



**Asia-Pacific  
Economic Cooperation**

# **Guide to Support Quality Infrastructure Incorporation into MSMEs**

**APEC Sub-Committee on Standards and Conformance**

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*I would like to thank member economies for entrusting us with the development of this project, as well as for highlighting the significant support received from the co-sponsors and the people who contributed to the development of this Guide, which we are sure will serve as reference material for the economies that require to implement initiatives to facilitate MSMEs trade through standardization, accreditation, conformity assessment, and metrology.*

*The economic importance of micro, small and medium-sized enterprises, in the APEC economies is well-known: they are a driving force both for economic growth and generation of employment, which contributes to poverty reduction.*

*This is why they have been part of APEC's objectives in recent years. Both the SCSC and Small and Medium Enterprise Working Group - SMEWG agree that the internationalization of SMEs is a fundamental point to achieve its diversification in international markets where the requirements of quality standards are essential to improve productive efficiency, facilitate the adoption of technology transfer, and facilitate access to international markets.*

*To this end, it is expected, that the good practices outlined in this guide be analyzed and replicated in the APEC economies to contribute to MSMEs in the region, increase their understanding on quality infrastructure, and its use in MSME's processes, products and services, thus contributing to the fulfilment of APEC's goals and the objectives of the SCSC.*



**Mrs Rocio Barrios Alvarado**  
**Executive President**  
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## FOREWORD

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We would like to express our deep gratitude to all who have made possible this publication, which is a final output of the Workshop supporting micro, small and medium enterprises (MSMEs) trade facilitation through standardization activities. 16 August 2016. Lima – Peru.

In particular, the appreciation goes to the co-sponsors: Australia; Chile; Indonesia; Japan; Mexico; Philippines and Singapore for their support, as well as to all speakers for making the workshop and this publication of the highest technical level.

MSMEs are an important part of APEC economies and have been an APEC's objective to integrate them in regional and global markets. The promotion of the use of standards & conformance among MSMEs will support them to access new markets and to be part of the Global Value Chains

This publication will encourage a more critical look at the opportunities around APEC today and will prompt us to join efforts towards making the APEC region a stable market place without technical restrictions to trade.

From an APEC perspective, the main driving issue is the move toward increasing economic interdependence, open regionalism and the liberalization of flows of goods, services, resources and capital. The enormous potential for MSMEs to contribute to the economic development of the region will be underutilized if MSMEs are not able to take advantage of the opportunities created, or able to adapt to the competitive pressures that open regionalism brings. The potential contribution of MSMEs to the sustainable growth of the APEC region is large.

Quality infrastructure (QI) includes standardization, accreditation, conformity assessment (such as certification and testing services), and metrology. It is a prerequisite for the participation in international trade, product traceability, environmental and health protection, product compatibility, and supports consumer and supplier confidence in products. Through the use of QI, MSMEs can achieve better levels of productivity and competitiveness. The implementation of technical standards, their conformity assessment associated and the use of metrology practices is relevant and necessary to improve MSMEs performance.



Mrs Rosario Uria- Project Overseer of CTI 13 2015A Supporting Micro, Small and Medium Enterprises (MSMEs) Trade Facilitation through Standardization Activities.  
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## I. EXECUTIVE SUMMARY

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It is important that Micro, Small and Medium Enterprises (MSMEs) become aware of the added value of standards for their businesses, as well as to know the distinct ways in which they could participate in the standardization process.

MSMEs are crucial for growth and employment throughout the APEC region, and standardization allows MSMEs to increase their productivity and reach wider markets. Standards and Conformance are important tools to facilitate access to the market, and these support the development of markets for goods and services.

There are several initiatives developed by National Standards Bodies (NSBs) within the APEC region to increase MSMEs' awareness on the use of standards, their implementation, and conformity assessment, but this information has not been well shared among member economies. This publication aims to exchange information among NSBs on standardization activities implemented by MSMEs and will serve as a base to apply them by each NSB.

This publication is based on the information collected in the main stages, described as follows:

- A **survey** among NSBs in APEC economies to raise information about the current status and also past experiences of the initiatives that NSBs apply or have applied to help MSMEs better understand the benefits of standards & conformance, to encourage the adoption of standards and services by accredited conformity assessment providers, and the initiatives to get MSMEs more involved in the development of standards, conformity assessment and metrology businesses.
- A 2-day **workshop** held in the confines of SOM 3 in Peru. The first day was for exchanging information among APEC economies about the initiatives, strategies and experiences of members about involving MSMEs in standardization, conformity assessment and metrology. With the information exchanged, workshop recommendations for approaching NSBs and MSMEs were more deeply discussed in the second day.

An extensive literature search was performed. The search was focused on initiatives and projects related to promoting SMEs' competitiveness through standards & conformance in the APEC region and other relevant sources (APEC, OECD, ISO, CEN, etc).

Best practices were identified through strategies to promote interest and participation among MSMEs to use quality infrastructure services, to achieve sustainability to maintain successful initiatives, to measure the impact of each initiative in terms of improving competitiveness of MSMEs to access global

markets, and lastly, to gather challenges and opportunities to consider in initiatives of promoting quality infrastructure services in MSMEs.

This publication includes successful case studies on the implementation of standards as practical examples. The following economies shared their successful initiatives: Australia; Japan; Republic of Korea; Malaysia; Peru; Philippines and Chinese Taipei.

The publication will particularly benefit MSMEs from developing economies because NSBs in these economies tend to have not enough resources to invest in this kind of studies, allowing them to improve their capacity to assist their MSMEs.

This publication is part of the expected objectives of the project titled CTI 13 2015A – Supporting Micro, Small and Medium Enterprises (MSMEs) Trade Facilitation through Standardization Activities.

