第14回国際標準化教育研究会講演資料

Kaleidoscope2014，Workshop およびTSB Adhocの報告

平成26年9月12日

大阪大学

中西　浩

発表内容

１.開催概要

２. Joint ITU-IEICE-IEEE **Workshop** on　Education about Stanadardization

３. **TSB Director’s Ad hoc Group** on Education about Standardization

４. Kaleidoscope 2014

５. まとめ

開催概要

1. 場所

Bonch-Bruevich St. Petersburg State University of Telecommunications (SPbSUT)

http://www.sut.ru

2. 日時　02/06/2014～05/06/2014

3. 行事

(1)02/06/2014

14:00～16:45　Joint ITU-IEICE-IEEE **Workshop** on Education about Stanadardization

17:00～19:00　3rd meeting of the **TSB Director's Ad hoc Group** on Education about Standardization

(2)03/06/2014～05/06/2014

09:00～17:30　**Kaleidoscope 2014**

Joint ITU-IEICE-IEEE **Workshop** on Education about Stanadardization

1. 目的

The overarching aim of the workshop is to gather representatives of academic and research institutes, ITU Academia Members, standards developing organizations, international organizations, industry associations and governments to foster collaboration in the development of initiatives aimed at increasing the attention devoted to standardization by curricula across all academic disciplines.

2. 内容

(1) Opening Plenary

(2) Session 1 - Organizations supporting education about standardization

(3) Session 2 - Academic activities

(4) Closing remarks

出展:http://www.itu.int/en/ITU-T/academia/kaleidoscope/2014/Pages/Joint-ITU-IEICE-IEEE-Workshop-on-Education-about-Standardization.aspx

Programme

12:30 – 14:00	Registration
14:00 – 14:30	**Opening Plenary** • **Host's Welcoming Remarks: O. Zolotokrylin**, SPbSUT vice-rector • **Welcoming Remarks:** James Irvine, IEEE Standards Education Committee • **Welcoming Remarks:** Mitsuji Matsumoto, IEICE Standard Education Committee, Japan • **Inaugural Speech:** Malcolm Johnson, Director, Telecommunication Standardization Bureau, ITU
14:30 – 15:45	**Session 1 – Organizations supporting education about standardization** **Session Chair:** Ken Krechmer, University of Colorado, USA • Study on Education about Standardization by IEICE Standard Education Committee of Japan Hiroshi Nakanishi, IEICE Standard Education Committee, Japan [Presentation] • The IEEE Standards Education Initiative James Irvine, IEEE Standards Education Committee [Presentation] • Joint European Effort in Education about Standardization **Dina Simunic**, CEN/CENELEC Group for education about standardization • UNECE project of education on standardization Elena Bogdanova, UNECE STaRT-ED Group [Presentation] • Standardization Literacy Hermann Brand, Director – Innovation, ETSI– European Telecommunications Standards Institute

出展:http://www.itu.int/en/ITU-T/academia/kaleidoscope/2014/Pages/Joint-ITU-IEICE-IEEE-Workshop-on-Education-about-Standardization.aspx

Programme

15:45 – 16:45	**Session 2 – Academic activities** **Session Chair:** Maurizio Talamo, University of Rome Tor Vergata and Nestor Laboratory, Italy • The role of international telecommunication standards in an education program of the SPbSUT R. Kirichek, ITU-D academia member SPbSUT, Russian Federation [Presentation] • Activities of Academia in Waseda University Mitsuji Matsumoto, ITU-T academia member Waseda University, Japan [Presentation] • Proposal for Education about Standardization Learning Methods **Dina Simunic**, ITU-T academia member Aalborg University's Center for TeleInFrastruktur (CTIF), South East Europe • Academic initiatives of the Russian Federation in the area of supranational standardization of education Elena Bogdanova, Director of the Institute of International Business and Law NRU ITMO, Russian Federation [Presentation]
16:45 – 16:50	**Closing remarks** Malcolm Johnson, Director, Telecommunication Standardization Bureau, ITU

出展:http://www.itu.int/en/ITU-T/academia/kaleidoscope/2014/Pages/Joint-ITU-IEICE-IEEE-Workshop-on-Education-about-Standardization.aspx

（１）セッション１ではKen Krechmer (Univ. of Colorado, USA)議長の下で，標準化教育の現状と将来展望が示された．中西浩(大阪大学)から電子情報通信学会の規格調査委員会国際標準化教育検討委員会の活動状況を，IEEEから標準化教育の取組み事例，CEN/CENEELEC標準化教育部門から欧州グループの標準化教育の取組み，UNECE標準化教育グループからUNCCEでの取組み，ETSIイノベーション局長から標準化リテラシィの紹介があった.

出展：松本充司氏作成の電子情報通信学会標準化教育検討委員会第２６－３回資料より

（２）セッション２ではMaurizio Talamo (Tor Vergata Univ. of Rome, Italy) の下で，ITUアカデミアメンバーに加盟している機関からの活動紹介があった．サンクトペテルブルグ電通大からはITU-Dにおけるアカデミアの現状が，早稲田大学らITU-Tにおけるアカデミアの取組み事例が，オールボー大学TeleInFrastrukturセンター(CTIF)からITU-Tアカデミアメンバー標準化教育の教育方法の提案が行われた．ロシア連邦，法律と経済研究所からロシア連邦の先導的標準化教育の取組みが紹介された　．

終わりにマルコムジョンソンITU標準化局長から，本ワークショップは標準化教育に関して取組む様々な関係者間の連携強化とグローバル化した標準化教育の課題の調整，進め方について議論することであるということでまとめられた．

出展：松本充司氏作成の電子情報通信学会標準化教育検討委員会第26－3回資料より

Joint ITU-IEICE-IEEE Workshop on Education about Standardization

Saint Petersburg, Russian Federation, 2 June 2014

Study on Education about Standardization by IEICE Standard Education Committee, Japan

Hiroshi Nakanishi

Vice-chairman of IEICE standard education committee

Osaka University

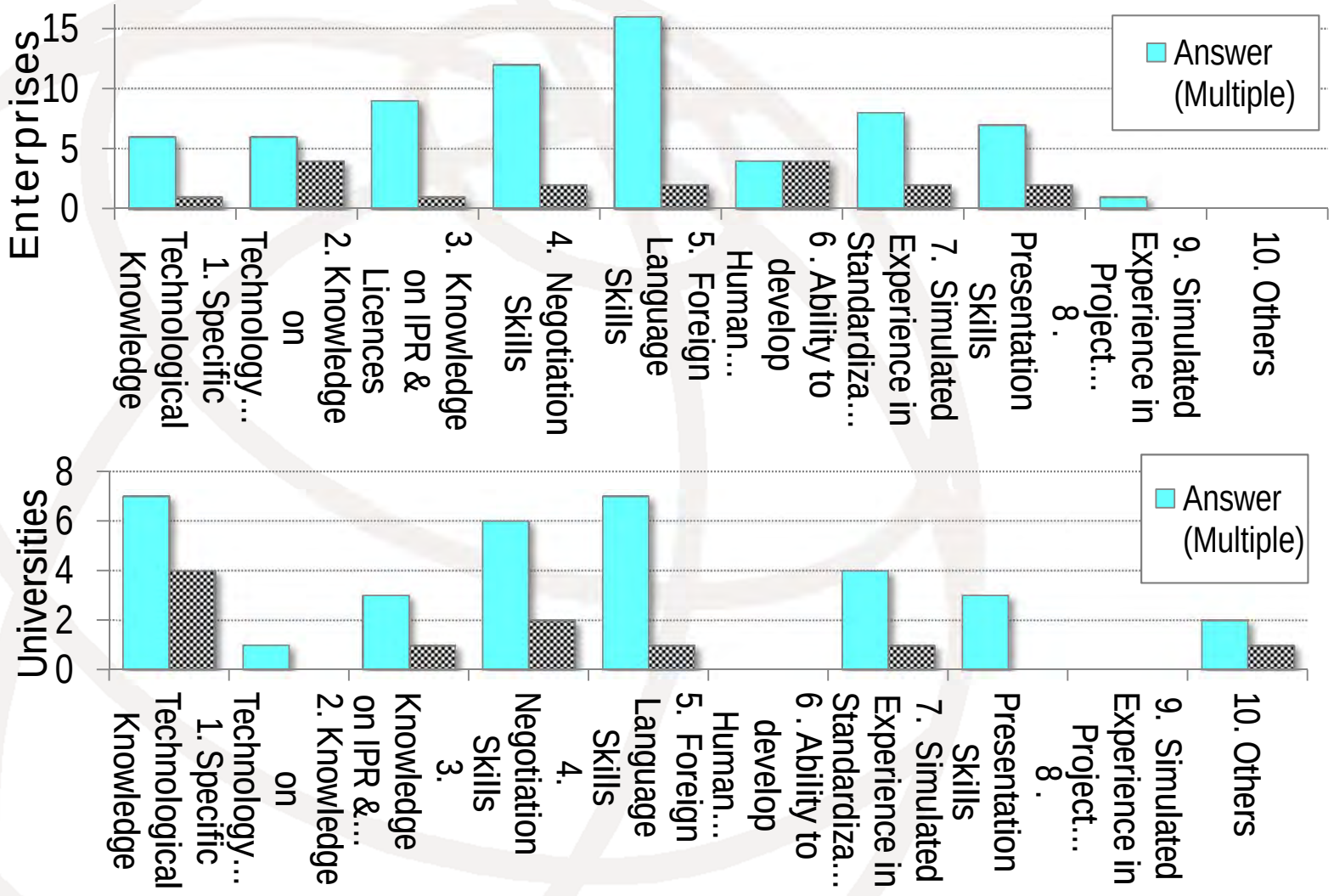
nakanishi@idiscp.osaka-u.ac.jp

Table of Contents

1. Objectives and activities of IEICE Standard Education Committee

- To survey situation and requirements about standardization education of industries and universities in Japan and foreign countries.
- To study about standardization skill standard.
- To plan education about standardization by IEICE.
- To plan and propose education and its materials about standardization

2. Questionnaire survey result and their analysis



Gaps analysis between the two is now on going.

