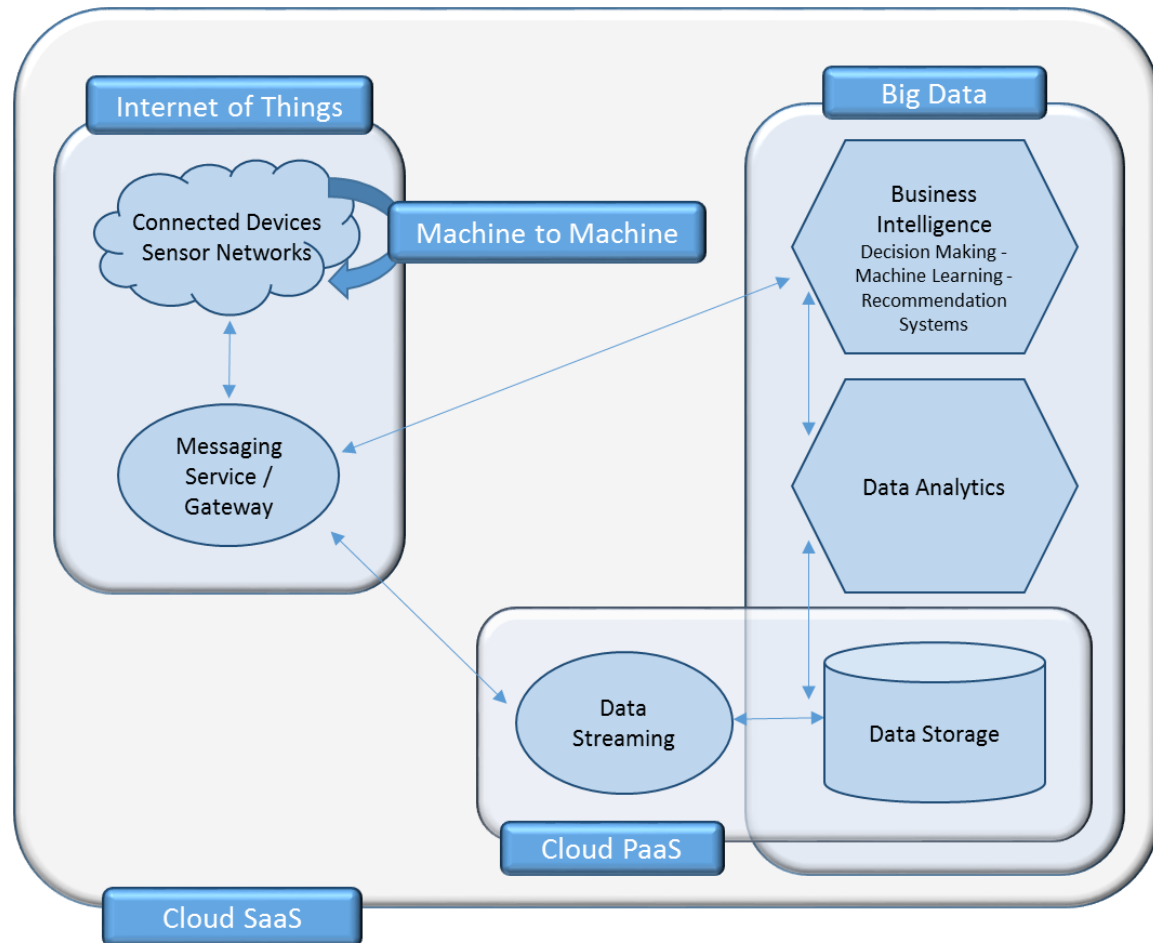
CONCLUSIONS AND OUTLOOK

Introduce each of the 3 smart technologies, place them into context, provide technology characteristics and introduce Digital Trust requirements

- Smart Technology Landscape
- Internet of Things (IoT)
- Cloud Computing
- **Big Data & Analytics**
- Leads for Leveraging Digital Trust

Overview

- ▶ Smart ICT
 - Internet of Things
 - Cloud Computing
 - **Big Data & Analytics**



Today: a massive increase of Data

- **Social network** sources;
- Organizations **monitoring user activities**;
- **IoT**: billions of devices generate real-time **streams** of data;
- **Scientific** applications and experiments result in an increase of datasets at an exponential rate;
- Storage capacity is **cheap** - buying storage easier than deciding what to delete;
- Data analytics techniques have significantly **improved** enabling higher degree of understanding from data.

(b) EY: Today, more data are generated in 10 minutes than all of humanity has ever created through to the year 2003.

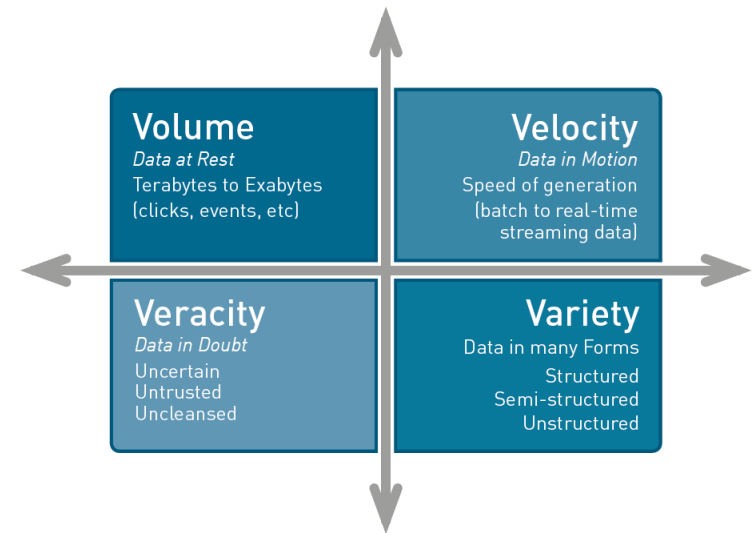
(a) IBM: 90% of data in the world has been generated in the last 2 years.

Big Data Purpose Examples

- **Enhanced customer view**
Extended *customer views* by combining internal and external information sources;
- **Exploration**
Find, visualize and understand to improve *decision making*;
- **Security/Intelligence extension**
Lower risk, detect fraud and monitor cyber security in real-time;
- **Operations analysis**
Analyze a variety of machine data for improved business results;
- **Augmentation**
Integrate big data and traditional data for *new services*, e.g. augmented reality.

Big Data

- ▶ Some characteristics
 - Vs
 - Analyze data from multiple sources / formats
 - Correlation, trends analysis
- ▶ Some Digital Trust challenges
 - Privacy, security, ethical
 - Re-identification
 - Ownership (IP)
 - Data
 - Correlations
 - Findings
- ▶ Problems
 - Business rationale vs the hype: validity, generalization, replicability
 - Big Data vs robust statistics: overfitting and model complexity
 - Integration of technology in people's lives