## II. INTRODUCTION

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### 2.1 Background

MSMEs are an important part of APEC economies, and it has been an APEC objective to integrate them in regional and global markets. The promotion of the use of standards and conformance among MSMEs will help them to access new markets and to be part of Global Value Chains (GVCs). SME internationalization is an important aspect of APEC's broader commitment to free and open trade and investment in the region.

One important aspect of supporting SME growth and development, as well as internationalization, is the role of standards and compliance. This highlights the need for multi-stakeholder dialogue as part of the regulatory reform process, construed broadly to include changes to rules and market institutions.

The study conducted by the Policy Support Unit in May 2014 entitled "Integrating SMEs into Global Value Chains: Policy Principles and Best Practices" recommended the economies help SMEs to comply with standards and certificates for increasing competitiveness. Along the same lines, in 2013, a paper issued by the same APEC Policy Support Unit (PSU) – "SMEs' Participation in Global Production Chains" – identified the most important challenges for SMEs to become competitive players along the chain (APEC Policy Support Unit 2013a). One of these challenges is related to complying with standards.

In May 2015 in the Meeting of APEC Ministers Responsible for Trade, it was recognized that micro, small and medium enterprises (MSMEs) are an important force in economic activity, growth, job creation, community resilience and innovation. Ministers engaged to complement APEC's initiatives on promoting SMEs' participation in Global Value Chains with an agenda that will support micro and small enterprises as direct exporters.

### 2.2 Purpose of the publication

This publication will serve as a reference material for any APEC economy which needs to implement initiatives to help MSMEs to better understand the benefits of standards & conformance, and encourage adoption of standards and service by accredited conformity assessment providers and initiatives to get MSMEs more involved in the development of standards, conformity assessment and metrology businesses, including guidelines on how to implement these strategies. This will be a tool for making implementation easier, so economies can succeed, avoiding work duplication and reducing error.

It is expected that NSBs from APEC economies could implement any of the initiatives recommended. Also, it is expected that the publication will be useful for NSBs from



developing economies because this will prevent them from expending time and money doing research or creating activities with their own resources which are limited.

In this sense, the publication will help MSMEs better understand standards & conformance, and this will promote standards implementation in their processes, products and services.

### **2.3 Structure of the publication**

This publication consists of seven chapters.

Chapter I is the executive summary section. A general overview of the project and the results obtained are described.

Chapter II contains introductory information. The main purpose of the publication is presented.

Chapter III refers to the methodology applied and the analysis of the information and data collected.

Chapter IV examines the role of MSMEs in the Global Value Chain and the importance of standardization & conformance to foster MSMEs' competitiveness.

Chapter V gives the considerations for Quality Infrastructure organizations to encourage insertion of MSMEs through Quality Infrastructure Services.

Chapter VI summarizes the literature search related to the scope of the publication.

Chapter VII describes best practices in specific initiatives performed by some economies to promote standardization activities.

In Chapter VIII, gives the concluding remarks, which address the limitations of this report and suggestions for further research.

Chapter IX is the bibliography.

Finally, the Appendix contain a questionnaire template which could be applied to the Quality Infrastructure Organizations and the initiatives shared by APEC economies.

### III. EVALUATION METHODS AND LIMITATIONS

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#### 3.1 Data Collection Methods

The information for this publication was collected through the following means:

- **Document review** – A cross-fora online search was carried out. The search was focused on Initiatives and projects related to promoting SMEs' competitiveness through standards & conformance in the APEC region and other relevant sources (OECD, etc). This also included a review of workshop speakers and presentation topics.
- **Survey** – An online survey (using a questionnaire containing both open-ended and closed questions) was developed and distributed among NSBs in APEC economies to raise information about current status and also past experiences on the initiatives that NSBs apply to help MSMEs better understand the benefits of standards & conformance, and encourage adoption of standards and services by accredited conformity assessment providers and initiatives to get MSMEs more involved in the development of standards, conformity assessment and metrology businesses.

In some economies, the surveyed organization represented more than one role in the quality infrastructure of that economy, thus the organization can represent a National Standard Body, National Metrology Institute and National Accreditation Body at the same time.

The survey was concise and user friendly in order to get as many replies as possible from NSBs in coordination with accreditation bodies, metrology institutes, conformity assessment bodies and relevant stakeholders.

The design of the questionnaire was developed with cosponsor economies' support (Australia; Chile; Indonesia; Japan; Mexico; Philippines and Singapore) and was circulated by the SCSC Program Director to the following APEC fora: SCSC and SMEWG.

The survey was conducted from April to May 2016. Twelve (12) economies responded to the survey. These economies were: Australia; Chile; Hong Kong, China; Japan; Korea; Mexico; Peru; Philippines; Singapore; Chinese Taipei; Thailand and the United States. For some economies more than one representative responded to the survey, so sixteen (16) surveys were received in total.

The main results of the survey were:

- Nine (09) economies reported having developed initiatives that support MSMEs with standards, conformity assessment and/or metrology activities (Australia; Chile; Hong Kong, China; Japan; Peru; Philippines; Singapore, Chinese Taipei and Thailand).
- The initiatives reported by six (06) Economies were supported by public funding (Chile; Hong Kong, China; Japan; Philippines; Singapore and Thailand).
- Eight (08) economies reported that their initiatives were replicable, sustainable and relevant for APEC economies (Australia; Chile; Hong Kong, China; Japan; Peru; Philippines; Chinese Taipei and Thailand).
- Only three (03) Economies measured the impact of their initiatives (Japan; Philippines and Thailand).
- Seven (07) economies agreed to share eight (08) successful experiences in the Workshop Supporting Micro, Small and Medium Enterprises (MSMEs) Trade Facilitation through Standardization Activities held in Lima Peru: Australia (01); Japan (01); Peru (02); Philippines (01); Singapore (01); Chinese Taipei (01) and Thailand (01).
- **A 2-day workshop (16 and 17 August 2016)** – During the first day, information was exchanged among APEC economies about the initiatives, strategies and experiences of members about involving MSMEs in standardization, conformity assessment and metrology. Economies with successful experiences were invited to share their experiences as speakers, and this was identified in the survey.

