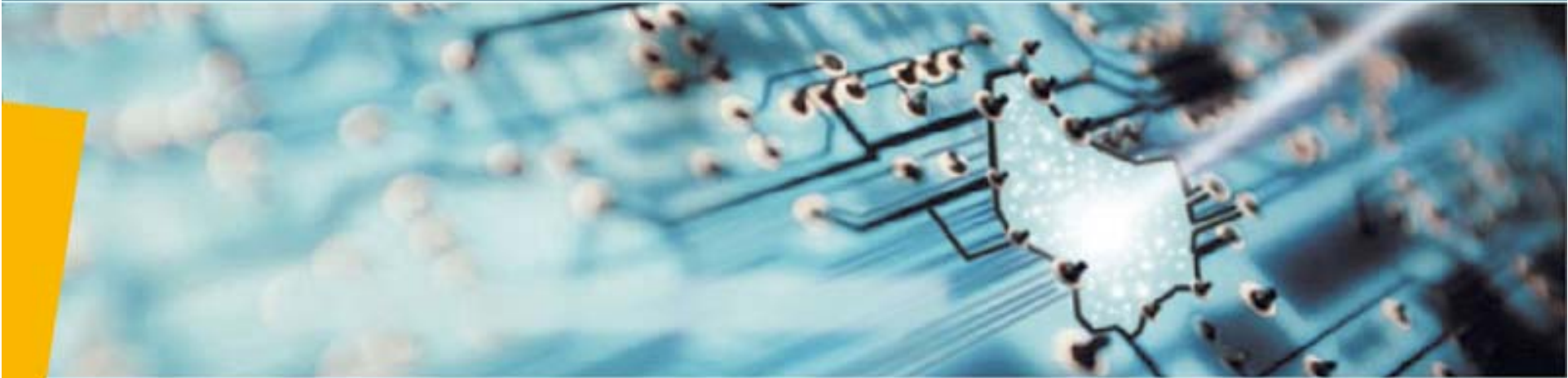


ILNAS

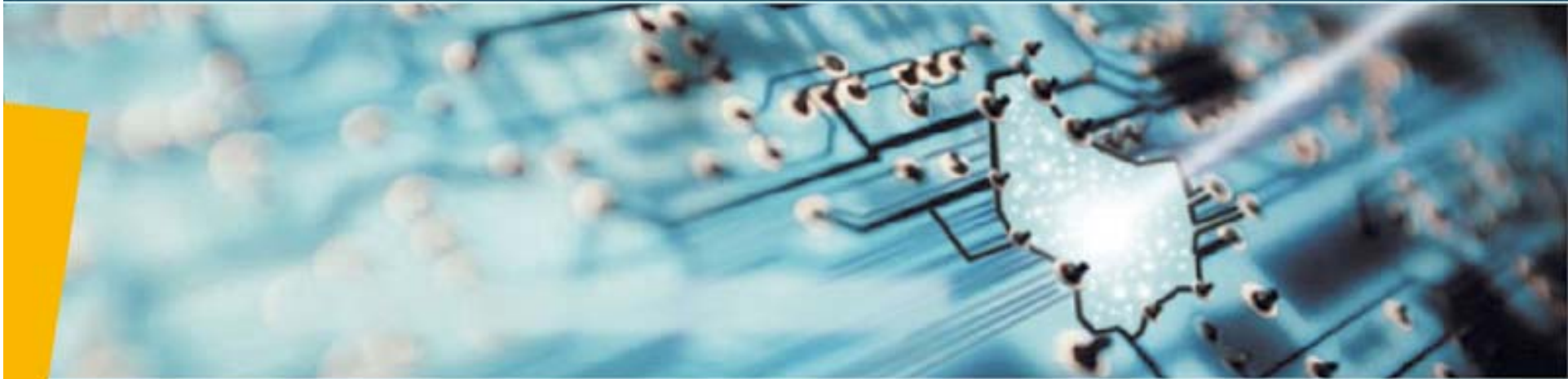


# Standards Analysis ICT Sector - Luxembourg

Chamber of Commerce  
November 23, 2012

## Contents

1. Standards analysis of the national ICT sector
2. Identification of national stakeholders
3. Links between national stakeholders and standards watch results
4. Focus on ICT *fora/consortia* and economic intersectoral approach
5. Presentation of opportunities for the national market



# 1. Standards analysis of the national ICT sector

## 1. Standards analysis of the national ICT sector

### 1.1. Objective

- ▶ Inform the national stakeholders about standardization developments in their sector
- ▶ Identify potential interests for the national stakeholders and opportunities for the national market
- ▶ Encourage all national stakeholders to have a normative reflex
- ▶ Develop « standards-related » skills and collaborations between national stakeholders

### *General and normative context of the ICT sector*

- ▶ Dynamic sector with massive investments
- ▶ Responsible for 5% of European GDP (Gross Domestic Product), with an annual market value of €660 billion (COM2011/0311 from the European Commission)
- ▶ Standards play a strategic role for ICT

