Inspiring the Next Generation
of Standards Professionals

Annex C.

Questionnaire of Survey and Written Interview

Korean Standards Association
Korean Agency for Technology and Standards
For APEC Sub Committee on Standards and Conformance (SCSC)

APEC Survey to Identify Competence Requirements of Standards Professional - Type A. For Individual Company

*APEC Project CTI 07/2013T

APEC Sub-Committee on Standards and Conformance (SCSC)

Prepared & Submitted by: Republic of Korea
Co-Sponsored by: China, Indonesia, Japan, Malaysia, Peru, Singapore, USA, Viet Nam

Requested Action: Survey Response ***by March 31, 2014***

Note: Your timely contribution is very much appreciated.

You are cordially invited to participate in the Survey for the project of '*Inspiring Next Generation of Standards Professional Development*' Please respond by **March 31, 2014** to the project editor, Dr. Donggeun CHOI of Korean Standards Association.
(Email: stannovation@gmail.com, Phone:+82-2-6009-4850, Fax:+82-2-6009-4839)

APEC Project Survey on Standards Professional - Type A. For Individual Company

1 February 2014

To: APEC SCSC member economies (and related Organizations & Companies)

Subject: APEC Survey to develop 'Standards Professional Development'

The APEC Sub-Committee on Standards and Conformance (SCSC) is undertaking a project, led by Korea, to define next generation of standards professional, future human resources in the area of standards and conformity assessment, so as to improve the competitiveness of the APEC member economies.

APEC has commissioned the Korean Agency for Technology and Standards (KATS) with support from Korean Standards Association (KSA) to conduct the project. The objectives of this project questionnaire are:

- To define what 'standards professional' – covering standards and conformance, with a focus on 'documentary standards'
- To identify current & future competence requirements for standards Professional bot h in standards-specialty companys and companies
- To share recommendations for the discussion in the APEC Subcommittee on Standar ds and Conformance (SCSC) to inspire standards Professional

On behalf of the APEC SCSC member economies, we are writing to invite you to participate in this important initiative. Attached please find a survey questionnaire as a starting point for the project. We worked to simplify the survey questionnaire so it can be completed within modest amount of time. You are cordially requested to respond ***no later than March 31, 2014***, six weeks after the 2014 SCSC I meeting.

Thank you in advance for your contribution. If you have questions or suggestions, please contact Korea at by email stannovation@gmail.com or by phone +82-2-6009-4850.

Sincerely,

Choongang CHO
Project overseer of APEC CTI 07/13T
Korean Agency for Technology and Standards (KATS)

Donggeun CHOI
Project editor of APEC CTI 07/13T
Korean Standards Association (KSA)

1 Company Overview

1.1 Employees and Annual Turnover of whole company

CATEGORY	RESPONSES
1.1.1 Economy	
1.1.2 Name of company	
1.1.3 Official Website	(weblink to an company chart, if available:)
1.1.4 Annual Turnover	(year: , in US$)
1.1.5 Number of Employees	
1.1.6. Contact Point (for this survey)	Name : Email : , Phone : Postal Address :

1.2 Number of Employees in Standards-related Tasks

In your company, how many employees are involved in standardization, conformity assessment, and metrology related tasks? We understand that the number of employees submitted here can be approximation for various reasons.

When you respond to this question, you may need to consider that often standards-related task is partial task of an employee. For example, if one hundred employee's responsibility has around 30% of their duties related to standards, your response can be 30 employees in 1.2.1, 1.2.2, and 1.2.3.

CATEGORY	SUB-CATEGORY	COMPOSITION RATIO OF EMPLOYEES in the CATEGORY (%)					
1.2.1 Standardization (# of employees: _____)	Planning and Evaluation	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Development:	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Dissemination	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Others	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
1.2.2 Conformity Assessment (# of employees: _____)	Testing	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Inspection	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Certification	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Accreditation	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Others	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
1.2.3 Metrology (# of employees: _____)	Scientific Metrology	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Industrial Metrology	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Legal Metrology	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Others	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
Total number of Employees involved in Standards-related Tasks : _____							

1.3 Number of Senior Executives in Standards-specialty positions

In your company, do you have any senior executives who are explicitly responsible for standards-related issues as their major duty? If so, please provide us with the number of senior executives.