3. Survey on programs and courses about standardization education in universities

- University of Geneva and
  Kanazawa Institute of Technology offer
  Master's degree program.
- Osaka University offers a certificate program as a minor study at graduate schools.
- 24 Japanese universities offer 45 courses about global standardization

3.Survey results of programs and courses in universities

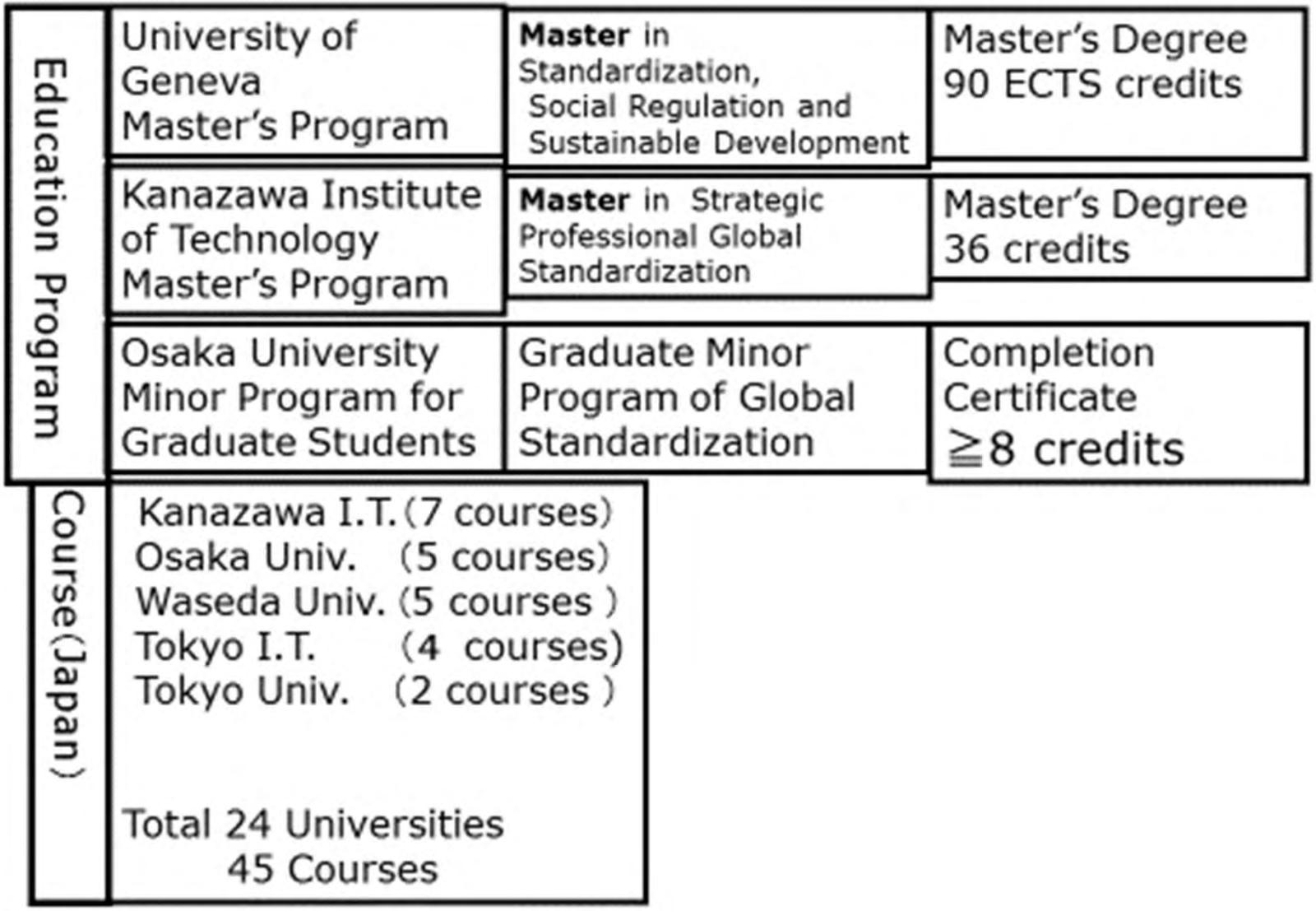


Figure 1. Education programs and courses

4. “Standardization skill standard"

specifies

- 36 tasks required for standardization, and
- skills required for those tasks.

To evaluate the skills required for the tasks, the skill standard introduces

- skill evaluation criteria on performance,
- skill evaluation criteria on capability.

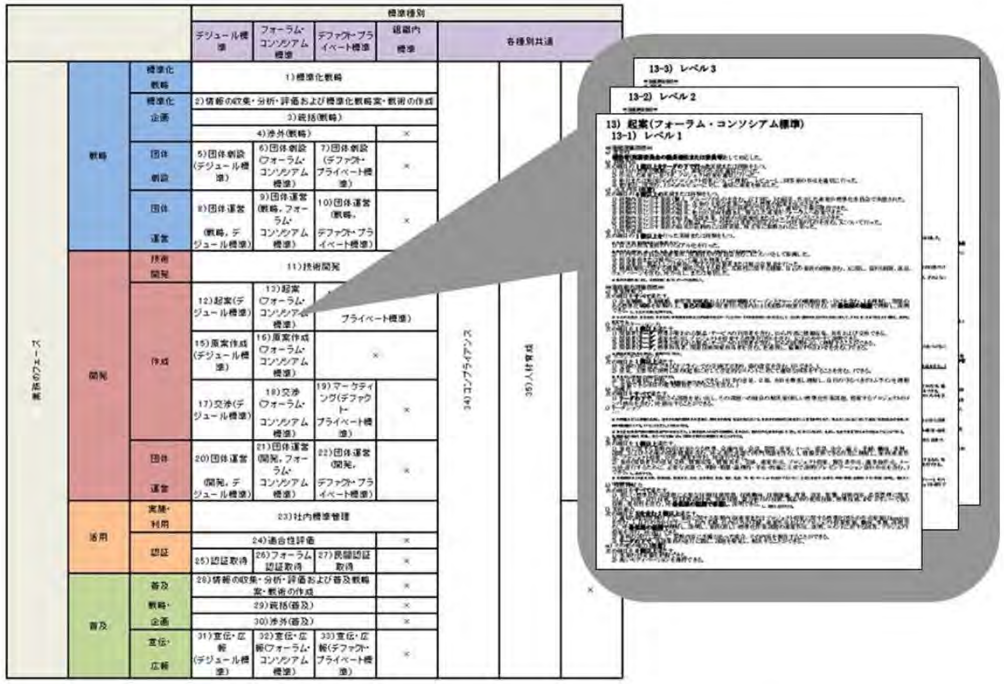
The skill and skill level are described in the skill card corresponding to the task.

Table 1. Tasks for standardization

			Standard Type						
			De jure standards	Forum/Consortium standards	De facto/Company-product standards	Houserules	All types		
Task Phase	Strategy	Strategy planning	1) Strategy planning for standardization				34) Considering compliance	35) Considering human resource development	36) Considering intellectual properties
		Tactics planning	2) Information collecting/analyzing/evaluating and tactics planning						
			3) Supervising (Strategy)						
			4) Liaison establishing (Strategy)			N/A			
		Founding organization	5) Founding organization (De jure standards)	6) Founding organization (Forum/Consortium standards)	7) Founding organization (De facto/Company-product standards)	N/A			
		Managing organization	8) Managing organization (Strategy, De jure standards)	9) Managing organization (Strategy, Forum/Consortium standards)	10) Managing organization (Strategy, De facto/Company-product standards)	N/A			
	Development	Developing technology	11) Developing associated technology						
		Developing standards	12) Proposing new work items (De jure standards)	13) Proposing new work items (Forum/Consortium standards)	14) Proposing new work items (De facto/Company-product standards)				
			15) Drafting standards (De jure standards)	16) Drafting standards (Forum/Consortium standards)	N/A				
			17) Negotiating (De jure standards)	18) Negotiating (Forum/Consortium standards)	19) Marketing (De facto/Company-product standards)	N/A			
		Managing organization	20) Managing organization (Development, De jure standards)	21) Managing organization (Development, Forum/Consortium standards)	22) Managing organization (Development, De facto/Company-product standards)	N/A			
	Implementing	Applying standards	23) Applying standards						N/A
		Acquiring certification	24) Conformance testing			N/A			
			25) Acquiring certification	26) Acquiring forum certification	27) Acquiring private certification	N/A			
	Promotion	Promotion planning	28) Information collecting/analyzing/evaluating and promotion planning			N/A			
			29) Supervising (Promotion)			N/A			
			30) Liaison establishing (Promotion)			N/A			
		Advertising	31) Advertising (De jure standard)	32) Advertising (Forum/Consortium standards)	33) Advertising (De facto/Company-product standards)	N/A			

●The skills of standardization are classified into three levels: the level 1,2 and 3.