## 1.2. Main steps of the ICT standards analysis

1. Conducting a standards watch

2. Identification of the national stakeholders

3. Links between stakeholders and standards watch results

4. Focus on ICT *fora/consortia* and on ICT and economic intersectoral approach

5. Identification of opportunities for the national market

### 1.3. Results of the selective standards watch

- ▶ Identification of **37** standardization technical committees (TC)

ISO	ISO/IEC	CEN	ETSI
1	22	11	3

- ▶ Definition of 8 subsectors addressing **23** standardization technical committees (TC)

SUBSECTOR	ISO	ISO/IEC	CEN	ETSI
CLOUD COMPUTING		1		1
DATA CENTER		1		
TELECOMMUNICATIONS		2	1	1
SOFTWARE AND SYSTEM ENGINEERING		3		
SECURITY		2		
DATA MANAGEMENT		6	1	
ELECTRONIC SIGNATURE		1	1	1
E-ARCHIVING	1			

- ▶ Identification of **14** standardization technical committees (TC) not directly related to a subsector

ISO	ISO/IEC	CEN	ETSI
0	6	8	0


SDO	TECHNICAL COMMITTEE (TC)	TITLE	SUBSECTOR
ISO	ISO/TC 46	Information and documentation	<b>E-ARCHIVING</b>
ISO/IEC	ISO/IEC JTC 1	Information technology	
	ISO/IEC JTC 1/WG 7	Sensor networks	
	ISO/IEC JTC 1/WG 8	Governance of IT	
	ISO/IEC JTC 1/SC 2	Coded character sets	<b>DATA MANAGEMENT</b>
	ISO/IEC JTC 1/SC 6	Telecommunications and information exchange between systems	<b>TELECOMMUNICATIONS</b>
	ISO/IEC JTC 1/SC 7	Software and systems engineering	<b>SOFTWARE AND SYSTEM ENGINEERING</b>
	ISO/IEC JTC 1/SC 17	Cards and personal identification	<b>ELECTRONIC SIGNATURE</b>
	ISO/IEC JTC 1/SC 22	Programming languages, their environments and system software interfaces	<b>SOFTWARE AND SYSTEM ENGINEERING</b>
	ISO/IEC JTC 1/SC 23	Digitally Recorded Media for Information Interchange and Storage	<b>DATA MANAGEMENT</b>
	ISO/IEC JTC 1/SC 24	Computer graphics, image processing and environmental data representation	<b>DATA MANAGEMENT</b>
	ISO/IEC JTC 1/SC 25	Interconnection of information technology equipment	<b>TELECOMMUNICATIONS</b>
	ISO/IEC JTC 1/SC 27	IT Security techniques	<b>SECURITY</b>
	ISO/IEC JTC 1/SC 28	Office equipment	
	ISO/IEC JTC 1/SC 29	Coding of audio, picture, multimedia and hypermedia information	<b>SOFTWARE AND SYSTEM ENGINEERING</b>
	ISO/IEC JTC 1/SC 31	Automatic identification and data capture techniques	<b>DATA MANAGEMENT</b>
	ISO/IEC JTC 1/SC 32	Data management and interchange	<b>DATA MANAGEMENT</b>
	ISO/IEC JTC 1/SC 34	Document description and processing languages	<b>DATA MANAGEMENT</b>
	ISO/IEC JTC 1/SC 35	User interfaces	
	ISO/IEC JTC 1/SC 36	Information technology for learning, education and training	
	ISO/IEC JTC 1/SC 37	Biometrics	<b>SECURITY</b>
ISO/IEC JTC 1/SC 38	Distributed application platforms and services (DAPS)	<b>CLOUD COMPUTING</b>	
ISO/IEC JTC 1/SC 39	Sustainability for and by Information Technology	<b>DATA CENTER</b>	

SDO	TECHNICAL COMMITTEE (TC)	TITLE	SUBSECTOR
CEN	CEN/TC 224	Personal Identification, Electronic Signature and Cards	<b>ELECTRONIC SIGNATURE</b>
	CEN/TC 225	AIDC Technologies	<b>DATA MANAGEMENT</b>
	CEN/TC 247	Building - Automation, Controls and Building Management	
	CEN/TC 251	Health Informatics	
	CEN/TC 278	Road transport and traffic telematics	
	CEN/TC 287	Geographic Information	
	CEN/TC 294	Communication systems for meters and remote reading of meters	
	CEN/TC 304	Information and Communication Technologies - European Localization Requirements	
	CEN/TC 310	Advanced Automation Technologies and their Applications	
	CEN/TC 353	Information and Communication Technologies for Learning, Education and Training	
	CEN/TC Project Committee 365	Internet Filtering	<b>TELECOMMUNICATIONS</b>
ETSI	ETSI	European Telecommunications Standards Institute	<b>TELECOMMUNICATIONS</b>
	ETSI/TC CLOUD	Cloud Computing	<b>CLOUD COMPUTING</b>
	ETSI/TC ESI	Electronic Signatures and Infrastructures	<b>ELECTRONIC SIGNATURE</b>