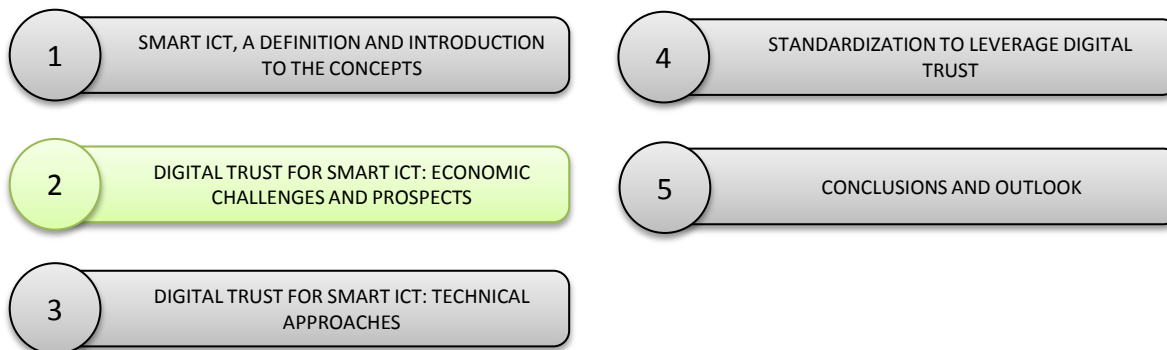




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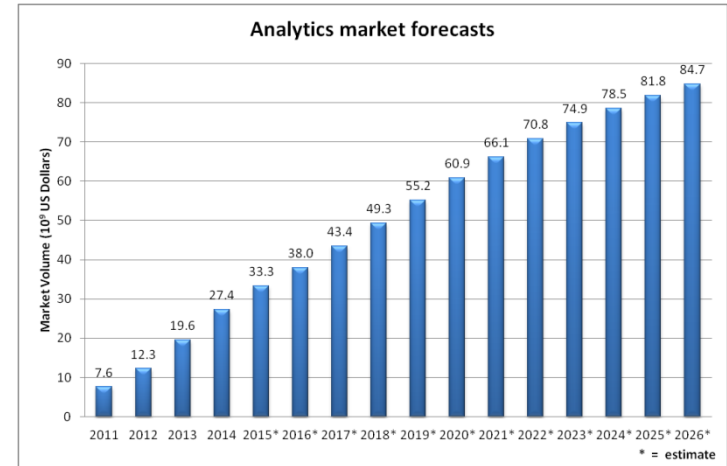


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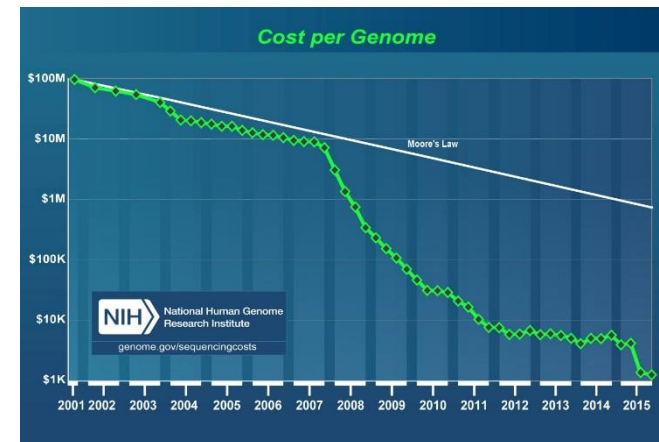


- **Economic Analysis and Prospects**
 - IoT
 - Cloud Computing
 - **Big Data & Analytics**
- **Economic Challenges of Trust**
 - IoT
 - Cloud Computing
 - **Big Data & Analytics**

#	Vendor	Market %	Big Data Revenue	Total Revenue	Big Data Revenue as % of Total Revenue	% Big Data Hardware Revenue	% Big Data Software Revenue	% Big Data Services Revenue
1	IBM	7.4%	1368	\$99,751	1%	31%	27%	42%
2	HP	4.7%	869	\$114,100	1%	42%	14%	44%
3	Dell	3.5%	652	\$54,550	1%	85%	0%	15%
4	SAP	2.9%	545	\$22,900	2%	0%	76%	24%
5	Teradata	2.8%	518	\$2,665	19%	36%	30%	34%
6	Oracle	2.6%	491	\$37,552	1%	28%	37%	36%
7	SAS Institute	2.6%	480	\$3,020	16%	0%	68%	32%
8	Palantir	2.2%	418	\$418	100%	0%	50%	50%
9	Accenture	2.2%	415	\$30,606	1%	0%	0%	100%
10	PWC	1.7%	312	\$32,580	1%	0%	0%	100%
Total			18607	n/a	n/a	38%	22%	40%



- Market development analysis, application types
- Business prospective analysis
- Data monetization strategies
- Data value assessment
- Best practices

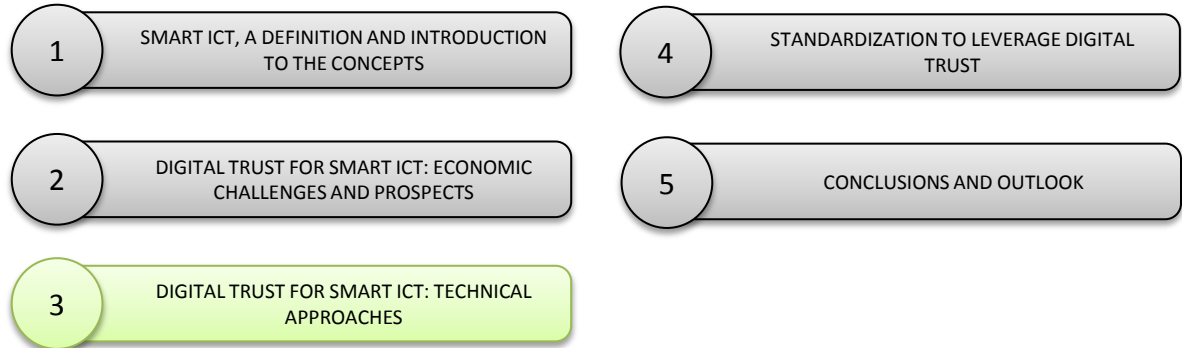




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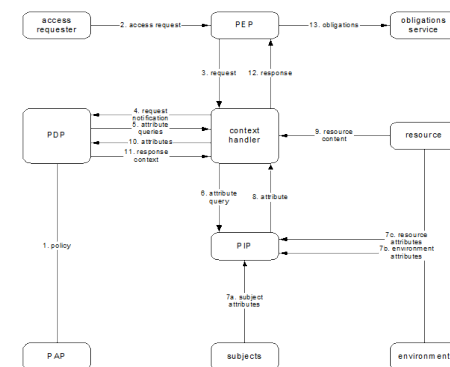
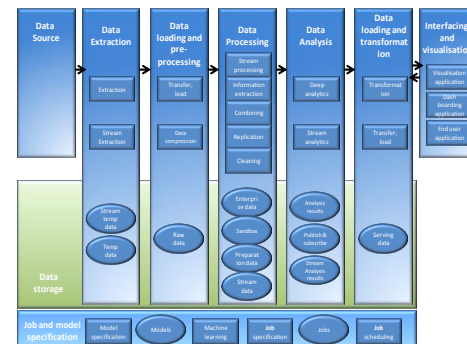
- **Trust in Smart ICT**
 - Privacy
 - Data and Information Security
 - Interoperability
- **Trust in Cloud Computing**
 - Trust as a Human Concern
 - Trust Models
 - Trust as a Technical Challenge
 - Trust as a Legal Puzzle
- **Trust in Big Data**
 - Data Accessibility
 - Data Provenance and Reproducibility
 - Privacy Concerns in Big Data
 - Information and Data Security
 - Access and Policy Management Techniques
- **Trust in Internet of Things**
 - Privacy, Anonymity and Consent
 - Attack Surfaces and Threats
 - Smart Home Security
 - Security in Embedded Devices and Real-Time Processing
 - Transmission Encryption and Security
 - Security in IoT Friendly Messaging Protocols
 - Authentication / Secure Pairing