●Each level of skills is defined by skill card which includes a set of data for items of skill evaluation criteria on performance and capability.



tasks for standardization　skill card

Figure 2 Glancing over the Skill standard

The skill standard makes it possible or feasible for a person or corporation to

-comprehend and describe existing situation of standardization human resource,
-set a target of education for standardization human resource,
-evaluate an effect of standardization education,
-collect standardization human resources,
-re-allocate standardization human resource,
-develop an education program or material for standardization human resource.

5. Questionnaire to collect information on education offered in universities worldwide

Questions are now in the process of design by the standard committee of IEICE.

It is summarized as in the following.

- Questions about the names of programs and courses in case offered.
- Questions about the websites address where syllabuses or course outlines are shown.
- Questions to ask about the skills required for standardization.
- Questions to ask expectations for the education about standardization by ITU.

Conclusion

Activities of IEICE Standard Committee are summarized as follows.

- Questionnaire survey results about standardization education show the importance of cultivating the ability of negotiation.
- 2 programs and 45 courses about standardization education.
- Standardizations skill standard has been studied and now are moving to next phase.
- Further questionnaire is now being designed to collect education programs and courses in universities world wide.

TSB Director's Ad hoc Group on Education about Standardization

ワークショップに引き続き，標準化教育に関するITU標準化局長直属のアドホック会合が行われた．7件の文書について議論が行われた．主な議論は，7項目のアクションプラン行動計画に集中した．

(1)Promotion (Actions 1306-**01**; 1306-**02;** 1306-**03)**: three areas: activities of the AHG; importance of international standards; academic membership of ITU.

出展：松本充司氏作成の電子情報通信学会標準化教育検討委員会第26－3回資料より

Standards Education AHG action plan
(position of 2014-02-28)

Reference	Actions	Lead person(s)	Status
1306-01	Promote the AHG-SE and its activities among ITU contacts, including academia members; through ITU social media, regular press releases and news logs; and through papers published in magazines and other publications, as well as through the new Journal of ICT Standardisation (published by River Publishers).	Alessia Magliarditi (TSB) Anand R. Prasad (NEC, Japan, Editor-in-chief of Journal of ICT Standardisation)	- Regular emails are sent to ITU relevant contacts, including academia members. - Article published in the Journal of ICT Standardisation - UNECE - ITU NEWS Collaborate with ITU–T to advance standards education worldwide! Dec 2013 - ITU-GISFI-DS-CTIF Standards Education Workshop Thu, 04 Oct 2012 - ITU Sec Gen invited all academic members to participate in the work of the AHG-SE in October 2012. - Standards education group established Wed, 01 Aug 2012
1306-02	Promote the importance of international standards	Alessia Magliarditi (TSB)	Ongoing activity: see ITU-T initiatives and events relevant webpages.
1306-03	Promote the new membership category for academia	Alessia Magliarditi (TSB) ITU-T membership team (TSB)	Ongoing activity: see ITU-T Membership webpage

Standards Education AHG action plan
(position of 2014-02-28)

1306-04	**Collect information on courses on standardization currently offered worldwide.**	**Mitsuji Matsumoto (Waseda University, Japan)** **Vice leader:** **Hiroshi Nakanishi (Osaka University, Japan)** **Contributor:** **Radosveta Sokullu (Ege University, Izmir, Turkey)**	
1306-05	Identify leading academic institutions interested in education about standardization and explore collaboration efforts.	Maurizio Talamo (Tor Vergata University of Rome, Italy)	
1306-06	Identify gaps, once seen the above	Ken Krechmer (University of Colorado, USA)	
1306-07	Develop a tutorial and identify members to contribute.		

Standards Education AHG action plan
(position of 2014-02-28)

1306-08	**Organize workshops, in close cooperation with standards bodies (e.g. ISO, and IEC), governments, industry and academia, to be held in parallel with AHG-SE meetings to attract the right public that can contribute to this activity.**	**Alessia Magliarditi (TSB)** **Ramjee Prasad (Aalborg University, Denmark)**	
1306-09	Develop a strategy towards the development of materials for education about standardization, as well as identification of common requirements.	Dina Šimunić (University of Zagreb, Croatia) Contributors: Sanghamitra De (Future Institute of Engineering & Management Kolkata, West Bengal India) Hiroshi Nakanishi (Osaka University, Japan)	

TSB Director's Ad hoc Group on Education about Standardization

(2)Action 1306-**04** "**Collect information on courses** on standardization currently offered worldwide" Leader: Mitsuji MATSUMOTO（Waseda Univ.）, Vice leader: Hiroshi Nakanishi (Osaka Univ.)

松本リーダより収集方法としてアカデミア会員への調査票の配布を目的とした調査内容が提案された．これに対して，標準と標準化は異なる製品，作成する人々や機関により非常に幅広く用いられている．回答を容易にするため最初のステップは、我々が理解しやすい質問をすることができることを十分に用語を定義することが重要であり，最初のパラグラフで説明することが望ましい等の意見が出された．またITUやSDOへの直接的な質問は避けるべきであることをの意見を反映し，再度関係者の意見をまとめて最終版を作成することとなった．

出展：松本充司氏作成の電子情報通信学会標準化教育検討委員会第26－3回資料より

TSB Director's Ad hoc Group

(3) Action 1306-**05** "**Identify leading academic institutions** interested in education about standardization and explore collaboration efforts" Leader: Maurizio Talamo (Tor Vergata University of Rome, Italy)

Leader: Maurizio Talamo (Tor Vergata Univ. of Rome, Italy)

グローバル市場で通用する標準規格の重要性を示し，以下の3つの目標を強調した.

第１目標：標準化教育に関するプロセスを推進するためITUが戦略的な役割を担うこと

第２目標：標準を教えることの重要で革新的な（最初の）フレームワークを定義すること

第３目標：教育することの最小限のセットを規定する，特にデジタルIDと技術;プライバシー保護;相互運用性に関係づける.

これに関して，ITUがカリキュラムを開発していることを示唆するのは避けるべきで，教育目的に使用することができ、ケーススタディの形で研究者のためのリソースを提供することが望ましいことの意見があった.

出展:松本充司氏作成の電子情報通信学会標準化教育検討委員会第26－3回資料より

TSB Director’s Ad hoc Group

また，リモートからProf. Sanghamitra De (Future Institute of Engineering & Management Kolkata, West Bengal India)が参加し,以下のコメントを述べた.

―ITU-Tと共同で、将来のコラボレーションやワークショップのための基盤を設定する

―情報セキュリティマネジメントシステム（ISMS）と配慮のためのクラウドコンピューティングなどのトピックを追加

―大学カリキュラムやケーススタディ、各種の含有を開発する上で、それらの入力のために、ISO、IECなどの標準化団体を含めること.

―学生のためのケーススタディでは，ライブの適合性評価/監査演習/プロジェクトを支援するためにインターンシップを実施できるようにすること

出展:松本充司氏作成の電子情報通信学会標準化教育検討委員会第26－3回資料より

TSB Director's Ad hoc Group

(4) Action 1306-06 "**Identify gaps**, once seen the above"
Leader:Ken Krechmer
教育のための新しいツールとして大規模なオープンオンラインコース（MOOCs）を述べた.
すべての標準コースへの基本的なコアの学術isologyカリキュラムを提示することで既存および新規の標準化コースの価値を高めることができる.より良いisologyコースのための学術資料を開発するためにＩＴＵがその指導的役割を使用する必要がある.
　ＡＨＧ委員長は新たに立ち上げるITUアカデミアウェブサイトで,遠隔学習コースをもホストすること，そのようなコースのための使用を提案した.