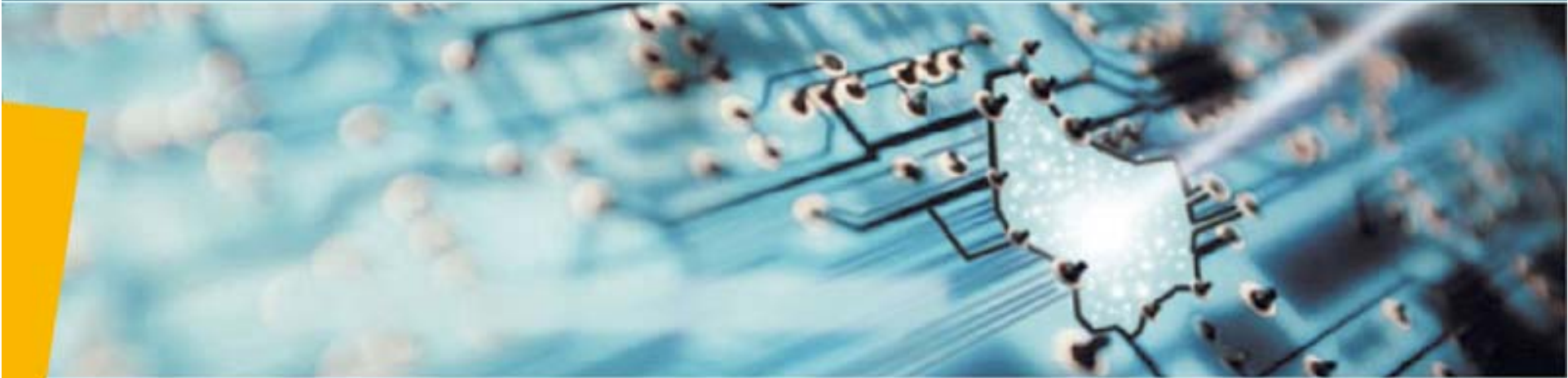


## ID-Card

- ▶ Presentation of the results using identification ID-cards for each standardization technical committee

General information			
Committee		Title	
Creation date		MEMBERS 	
Secretariat			
Secretary			
Chairperson			
Involvement of Luxembourg			
Organizations in liaison			
Web site			
Scope			
Structure			
Standardization work			
Published standards			
Standards under development			
Comments			