- ▶ Not only about **Security**
- ▶ Fundamentals
 - Privacy
 - Issues
 - Uncertainty, context-dependence, malleability
 - Linking through deep learning
 - Measures:
 - Anonymization / de-identification of PII
 - Regulations: ex. right to be forgotten
 - Privacy by Design
 - Data and Information Security
 - Confidentiality, Integrity, and Availability (CIA)
 - Availability, reliability, safety, integrity, maintainability
 - Interoperability
 - Between devices, systems and sub-systems
 - Compatibility: 2 systems communicate and work for a common purpose
 - Interchangeability: systems' purpose, functionalities and services are the same

Digital Trust in Big Data

- ▶ Data protection techniques
 - Storage: encryption – file level, block level
 - Hardware: Trusted Platform Module, detect tampering
 - Lifecycle management: data coloring, watermarking
 - Processing: searchable encryption, homomorphic encryption, policy-based techniques, multi-authorities

- ▶ Big Data Processing Chain [147]
- ▶ Access and management: XACML workflow – declarative language for attribute-based access control
- ▶ Data accessibility, provenance, reproducibility
- ▶ Privacy, data sharing considerations



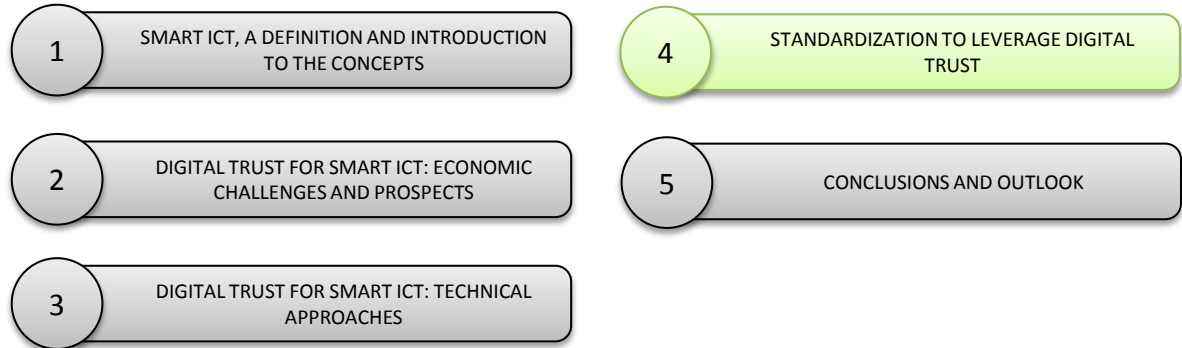
[147] P. Pääkkönen and D. Pakkala, "Reference Architecture and Classification of Technologies, Products and Services for Big Data Systems," *Big Data Res.*, vol. 2, no. 4, pp. 166–186, 2015.



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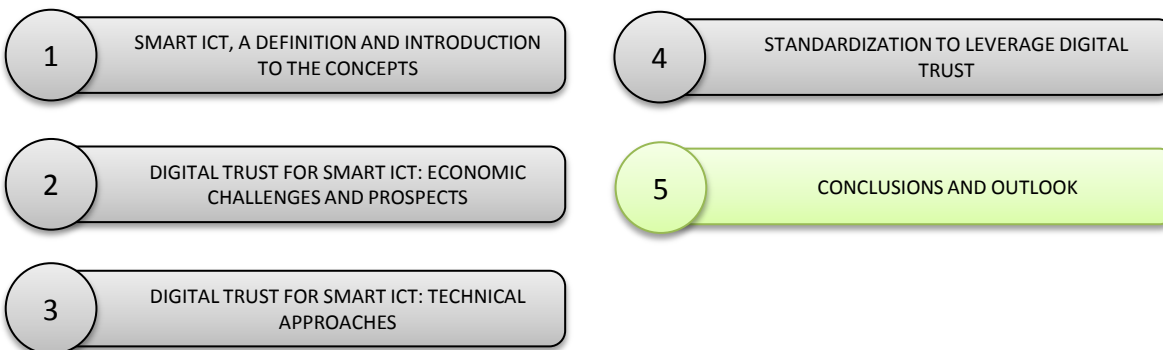
- Cloud Computing Standardization Technical Committees & Standards
 - ISO & ISO/IEC
 - ETSI
 - ITU-T
- **Big Data Standardization Technical Committees & Standards**
 - ISO & ISO/IEC
 - ITU-T Study Group 13
 - NIST Public Working Group for Big Data
- IoT Standardization Technical Committees & Standards
 - ISO & ISO/IEC
 - ETSI
 - oneM2M
- ITU-T
- NIST Cyber-Physical Systems Public Working Group
- The Alliance for IoT
- Open Connectivity Foundation
- IoT-A's reference model
- **Common Standardization Technical Committees & Standards**
 - ISO/IEC JTC 1/SC 27 – IT Security techniques
 - ISO/IEC JTC 1/SC 32 – Data management and interchange
 - ISO/IEC JTC 1/SC 40 – IT Service Management and IT Governance
 - ETSI/TC CYBER – Cyber Security
 - ETSI/ISG ISI – Information Security Indicators
 - CEN-CENELEC technical committees



White Paper
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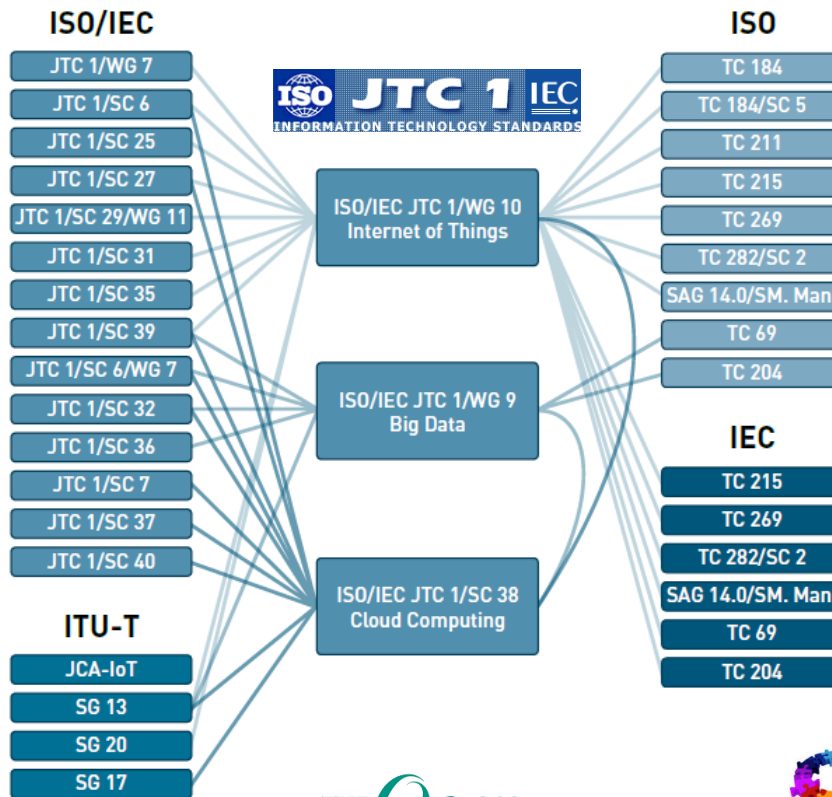
- **Review of each Smart Technology development prospective**
- **Stress out Digital Trust importance and impact**
- **Highlight standardization value for technological evolution**