出展:松本充司氏作成の電子情報通信学会標準化教育検討委員会第２６－３回資料より

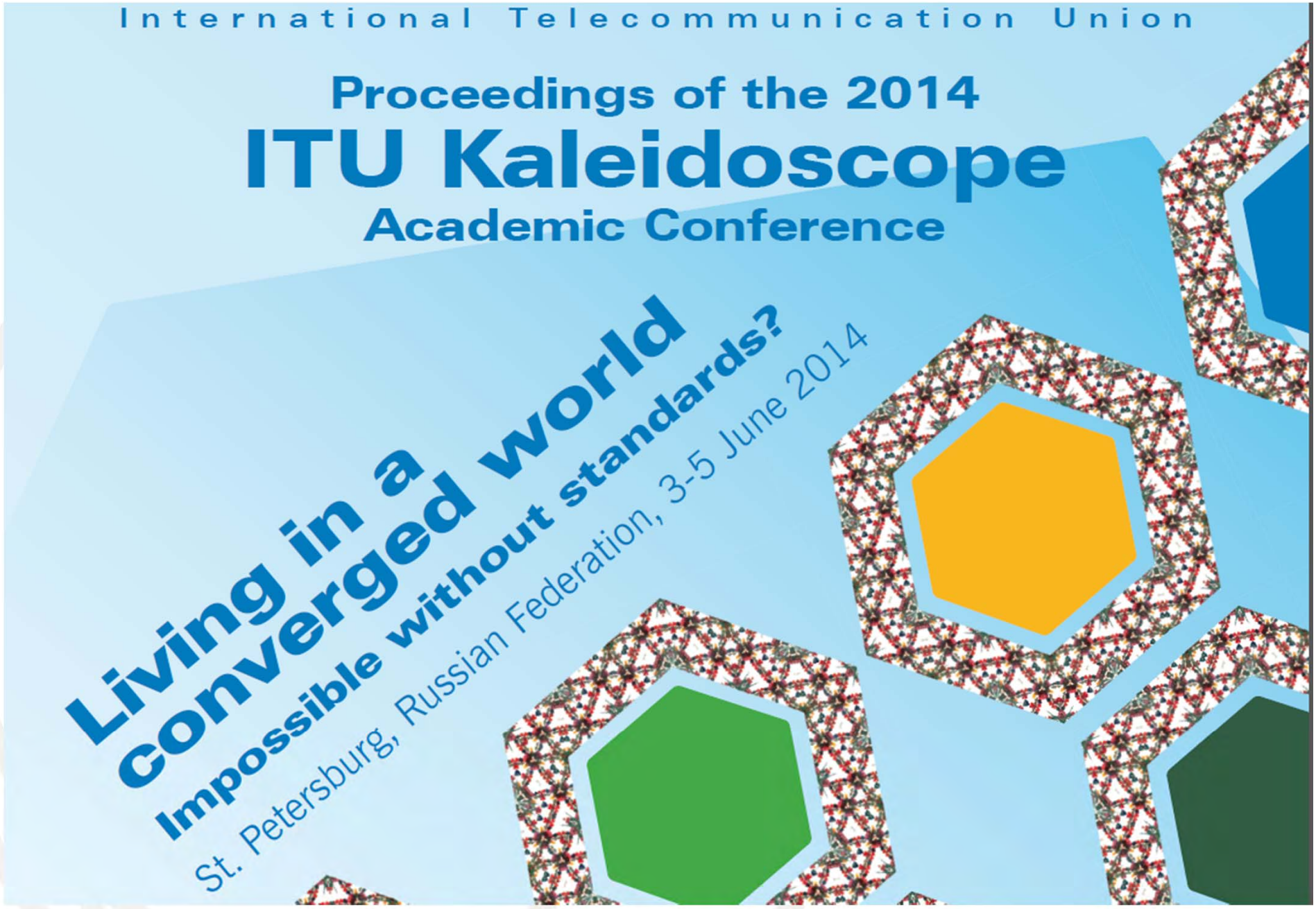
TSB Director's Ad hoc Group

(5）Action 1306-0**9** "**Develop a strategy** towards the development of materials for education about standardization, as well as identification of common requirements"

Leader: Dina Šimunić (University of Zagreb, Croatia),
Contributors:Sanghamitra De (Future Institute of Engineering & Management Kolkata, West Bengal India) and Hiroshi Nakanishi (Osaka University, Japan)

Leaderは工学，経済学，社会科学のような様々な教育，また科学者，専門家や学生のような様々なタイプの人々を区別することを提案．そのアプローチは新製品,プロセスおよび/またはサービスや推進，販売に係するか否かで異なるであろう.

出展:松本充司氏作成の電子情報通信学会標準化教育検討委員会第26－3回資料より



出展:Proceedings of the 2014 ITU Kaleidoscope Academic Conference より

ITU Kaleidoscope 2014

1. ITU Kaleidoscope

(1) 2008年に第1回開催

(2)学や産のICT研究者・開発者と標準化の人々の架け橋となる国際会議

2. ITU Kaleidoscope 2014

(1)3日間に亘り論文発表

(2)セッション構成

①セッション1：The future of convergence　論文4件

②セッション2：3G,4G,5G and beyond –the impact on spectrum　論文7件

③セッション3：Multimedia application for all ?!　論文4件

④セッション4：Health and standards　論文4件

⑤セッション5：Sensor networks　論文3件

⑥セッション6：Standardization, Education, Innovation　論文4件

⑦ポスターセッション：　論文11件

Session 1: The future of convergence

出展:Proceedings of the 2014 ITU Kaleidoscope Academic Conference より

Session 2 Part I: 3G, 4G, 5G and beyond – the impact on spectrum

Session 2 Part II: 3G, 4G, 5G and beyond – the impact on spectrum

出展:Proceedings of the 2014 ITU Kaleidoscope Academic Conference より

Session 3: Multimedia applications for all?!

出展:Proceedings of the 2014 ITU Kaleidoscope Academic Conference より

Session 4: E-Health and standards

出展:Proceedings of the 2014 ITU Kaleidoscope Academic Conference より

Session 5: Sensor networks

出展:Proceedings of the 2014 ITU Kaleidoscope Academic Conference より

Session 6: Standardization, Education, Innovation

出展:Proceedings of the 2014 ITU Kaleidoscope Academic Conference より

Poster Session

出展:Proceedings of the 2014 ITU Kaleidoscope Academic Conference より

Poster Session

出展:Proceedings of the 2014 ITU Kaleidoscope Academic Conference より

Paper Award

First best paper: Towards Converged 5G Mobile Networks - Challenges and Current Trends by Anna Zakrzewska,Sarah Ruepp and Michael S. Berger (Technical University of Denmark, Denmark)

Second best paper: Dynamic Mobile Sensor Network Platform for ID-based Communication by Ved P. Kafle,Yusuke Fukushima and Hiroaki Harai (NICT, Japan)

Third best paper: Combining ICT-Standards Essential-Patents and Medical-managerial Guidelines towards sustainable Assisted-living and home-care by Vasileios P. Spyropoulos (Technological Education Institute of Athens, Greece)

出展：http://www.itu.int/en/ITU-T/academia/kaleidoscope/2014/Pages/default.aspx

First best Paper

TOWARDS CONVERGED 5G MOBILE NETWORKS- CHALLENGES AND CURRENT TRENDS

Anna Zakrzewska, Sarah Ruepp, Michael S. Berger

DTU Fotonik, Technical University of Denmark, Ørsteds Plads 343, 2800 Kgs. Lyngby, Denmark

This paper analyses new technologies that could enable 5G networking, discusses potential standardisation and development directions, and presents recent research efforts in the area of future mobile networks.

In this paper we present key research topics and review the main directions related to 5G development. We start with a mobile technology overview and define 5G requirements in the next section. Later on we discuss the research and development challenges from a network perspective. Finally, we summarize the paper by highlighting the presented topics and challenges to be solved in 5G mobile networks.

出展:Proceedings of the 2014 ITU Kaleidoscope Academic Conference より

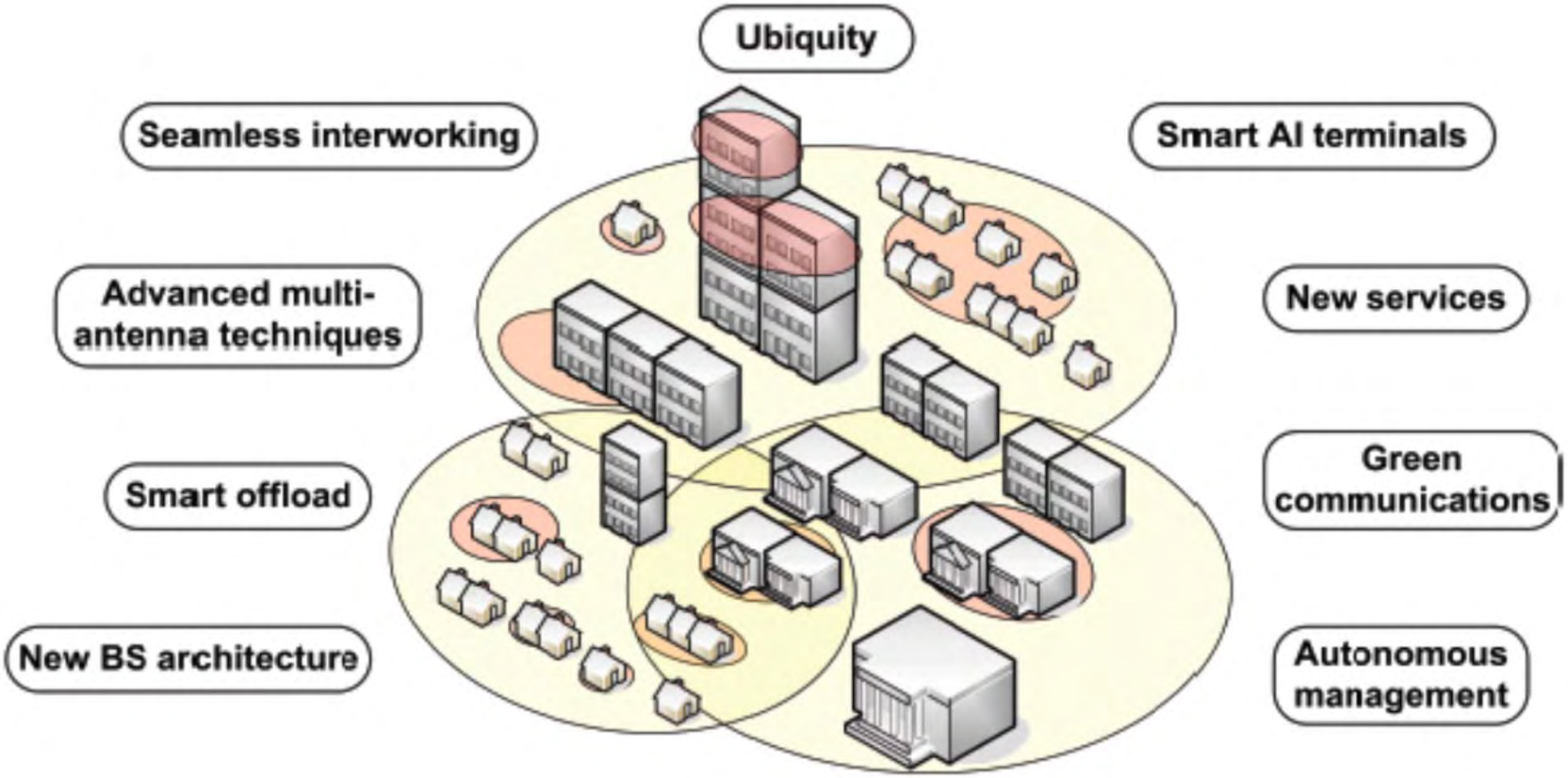


Figure 1. 5G scenario characteristics

出展:Proceedings of the 2014 ITU Kaleidoscope Academic Conference より

2. MOBILE TECHNOLOGY OVERVIEW AND 5G REQUIREMENTS

Table 1. Mobile Generations Comparison

Generation	Technology	Type	Key Characteristics
1G	NMT, AMPS	Analog	Voice services only
2G	GSM/EDGE	TDMA	Voice services accompanied by SMS, widely deployed around the world, data enhancement to GSM, simple multimedia services (MMS, web browsing)
3G	UMTS/ HSPA	CDMA	Data service of UMTS network, enhanced multimedia and streaming video services, new type of devices
4G	LTE-A, WiMAX 2.0	OFDMA	New flat IP-based architecture, data service of very high throughput, dedicated applications
5G	Emerging	CDMA, OFDMA, new proposals, e.g., SCMA[1], NOMA[2]	Seamless heterogeneity, agnostic access, advanced services and applications (e-health, M2M)