ILNAS



## 2. Identification of national stakeholders

## 2. Identification of national stakeholders

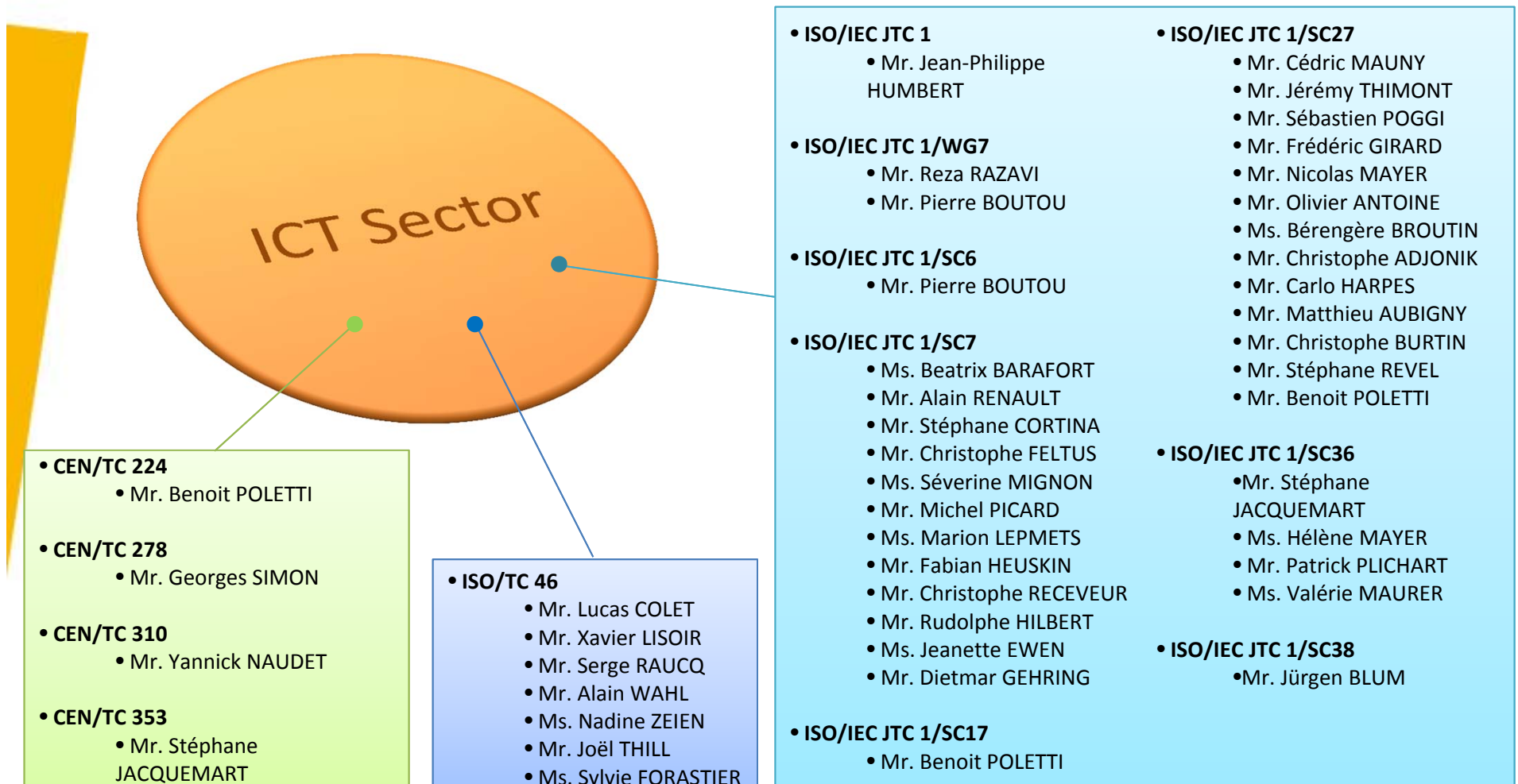
### 2.1. Objective

- ▶ Identification of national private and public stakeholders representing the entire ICT sector in Luxembourg to simplify the proposals of connections between the stakeholders categories and the ICT subsectors classifying the selected TCs