The second day of the workshop was for discussing survey results and drafting recommendations about best practices on how to implement these strategies. Local participants were selected by the Project Overseer (PO) on this day in order to facilitate discussion. SMEWG was invited to attend the workshop.

The following APEC economies were represented on the second day of the workshop: Australia; Canada; Chile; Indonesia; Japan; Republic of Korea; Malaysia; Papua New Guinea; Peru; Philippines; Russia; Singapore; Chinese Taipei; Thailand; United States and Viet Nam.

Four working groups (WGs) discussed specific topics. The topics were:

- How to achieve sustainability to maintain successful initiatives.
- How to measure the impact of an initiative in terms of improving competitiveness of MSMEs to access global markets.

- Challenges and opportunities to consider in initiatives of promoting quality infrastructure services in MSMEs.
- Strategies to promote interest and participation among MSMEs in using infrastructure quality services.

The working group discussion on the second day of the workshop gave valuable outcomes related to measures and strategies to take in account in any project or initiative that seeks to promote SMEs' competitiveness in domestic and global markets.

This information was the basis for analysis to prepare a publication with APEC recommendations on best initiatives that NSBs could apply to help MSMEs better understand the benefits of standards & conformance, and encourage adoption of standards and services by accredited conformity assessment providers and initiatives to get MSMEs more involved in the development of standards, conformity assessment and metrology businesses.

The main outcomes from the working groups for each topic were:

**I. Strategies to promote interest and participation among MSMEs in using infrastructure quality services**

The strategies identified by the WG were:

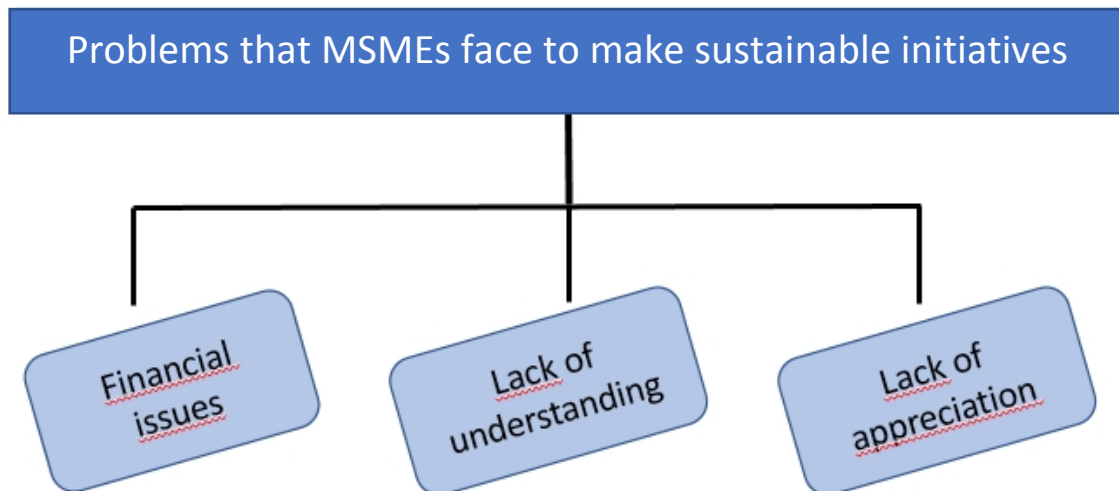
<b>Promote MSME's interests in using QI services</b>	
<b>Strategies</b>	<b>Actions</b>
In conjunction with export promotion campaigns and trade associations, provide 'extension' services to help MSME's meet the quality requirements to be part of global value chains.	Market pulling vs product push approach - Analyze market needs first – before develop product – Understand needs and technical regulations in target market first.
	Working with relevant and viable associations
	In conjunction with relevant organizations promote associativity in MSMEs in relevant sectors
Encourage participation of representatives of MSMEs in standards development and conformity assessment services and create mechanisms that support this	Promotional programs that encourage the industry to incorporate SMEs in the value chain of their products
	To invite MSMEs to participate in the process of developing standards, in the sense that should not just be 'client' standard takers but also part of the process of standards makers.
	Create mechanisms that help to avoid anticompetitive advantages for those who cannot participate in the development of standards
	Re-focus the quality infrastructure from just testing for 'compliance' to also helping them develop their products.

Strategies	Actions
Reference standards in the technical regulation.	Provide relevant information Ensure that standards referenced in technical regulation do not create barriers to trade for MSMEs.
Fund Quality Infrastructure organizations to increase the performance of MSMEs in the market	Create support programs for MSMEs to use Quality Infrastructure services and recognize their achievements in improving their market performance.
	Help MSMEs to implement standards that relate to processes and productivity improvement in their production/service systems.
	Segment or classify MSME's depending on their level of understanding or engagement with the quality infrastructure – and target accordingly.
	Develop cases of MSMEs that have overcome barriers or challenges, have models of best practice cases - i.e. Success stories.
	Identify associations of sustainable of similar MSMEs that can support and learn from each other.
Develop an adequate understanding for MSME	
Strategies	Actions
Fund QI organizations to increase level of promotion and education SMEs	Develop guides for MSME's on implementation of new standards
	Develop materials that can be easily accessed and used by MSMEs
Develop associations of sustainable of similar SME's that can support and learn from each other	Creating relevant associations or partnerships of SME's or utilizing existing associations
	Create partnerships between MSME's and big companies through publicly funded 'cooperation canters.
	Working with relevant and viable associations.
Promote the industry associations realize awareness activities focused in SMEs	Promote the industry's awareness raising and training activities for MSMEs focused on the importance of using the services of quality infrastructure and their importance to insert in their supply chain.
Foster innovation technological centers to support SMEs	Creation of innovation/incubation centers. Government research institutes
Spread the success stories, models of best practice cases.	Use feedback mechanism to constantly adapt and update so elements of success are well identified and can be applied by all. E.g. – Internet based surveys.
	Promote that MSMEs disseminate their success stories and through their associations to support each other
Promote awareness of QI services through modern technological approaches (IT tools)	Use online social networks.
	Providing useful on line information resource and training courses with real life best practice cases
	A portal of useful information/tools that solve a problem or help them get business done.