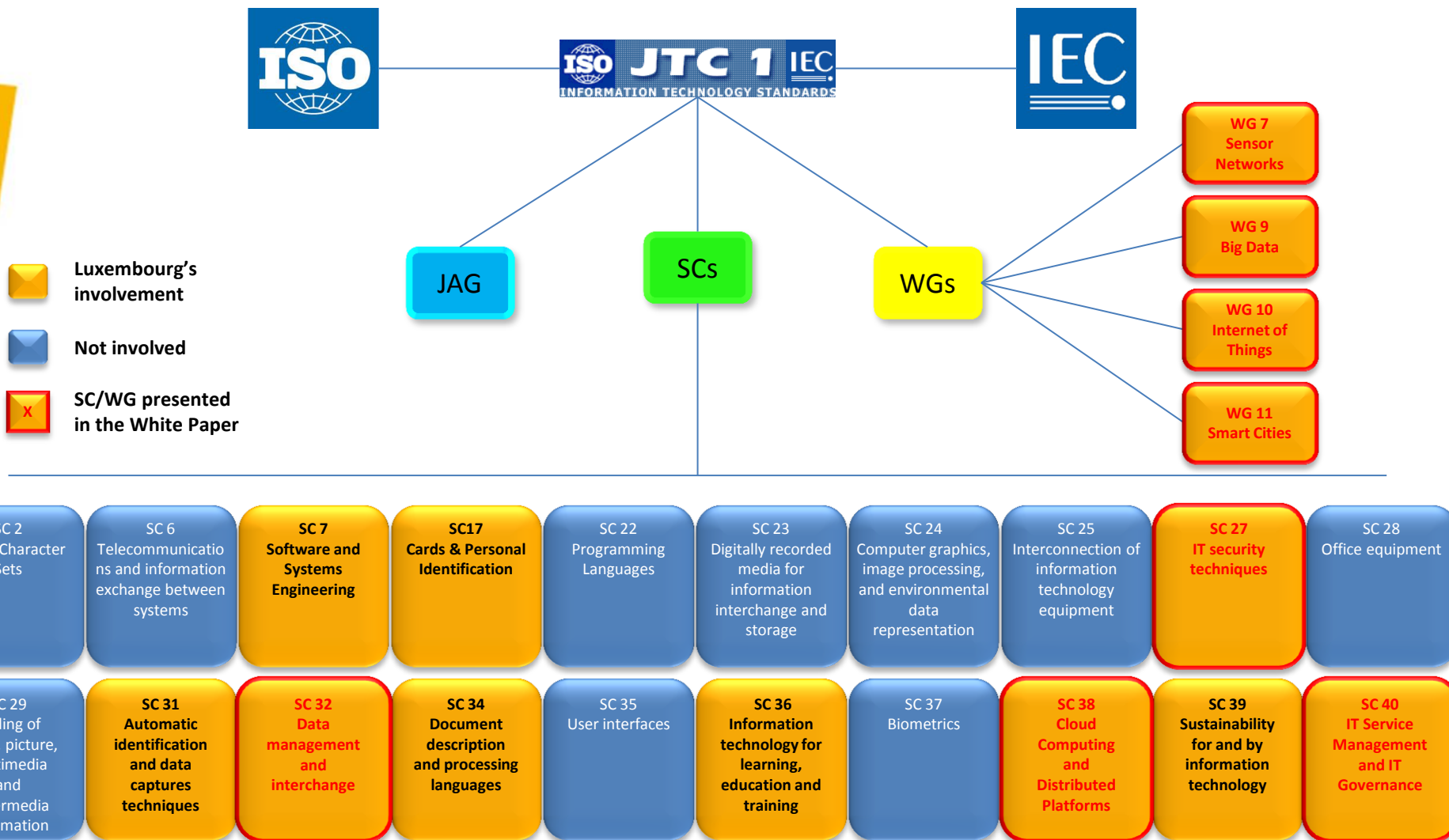
White Paper “Digital Trust for Smart ICT” – Big Data Standardization Landscape

Dr. Joseph EMERAS - ANEC GIE

A rich and complex standardization ecosystem



ISO/IEC JTC 1



ISO/IEC JTC 1/WG 9 – Big Data

- ▶ **Created: 2015**
- ▶ **Main focus areas:**
 - Serve as the **focus of and proponent** for JTC1's Big Data standardization program
 - Develop **foundational standards** for Big Data for guiding Big Data efforts throughout JTC 1
 - Develop **other Big Data standards** that **build on** the foundational standards
 - Identify **gaps** in Big Data standardization
 - Identify, develop and maintain **liaisons** with all relevant entities and investigate **ongoing work**
 - Engage with the **community** outside of JTC 1 to grow the **awareness** of and encourage engagement
- ▶ **Projects under development:** 5 International Standards and Technical Reports
- ▶ **Chairperson:** Mr. Wo Chang (United States)
- ▶ **Members: 24 countries:** Australia, Austria, Brazil, Canada, China, Finland, France, Germany, India, Ireland, Italy, Japan, Republic of Korea, **Luxembourg**, Mexico, Netherlands, Norway, Russian Federation, Singapore, South Africa, Spain, Sweden, United Kingdom, United States
- ▶ **Luxembourg's involvement:**
 - Mr. Johnatan PECERO, Mr. Joseph EMERAS (ANEC GIE)
 - Mrs. Aida HORANIET (Docler Holding)
 - Mr. Emmanuel KIEFFER (University of Luxembourg)
 - Mrs. Natalia CASSAGNES (Travelsify)
 - Mr. Christophe DELOGNE, Mr. Cyril CASSAGNES (KPMG)

ISO/IEC 20546 - Information Technology - Big Data - Definition and Vocabulary



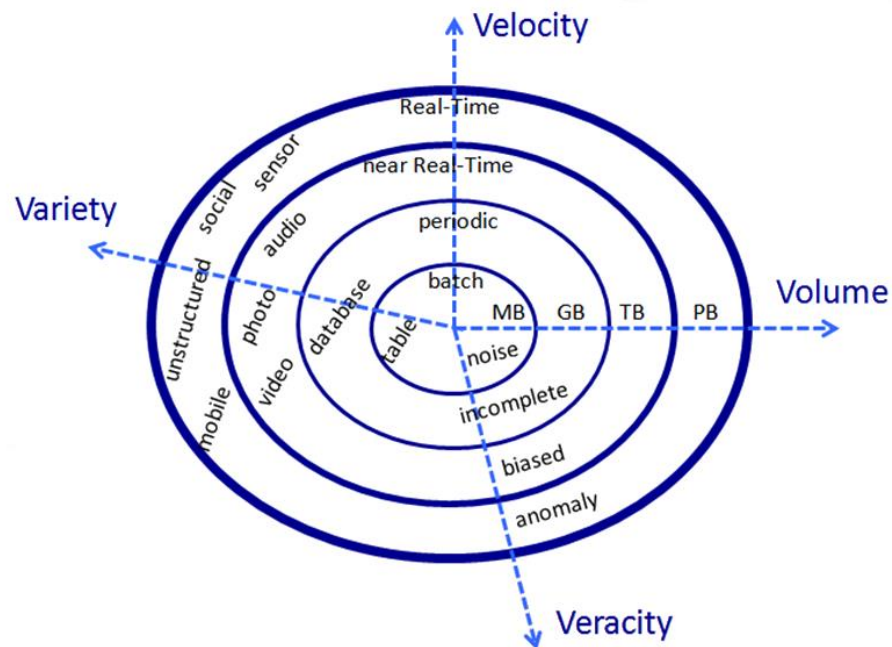
- ▶ This International Standard provides an **overview of Big Data** along with a set of **terms and definitions**
- ▶ It provides a **terminological foundation** for Big Data-related standards