For clarity purpose, senior executives in this survey are those who are less than top five percentages of total employees. These senior executives could be engineering/research fellows as well as management executives.

CATEGORY	SENIOR EXECUTIVES	(if yes) NUMBER OF SENIOR EXECUTIVES
1.3.1 Standardization	☐ Yes ☐ No	
1.3.2 Conformity Assessment	☐ Yes ☐ No	
1.3.3 Metrology	☐ Yes ☐ No	
Total number of senior executives: _____		

2 Job Analysis and Profiling

2.1 Jobs for Standardization

2.1.1 Standardization – Current Status Profiling

If your company has people working in the standardization area, how many employees majored in science or engineering degree; hold graduate (master or doctor) degrees; are females?

Category	Characteristics	Responses
Planning and Evaluation - Strategy/policy setting and legislation; - Cooperation with SDOs - Performance and achievement evaluation - Standardization needs/trend analysis	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Development - Development (company standards) - Development (external SDO's activities)	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Dissemination - Standards information management (copyediting, publication, distribution) - Training for standards application	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Others - Any other tasks (e.g.: TBT inquiry related issues, standards and regulation, etc)	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%

2.1.2 Standardization ─ Requirement Profiling

When your company recruits people for standardization tasks, what kind of requirements or preferences do you have in terms of degree, major, or other experience, or personnel certification?

Tasks of Standardization Professional	Required Minimum Degree	Required Major	Preferred Minimum Experience	Preferred Personnel Certification (if any)
Planning and Evaluation - Strategy/policy setting; - Cooperation with SDOs - Performance/achievement evaluation - Standardization needs/trend analysis	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Development - Development (company standards) - Development (external SDO's activities)	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Dissemination - Standards information management (copyediting, publication, distribution) - Training for standards application	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Others - Any other tasks (e.g.: TBT inquiry related issues, standards and regulation, etc)	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)

2.1.3 Standardization – Sample Requirements (Advertisements)

If available, please share a few examples of job advertisements of standardization professional. The description or advertisements usually include wanted title and requirements for education (degree, major), experiences, knowledge, skills, and attitudes.

Position Title	Job Descriptions (Main Responsibilities)	Competence Requirements (ex: Education, Experiences, Knowledge, Skills, Attitudes, Others)
1. _____ _____	- - - - -	- - - - -
2. _____ _____	- - - - -	- - - - -
	-	-

2.1.4 Standardization – Training Program: Status and Needs

Please share current status and future needs of standardization related training programs.

Category	Current Existence of Training Program		Future Needs or Priority for Strengthening related Training Programs
	Internal	External	
Planning and Evaluation - Strategy/policy setting - Cooperation with SDOs - Performance/achievement evaluation - Standardization needs/trend analysis	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ~20 ~40 ~60 ~80 ~100%
Development - Development (company standards) - Development (external SDO's activities)	☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Dissemination - Standards information management (copyediting, publication, distribution) - Training for standards application	☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Others: Any other tasks	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%

2.1.5 Standardization – Personnel Certification: Status and Needs

Please share current status and future needs of standardization related personnel certification.

Category	Current Existence of Personnel Certifications		Future Needs or Priority for Personnel Certification
	Internal	External	
Planning and Evaluation - Strategy/policy setting - Cooperation with SDOs - Performance/achievement evaluation - Standardization needs/trend analysis	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ~20 ~40 ~60 ~80 ~100%
Development - Development (company standards) - Development (external SDO's activities)	☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Dissemination - Standards information management (copyediting, publication, distribution) - Training for standards application	☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Others: Any other tasks	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%

2.2 Jobs for Conformity Assessment

2.2.1 Conformity Assessment – Current Status Profiling

If your company has people working in the conformity assessment area, how many employees majored in science or engineering degree; hold graduate (master or doctor) degrees; are females?