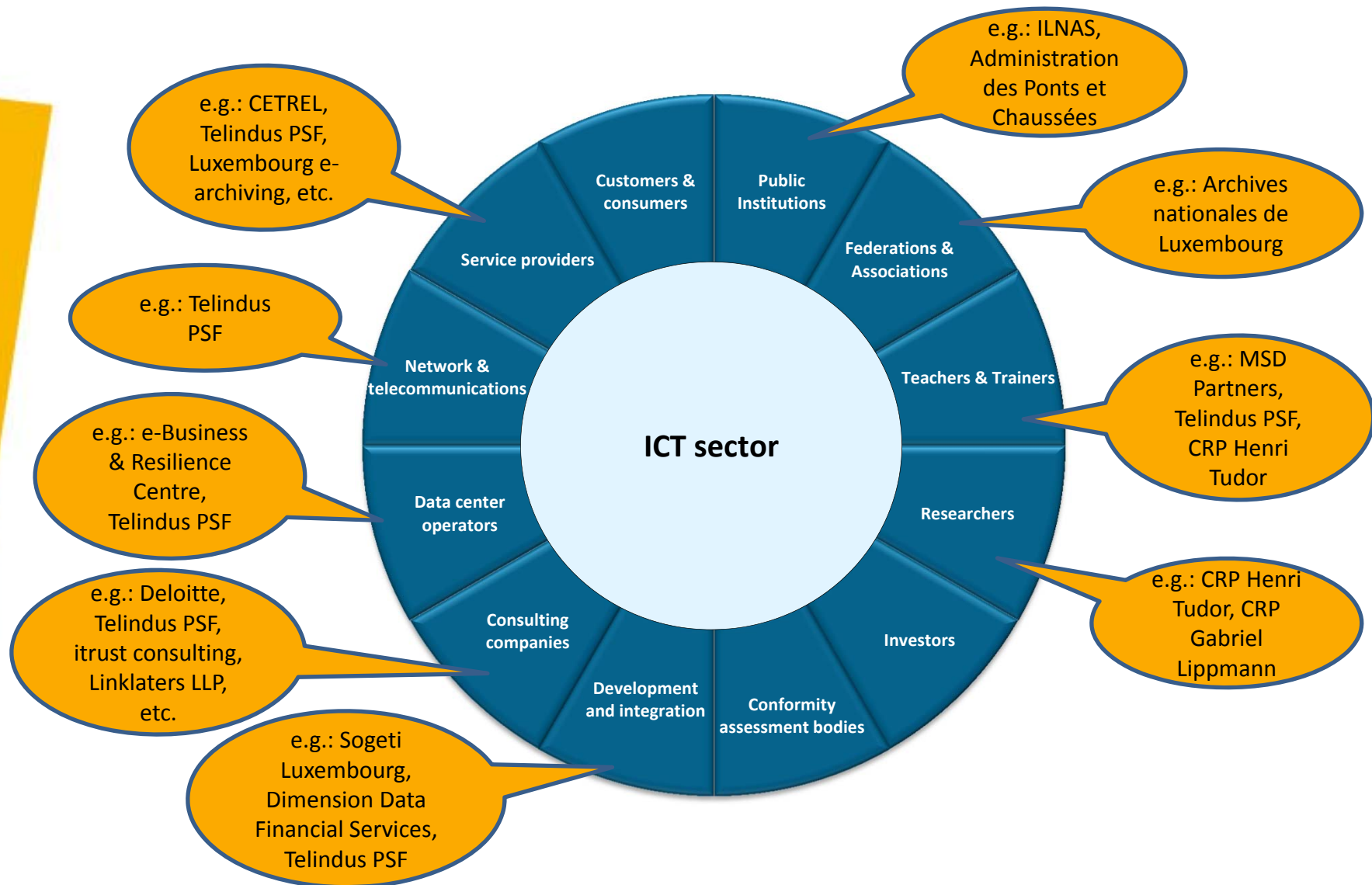
### 2.2. Methodology

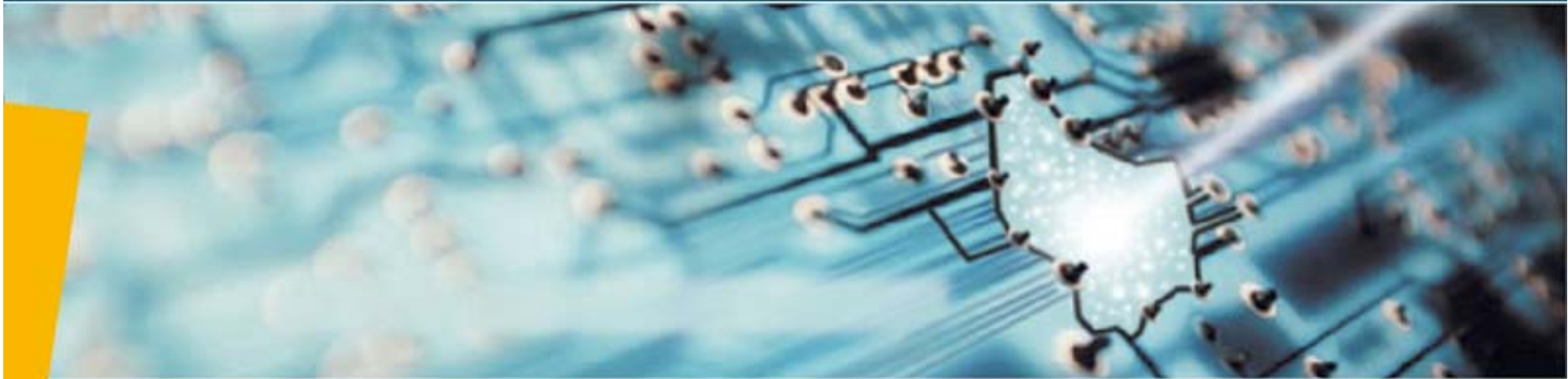
- ▶ Identification of the public and private stakeholders acting in the ICT sector
  - ▶ Identification of the connections, relationships between the stakeholders
  - ▶ Definition of stakeholder categories
- Sources: contacts, publications, reports, internet, meetings, etc.

- ▶ At the national level, the ICT sector is already an active standardization sector with currently 42 national delegates



## 2.3. Overview of the national stakeholders of the ICT sector





### 3. Links between national stakeholders and standards watch results



## 3. Links between national stakeholders and standards watch results

### 3.1. Objective

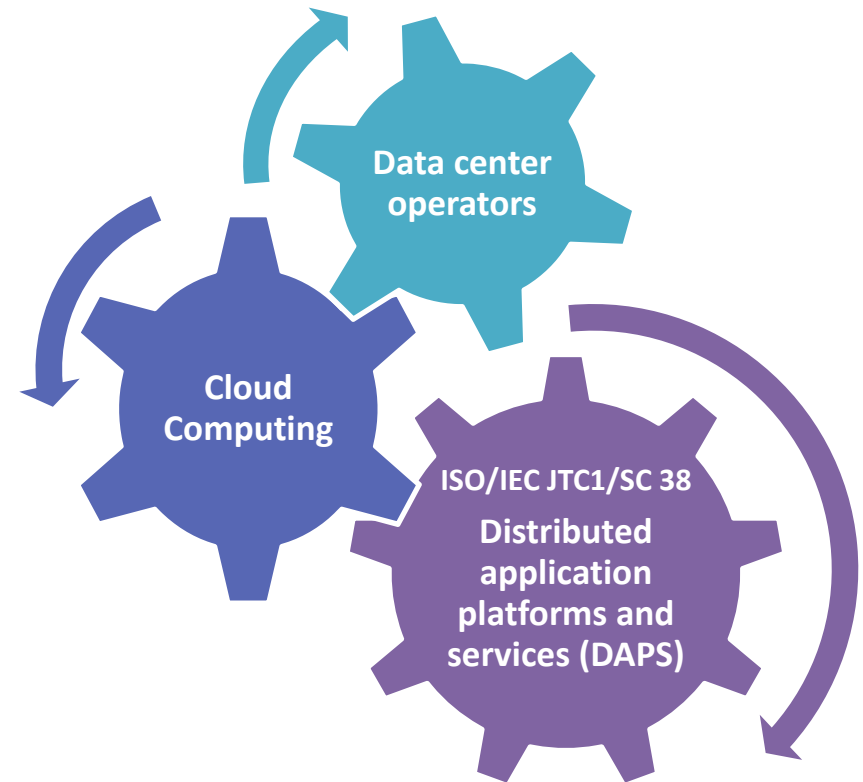
- ▶ Provide links between the stakeholder categories and the ICT subsectors as they were defined in the initial stage of the standards watch