▶ Example:

- Definition of Big Data characteristics
- Horizontal scaling / vertical scaling
- And more

▶ Expected date of publication:

- **March 2017**



ISO/IEC 20547 - Information technology - Big Data - Reference Architecture



▶ Scope:

- The ISO/IEC 20547 series of standards and technical reports will provide a framework and **reference architecture** which organizations can apply to their problem domain to effectively and consistently describe their architecture and its **implementations** with respect to the **roles/actors** and their concerns as well as the **underlying technology**

▶ Structure:

- Part 1: Framework and Application Process
- Part 2: Use Cases and Derived Requirements
- Part 3: Reference Architecture
- Part 4: Security and Privacy Fabric - *has been assigned to JTC 1/SC 27 "IT security techniques"*
- Part 5: Standards Roadmap

▶ Expected dates for the publication: **December 2017**



ITU-T Study Group 13

▶ ITU-T Y.3600 Big Data – Cloud computing based requirements and capabilities (released Q4 2015)

Scope:

- This standard details the requirements, capabilities and use cases of Cloud-based Big Data as well as a high-level system context view and its relationships with other entities.
- Provides recommendations and requirements for data collection, visualization, analysis, and storage, among other areas, along with security considerations.

Structure:

- Overview of Big Data:
 - Introduction to Big Data;
 - Big Data ecosystems and roles;
 - Relationship between Cloud Computing and Big Data;
- Cloud Computing-based Big Data system context and benefits;
- Cloud Computing-based Big Data requirements;
- Cloud Computing-based Big Data capabilities.

▶ Other works:

- ITU-T Y.BDaaS-arch – Cloud computing – Functional architecture of Big Data as a Service
- ITU-T Y.IoT-BigData-reqts – Requirements and capabilities of the IoT for Big Data

Why we need Standards for Big Data?

- ▶ **More clarity for government and industry**
- ▶ **Solve the Vendor Locking problem**
 - Need for a Reference Architecture, Open APIs standards
- ▶ **Ensure commonality between different industry sectors in terms of Data Flow**
- ▶ **Ensure Data Quality / Data Governance to address veracity and value of data**
- ▶ **Semantic is a key to extract Value from data**
 - Need Models and Ontologies to enable “Smarter” reasoning

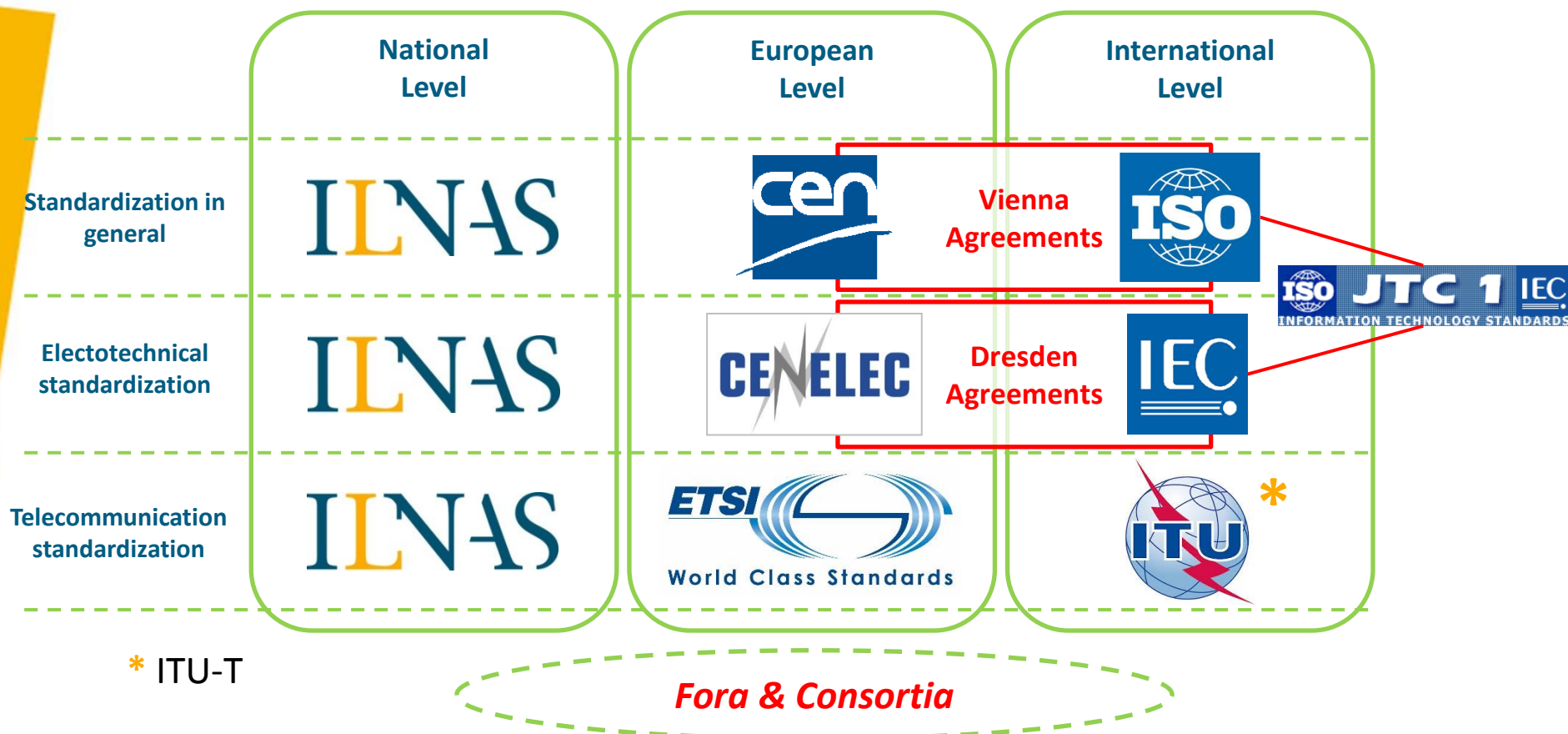
Be part of standardization to participate in the emergence and consolidation of Big Data!



ICT Technical Standardization in Luxembourg

Dr. Johnatan Pecero - ANEC GIE

Standardization organizations



Within ISO and IEC, **one country** (committee member) has **one vote**. Luxembourg therefore **has the same decision** as China and the United States in the voting weight

Structures of ICT Standardization : National, European and International level

International level



ITU = International Telecommunication Union (1865)

ISO = International Organization for Standardization (1946)

IEC = International Electrotechnical Commission (1906)

ISO/IEC JTC1 = Joint Technical Committee 1 (1987)

European level



CENELEC = European Committee for Electrotechnical Standardization (1973)

ETSI = European Telecommunication Standards Institute (1982)

National level



ILNAS = Luxembourg's standards body (2008)

ILNAS targets to make easier and encourage the participation in ICT technical standardization

ICT Standardization in Luxembourg : ILNAS positioning

- ▶ Luxembourg Standardization Strategy 2014-2020
 - **ICT technical standardization is the Pillar I**
 - Support and constant development of the standardization field
 - **Technical Standardization as a Service (TSaaS)**

- ▶ Luxembourg's Policy on ICT technical standardization for 2015-2020
 - To foster and strengthen the national ICT sector involvement in standardization work through three leading projects:
 - Developing market interest and involvement
 - Promoting and reinforcing market participation
 - Supporting and strengthening the Education about Standardization (EaS) and related research activities



Luxembourg's policy on ICT technical standardization 2015-2020

- ▶ To foster and strengthen the national ICT sector involvement in standardization work

1 Developing the interest and the involvement of the market

2 Promoting and reinforcing the participation of the market

3 Supporting and strengthening the education about standardization and related research activities

Luxembourg's policy on ICT technical standardization 2015-2020

1 Developing the interest and the involvement of the market

- ▶ Drawing up a yearly **national standards analysis for the ICT sector**
 - Execution of a standards watch of the related sector
 - Inventory of European and international standards
 - Identification and description of technical standardization committees
 - Identification of relevant technical committees and Fora/Consortia related to the ICT sector
 - Preparation of the final report of analysis and opportunities.