Category	Characteristics	Responses
Testing - Testing procedure development - Testing for materials, component, and product; - Testing for new product development	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Inspection - Inspection procedure development - Receiving inspection for materials - In-process inspection; - Final inspection for product	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Certification - Acquisition & maintenance of certification for product, service, or management system	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Accreditation - Accreditation related tasks	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Others - Any other tasks	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%

2.2.2 Conformity Assessment – Requirement Profiling

When your company recruits people for conformity assessment tasks, what kind of requirements or preferences do you have in terms of degree, major, or other experience, or personnel certification?

Tasks of Standardization Professional	Required Minimum Degree	Required Major	Preferred Minimum Experience	Preferred Personnel Certification (if any)
Testing - Testing procedure development - Testing for materials & product, - Testing for new product development - Standardization needs/trend analysis	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Inspection - Inspection procedure development - Receiving inspection for materials - In-process inspection; - Final inspection for product	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Certification - Acquisition & maintenance of certification for product, service, or management system	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Accreditation - Accreditation related tasks	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Others - Any other tasks	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)

2.2.3 Conformity Assessment – Sample Requirements (Advertisements)

If available, please share a few examples of job advertisements of conformity assessment professional. The description or advertisements usually include wanted title and requirements for education (degree, major), experiences, knowledge, skills, and attitudes.

Position Title	Job Descriptions (Main Responsibilities)	Competence Requirements (ex: Education, Experiences, Knowledge, Skills, Attitudes, Others)
1. _____ _____	- - - - -	- - - - -
2. _____ _____	- - - - -	- - - - -
	-	-

2.2.4 Conformity Assessment– Training Program: Status and Needs

Please share current status and future needs of conformity assessment related training programs.

Category	Current Existence of Training Program		Future Needs or Priority for Strengthening related Training Programs
	Internal	External	
Testing - Testing procedure development - Testing for materials/component/ product - Testing for new product development - Standardization needs/trend analysis	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ~20 ~40 ~60 ~80 ~100%
Inspection - Inspection procedure development - Receiving inspection for materials - In-process inspection; - Final inspection for product	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ~20 ~40 ~60 ~80 ~100%
Certification - Acquisition & maintenance of certification for product, service, or management system	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Accreditation - Accreditation related tasks	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Others - Any other tasks	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%

2.2.5 Conformity Assessment – Personnel Certification: Status and Needs

Please share current status and future needs of conformity assessment related personnel certification.

Category	Current Existence of Personnel Certifications		Future Needs or Priority for Personnel Certification
	Internal	External	
Testing - Testing procedure development - Testing for materials/component /product - Testing for new product development - Standardization needs/trend analysis	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ~20 ~40 ~60 ~80 ~100%
Inspection - Inspection procedure development - Receiving inspection for materials - In-process inspection; - Final inspection for product	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ~20 ~40 ~60 ~80 ~100%
Certification - Acquisition & maintenance of certification for product, service, or management system	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Accreditation - Accreditation related tasks	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Others - Any other tasks	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%

2.3 Jobs for Metrology

2.3.1 Metrology – Current Status Profiling

If your company has people working in the metrology area, how many employees majored in science or engineering degree; hold graduate (master or doctor) degrees; are females?

Category	Characteristics	Responses
Scientific Metrology - Application of measurement standards	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Industrial Metrology - Establishment of management system for calibration laboratory (ISO/IEC 17025) - Calibration procedure development; - Calibration; Application of reference materials	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Legal Metrology - Compliance with laws/acts on legal metrology	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Others - Any other tasks	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%

2.3.2 Metrology Assessment – Requirement Profiling

When your company recruits people for metrology tasks, what kind of requirements or preferences do you have in terms of degree, major, or other experience, or personnel certification?

Tasks of Standardization Professional	Required Minimum Degree	Required Major	Preferred Minimum Experience	Preferred Personnel Certification (if any)
Scientific Metrology - Application of measurement standards	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7years ☐ 8 years or longer	(please provide the title)
Industrial Metrology - Establishment of management system for calibration laboratory (ISO/IEC 17025) - Calibration procedure development; - Calibration; Application of reference materials	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Legal Metrology - Compliance with laws/acts on legal metrology	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Others - Any other tasks	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)

2.3.3 Metrology – Sample Requirements (Advertisements)

If available, please share a few sample job advertisements of metrology professional. The description or advertisements usually include wanted title and requirements for education (degree, major), experiences, knowledge, skills, and attitudes.