	Refer to existing material and case studies in various venues and websites: NQI organizations, Government information portals, Global bodies website-eg ISO, IEC, APEC, PASC.
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**II. How to achieve sustainability to maintain successful initiatives**

The designated WG identified the following main barriers that MSMEs have to face when they try to sustain an implemented quality Infrastructure services:



**Additional comments:**

**a. Lack of financial issues**

The lack of available financing from financial institutions is one of the biggest problems facing small businesses today. The main difficulties faced are the lack of collateral, the lack of proven track records, the lack of proper business plans and the need to show good sales turnover. Their management is largely involved in daily operational tasks, and there is no time or money available for activities not directly related to the primary process. Most MSMEs, particularly the smaller ones, lack the necessary resources to commit to long-term strategies and investments.

The insufficient supply of microloans is a major issue, particularly where business creators are self-employed persons, women or belong to ethnic minorities with different cultural dependencies. Supporting the supply of microloans is therefore not only an issue of entrepreneurship and economic growth, but also of social inclusion (Karatat *et al.*, 2008).

The implementation of a quality standard means in most cases the improvement of technology, infrastructure, personal competency, calibration of equipment

and other facts. Therefore, MSMEs need access to financial sources in order to meet those needs.

Lack of other resources (time, skills and knowledge) are another reason to refrain from participation. Standardization is sometimes perceived as a burden rather than an advantage.

**b. Lack of understanding.**

MSMEs may be unaware that standards exist, in particular standards specific to their industry. MSMEs may be not aware of the added value of standards for their particular enterprise. They may regard standards as a necessary evil rather than a powerful tool with which to meet their business objectives.

MSMEs may have problems finding the relevant standards, or knowing whether a standard is still in effect. Many MSMEs also lack the necessary expertise in standardization matters.

**c. Lack of appreciation.**

MSMEs may not properly understand a standard due to the technical content and language, the unavailability of a version in the national language, the abundance of references to other standards, or a lack of information on the context of the standard.

MSMEs tend to have a short-term view of their business and rarely anticipate change such as future regulations or the development of new standards. This also makes MSMEs a notoriously difficult group to target with communication schemes.

The Working Group proposed the following actions and indicators for each problem:

<b>Problem</b>	<b>Action</b>	<b>Indicator</b>	<b>Recommendation</b>
<b>Financial issues</b>	Educational programs on planning (government financed)	N°. of educational programs developed	APEC provides experts to help develop educational program for member economies
		N°. of MSMEs graduated from educational programs	Share among APEC economies initiatives developed about educational programs
		N°. of MSMEs including the investment in services of	

Problem	Action	Indicator	Recommendation
		Quality Infrastructure into their budgets /plans	
	Soft loans	N°. of MSMEs that apply for soft loans	Economies secure budget for soft loans
		N°. of MSMEs that were approved to the soft loans.	
		N°. of MSMEs that received conformity assesment services for their quality programs	

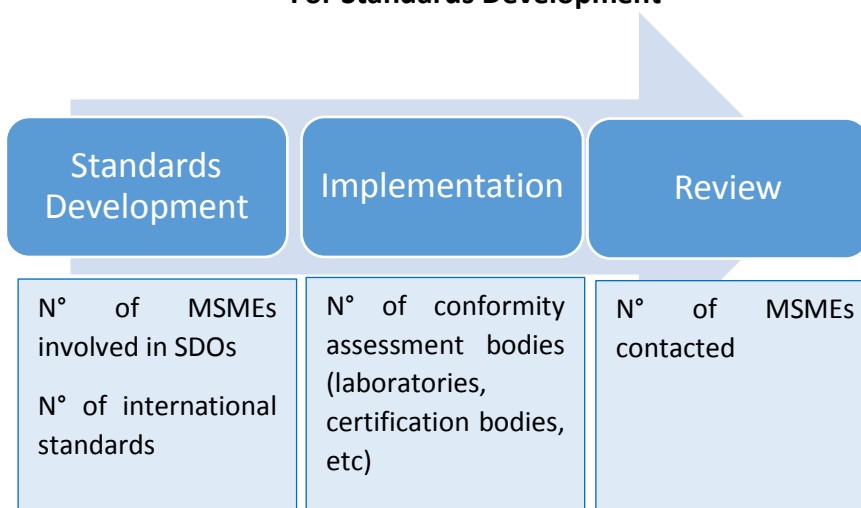
Problem	Action	Indicator	Recommendation
<b>Lack of understanding</b>	Simplified materials on Quality Management System	N°. of materials developed N°. of MSMEs using/used the materials	APEC provides communication experts to help develop simplified materials

Problem	Action	Indicator	Recommendation
<b>Lack of appreciation</b>	Study on economic value of compliance with Quality Infrastructure	Improvement of MSMEs impact on Gross Domestic Product (GDP) and Competitiveness Index	Economies sponsor studies APEC Handbooks on these case studies
		Inclusion in official government listed suppliers	Economies sponsor studies
	Government Recognition program (Recognized brand)	No. of MSMEs with the government mark on quality No. of MSMEs that are included in the value supply chain (GVC) of exporters	Economies develop recognition systems and fund them