Standards Analysis ICT Sector Luxembourg (V7 under development)

- <https://portail-qualite.public.lu/fr/publications/normes-normalisation/etudes-nationales/pub-standards-analysis-ict-v6-0/standards-analysis-ict-6-0.pdf>

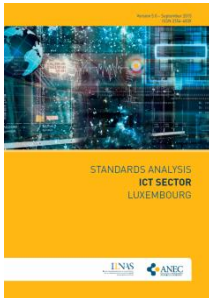
- ▶ Defining a **national implementation plan for ICT technical standardization**
 - To involve targeted stakeholders of the Grand Duchy of Luxembourg in a global approach to Standardization
 - Enhancing the international recognition of the Grand Duchy of Luxembourg

Luxembourg's policy on ICT technical standardization 2015-2020

1 Developing the interest and the involvement of the market

- ▶ Drawing up a yearly **national standards analysis for the ICT sector**
 - Execution of a standard analysis
 - Inventory of standards
 - Identification of standards committees
 - Identification of standards data related to the ICT sector
 - Preparation of the final report of analysis and opportunities.

Survey and analysis of European and international standards related to ICT



Standards Analysis ICT Sector Luxembourg (V7 under development)

- <https://portail-qualite.public.lu/fr/publications/normes-normalisation/etudes-nationales/pub-standards-analysis-ict-v6-0/standards-analysis-ict-6-0.pdf>

- ▶ Defining a **national strategy for ICT standardization**
 - To involve stakeholders in a global approach to Standardization
 - Enhancing the interest in ICT Standardization in Luxembourg

Rising awareness, highlighting benefits, promoting participation and clarifying interest in ICT Standardization

Luxembourg's policy on ICT technical standardization 2015-2020

2 Promoting and reinforcing the participation of the market

▶ Participating in relevant technical committees

■ Closely follow relevant ICT standardization committees

■ ISO/IEC JTC1: “Information technology” with it’s many SCs and WGs

- ISO/IEC JTC 1/WG 09 - Big Data
- ISO/IEC JTC 1/WG 10 - Internet of Things
- ISO/IEC JTC 1/SC 38 - Cloud Computing and Distributed Platforms
- ISO/IEC JTC 1/SC 40 - IT Service Management and IT Governance
- And more...



■ Various ETSI technical committees



▶ Provide information to the national community

- Share ICT standardization knowledge, with related community in Luxembourg
- Organization of related workshops at national level
 - ICT prospective developments
 - Smart ICT domain

Luxembourg's policy on ICT technical standardization 2015-2020

2 Promoting and reinforcing the participation of the market

▶ Participating in relevant technical committees

■ Closely follow relevant

- ISO/IEC JTC1:
 - ISO/IEC JTC1/SC 27 - Information Security
 - ISO/IEC JTC1/SC 41 - Information Security Management Systems
 - ISO/IEC JTC1/SC 38 - Cloud Computing and Distributed Platforms
 - ISO/IEC JTC1/SC 40 - IT Service Management and IT Governance
 - And more...
- Various ETSI technical committees



▶ Provide information to the national community

- Share ICT standardization knowledge, with related community in Luxembourg
- Organization of related workshops at national level
 - ICT prospective developments
 - Smart ICT domain

ILNAS Leads the national mirror committee ISO/IEC JTC 1

Luxembourg's policy on ICT technical standardization 2015-2020

3

Supporting and strengthening the education about standardization and related research activities

- ▶ Managing the **university certificate “Smart ICT for Business Innovation”**
- ▶ **Developing research activities** (potential developments)
 - Future PhDs on “Smart ICT” topics
 - White Papers on “ Digital Trust & Smart ICT ” (Regularly updated)
 - Development of a research program dedicated to the domains of “ICT Technical Standardization”
- ▶ **Prospective of new diplomas** (potential developments)
 - Proposal concerning a dedicated ICT standardization Master’s Degree



V1.2 (November 2016)

Luxembourg's policy on ICT technical standardization 2015-2020

3

Supporting and strengthening the education about standardization and related research activities

- ▶ Managing the university certificate “Smart ICT for Business Innovation”
- ▶ Developing research activities (master theses, dissertations)

- Future PhD

- W

-

- ▶ Prospe

- Propos

To create and/or strength the national standardization culture

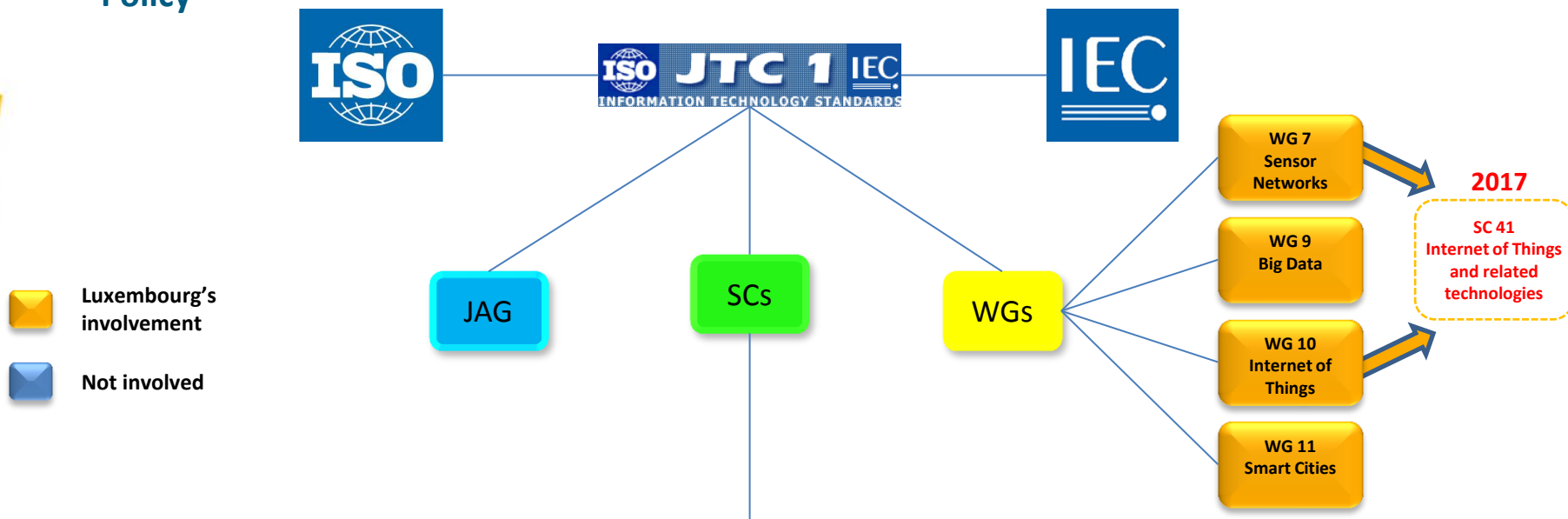
Technical

Degree



V1.2 (November 2016)