Position Title	Job Descriptions (Main Responsibilities)	Competence Requirements (ex: Education, Experiences, Knowledge, Skills, Attitudes, Others)
1. _____ _____	- - - - -	- - - - -
2. _____ _____	- - - - -	- - - - -
	-	-

2.3.4 Metrology – Training Program: Status and Needs

Please share current status and future needs of metrology related training programs.

Category	Current Existence of Training Program		Future Needs or Priority for Strengthening related Training Programs
	Internal	External	
Scientific Metrology - Application of measurement standards	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Industrial Metrology - Establishment of management system for calibration laboratory(ISO/IEC 17025) - Calibration procedure development; Calibration; - Application of reference materials	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Legal Metrology - Compliance with laws/acts on legal metrology	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Others - Any other tasks	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%

2.3.5 Metrology – Personnel Certification: Status and Needs

Please share current status and future needs of metrology related personnel certification.

Category	Current Existence of Personnel Certifications		Future Needs or Priority for Personnel Certification
	Internal	External	
Scientific Metrology - Application of measurement standards	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Industrial Metrology - Establishment of management system for calibration laboratory (ISO/IEC 17025) - Calibration procedure development; - Calibration; Application of reference materials	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Legal Metrology - Compliance with laws/acts on legal metrology	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Others - Any other tasks	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%

3 Overall Recommendations to APEC SCSC

3.1 Comments on Definition/Classification of Standards Professional

If you have any comments to improve the proposed interim definition and classification of standards Professional in this survey (Annex A), please submit it here:

_____
_____
_____
_____

3.2 Career Path and Vision for Standards Professional

In order to inspire next generation of standards Professional, what kind of career development programs or career path (best practice) need to be developed?

_____
_____
_____
_____

3.3 Recommendations for APEC SCSC Members

What kind of individual or collective actions does your company recommend to APEC SCSC Members for the upcoming years of 2015~2020? Please indicate your interest or priority in terms of education/training program development, contents development, digitalization, personnel certification and its mutual/multi-lateral recognition, joint activities, etc

_____
_____
_____
_____

This is the final page of the survey. We'd like to thank you in advance for your contribution. At the completion of our project, we will share the result with you through the APEC publication website (publications.apec.org) or the project website (www.wisestandard.org)

APEC Survey to Identify
Competence Requirements of Standards Professional
- Type B. For an Individual Standards-Specialty Organization

*APEC Project CTI 07/2013T

APEC Sub-Committee on Standards and Conformance (SCSC)

Prepared & Submitted by: Republic of Korea (final)

Co-Sponsored by: China, Indonesia, Japan, Malaysia, Peru, Singapore, USA, Viet Nam

Requested Action: Survey Response ***by March 31, 2014***

Note: Your timely contribution is very much appreciated.

You are cordially invited to participate in the Survey for the project of '*Inspiring Next Generation of Standards Professional Development*' Please respond by **March 31, 2014** to the project editor, Dr. Donggeun CHOI of Korean Standards Association.

(Email: stannovation@gmail.com, Phone:+82-2-6009-4850, Fax:+82-2-6009-4839)

1 February 2014

To: APEC SCSC member economies (and related Organizations & Companies)

Subject: APEC Survey to develop 'Standards Professional Development'

The APEC Sub-Committee on Standards and Conformance (SCSC) is undertaking a project, led by Korea, to define next generation of standards professional, future human resources in the area of standards and conformity assessment, so as to improve the competitiveness of the APEC member economies.

APEC has commissioned the Korean Agency for Technology and Standards (KATS) with support from Korean Standards Association (KSA) to conduct the project. The objectives of this project questionnaire are:

- To define what 'standards professional' – covering standards and conformance, with a focus on 'documentary standards'
- To identify current & future competence requirements for standards professional bot h in standards-specialty organizations and companies
- To share recommendations for the discussion in the APEC Subcommittee on Standar ds and Conformance (SCSC) to inspire standards professional

On behalf of the APEC SCSC member economies, we are writing to invite you to participate in this important initiative. Attached please find a survey questionnaire as a starting point for the project. We worked to simplify the survey questionnaire so it can be completed within modest amount of time. You are cordially requested to respond ***no later than March 31, 2014***, six weeks after the 2014 SCSC I meeting.