出展:Proceedings of the 2014 ITU Kaleidoscope Academic Conference より

3. CHALLENGES AND DEVELOPMENT DIRECTIONS

Table 2. Summary of Challenges and Trends

Area	Challenge	Proposals and Trends
Ubiquity	Need for a truly seamless wireless experience, connectivity any time, anywhere, from any kind of device	Tight interworking of mobile standards, IEEE 802.11u for seamless WiFi experience
M2M communications	High QoS requirements for e-health applications, advanced security mechanisms	New rules regulating access to BANs [4]
Green communications	Reduced energy consumption by telecommunication networks	Adjusting transmission power to actual traffic load, new green Radio Access Network and base station architectures [5, 6, 7]
Capacity requirements	Growing traffic demands	Small cell deployment, phantom cell concept [8], visible light communication [9], offload to WiFi, extensive work on IEEE 802.11 standard family
Spectrum bottleneck	More spectrum bands and higher spectral efficiency needed to meet capacity requirements	New spectrum bands in 2015, mm-waves [10], spectrum sharing techniques [11], HSPA and LTE carrier aggregation [12], relaxed orthogonality requirements [13]
Autonomous management	Minimisation of management effort, lowering OPEX	Self-Organising Network and cognitive behaviour [11], new self-reparing chips [14], core network virtualisation [15, 16]

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Second best Paper

DYNAMIC MOBILE SENSOR NETWORK PLATFORM FOR ID-BASED COMMUNICATION

Ved P. Kafle, Yusuke Fukushima, and Hiroaki Harai

National Institute of Information and Communications Technology, Tokyo, Japan

This paper presents the design of a dynamic mobile sensor network platform, consisting of mobile sensors, mobile sensor gateways, and sink servers. The sensor network platform supports heterogeneous protocols in the network layer and performs ID-based communication to deliver sensor data from the mobile sensors to the sinks, as well as to send control and monitoring commands from a sensor administrator to the mobile sensors. To reliably provide

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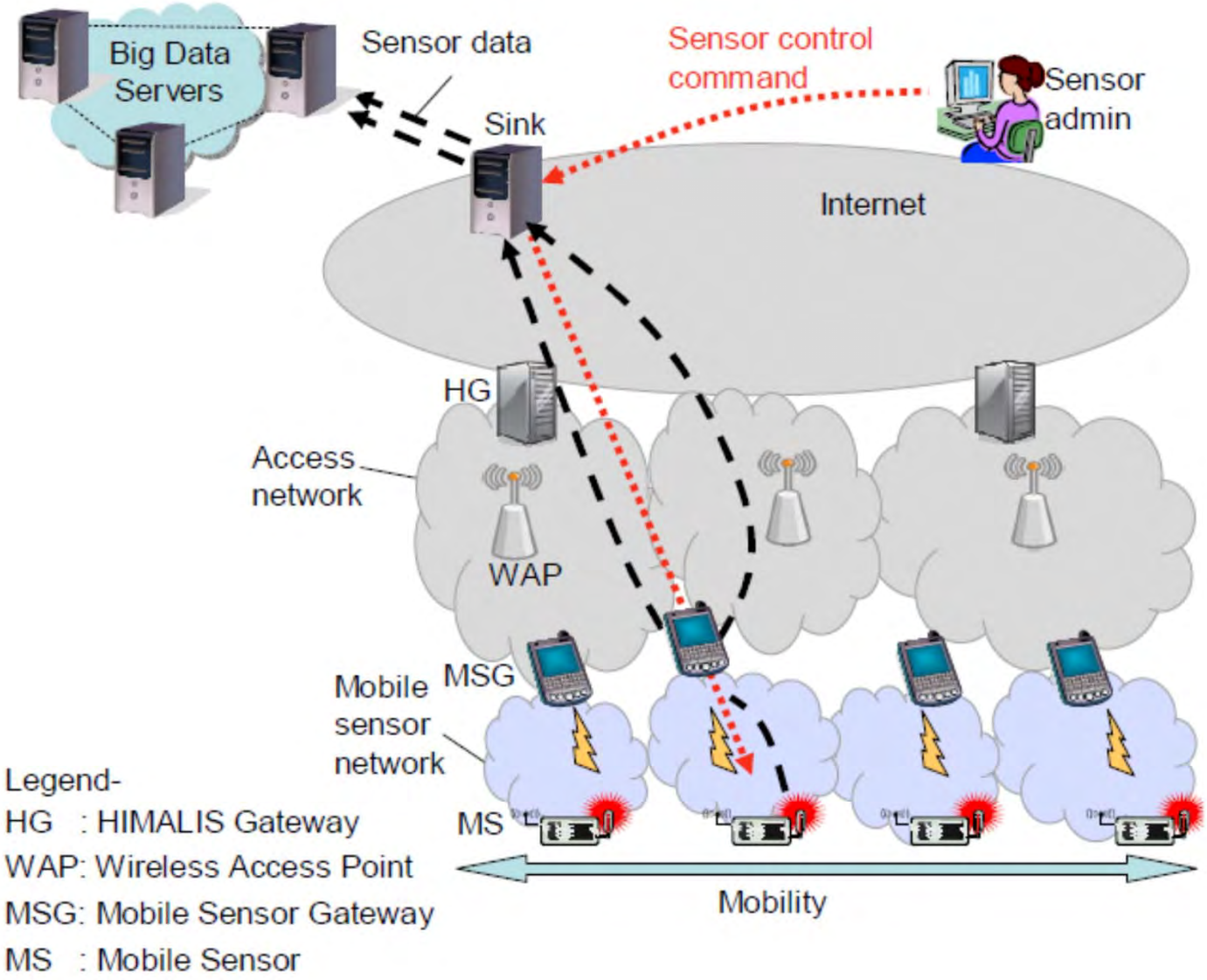

Figure 1. Components of the proposed dynamic mobile sensor network.

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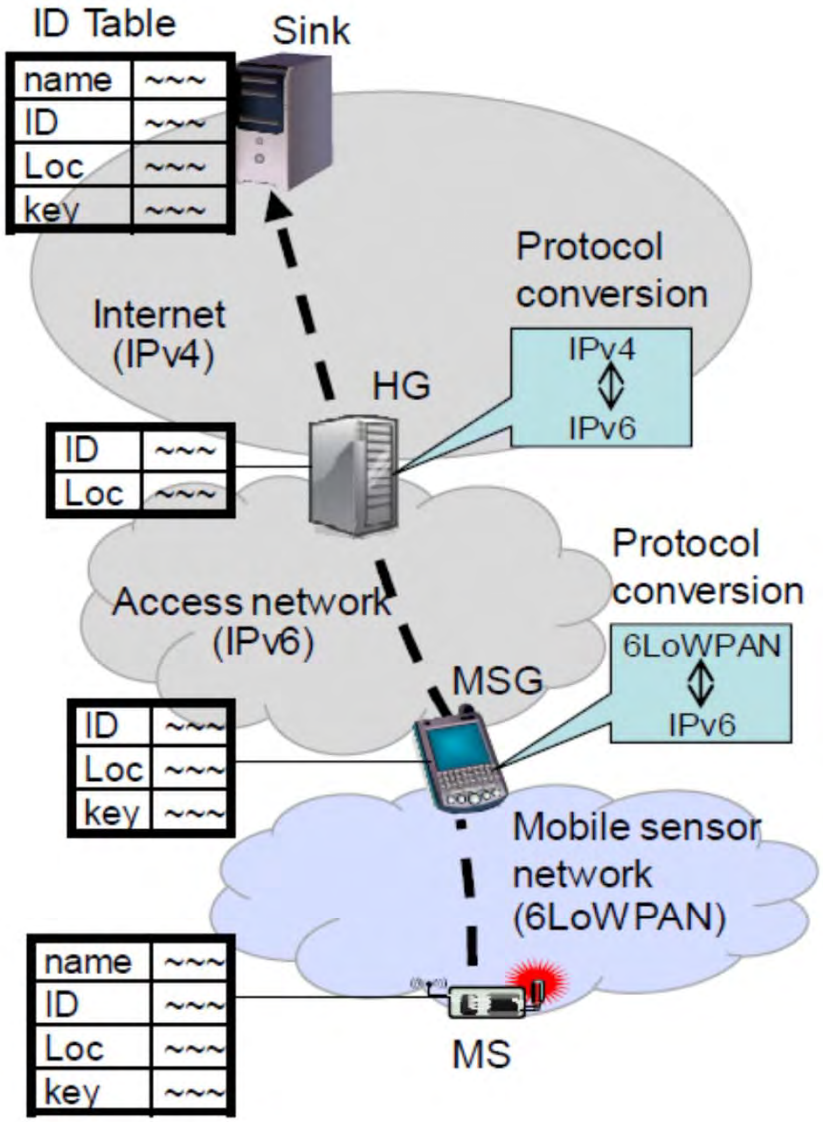

Figure 3. ID-based communication across heterogeneous protocols.