**III. How to measure the impact of the initiative in terms of improving competitiveness of MSMEs to access global markets**

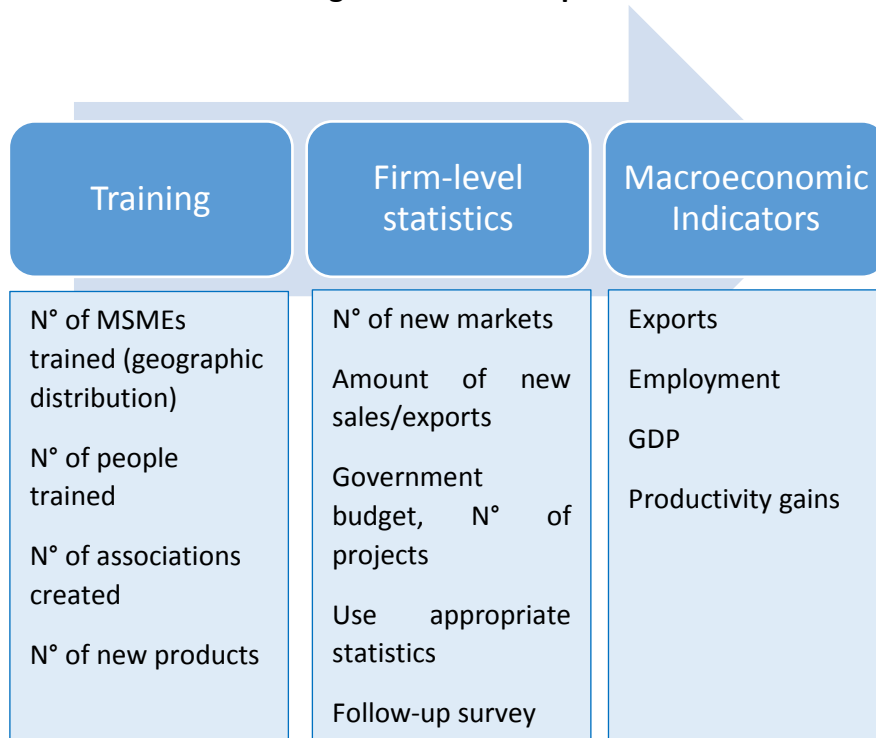
The WG concluded its work by giving a general view of different ways to think of indicators.

**For Standards Development**





## Training to increase competitiveness



Some indicators were selected by the WG to be discussed in depth. Finally, some ways to measure and recommendations in the use of indicators were presented.

No.	Indicator	Measurement	Recommendation
1	Number of MSMEs	Participation in Standards Development	To look at the whole standards development and implementation process
		Number of Standards Adopted / Certification obtained	Recognize implication of standards reviewed through tracking mechanisms
2	Training-related outcomes	Number of people trained	Appropriate training, language, audience
		Follow up surveys	
		New products developed	
		New market access	
3	Economic Performance	Sales Gained / Training Expenditures	To consider margin of error in data/statistics
		Increase in market access / New markets	Company specific information
		Productivity gains	

#### **IV. Challenges and opportunities to consider in initiatives of promoting quality infrastructure services in MSMEs**

There is a large number of problems that can occur during the implementation of standards and conformance initiatives focused on MSMEs. Considering their particularities, MSMEs are largely reactive in use quality infrastructure services compared to larger enterprises, and therefore it is important to point out the most common problems facing them.

Stroyan *et al.* (2012) also confirms the result indicating that SMEs are facing a number of challenges that include: lack of awareness of standards relevant to their business, perception that they are more relevant to large businesses, and lack of technicians to make use of the international trade regulations and standards. Studies have pointed out that a range of barriers faced by SMEs pertained to their awareness of international trade regulations and standards either generally, or those of relevance to their businesses. (Katrak and Strange, 2002; Weeks, 2002).

The selected WG identified the following challenges and opportunities:

<b>Challenges</b>	<b>Opportunities</b>
Limited access of information on Quality Infrastructure Services	Seminar/workshop/capacity building (Open to public and including association)
	More support from international organizations
	Correct available promotion
Lack of awareness on importance of Quality Infrastructure Services	Case study (APEC project) of success on good practices
	Use of social media (you tube, twitter, facebook) and mass media (TV, radio)
	Enhance collaboration between NSB and CAB
Lack of financial and human resources to use Quality Infrastructure Services	Create database of standard experts
	Provide subsidies to MSMEs
	Hire retired experts at NSB to support MSMEs
	Tax reduction for investment on QIS
Lack of Quality Infrastructure Services themselves (total number and scope)	Collect information on QIS to be provided through APEC website
	Capacity building in cooperation with SRBS
Lack of qualified experts of Quality Infrastructure Services	Capacity building of human resources with APEC funding
	Collect and share information on capacity building of each economy

### **3.2 Data Analysis**

Three different methods to collect and analyze data were considered.

1. An online survey.
2. Written online interviews on standards & conformance initiatives.

The interviews were mainly conducted after the workshop. Direct email communication was used to gather additional information based on the survey responses and interviews.

### 3. An experts conference (workshop).

Based on the information developed the second day by the WGs, a template was prepared so this would show how detailed and specific the information needed to be. A description of a Peruvian initiative for helping MSMEs through standardization activities was also prepared, so this served as an example.

The appendix shows the structure of the template used to gather information about initiatives.

In analyzing the online survey results and written interviews, an analysis of the following questions was used to identify the specific ways in which initiatives can be planned and developed so they are effective in inspiring further action in the economies and organizations:

- Which of the resources did each initiative use, if any, and how they were applied?
- By economy, which initiatives foster(ed) MSMEs competitiveness through quality infrastructure services (QIS)? Which strategies were considered?
- By economy, which best practices identified during the initiative have been, or will be applied, in any APEC economy to enhance QIS?
- Which APEC initiatives proved to be sustainable and relevant?
- What kind of measurements of the impact of initiatives did the economy use?