Thank you in advance for your contribution. If you have questions or suggestions, please contact Korea at by email stannovation@gmail.com or by phone +82-2-6009-4850.

Sincerely,

Choongang CHO
Project overseer of APEC CTI 07/13T
Korean Agency for Technology and Standards (KATS)

Donggeun CHOI
Project editor of APEC CTI 07/13T
Korean Standards Association (KSA)

1 Organization Overview

1.1 Employees and Budget of whole organization (within the economy)

CATEGORY	RESPONSES
1.1.1 Economy	
1.1.2 Name of organization	
1.1.3 Official Website	(weblink to an organization chart, if available:)
1.1.4 Annual Budget(Turnover)	☐ Budget ☐ Turnover (year: , in US$)
1.1.5 Number of Employees	
1.1.6. Contact Point (for this survey)	Name : Email : , Phone : Postal Address :

1.2 Number of Employees in Standards-related Tasks

In your organizations, how many employees are involved in standardization, conformity assessment, and metrology related tasks? We understand that the number of employees submitted here can be approximation for various reasons.

When you respond to this question, you may need to consider that often standards-related task is partial task of an employee. For example, if one hundred employee's responsibility has around 50% of their duties related to standards, your response can be 50 employees in 1.2.1, 1.2.2, and 1.2.3.

CATEGORY	SUB-CATEGORY	COMPOSITION RATIO OF EMPLOYEES in the CATEGORY (%)					
1.2.1 Standardization (# of employees: _____)	Planning and Evaluation	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Development:	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Dissemination	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Others	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
1.2.2 Conformity Assessment (# of employees: _____)	Testing	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Inspection	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Certification	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Accreditation	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Others	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
1.2.3 Metrology (# of employees: _____)	Scientific Metrology	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Industrial Metrology	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Legal Metrology	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
	Others	☐ 0%	☐ ~20%	☐ ~40%	☐ ~60%	☐ ~80%	☐ ~100%
Total number of Employees involved in Standards-related Tasks : _____							

1.3 Number of Senior Executives in Standards-specialty positions

In your organization, do you have any senior executives who are explicitly responsible for standards-related issues as their major duty? If so, please provide us with the number of senior executives.

For clarity purpose, senior executives in this survey are those who are less than top five percentages of total employees. These senior executives could be engineering/research fellows as well as management executives.

CATEGORY	SENIOR EXECUTIVES	(if yes) NUMBER OF SENIOR EXECUTIVES
1.3.1 Standardization	☐ Yes ☐ No	
1.3.2 Conformity Assessment	☐ Yes ☐ No	
1.3.3 Metrology	☐ Yes ☐ No	
Total number of senior executives: _____		

2 Job Analysis and Profiling

2.1 Jobs for Standardization

2.1.1 Standardization – Current Status Profiling

If your organization has people working in the standardization area, how many employees majored in science or engineering in degree; hold graduate (master or doctor) degrees; are females?

Category	Characteristics	Responses
Planning and Evaluation - Strategy/policy setting and legislation - Cooperation/coordination with SDOs - Performance/achievement evaluation - Standardization needs & trend analysis	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Development - Committee secretariat (processing) - Development (by staff) - Development (by technical committees) - Development (by cooperative SDOs)	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Dissemination - Copyediting & publication; - Sales & marketing; Information services - Consultancy and training	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Others - Any other tasks (e.g.: TBT inquiry related issues, standards and regulation, etc)	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%

2.1.2 Standardization – Requirement Profiling

When your organization recruits people for standardization tasks, what kind of requirements or preferences do you have in terms of education degree, major, or other experience, or personnel certification?