### 3.2. Methodology

#### *Potential interests*

- ▶ Details of the different potential interests in each subsector

<ul style="list-style-type: none"> <li>◆ <b>Information:</b> <ul style="list-style-type: none"> <li>↳ Learn about standards developments</li> </ul> </li> <li>■ <b>Performance:</b> <ul style="list-style-type: none"> <li>↳ Increase performance (networking/benchmarking)</li> </ul> </li> <li>❖ <b>Services:</b> <ul style="list-style-type: none"> <li>↳ Develop new services</li> </ul> </li> <li>□ <b>Projects:</b> <ul style="list-style-type: none"> <li>↳ Follow or participate in research projects</li> </ul> </li> <li>● <b>Training:</b> <ul style="list-style-type: none"> <li>↳ Update or develop training sessions</li> </ul> </li> <li>\$ <b>Investments:</b> <ul style="list-style-type: none"> <li>↳ Invest in a new technology</li> </ul> </li> </ul>
---



### 3.3. Results

- ▶ Results are presented through:
  - a specific matrix for each stakeholder category (as presented below)
  - a final matrix with all stakeholder categories

*Example of a specific matrix:*

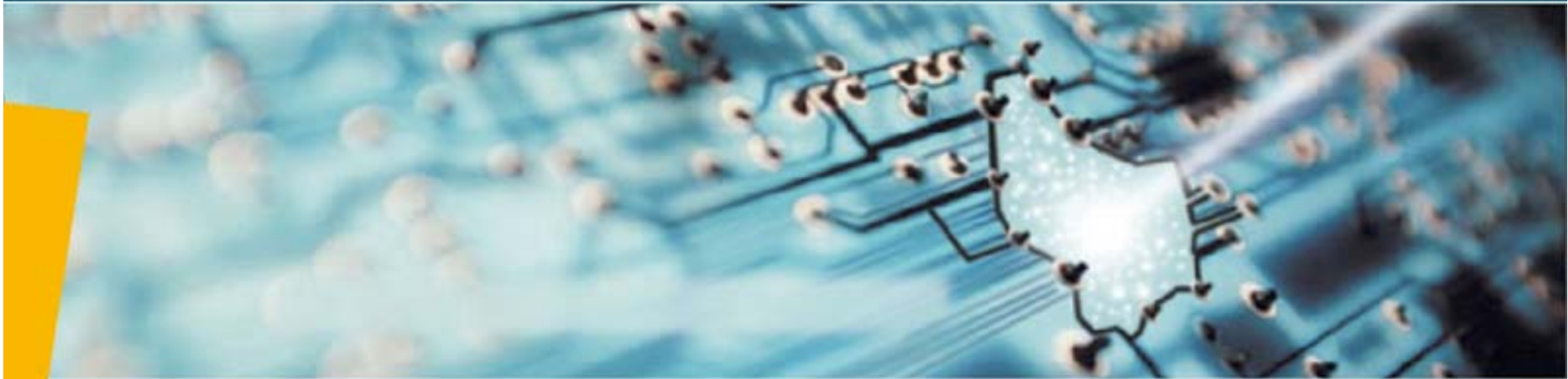
Stakeholders	Cloud Computing	Data Center	Telecommunications	Security	Software and System Engineering	Data Management	Electronic Signature	E-Archiving
Information	X	X	X	X	X	X	X	X
Performance	X	X	X	X	X	X	X	X
Services								
Projects	X	X	X	X	X	X	X	X
Training								
Investments								