ISO/IEC JTC 1 representation at the national level : Direct outcomes from the ICT Standardization Policy

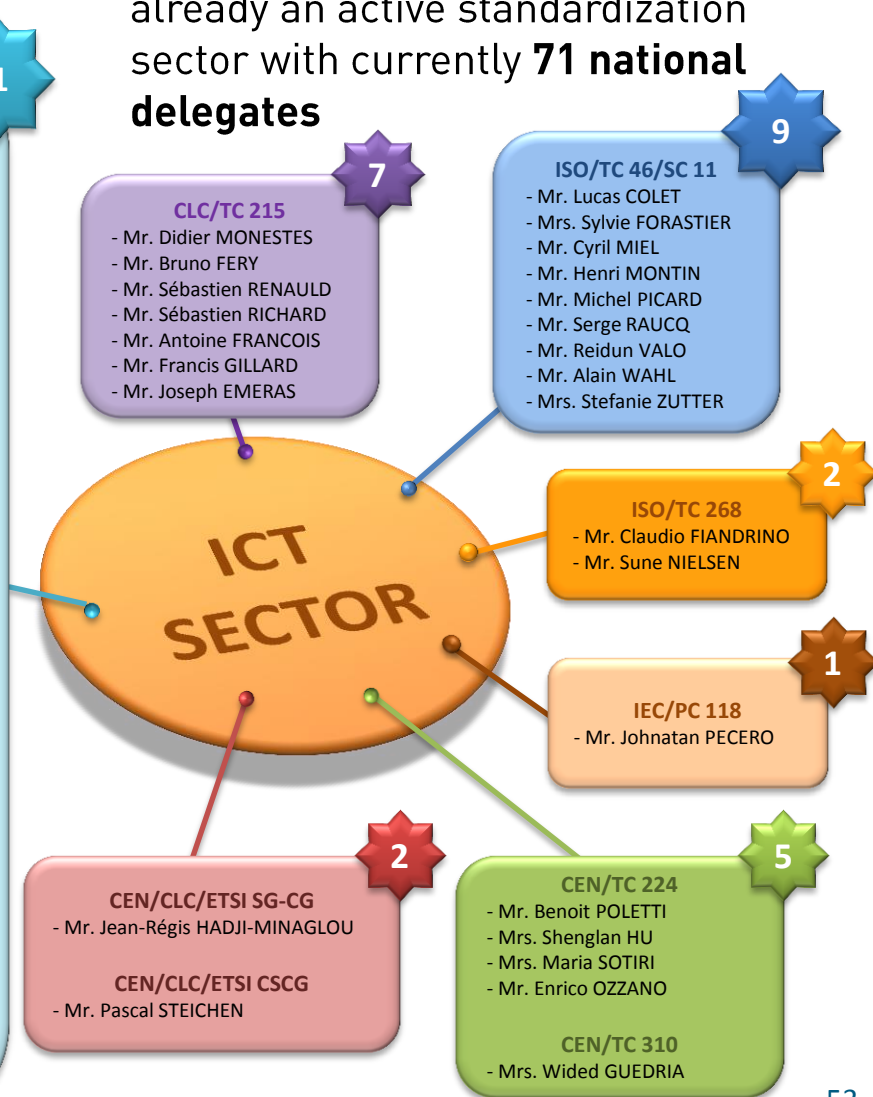


SC 2 Coded Character Sets	SC 6 Telecommunications and information exchange between systems	SC 7 Software and Systems Engineering	SC 17 Cards & Personal Identification	SC 22 Programming Languages	SC 23 Digitally recorded media for information interchange and storage	SC 24 Computer graphics, image processing, and environmental data representation	SC 25 Interconnection of information technology equipment	SC 27 IT security techniques	SC 28 Office equipment
SC 29 Coding of audio, picture, multimedia and hypermedia information	SC 31 Automatic identification and data captures techniques	SC 32 Data management and interchange	SC 34 Document description and processing languages	SC 35 User interfaces	SC 36 Information technology for learning, education and training	SC 37 Biometrics	SC 38 Cloud Computing and Distributed Platforms	SC 39 Sustainability for and by information technology	SC 40 IT Service Management and IT Governance

National ICT standardization delegates

At the national level, the ICT sector is already an active standardization sector with currently **71 national delegates**

- 61**
- ISO/IEC JTC 1 (5)**
 - Mr. Jean-Philippe HUMBERT
 - Mr. Nicolas DOMENJOUR
 - Mr. Johnatan PECERO
 - Mr. Joseph EMERAS
 - Mr. Sune NIELSEN
 - ISO/IEC JTC 1/SC 17 (4)**
 - Mr. Valentin LACAVE
 - Mr. Benoit POLETTI
 - Mr. Enrico OZZANO
 - Mr. Abdelkrim NEHARI
 - ISO/IEC JTC 1/SC 34 (1)**
 - Mr. David NARAMSKI
 - ISO/IEC JTC 1/SC 36 (1*)**
 - Mrs. Marie-Rose DECKER
 - ISO/IEC JTC 1/WG 7 (2)**
 - Mr. Joseph EMERAS
 - Mr. Sune NIELSEN
 - ISO/IEC JTC 1/SC 27 (26)**
 - Mr. Benoit POLETTI
 - Mr. Cédric MAUNY
 - Mr. Carlo HARPES
 - Mr. Matthieu AUBIGNY
 - Mrs. Emelyne BAUDRIER
 - Mr. Guillaume BENTAG
 - Mr. Hervé CHOLEZ
 - Mr. Stéphane CORTINA
 - Mrs. Myriam DJEROUNI
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 - Mr. Clément GORLT
 - Mrs. Shenglan HU
 - Mr. Tom LECLERC
 - Mr. Nicolas MAYER
 - Mr. Alex MCKINNON
 - Mr. Olivier MONTEE
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 - Mr. Sébastien POGGI
 - Mr. Serge RAUCQ
 - Mr. René SAINT-GERMAIN
 - Mr. Peter SCHAFFER
 - Mr. Qiang TANG
 - Mrs. Hatice BASKAYA
 - Mr. Benoit BERTHOLON
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 - Mr. Michel AYME
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 - Mr. Shyam WAGLE
 - Mr. Jean RAPP
 - Mrs. Digambal NAYAGUM
 - Mr. Joost PISTERS
 - Mr. Christophe DELOGNE
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 - Mr. Emmanuel KIEFFER
 - Mrs. Natalia CASSAGNES
 - Mr. Christophe DELOGNE
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 - Mr. Johnatan PECERO
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 - Mr. Christophe FELTUS
 - Mr. Dietmar GEHRING
 - Mr. Michel PICARD
 - Mr. Pierre-Olivier PORTMANN
 - ISO/IEC JTC 1/SC 31 (1)**
 - Mrs. Maria SOTIRI
 - ISO/IEC JTC 1/SC 32 (1*)**
 - Mr. Johnatan PECERO



National ICT standardization delegates

24 New delegates this year (until today)

61 delegates

9 delegates

7 delegates

2 delegates

1 delegate

2 delegates

5 delegates



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 - Mr. Christophe FELTUS
 - Mr. Michel PICARD
 - Mr. Jean-Michel REMICHE
 - Mr. Alain RENAULT
 - Mr. Pierre-Olivier PORTMANN

- CLC/TC 215**
- Mr. Didier MONESTES
 - Mr. Bruno FERY
 - Mr. Sébastien RENAULT
 - Mr. Sébastien RICHARD
 - Mr. Antoine FRANCOIS
 - Mr. Francis GILLARD
 - Mr. Joseph EMERAS