Tasks of Standardization Professional	Required Minimum Degree	Required Major	Preferred Minimum Experience	Preferred Personnel Certification (if any)
Planning and Evaluation - Strategy/policy setting and legislation - Cooperation/coordination with SDOs - Performance/achievement evaluation - Standardization needs & trend analysis	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Development - Committee secretariat (processing) - Development (by staff) - Development (by technical committees) - Development (by accredited/cooperative SDOs)	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Dissemination - Copyediting & publication; - Sales & marketing; Information services - Consultancy and training	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Others - Any other tasks (e.g.: TBT inquiry related issues, standards and regulation, etc)	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)

2.1.3 Standardization – Sample Requirements (Advertisements)

If available, please share a few examples of job advertisements of standardization professional. The description or advertisements usually include wanted title and requirements for education (degree, major), experiences, knowledge, skills, and attitudes.

Position Title	Job Descriptions (Main Responsibilities)	Competence Requirements (ex: Education, Experiences, Knowledge, Skills, Attitudes, Others)
1. _____ _____ _____	- - - - -	- - - - -
2. _____ _____ _____	- - - - -	- - - - -
	-	-

2.1.4 Standardization – Training Program: Status and Needs

Please share current status and future needs of standardization related training programs.

Category	Current Existence of Training Program		Future Needs or Priority for Strengthening related Training Programs
	Internal	External	
Planning and Evaluation			
- Strategy/policy setting and legislation	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
- Cooperation/coordination with SDOs	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
- Performance/achievement evaluation	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
- Standardization needs & trend analysis	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
			~20 ~40 ~60 ~80 ~100%
Development			
- Committee secretariat (processing)	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
- Development (by staff)	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
- Development (by technical committees)	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
- Development (by cooperative SDOs)	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
			~20 ~40 ~60 ~80 ~100%
Dissemination			
- Copyediting & publication;	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
- Sales & marketing; Information services	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
- Consultancy and training	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
			~20 ~40 ~60 ~80 ~100%
Others			
- Any other tasks	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
			~20 ~40 ~60 ~80 ~100%

2.1.5 Standardization – Personnel Certification: Status and Needs

Please share current status and future needs of standardization related personnel certification.

Category	Current Existence of Personnel Certifications		Future Needs or Priority for Personnel Certification
	Internal	External	
Planning and Evaluation			
- Strategy/policy setting and legislation	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
- Cooperation/coordination with SDOs	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
- Performance/achievement evaluation	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
- Standardization needs & trend analysis	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
			~20 ~40 ~60 ~80 ~100%
Development			
- Committee secretariat (processing)	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
- Development (by staff)	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
- Development (by technical committees)	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
- Development (by cooperative SDOs)	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
			~20 ~40 ~60 ~80 ~100%
Dissemination			
- Copyediting & publication;	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
- Sales & marketing; Information services	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
- Consultancy and training	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
			~20 ~40 ~60 ~80 ~100%
Others			
- Any other tasks	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐
			~20 ~40 ~60 ~80 ~100%

2.2 Jobs for Conformity Assessment

2.2.1 Conformity Assessment – Current Status Profiling

If your organization has people working in the conformity assessment area, how many employees majored in science or engineering in degree; hold graduate (master or doctor) degrees; are females?

Category	Characteristics	Responses
Testing - Testing service development & operation - Establishment of management system for testing laboratory (ISO/IEC 17025) - Testing method development; - Testing	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Inspection - Inspection service development & operation - Establishment of management system for inspection body ISO/IEC 17020); - Inspection criteria & method development; - Inspection	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Certification - Certification scheme development & operation - Establishment of management system for certification body (ISO/IEC 17065, 17021); - Certification criteria & method development - Certification audit/assessment	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Accreditation - Accreditation scheme development & operation - Establishment of management system for accreditation body (ISO/IEC 17011) - Accreditation criteria & method development - Accreditation assessment	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Others - Any other tasks	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%

2.2.2 Conformity Assessment – Requirement Profiling

When your organization recruits people for conformity assessment tasks, what kind of requirements or preferences do you have in terms of education degree, major, or other experience, or personnel certification?