## Global matrix of all potential interests shared between the national stakeholders

Subsectors Stakeholders	Cloud Computing	Data Center	Telecommunications	Security	Software & system engineering	Data management	Electronic signature	E-archiving
Public institutions	◆■□\$	◆□\$	◆■□\$	◆■❖□○\$	◆□\$	◆□\$	◆■❖□\$	◆■❖□\$
Federations & Associations	◆■□○	◆■□○	◆■□○	◆■□○	◆■□○	◆■□○	◆■□○	◆■□○
Teachers & Trainers	◆○	◆○	◆○	◆○	◆○	◆○	◆○	◆○
Researchers	◆❖□○\$	◆❖□○\$	◆❖□○\$	◆■❖□○\$	◆■❖□○\$	◆❖□○\$	◆❖□○\$	◆■❖□○\$
Investors	◆■\$	◆■\$	◆■\$	◆■\$	◆■\$	◆■\$	◆■\$	◆■\$
Conformity Assessment Bodies	◆❖○	◆❖○	◆❖○	◆❖○	◆❖○	◆	◆❖○	◆❖○\$
Development and Integration Companies	◆■❖□○	◆■❖□○	◆■❖□○	◆■❖□○	◆■❖□○	◆■❖□○	◆■❖□○	◆■❖□○
Consulting Companies	◆■❖□○	◆■❖□○	◆■❖□○	◆■❖□○	◆■❖□○	◆■❖□○	◆■❖□○	◆■❖□\$
Data Center Operators	◆■❖□\$	◆■❖□\$	◆■\$	◆■	◆■			◆■❖□\$
Network and Telecommunications Companies	◆❖\$	◆■❖□	◆■❖□\$	◆■□	◆■□			◆■❖□
Service Providers	◆■❖□\$	◆■❖□\$	◆■❖□\$	◆■❖□\$	◆■❖□\$	◆■❖□\$	◆■❖□\$	◆■❖□\$
Customers & Consumers Representatives	◆■\$	◆	◆■	◆■	◆■	◆■	◆	◆■\$

◆ Information    ■ Performance    ❖ Services    □ Projects    ○ Training    \$ Investments




4. Focus on ICT *fora/consortia* and economic intersectoral approach

## 4. Focus on ICT *fora/consortia* and economic intersectoral approach

### 4.1. Focus on ICT *fora/consortia*

- ▶ Much of the key standardization activity in ICT is carried out by *industry consortia* rather than in formal standards organizations
- ▶ *Survey of fora/consortia* considered as the most relevant for the current national market
- ▶ 13 *fora/consortia* selected:

- ITU-T
- IETF
- W3C
- IEEE-SA
- DMTF
- Ecma
- International
- OASIS
- OMG
- OGF
- TOG
- SNIA
- TCG
- UPnP Forum

General information			
Forum / Consortium		Title	
Creation date		MEMBERS 	
Chairperson			
Involvement of Luxembourg			
Web site			
Scope			
Executive summary			
Structure			
Standardization work			
Published standards			
Standards under development			

## 4.2. ICT and economic intersectoral approach

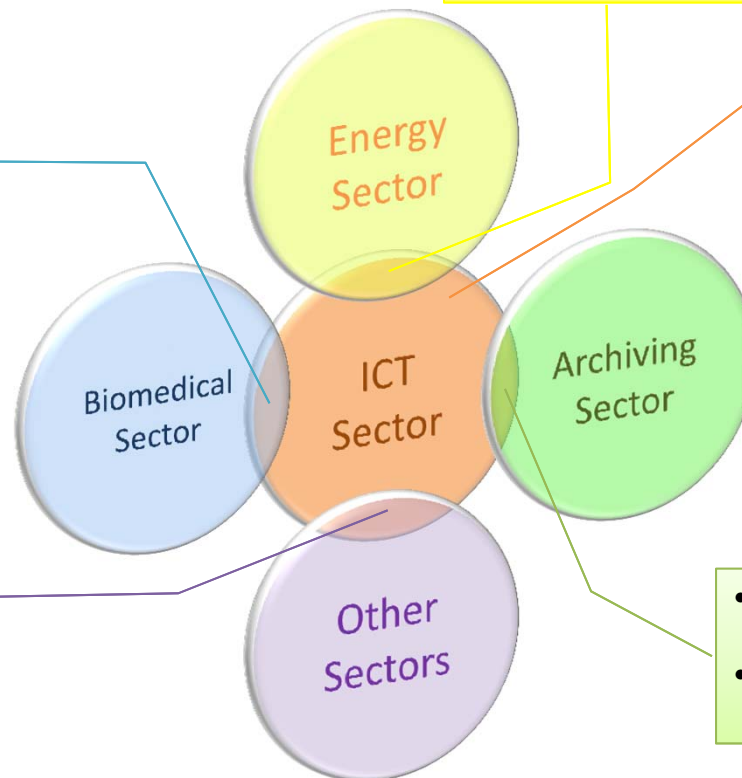
- ▶ ICT can be considered as a **horizontal support of many other sectors** in the worldwide economy
- ▶ In the frame of the standards analysis of different sectors in Luxembourg, the ICT sector can be seen as a **sector-supporting sector**:

- ISO/IEC JTC1 SWG-Smart Grid
- CEN/CENELEC/ETSI JWG Smart Grids
- IEC SG 3 – Strategic Group on Smart Grid