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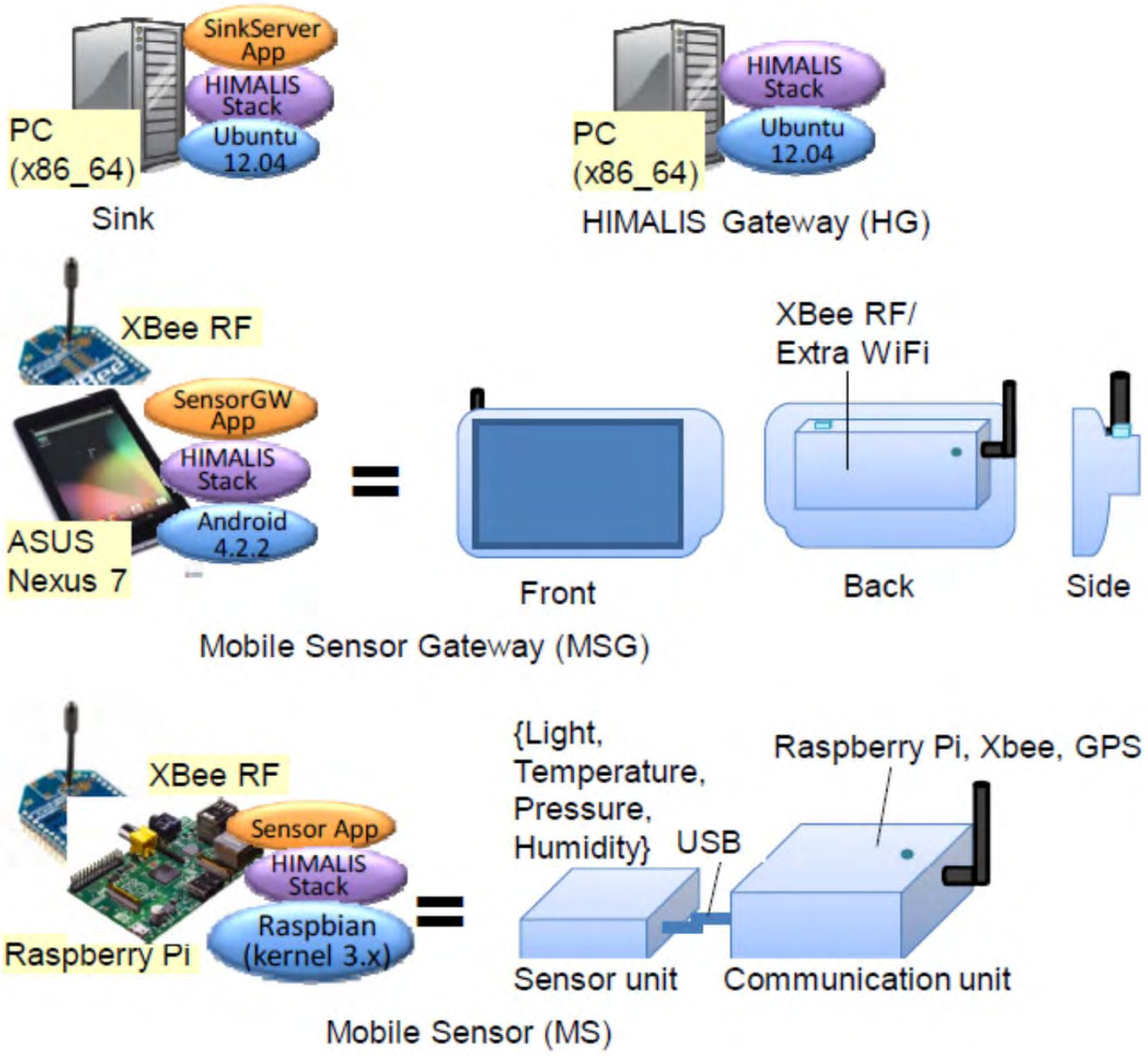

Figure 4. Implementation overview.

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Third best Paper

COMBINING ICT-STANDARDS ESSENTIAL-PATENTS AND MEDICAL-MANAGERIAL GUIDELINES TOWARDS SUSTAINABLE ASSISTED-LIVING AND HOME-CARE

B. Spyropoulos

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First, to review and present, in a usable form, the home-care "state of the art", as depicted on searched, retrieved and evaluated relevant Industrial Property documents. Second, to summarize the most relevant ICT-standards and medical-managerial Guidelines involved, enabling, thus, interoperability in contemporary home-care and assisted-living. Finally, to create various home-care related «patent-maps», attempting, thus, to use their early disclosing potential of published IP-documents, to reduce intentional obscuring of IP-portfolios.

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Table 4. Indicative Standards-setting Organizations (SSO) and Home-care Standards.

Standards-setting Organizations (SSO)	Home-care Standards
Australian Government and State and Territory Governments www.health.gov.au	Home and Community Care (HACC) Standards
Child Welfare League of America (CWLA) www.childwelfare.gov	Standards for Out-of-Home Care Services
Joint Commission International (JCI) http://www.jointcommissioninternational.org	Accreditation for Home Care
UK Department of Health http://www.ageplatform.eu/images/stories/uk_minimum care tandarts_athome.pdf	Domiciliary Care National Minimum Standards
Natural Products Association (NPA) https://www.npainfo.org	Natural Standard for Home Care Products

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Table 5. Selected Standards & Guidelines Organization and their special-purpose Home-care Standards issued.

Standards-setting and Guidelines Organizations	Focused on specific home-care Guidelines
Point-of-care testing	
The National Academy of Clinical Biochemistry - American Association for Clinical Chemistry (AACC) www.aacc.org	Evidence-Based Practice for PoC Testing
ISO 22870:2006 Point-of-care testing (PoCT) http://wwww.iso.org	PoCT-Requi-rements for quality and competence
Clinical Pathology Accreditation (UK) Ltd www.cpa-uk.co.uk	Standards for PoC Testing facilities
Canadian Standards Association (CSA) www.accreditation.ca	Point-of-Care Testing Standards Z22870-07
British Committee for Standards in Haematology (BCSH) http://www.bcshguidelines.com	Guideline for Near Patient Testing: Haematology

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STANDARDIZATION: A PRIMER

Ken Krechmer
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http://www.isology.com

Recognition is growing of the importance of including standardization in an academic education. Standardization standardization activity is certainly necessary, but theoretically the details of any standard are largely arbitrary, which reduces any academic interest in standardization. This widespread view is simplistic and needs to change. Creating and maintaining a standard has significant technical and economic effects, even when the details of the standard are arbitrary. Teaching this basic theory of standards and its impact is missing from the existing academic curriculum. This primer develops and presents this theory with a focus on current issues related to interoperation.

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STANDARDIZATION: A PRIMER

Ken Krechmer
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The purpose of this standardization primer is to present a theory of standardization, called isology, which explains why and how standardization impacts the design, manufacturer, use and commercial profit generation of every product or service; and why standardization becomes more significant as technology evolves into complex systems.

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Isology. Iso = same; −ology = scientific study of.
Isology is the scientific study of Standards
http://www.isology.com/

Table 1. Technical order

Established by	How order occurs		Term for order
Physical laws	Inherent		Nature
Convention	*Kosmos*		Reference
Standardization			
Private entity	Commercial	*Taxis*	Specification
Government	Required		Regulation
Formal stds. body	Consensus		De jure standard
Consortium	Consensus?		Standard
Market	*Kosmos*		De facto standard

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ITU Kaleidoscope 2014

Living in a converged world - impossible without standards?

Syllabuses Crawling and Knowledge Extraction of Courses for Global Standardization Education