### **3.3 Limitations**

This study is based on the assumption that the response rate for the workshop participants, as well as the representative economies' respondents, is sufficient to draw general conclusions regarding the achievement of project goals. However, certain limitations on the data should be considered, including the following:

- Given the small sample size, the responses cannot necessarily be considered representative of the APEC member network as a whole.
- There may be some level of self-selection bias among respondents (i.e. those who found the standards & conformance more or less useful than average may have felt more compelled to participate in the survey).

## IV. OVERVIEW OF MSMEs BY APEC REGION

### 4.1 Importance of MSMEs in APEC Region

There is no standard definition of MSMEs and classification is generally dependent on major indicators such as:

- Business Activity
- Turnover/Operating Revenue
- Number of Employees; and
- Paid-In Capital/Investment

Some economies define MSMEs based on a single criterion while others use a combination of criteria. These complex and varied definitions found among the APEC members make it difficult to compare statistics on MSMEs across the different economies.

Some definitions are shown below:

Economy	Micro, Small and Medium Enterprise (MSME) Definitions (IFC)		
	Micro	Small	Medium
Australia	1-4 employees	5-19 employees	20-199 employees
Brunei Darussalam	1-5 employees	6-50 employees	51-100 employees
Canada	1-4 employees	5-99 employees	100 – 499 employees
Chile	≤ 2,400 UF	2,400 UF ≤ s ≤ 25,000 UF	25,000 UF ≤ s ≤ 100,000 UF
China	< 0,5 million RMB in agricultura, fishery; < 20 employees, 3 million RMB in heavy industries; < 5 employees, 10 million in wholesale trade.	≥ 0,5 million RMB agricultura, fishery; ≥ 20 employees, 3 million RMB in heavy industries; ≥ 5 employees, 10 million in wholesale trade	≥ 5 million RMB in agricultura, fishery; ≥ 300 employees, 20 million RMB in heavy industries; ≥ 20 employees, 50 million in wholesale trade
Hong Kong, China	< 100 employees in manufacturing, < 50 in other		
Indonesia	a ≤ 50 million IDR: total anual sales ≤ 300 million IDR	50 million IDR < a ≤ 500 million IDR: 300 million IDR < t ≤ 2.5 billion IDR	500 million IDR < a ≤ 2.5 billion IDR: 2.5 billion IDR < t ≤ 50 billion IDR
Japan	1 – 4 employees	5 – 19 employees	20 – 299 employees
Korea	< 12 billion KWR in manufacturing; < 8 billion KWR in mining, construction, transportation; < 5 billion KWR in IT; < 10 in other.		< 150 billion KWR in manufacturing; < 100 billion KWR in mining, wholesale, construction; < 80 billion KWR in transportation, IT; < 40 billion in other.
Malaysia	< 5 employees	5-50 employes in manufacturing; 5 – 19 in agricultura and services	51 – 150 employees in manufacturing; 20-50 employees in agricultura and services
Mexico	0-10 employees	11-50 employees	51 – 250 employees

Economy	Micro, Small and Medium Enterprise (MSME) Definitions (IFC)		
	Micro	Small	Medium
New Zealand	1 – 9 employees	10 – 99 employees	100 – 499 employees
Peru	Annual sales ≤ 150 UIT (1 UIT is equivalent to USD 1 248.84)	150 UIT < Annual sales ≤ 1700 UIT	1700 UIT < Annual sales ≤ 2300 UIT
Philippines	1 – 9 employees. Below Php 3 million	10 – 99 employees. Above Php 3 million to Php 15 million	100 – 199 employees. Above Php 15 million to Php 100 million
Russia	1 – 15 employees or < 60 million RUB	16-100 employees or < 400 million RUB	101-250 employees or < 1 billion RUB
Singapore	< 200 employees or 100 million SGD		
Chinese Taipei	< 5 employees	≤ 2.42 million TWD, 200 employees in manufacturing, mining, construction, quarrying; ≤ 3.03 million TWD, 100 employees in agricultura, services.	
Thailand		< 50 employees in production, services, < 25 employees in wholesale, < 15 employees in retail	< 200 employees in production, services; < 50 employees in wholesale; < 30 employees in retail
United States	< 500 employees or 0.75 million USD depending on industry		
Viet Nam	< 10 employees	10-200 employees or c < 20 billion VND in agricultura, construction; 10-50 employees or c < 10 billion VND in trade and services	200 – 300 employees or c < 100 billion VND in agricultura, construction; 50-100 employees or c < 50 billion VND in trade and services

Source: IFC (2016), MSME Economy Indicator.

OECD (2013). Financing SME and Entrepreneurs 2013; An OECD Scoreboard.

Over 97% of enterprises located in the APEC economies are SMEs. Many economies are comprised solely or nearly solely of SMEs (99%-100% of the given economy's total number of enterprises).



Source: APEC (2016). SMEs in the APEC Region (Infographic).

The contribution ratio of SMEs to the domestic economy varies significantly across economies, ranging from 21% to 59%.

Economy	% of Contribution to Domestic Economy	Domestic Economy	% of Contribution to Employment	Employment
Australia	39%	Value Added (2011-2012)	--	--
Brunei Darussalam	22%	GDP (2008)	58%	2008
Canada	39%	GDP (2008)	90%	2012
Chile	--	--	80%	2010-2011
China	59%	GDP (2011)	75%	2011
Hong Kong, China	39%	Value Added (2015)*	46%	Dec 2016
Indonesia	59%	GDP (2012)	92%	2010
Japan	51%	GDP (2009)	66%	2009
Korea	54%	GDP (2010)	87%	2011
Malaysia	33%	GDP (2012)	57%	2012
Mexico	36%	GDP (2009)	67%	2009
New Zealand	34%	GDP (2010)	43%	2012
Peru	28.5%	GDP (2015)	60.6%	2015
Philippines	36%	Value Added (2011)	61%	2011
Russia	21%	GDP (2011)	25%	2012
Singapore	47%	GDP (2013)	70%	2013
Chinese Taipei	30%	Total Annual Sales (2011)	78%	2011
Thailand	37%	GDP (2011)	84%	2011
United States	50%	GDP (2010)	56%	2009
Viet Nam	40%	GDP (2011)	77%	2011

\*Excluding community, social and personal services.