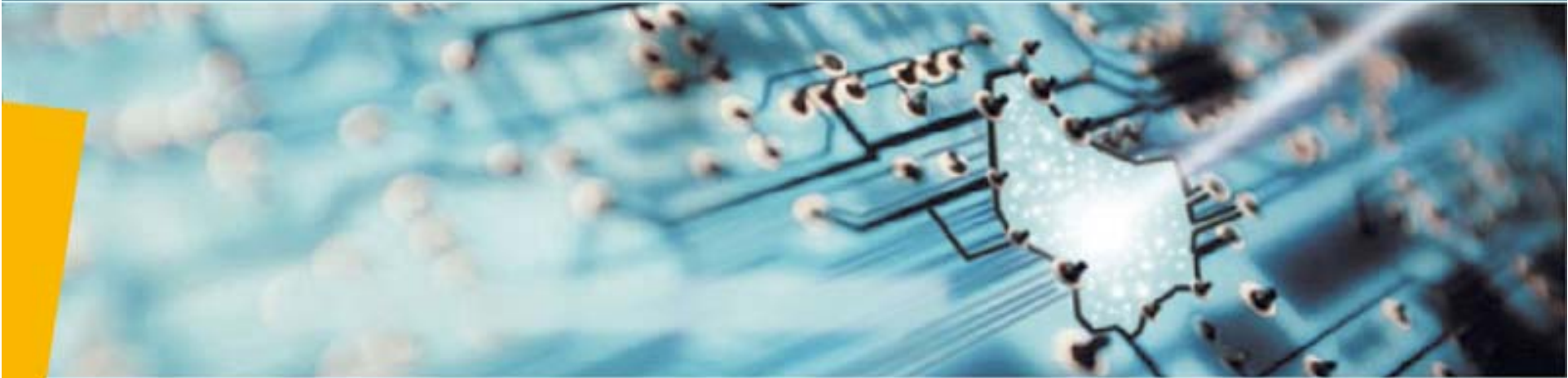
- ISO/IEC JTC 1
- ISO/IEC JTC 1/WG7
- ISO/IEC JTC 1/WG8
- ISO/IEC JTC 1/SC2
- ISO/IEC JTC 1/SC6
- ISO/IEC JTC 1/SC7
- ISO/IEC JTC 1/SC17
- ISO/IEC JTC 1/SC22
- ISO/IEC JTC 1/SC23
- ISO/IEC JTC 1/SC24
- ISO/IEC JTC 1/SC25
- ISO/IEC JTC 1/SC27
- ISO/IEC JTC 1/SC28
- ISO/IEC JTC 1/SC29
- ISO/IEC JTC 1/SC31
- ISO/IEC JTC 1/SC32
- ISO/IEC JTC 1/SC34
- ISO/IEC JTC 1/SC35
- ISO/IEC JTC 1/SC36
- ISO/IEC JTC 1/SC37
- ISO/IEC JTC 1/SC38
- ISO/IEC JTC 1/SC39
- CEN/TC 224
- CEN/TC 225
- CEN/TC 247
- CEN/TC 251
- CEN/TC 278
- CEN/TC 287
- CEN/TC 294
- CEN/TC 304
- CEN/TC 310
- CEN/TC 353
- CEN/TC Project Committee 365
- ETSI
- ETSI/TC CLOUD
- ETSI/TC ESI

- ISO TC 215
- ITU-T Study Group 16
- NEMA/DICOM
- HL7
- CEN TC 251
- ETSI/eHEALTH

- Financial services (ISO/TC 68, etc.)
- Automotive sector (ISO/TC 184, ISO/TC 22, etc.)
- Railway sector (CLC/TC 9X, etc.)
- Etc.



- ISO TC 171 – Document management applications
- ISO TC 46 - Information and documentation



## 5. Presentation of opportunities for the national market

## 5. Presentation of opportunities for the national market

To summarize, opportunities identified for the national market related to the standardization activities of the ICT sector are:

- Strengthening of the ISO/IEC JTC1 national forum as an information network about ICT standardization
- Promotion and support of the involvement of national delegates as editor of European or International standards
- Following of the standardization work performed in ICT *fora/consortia*
- Involvement at the strategic level of ICT standardization
- Supporting national delegates involved in standardization
- Providing services in relation to standards evolutions
- Following research projects involving standardization
- Strengthen the existing training offers for the sector
- Strengthen the image of Luxembourg in the standardization landscape



## Thank you for your attention

### Contact:

<p><b>ILNAS</b> Service de la confiance numérique 34-40, avenue de la Porte-Neuve L-2227 Luxembourg</p>	 Institut luxembourgeois de la normalisation, de l'accréditation, de la sécurité et qualité des produits et services
<p>Email: <a href="mailto:confiance-numerique@ilnas.etat.lu">confiance-numerique@ilnas.etat.lu</a> Phone: (+352) 46 97 46 – 42</p>	
<p><a href="http://www.ilnas.public.lu">http://www.ilnas.public.lu</a></p>	
<p><b>ANEC</b> 34-40, avenue de la Porte-Neuve L-2227 Luxembourg</p>	 <b>ANEC</b> AGENCE POUR LA NORMALISATION ET L'ÉCONOMIE DE LA CONNAISSANCE
<p>Email: <a href="mailto:anec@ilnas.etat.lu">anec@ilnas.etat.lu</a> Phone: (+352) 46 97 46 – 70</p>	
<p><a href="http://www.ilnas.public.lu">http://www.ilnas.public.lu</a></p>	