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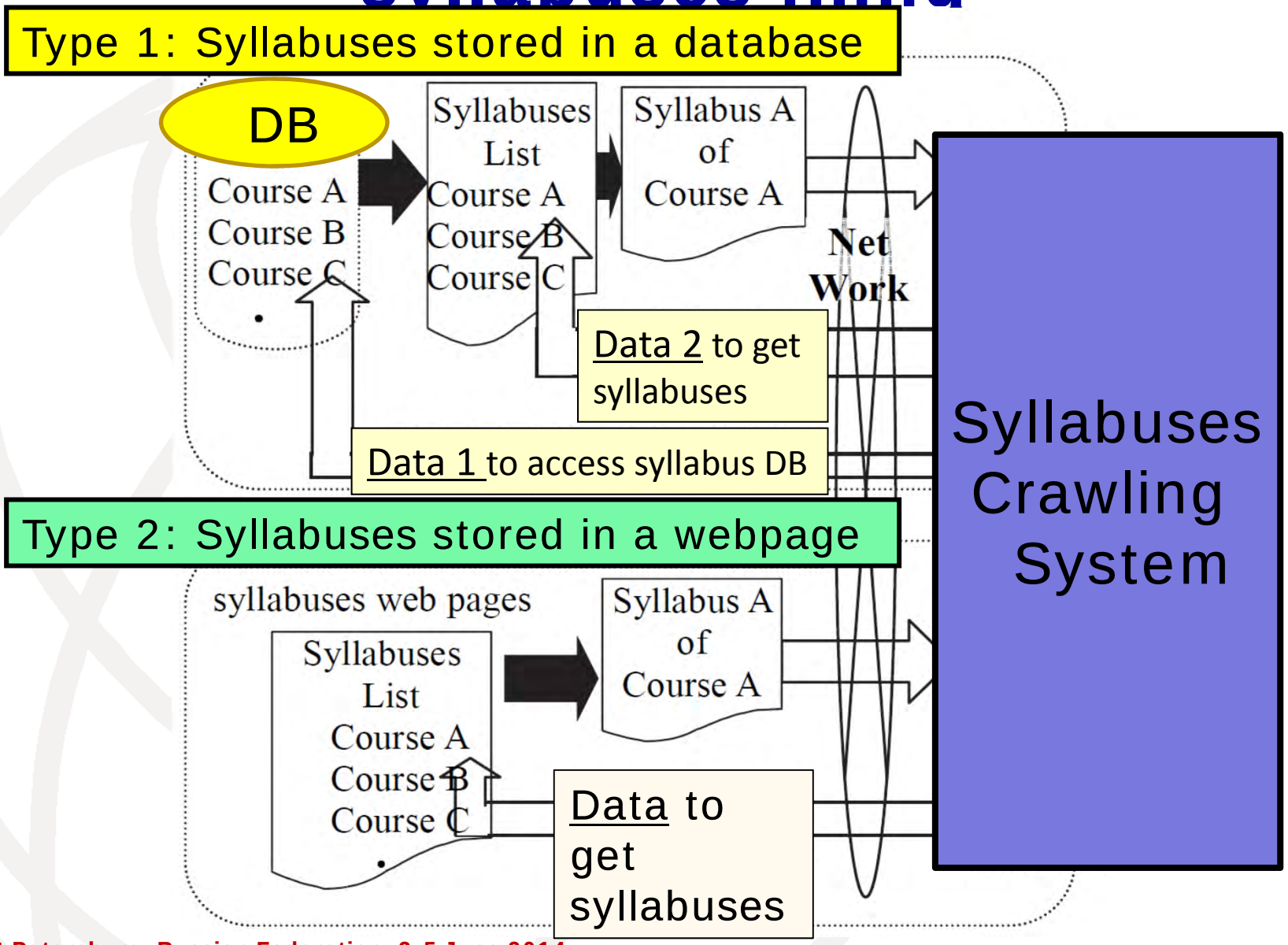
Table of Contents

1. Objectives of this research

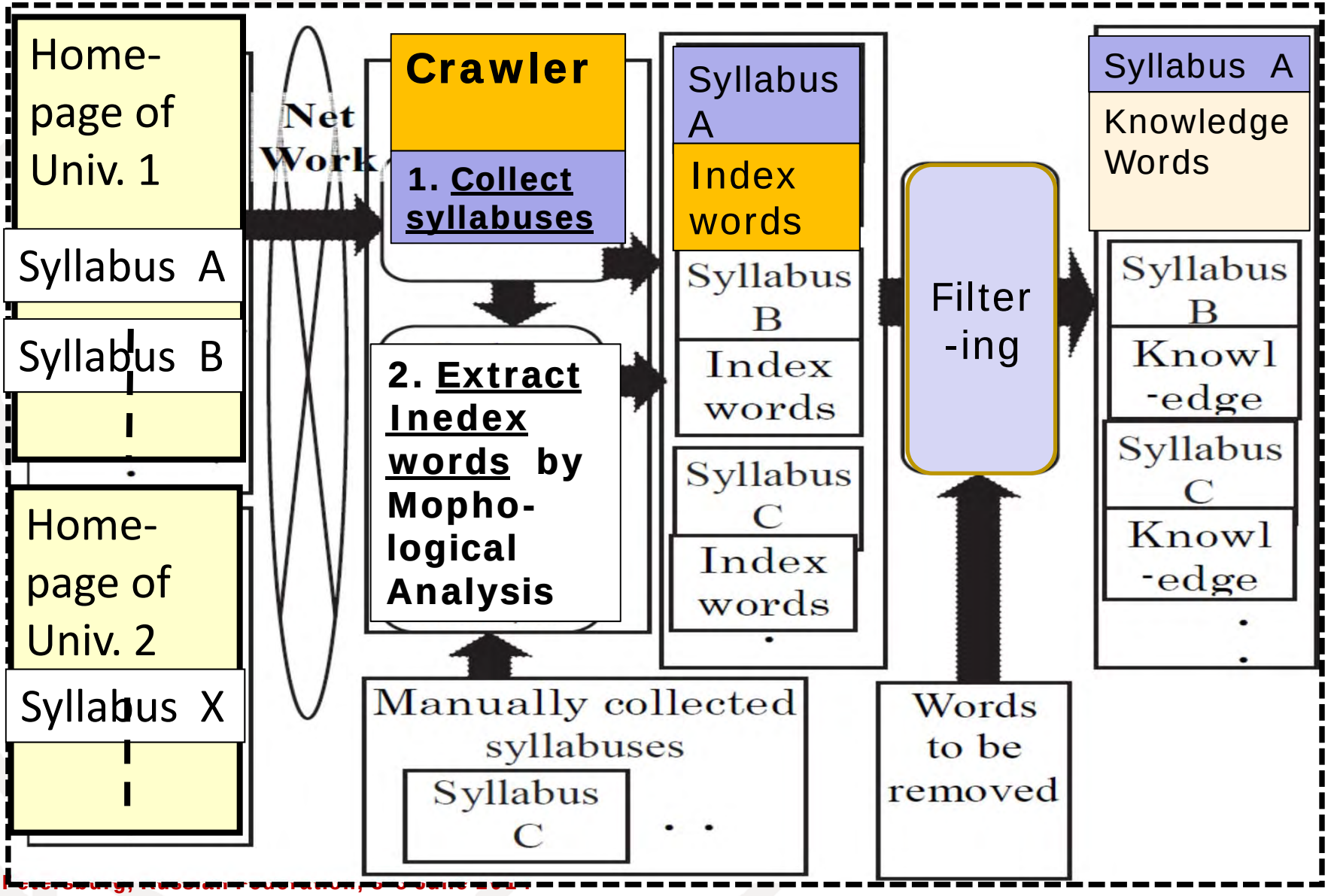
"To collect courses for the education about global standardization in universities of Japan",

1. Technologies for syllabuses crawling from the websites of universities and knowledge extraction are made clear.
2. Results of the syllabuses crawling and knowledge extraction are described.

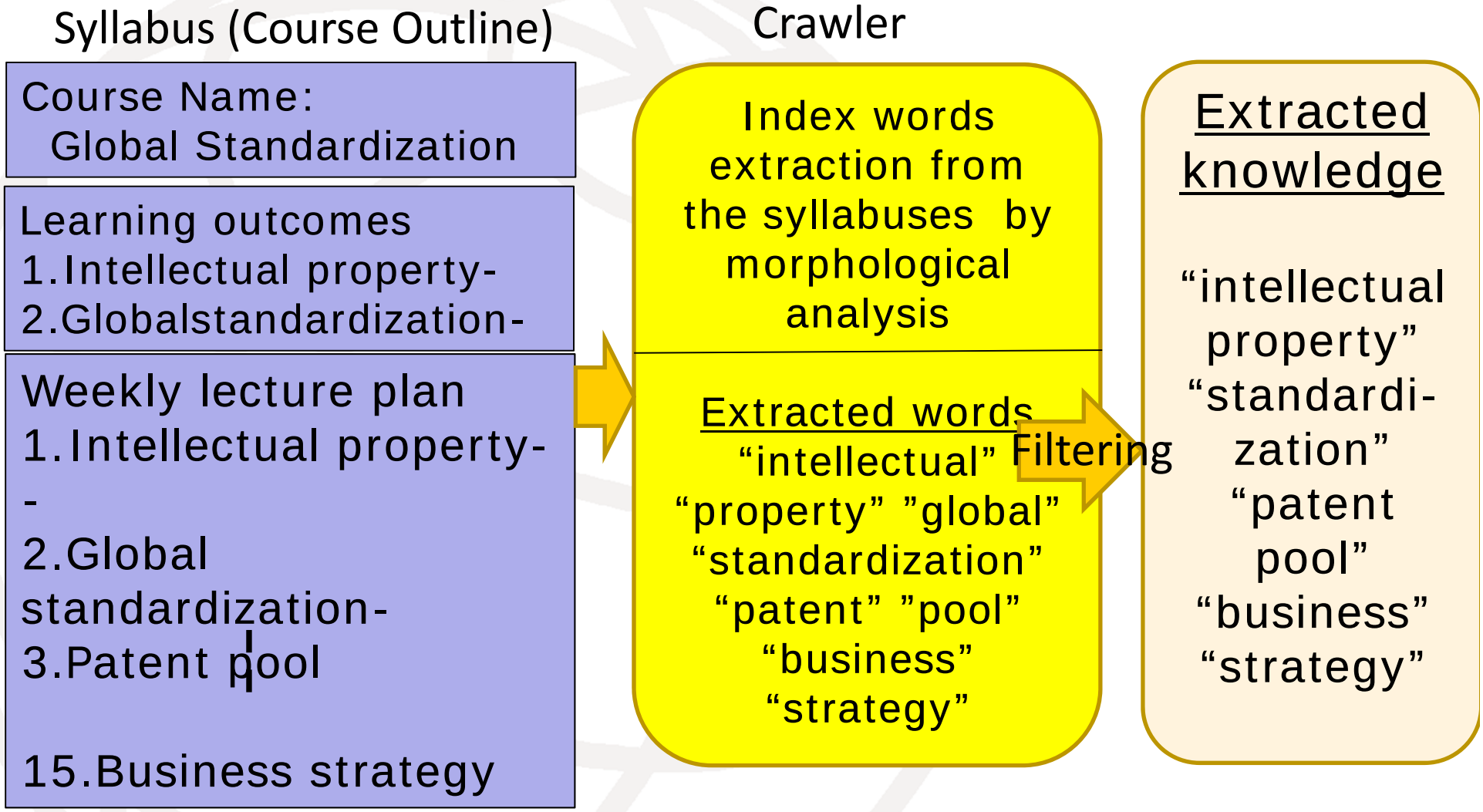
Fig.1 Two different types of syllabuses filing



2. System design for syllabuses crawling and their knowledge extraction.



Flow of syllabuses crawling and knowledge extraction



3.Execution of syllabuses crawling and knowledge extraction from homepages of universities

1. Prior to syllabuses crawling by the system, data sets required for crawling were obtained by accessing manually to the homepages of universities.
2. Syllabuses of 132 universities were crawled.
   (88 national universities+44 other universities)
3. By searching the crawled syllabuses,
   45 courses about standardization were found.
4. Knowledge contained in each of the course
   was extracted and compared with each other.