Source: APEC (2016). SMEs in the APEC Region.

SMEs exist in most sectors, accounting for over 90% of all enterprises within a given sector. The sectors with the largest proportion of SMEs are wholesale and retail, agriculture and fishing, and construction. Those with the smallest proportion are mining and quarrying, oil, gas extraction and utilities.

### Sectors with the highest and lowest share of total SMEs

Economy	Highest Share Sector <sup>1</sup>	% of SMEs	Lowest Share Sector	% of SMEs	Year
Australia	Property and Business Services	25.3	Electricity, gas and water supply	0.1	Jun-07
Brunei Darassalam	Wholesale and trading	21.1	Oil and gas	0.2	2008
Canada <sup>2</sup>	Retail Trade	12.3	Utilities	0.1	Jun-09
Chile	Wholesale and Retail	39.3	Electricity, gas and water supply	0.2	2000
Hong Kong, China <sup>3</sup>	Import/Export Trade and Wholesale	34.5	Mining and Quarrying, Electricity and Gas Supply, Waste Management and Construction sites	0.4	Dec 2016
Indonesia	Agriculture, Livestock, Forestry, Fisheries	51.5	Electricity, gas and water supply	0.02	2008
Japan <sup>4</sup>	Wholesale and Retail Trade	27.5	Mining	0.1	2006
Korea	Wholesale and Retail	28.4	Electricity, Gas, Steam and Water	0.01	2007
Mexico <sup>5</sup>	Retail	49.8	Management of Companies and Enterprises	0.01	2003
Peru <sup>6</sup>	Services	47.0	Agriculture and Fishing	2.0	2006
The Phillipines	Wholesale and Retail Trade	49.9	Mining, Quarrying,	0.04	2008
Russia <sup>7</sup>	Trade and Mass catering	50.0	Science and Informational Technologies	2.0	2006
Singapore	Wholesale and Retail Trade	32.0	Accomodation and Food&Beverage	3.0	2008
Chinese Taipei	Wholesale and Retail Trade	52.5	Electricity and Gas Supply	0.02	2008
Thailand	Wholesale and Retail Trade	46.7	Manufacturing	19.3	2008
United States <sup>8</sup>	Construction	13.2	Utilities	0.1	2006
Viet Nam	Trade	40.7	Agriculture and Forestry	1.0	2004

**Notes:**

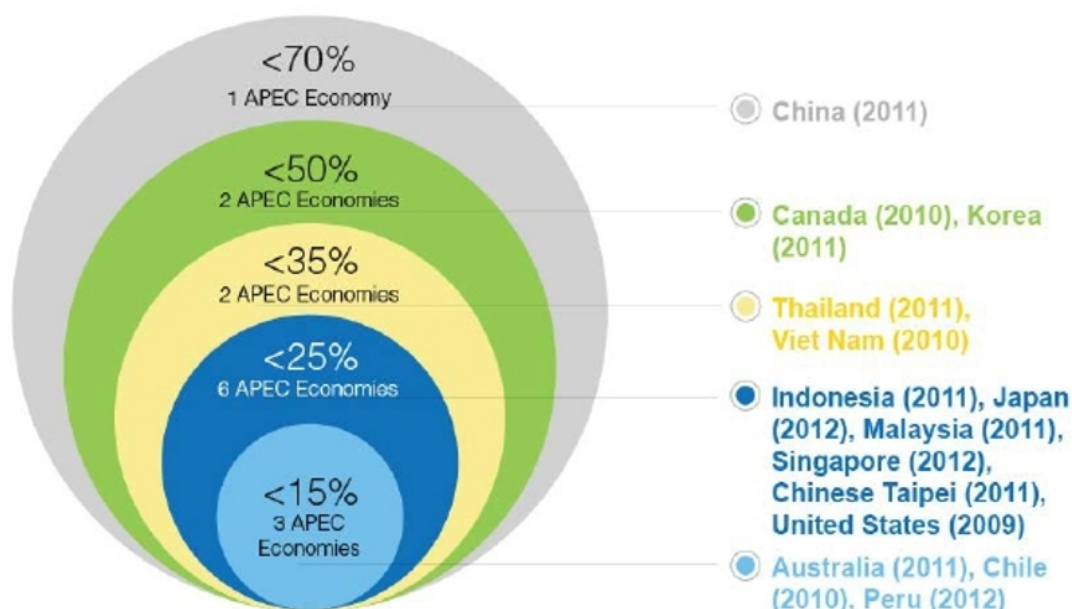
1. Sector classification between economies, therefore limiting cross-economy comparisons.