Tasks of Standardization Professional	Required Minimum Degree	Required Major	Preferred Minimum Experience	Preferred Personnel Certification (if any)
Testing - Testing service development & operation - Establishment of management system for testing laboratory (ISO/IEC 17025) - Testing method development; - Testing	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Inspection - Inspection service development & operation - Establishment of management system for inspection body ISO/IEC 17020); - Inspection criteria & method development; - Inspection	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Certification - Certification scheme development & operation - Establishment of management system for certification body (ISO/IEC 17065, 17021); - Certification criteria & method development - Certification audit/assessment	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Accreditation - Accreditation scheme development & operation - Establishment of management system for accreditation body (ISO/IEC 17011) - Accreditation criteria & method development - Accreditation assessment	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Others - Any other tasks	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)

2.2.3 Conformity Assessment – Sample Requirements (Advertisements)

If available, please share a few examples of job advertisements of conformity assessment professional. The description or advertisements usually include wanted title and requirements for education (degree, major), experiences, knowledge, skills, and attitudes.

Position Title	Job Descriptions (Main Responsibilities)	Competence Requirements (ex: Education, Experiences, Knowledge, Skills, Attitudes, Others)
1. _____ _____	- - - - -	- - - - -
2. _____ _____	- - - - -	- - - - -

2.2.4 Conformity Assessment– Training Program: Status and Needs

Please share current status and future needs of conformity assessment related training programs.

Category	Current Existence of Training Program		Future Needs or Priority for Strengthening related Training Programs
	Internal	External	
Testing - Testing service development & operation - Establishment of management system for testing laboratory (ISO/IEC 17025) - Testing method development; - Testing	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Inspection - Inspection service development & operation - Establishment of management system for inspection body ISO/IEC 17020); - Inspection criteria & method development; - Inspection	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Certification - Certification scheme development/operation - Establishment of management system for certification body (ISO/IEC 17065, 17021); - Certification criteria/method development - Certification audit/assessment	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Accreditation - Accreditation scheme development/operation - Establishment of management system for accreditation body (ISO/IEC 17011) - Accreditation criteria/method development - Accreditation assessment	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Others - Any other tasks	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%

2.2.5 Conformity Assessment – Personnel Certification: Status and Needs

Please share current status and future needs of conformity assessment related personnel certification.

Category	Current Existence of Personnel Certifications		Future Needs or Priority for Personnel Certification
	Internal	External	
Testing - Testing service development & operation - Establishment of management system for testing laboratory (ISO/IEC 17025) - Testing method development; - Testing	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Inspection - Inspection service development & operation - Establishment of management system for inspection body (ISO/IEC 17020); - Inspection criteria & method development; - Inspection	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Certification - Certification scheme development/operation - Establishment of management system for certification body (ISO/IEC 17065, 17021); - Certification criteria & method development - Certification audit/assessment	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Accreditation - Accreditation scheme development/operation - Establishment of management system for accreditation body (ISO/IEC 17011) - Accreditation criteria/method development - Accreditation assessment	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Others - Any other tasks	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%

2.3 Jobs for Metrology

2.3.1 Metrology – Current Status Profiling

If your organization has people working in the metrology area, how many employees majored in science or engineering in degree; hold graduate (master or doctor) degrees; are females?

Category	Characteristics	Responses
Scientific Metrology - Establishment & dissemination of national measurement standards - Research & development of measurement standards - International Key comparison	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Industrial Metrology - Calibration service development & operation - Management system for calibration laboratory (ISO/IEC 17025) - Calibration procedure development; Calibration; - Reference material production - Management system for reference material producer (ISO Guide 34) - Reference material certification (ISO Guide 35)	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Legal Metrology - Policy and Legislation for legal metrology - Type approval, verification and periodical Inspection for measuring instruments; - Net weight certification for pre-packaged food	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Others - Any other tasks	Majored in Science or Engineering	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Holding Master or Ph.D Degree	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
	Females	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%

2.3.2 Metrology Assessment – Requirement Profiling

When your organization recruits people for metrology tasks, what kind of requirements or preferences do you have in terms of education degree, major, or other experience, or personnel certification?