Table 1 Number of Global standardization courses of universities in Japan

Number of universities	Number of courses	
	Graduate	Under graduate
24	40	5

Table 2 Knowledge classification of courses about global standardization

Knowledge (Large classification)	Knowledge (Middle classification)	Number of Courses
Standardization	Meaning and Organization	44
	Procedure for standardization	14
	Policy of standardization	9
	Human resources	4
Intellectual Property	Intellectual property system	25
	Patent pool	7
	Strategic Management	8
Negotiation	Negotiation	9
	Communication ability	6
Research and Development	Innovation	18
	Research and development / Strategies	12
Business	Business model	31
	Business competitiveness	17

Appendix Table1 Knowledge extraction from the 45 syllabuses

	Univ. (abbrev.)	Osaka					OIT
	Subj. (abbrev.)	Business standard-ization	Intelle-ctural property	Knowl-edge value society	Topics in Techno-logy	Negotia tion	Standard-ization and IPR
Included knowledge		Graduate					Graduate
Meaning and Institutes of STD	44	○	○	○	○	○	○
Proc. for formulation of intl. spec	14	○					○
Standardization policy	9	○					
Human resource quality	4	○					
IPR / patent system	25	○	○				○
Patent pool	7	○					○
Management of IPR /strategy	8	○	○				
Negotiation	9			○		○	
Communication skills	6			○		○	
Innovation	18		○	○	○		○
Research & development /strategy	12			○	○		
Business model	31	○	○	○	○	○	
Intl. business competitiveness	17	○	○		○		

Appendix Table1 Knowledge extraction from the 45 syllabuses

	Univ. (abbrev.)		SIT		NAIST	JAIST	Tokyo	
	Subj. (abbrev.)		Global standard-ization	Tech-nology standard-ization	Standard-ization	Tech-nology standard-ization	Innovation and IPR	Standard-ization and ICT
Included knowledge			Graduate		Graduate	Graduate	Graduate	
Meaning and Institutes of STD		44	○	○	○	○	○	○
Proc. for formulation of intl. spec		14		○	○			
Standardization policy		9						
Human resource quality		4						
IPR / patent system		25	○			○	○	○
Patent pool		7						
Management of IPR /strategy		8					○	
Negotiation		9						○
Communication skills		6						
Innovation		18	○				○	
Research & development /strategy		12			○	○		○
Business model		31	○	○		○	○	○
Intl. business competitiveness		17		○		○		○

Appendix Table1 Knowledge extraction from the 45 syllabuses

Univ. (abbrev.)		Doshisha	Akita	TMU	AIIT	UEC	
Subj. (abbrev.)		IPR policy	Topics in Standard-ization	Elements of mecha-nism	Standard-ization for IPR	Negotia-tion for science & tech.	Standard-ization
Included knowledge		Graduate	Graduate	Undergrad	Graduate	Graduate	
Meaning and Institutes of STD	44	○	○	○	○	○	○
Proc. for formulation of intl. spec	14		○		○		
Standardization policy	9						
Human resource quality	4						
IPR / patent system	25	○			○		
Patent pool	7						
Management of IPR /strategy	8				○		
Negotiation	9					○	
Communication skills	6					○	
Innovation	18	○				○	
Research & development /strategy	12	○				○	○
Business model	31						
Intl. business competitiveness	17				○		

Appendix Table1 Knowledge extraction from the 45 syllabuses

	Univ. (abbrev.)	Kyushu		KIT (1/2)			
	Subj. (abbrev.)	Global standard-ization	Tech. manage-ment & standad-ization	Global standard-ization	Practical tasks for standard-ization	Negotia-tion	Inter-national negotia-tion
Included knowledge		Graduate		Graduate			
Meaning and Institutes of STD	44	○	○	○	○	○	○
Proc. for formulation of intl. spec	14						
Standardization policy	9	○		○			
Human resource quality	4				○		
IPR / patent system	25	○	○	○	○		
Patent pool	7	○	○		○		
Management of IPR /strategy	8				○		
Negotiation	9					○	○
Communication skills	6					○	○
Innovation	18	○		○			
Research & development /strategy	12	○	○				
Business model	31	○	○	○	○	○	○
Intl. business competitiveness	17		○		○		

Appendix Table1 Knowledge extraction from the 45 syllabuses

	Univ. (abbrev.)	KIT (2/2)			Chiba	Chubu	
	Subj. (abbrev.)	Tech-nology standard-ization	Technolo-gy stand-ardization policy	Communi-cation stand-ardization	Global standard-ization	Manage-ment for environ-ment	Environ-mental man-agement
Included knowledge		Graduate			Undergrad	Undergrad	
Meaning and Institutes of STD	44	○	○	○	○	○	○
Proc. for formulation of intl. spec	14	○			○	○	○
Standardization policy	9		○				
Human resource quality	4				○	○	
IPR / patent system	25	○	○				
Patent pool	7	○					
Management of IPR /strategy	8						
Negotiation	9						
Communication skills	6						
Innovation	18	○	○				○
Research & development /strategy	12			○			
Business model	31	○	○			○	
Intl. business competitiveness	17					○	○

Appendix Table1 Knowledge extraction from the 45 syllabuses

	Univ. (abbrev.)	Titech				Tuat	TUS
	Subj. (abbrev.)	Standarid-ization policy	Standard-ization	Tech-nology standard-ization I	Tech-nology standard-ization II	Industry standard-ization	Standard-ization
Included knowledge		Graduate				Graduate	Graduate
Meaning and Institutes of STD	44	○	○	○	○	○	○
Proc. for formulation of intl. spec	14						
Standardization policy	9	○					○
Human resource quality	4						
IPR / patent system	25		○			○	○
Patent pool	7						
Management of IPR /strategy	8						
Negotiation	9	○					
Communication skills	6						
Innovation	18		○	○	○	○	
Research & development /strategy	12						
Business model	31	○	○	○	○	○	○
Intl. business competitiveness	17		○			○	

Appendix Table1 Knowledge extraction from the 45 syllabuses

	Univ. (abbrev.)	Akita P.	Kokushi	Waseda			
	Subj. (abbrev.)	Topics in Standard-ization	Global standard-ization	Company and standard-ization	Communi-cation and standard-ization	Technolo-gy standard	IPR man-agement
Included knowledge		Graduate	Graduate	Graduate			Undergrad
Meaning and Institutes of STD	44	○	○	○	○	○	○
Proc. for formulation of intl. spec	14	○	○	○	○		
Standardization policy	9		○	○	○		
Human resource quality	4						
IPR / patent system	25		○	○	○	○	○
Patent pool	7			○			
Management of IPR /strategy	8			○			○
Negotiation	9					○	
Communication skills	6				○		
Innovation	18					○	
Research & development /strategy	12						
Business model	31			○	○	○	○
Intl. business competitiveness	17			○		○	

Appendix Table1 Knowledge extraction from the 45 syllabuses

	Univ. (abbrev.)	K.G.	Yamana	GRIPS
	Subj. (abbrev.)	Standard-ization man-agement	Global Standard-ization	IPR policy
Included knowledge		Graduate	Graduate	Graduate
Meaning and Institutes of STD	44	○	○	
Proc. for formulation of intl. spec	14			
Standardization policy	9			
Human resource quality	4			
IPR / patent system	25	○		○
Patent pool	7			
Management of IPR /strategy	8			○
Negotiation	9	○		
Communication skills	6			
Innovation	18			
Research & development /strategy	12		○	
Business model	31	○	○	
Intl. business competitiveness	17	○		○

3. knowledge classification of the courses about global standardization

- 44 courses offer common knowledge, and various kinds of knowledge.
- Knowledge in relation to “meaning and institutes of global standardization”, “intellectual property and patent system” and “business model” is offered by more than one half of the courses.

4. Conclusion

1. Survey results on current education about global standardization in Japan were described.
2. Technology and design of syllabuses crawling and knowledge extraction were proposed.
3. 132 syllabuses were crawled from Japanese universities.
4. 45 courses about global standardization were searched from 132 syllabuse crawled.
5. Knowledge of each of the courses was classified into 13 kinds and compared.

まとめ

以上、6月2日から5日にかけて行われた、Workshop, TSB Director’s Adhoc GroupおよびITU-Kaleidoscope 2014の開催状況について概説した。昨年の京都での会合に続いて、活況を呈しており、ITUの定例の会議として定着している。
TSB Director Malcolm Johnson氏の退任に伴う後任Director氏の方針にも依存するが、2015年は、イスタンブールでKaleidoscopeが開催される予定である。