

## 2. PROJECT DESIGN

### 2.1 Methodology

This project used three different methods to collect and analyze data related to standards professionals — 1) a survey of company/standards specialty organizations; 2) written interviews with thought leaders on standards and conformance, and 3) an experts' conference (workshop) to identify policy recommendations.

<Figure 1> Project Methodology and Schedule



To prepare the survey and the interview questionnaire, two project researchers worked with an advisory group (seven experts) from Nov 2013 – Feb 2014. The team developed a draft definition/classification for standards professionals. The draft definition has been modified and revised as noted in Chapter 3 after receiving comments and input from survey and workshop participants during 2014.

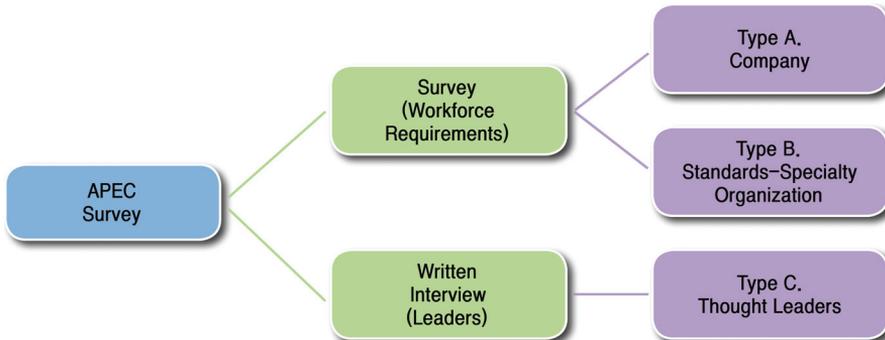
The survey and the interviews were mainly conducted during February-May of 2014.

First, the objective of the APEC wide-survey was to collect actual workforce information from each economy, including business, standards and conformity- related organizations. This survey was mostly conducted via SCSC representatives. The survey questionnaire is available in Annex C. Overall 30 companies and 35 standards specialty organizations responded in total.

Secondly, written interviews additionally invited input from executive level thought leaders in standards and conformance in the APEC region and also certain international organizations. Also, interviews with three young standards professionals were included in

order to share the viewpoints of the younger generation. As a result, a total of 22 thought leaders and 3 young professionals participated in the interviews.

**<Figure 2> Project Survey and the Written Interviews**



Third, a two- day APEC conference (workshop) was organized to review the survey responses, exchange ideas, and identify the priorities for future cooperation in the region in order to develop standards professionals. In the conference, nearly 60 experts p from 15 Member economies and non-member organizations participated. The conference goals was to have face to face, in-depth discussion on the following issues:

- Reviewing the definition/classification for standards professionals
- Job market and job(tasks) analysis
- Identifying needs and discussing recommendations for them

The conference was held on 9-10 August 2014 in the Beijing Hotel, Beijing, China. The conference program is available in Annex B. Conference speakers came from education institutions, SCSC representatives (survey collection), companies, and standards specialty organizations. The conference ended with open enlightening discussion and a final wrap-up.

## 2.2 Survey and Interviews

### (1) Survey Questions

A project survey questionnaire was circulated to APEC SCSC representatives to collect and analyze current job characteristics and workforce requirements in companies and standards-specialty organizations in the region. Standards-specialty organizations included standards development organizations (SDOs), testing/inspection laboratories, certification/ accreditation bodies, metrology institutes – both governmental and non-governmental. The survey questions were separated for companies and standards-specialty organizations because the jobs and workforce requirements of each are quite different. The full text of these questions is attached in Annex C-1(Company) and Annex C-2(Organization).