Tasks of Standardization Professional	Required Minimum Degree	Required Major	Preferred Minimum Experience	Preferred Personnel Certification (if any)
Scientific Metrology - Establishment & dissemination of national measurement standards - Research & development of measurement standards - International Key comparison	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Industrial Metrology - Calibration service development & operation - Management system for calibration laboratory (ISO/IEC 17025) - Calibration procedure development; Calibration; - Reference material production Management system for reference material producer (ISO Guide 34) - Reference material certification (ISO Guide 35)	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Legal Metrology - Policy and Legislation for legal metrology - Type approval, verification and periodical Inspection for measuring instruments; - Net weight certification for pre-packaged food	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)
Others - Any other tasks	☐ Bachelor (or lower) ☐ Master ☐ Ph.D	☐ Science & Engineering ☐ All others ☐ None	☐ ~3 years ☐ 4~7 years ☐ 8 years or longer	(please provide the title)

2.3.3 Metrology – Sample Requirements (Advertisements)

If available, please share a few sample job advertisements of metrology professional. The description or advertisements usually include wanted title and requirements for education (degree, major), experiences, knowledge, skills, and attitudes.

Position Title	Job Descriptions (Main Responsibilities)	Competence Requirements (ex: Education, Experiences, Knowledge, Skills, Attitudes, Others)
1. _____ _____	- - - -	- - - -
2. _____ _____	- - - -	- - - -

2.3.4 Metrology – Training Program: Status and Needs

Please share current status and future needs of metrology related training programs.

Category	Current Existence of Training Program		Future Needs or Priority for Strengthening related Training Programs
	Internal	External	
Scientific Metrology - Establishment & dissemination of national measurement standards - Research & development of measurement standards - International Key comparison	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Industrial Metrology - Calibration service development & operation - Management system for calibration laboratory (ISO/IEC 17025) - Calibration procedure development; Calibration; - Reference material production - Management system for reference material producer (ISO Guide 34) - Reference material certification (ISO Guide 35)	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ~20 ~40 ~60 ~80 ~100%
Legal Metrology - Policy and Legislation for legal metrology - Type approval, verification and periodical Inspection for measuring instruments; - Net weight certification for pre-packaged food	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Others - Any other tasks	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%

2.3.5 Metrology – Personnel Certification: Status and Needs

Please share current status and future needs of metrology related personnel certification.

Category	Current Existence of Personnel Certifications		Future Needs or Priority for Personnel Certification
	Internal	External	
Scientific Metrology - Establishment & dissemination of national measurement standards - Research & development of measurement standards - International Key comparison	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Industrial Metrology - Calibration service development & operation - Management system for calibration laboratory (ISO/IEC 17025) - Calibration procedure development; Calibration; - Reference material production - Management system for reference material producer (ISO Guide 34) - Reference material certification (ISO Guide 35)	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ~20 ~40 ~60 ~80 ~100%
Legal Metrology - Policy and Legislation for legal metrology - Type approval, verification and periodical Inspection for measuring instruments; - Net weight certification for pre-packaged food	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%
Others - Any other tasks	☐ Yes ☐ No	☐ Yes ☐ No	☐ ☐ ☐ ☐ ☐ ~20 ~40 ~60 ~80 ~100%

3 Overall Recommendations to APEC SCSC

3.1 Comments on Definition/Classification of Standards Professional

If you have any comments to improve the proposed interim definition and classification of standards professional in this survey (Annex A), please submit it here:

_____
_____
_____
_____

3.2 Career Path and Vision for Standards Professional

In order to inspire next generation of standards professional, what kind of career development programs or career path (best practice) need to be developed?

_____
_____
_____
_____

3.3 Recommendations for APEC SCSC members

What kind of individual or collective actions does your organization recommend to APEC SCSC members for the upcoming years of 2015~2020? Please indicate your interest or priority in terms of education/training program development, contents development, digitalization, personnel certification and its mutual/multi-lateral recognition, joint activities, etc.

_____
_____
_____
_____

This is the final page of the survey. We'd like to thank you in advance for your contribution. At the completion of our project, we will share the result with you through the APEC publication website (publications.apec.org) or the project website (www.wisestandard.org)

APEC Project: CTI 07 2013T

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APEC#215-CT-01.5.
ISBN 978-981-09-4655-5