- ISO/TC 46/SC 11**
- Mr. Lucas COLET
 - Mrs. Sylvie FORASTIER
 - Mr. Cyril MIEL
 - Mr. Henri MONTIN
 - Mr. Michel PICARD
 - Mr. Serge RAUCQ
 - Mr. Reidun VALO
 - Mr. Alain WAHL
 - Mrs. Stefanie ZUTTER

- ISO/TC 268**
- Mr. Claudio FIANDRINO
 - Mr. Sune NIELSEN

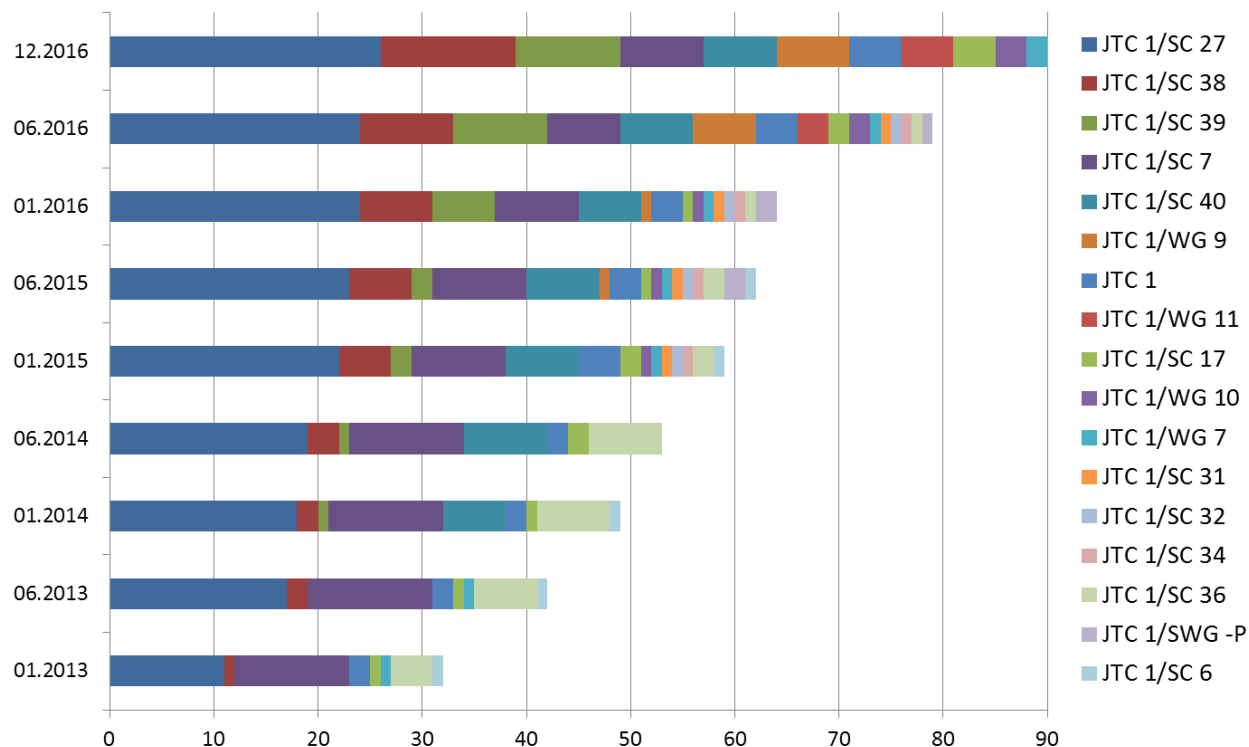
- IEC/PC 118**
- Mr. Johnatan PECERO

- CEN/CLC/ETSI SG-CG**
- Mr. Jean-Régis HADJI-MINAGLOU
- CEN/CLC/ETSI CSCG**
- Mr. Pascal STEICHEN

- CEN/TC 224**
- Mr. Benoit POLETTI
 - Mrs. Shenglan HU
 - Mrs. Maria SOTIRI
 - Mr. Enrico OZZANO
- CEN/TC 310**
- Mrs. Wided GUEDRIA

National mirror committees

- ▶ Definition: committee at the national level of an European or international committee (or subcommittee)
- ▶ ISO/IEC JTC 1: **10 SC** and **4 WG** are currently active at the national level
- ▶ **61 delegates from Luxembourg are involved in ISO/IEC JTC 1** (a delegate can be registered in several committees)



ILNAS positioning : Framework – Education about Standardization

FIRST STEP - University certificate “Smart ICT for Business Innovation” with University of Luxembourg

- Outcome of more than six years of work by ILNAS
 - ▶ Luxembourg Standardization Strategy 2014-2020
 - ▶ Policy on ICT technical standardization (2015-2020)
 - ▶ ILNAS: ETSI full member - Luxembourg Head of Delegation ISO/IEC JTC1
 - ▶ Pilot project conducted in the 2015-2016 academic year
 - ▶ **Next promotion:** in the 2017-2018 academic year

STRENGTHS

- **Topics** at the **cutting edge** and reflecting **current issues** in the field of ICT
- **No equivalent training in this area in Europe**
- **An instrument to strengthen the competitiveness** of national companies

OUTCOMES FOR THE NATIONAL ECONOMY

- Allow a **better understanding of the high level Smart ICT concepts**
- Definition of **new products** and/or **services**
- Identification of **niche markets**
- To improve **commercial approach**
- **Basis of new economic developments**
- Added value to **facilitate the communication with the client**



ILNAS positioning : Framework – Education about Standardization

FIRST STEP - University certificate “Smart ICT for Business” Luxembourg

- Outcome of more than 100 hours of training
 - ▶ Luxembourg
 - ▶ Policy on IC
 - ▶ ILNAS: ETSI fu
 - ▶ Pilot project condu
 - ▶ **Next promotion:** in the 2017-2018

Objective: Master degree related to technical standardization

STRENGTHS

- **Topics** at the **cutting edge** and reflecting **current issues** in the field of ICT
- **No equivalent training in this area in Europe**
- **An instrument to strengthen the competitiveness** of national companies

OUTCOMES FOR THE NATIONAL ECONOMY

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- To improve **commercial approach**
- **Basis of new economic developments**
- Added value to **facilitate the communication with the client**



ILNAS positioning : Framework – Research about Technical Standardization

- ▶ Development of related research activities
 - 4-year research program dedicated to “Digital Trust for Smart ICT”
 - Aims to build a solid base of knowledge and expertise in Smart ICT taking into account aspects related to security, reliability, and standardization and considering Digital Trust as a transversal axis
 - Crucial to the development of the future Master program and consolidation of the university certificate and future activities of education about standardization



ICT Standardization in Luxembourg : New services supporting delegate's involvement - **Coaching for national standardization delegates**



- ▶ First step (available now)
 - Personalized support for the handling of collaborative work platforms and voting system
 - On demand for the national standardization delegates of the ICT sector
 - Complement the Training session “New delegate in standardization”

- ▶ Second step (development during 2017)
 - New tools & services based on the needs and barriers identified in step 1

- ▶ Objectives
 - Set up good practices common to all national delegates of the ICT sector
 - Facilitate the standardization work of national delegates
 - Understanding of the standardization environment
 - Organization of the national mirror committees
 - Encourage a stronger involvement of the national standardization community

Contact: anec@ilnas.etat.lu

Next ILNAS events – Save the date



January 26, 2017

Breakfast “**Digital Trust for Cloud Computing**”



March 9, 2017

Breakfast “**Digital Trust for Internet of Things**”

ILNAS



Discussions

CONTACT



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des produits et services

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