#### <Table 2> Survey Questions

<p><b>1. Org/Company Overview</b></p> <p>1.1 Employees and Budget of entire company</p> <p>1.2 Number of Employees in Standards-related Tasks</p> <p>1.3 Number of Senior Executives in Standards-specialty Positions</p> <p><b>2. Job Analyses and Profiling</b></p> <p>2.1 Jobs for Standardization</p> <p>2.1.1 Standardization – Current Status Profiling</p> <p>2.1.2 Standardization – Requirement Profiling</p> <p>2.1.3 Standardization – Sample Requirements (Advertisements)</p> <p>2.1.4 Standardization – Training Program: Status and Needs</p> <p>2.1.5 Standardization – Personnel Certification: Status and Needs</p> <p>2.2 Jobs for Conformity Assessment</p> <p>2.2.1~2.2.6 (same questions)</p> <p>2.3 Jobs for Metrology</p> <p>2.3.1~2.3.6 (same questions)</p> <p><b>3. Overall Recommendations to APEC SCSC</b></p> <p>3.1 Comments on Definition/Classification of the Standards Professional</p> <p>3.2 Career Path and Vision for Standards Professional</p> <p>3.3 Recommendations for APEC SCSC Members</p> <p>● Full text of the survey questionnaire is available in Annex C-1 and C-2</p>
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**(2) Interview Questions**

An interview questionnaire was circulated to both APEC SCSC representatives and individuals to share different career development experiences and ideas of the thought leaders in the standards arena. Most had more than 25 years' experience in standards-related tasks. The full text of these questions is in Annex C-3. Also, the full text of the written interviews result is available in Annex A.

**<Table 3> Interview Questions**

<ol style="list-style-type: none"><li>1. Would you please describe your career path -- when and how you started your career and then developed it throughout your professional life by far?</li><li>2. What do you think are the most important event(s) or experiences(s) in your professional career as a standards professional?</li><li>3. What kind of standards professionals did you hire or will hire? What kind of knowledge, skills, experiences, or attitudes do you expect from them?</li><li>4. How do you see conceptually professional development or practically the job market for standards professionals? Can you share your vision or prediction on standards professionals with the next generation or with current experts' working in standards-related tasks?</li><li>5. Finally, please share your suggestions or recommendations to inspire standards professional development for the APEC Member Economies, their organizations, or companies, in terms of regional and/or international cooperation.</li></ol> <ul style="list-style-type: none"><li>● The full text of the survey questionnaire is located in Annex C-3</li></ul>
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**2.3 Collected Data from the Survey and Interviews**

Thankfully, in the Type A survey for companies, 28 companies responded to the Type A survey for companies, and 2 additional companies provided a similar level of information in the project workshop held in August 2014 at the Beijing workshop. These companies included SMEs and large enterprises in the steel, electronics, chemical, and defense industries. The eight participating economies in the Type A survey were China, Indonesia, Japan, Korea, Malaysia, Philippines, Singapore, and Chinese Taipei.

In the Type B survey for standards specialty organizations, 35 organizations responded. The specialty organizations consisted of ISO members (government and non-government), standards development organizations, testing/inspection labs, certification bodies, and metrology institutes. The 13 participating economies in the Type B survey were Australia;

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Canada; China; Hong Kong, China; Indonesia; Japan; Korea; Malaysia; Peru; Philippines; Chinese Taipei; Viet Nam; and the U.S.

In the Type C interviews given to thought leaders, 22 thought leaders on the executive and middle management level participated. Additionally, based on the input from the advisory committee and the project overseer, we added interviews with three young professionals (YP) in Korea to hear their youthful perspectives on the human resources development of standards professionals. The full responses for the 25 written interviews are available in Annex A. (see Table 4)

<Table 4> Survey and Interview Responses

<i>Economy</i>	<i>Type A Companies</i>	<i>Type B Specialty Organizations</i>	<i>Type C Leaders &amp; YP</i>
Australia	--	1	--
Canada		1	1
China	2	1	1
Hong Kong, China	--	4	--
Indonesia	2	2	4
Japan	7	7	2
Korea	8	5	2 plus 3 YP
Malaysia	2	1	2
Peru	-	1	1
The Philippines	2	3	1
Singapore	2	--	--
Chinese Taipei	5	6	
Viet Nam	--	2	1
United States	-	1	1
*International	-	--	6
합계	30 Companies	35 Organizations	22 Leaders & 3 YP

\*YP: Young Professional