2. For Canada the percentage of SMEs engaged in the Retail Trade sector together with the percentage of SMEs engaged in the Wholesale Trade sector accounted for 18.2% of total SMEs in June 2009.
3. For Hong Kong, China; the percentage of SMEs engaged in the Import/Export Trade and Wholesale sector together with the percentage of SMEs engaged in the retail sector accounted for 48.2% of total SMEs in December 2016.
4. For Japan, data are available only for wholesale and retail trade as a whole, so the analysis considers enterprises with fewer than 100 employees in the Wholesale and retail industry as an SME (in contrast with the official definition of an SME in retail Trade as having fewer than 50 employees).
5. For Mexico, establishments with 250 employees or fewer in the following industries are considered to be SMEs in the analysis; Agriculture, Forestry, Fishing and Hunting; Mining, Electricity, Water and Gas; construction; manufacturing. For all other industries, establishments with 100 or fewer employees are considered to be SMEs. Note that the percentage of SME in the Retail Trade sector together with the percentage of SMEs engaged in the Wholesale Trade sector accounted for 52.7% of total SMEs in 2003.
6. For Peru, there is currently no definition of médium enterprises. The sector shares of small and médium enterprises cover only enterprises in the formal sector.
7. For Russia, the sector shares cover only small enterprises.
8. For the United States, the general definition of an SME as a firm having fewer than 500 employees is used. Note that the percentage of SMEs in the Retail Trade sector together with the percentage of SME in the wholesale trade sector accounted for 17.6% of total SMEs in 2006.

Source: APEC (2015)

The range in SME internationalization across the APEC economies is large. The export value of SMEs makes up anywhere between 15% and 70% of the total export value of a given economy. The export value of SMEs as a share of total export value is highest in China; followed by Canada and Korea (less than 50%); Thailand and Viet Nam (less than 35%); Indonesia; Japan; Malaysia; Singapore; Chinese Taipei and the United States (less than 25%); and Australia and Chile (less than 15%).

### SME Export value as a share of total export value



Source: APEC (2016). SMEs in the APEC Region (Infographic).



## 4.2 SME participation in Global Value Chains

Currently, around 80 percent of global trade is conducted through global value chain networks. Despite the slowdown in 2008 and 2009 because of the global financial crisis, global value chains remain at the center of the world trade stage.

The participation of small and medium enterprises (SMEs) in global trade will significantly help achieve APEC's goals of inclusive growth, job creation and poverty reduction.

The potential role of SMEs in making gains from trade, generating jobs, accelerating growth, and reducing poverty in their respective economies is well noted in APEC. There has nonetheless been little progress to fulfill such a role. Only about 34% of global trade may be traced to SMEs among APEC economies. Besides the relatively high start-up and operating costs of their businesses within borders, trade barriers bar SMEs from going international. With limited capacity for economies of scale, SMEs face high average trade costs compared with large enterprises, which limits their trade participation (APEC Policy Support Unit 2014).

Most of the economies have recognized the importance of integrating SMEs into global value chains. This will help establish a foundation for robust growth, with resilience against unexpected events such as financial crises.

There is unequal understanding and appreciation of the global value chains (GVC) by SMEs. Many SMEs across different sectors are not able to identify their competitive advantage through a value chain analysis, nor do they fully understand the importance of doing so in order to optimize their participation in GVCs.

Many SMEs see technological capabilities as critical and realize that continuous development of new technology is necessary to remain competitive, in addition to the ability to respond to given standards.

Most SMEs complain that standard requirements to be part of global value chains are very demanding, and in some cases the cost and time invested to fulfil requirements are not necessarily compensated by a premium in prices. In many industries, meeting specified product and process standards has become a necessary step to participate in the GVC. Not only is entry into the chain conditioned to meet increasingly higher standards, but firms also need to be prepared to rapidly switch to new standards should these evolve for technical or strategic reasons.

There are many benefits in adopting process and product standards, especially when they correspond to a higher level of technology than what is already used in the firm. Standards facilitate the transfer of knowledge and they support the technological upgrading of firms.

The globalization of value chains constitutes a major challenge for small and medium-sized subcontractors used to serving local and domestic markets. Even when SMEs do not

follow their contractors in international markets but stay at home, they will feel compelled to conform to those international standards for technology, quality, delivery and after-sales service that evolve in their industries.

The opportunities for SMEs in global value chains are enormous. Participation in value chains exposes them to a large customer/buyer base, as well as opportunities to learn from large firms and from engaging and surviving in the hotly contested sectors of the global marketplace. The penetration of global value chains, however, also presents huge and often daunting challenges for SMEs. With global opportunities come global risks.

#### **4.3 Standards & Conformance in MSMEs in APEC region**

A publication from the World Bank (2007) noted that the adoption of global standards will enable more firms, including micro, small and medium enterprises (MSMEs), to participate in global value chains (GVCs). The APEC Strategic Blueprint for Promoting Global Value Chain Development and Cooperation also indicated that international standards are one of the areas that matter most to GVCs. Standards are an important tool to facilitate access to the market, and support the development of single and global markets for goods and services.

The study conducted by the Policy Support Unit in May 2014 entitled “Integrating SMEs into Global Value Chains: Policy Principles and Best Practices” recommended that the economies help SMEs to comply with standards and certificates for increasing competitiveness. Along the same lines, in 2013, a paper issued by the same APEC Policy Support Unit (PSU) – “SMEs’ Participation in Global Production Chains” – identified the most important challenges for SMEs to become competitive players along the chain (APEC Policy Support Unit 2013a). One of these challenges is complying with standards. In May 2015 in the Meeting of APEC Ministers Responsible for Trade, it was recognized that micro, small and medium enterprises (MSMEs) are an important force in economic activity, growth, job creation, community resilience and innovation. Ministers engaged to complement APEC’s initiatives on promoting SMEs’ participation in Global Value Chains with an agenda that will support micro and small enterprises as direct exporters.

Many initiatives at the domestic level facilitate the access of SMEs to standards and encourage their participation in the system. Initiatives include promotional campaigns, information seminars, reduced costs and subsidies for standards, financial support for attendance in technical meetings, facilitated access to relevant documents and online standards and IT architecture aligned to international architecture, thus harmonizing the working environment of technical experts. In addition, there are training and translation facilities and interpretation services to promote a better understanding of the scope of standards and their application.

Standards, technical regulations, and conformity assessment procedures serve many purposes and their use boosts trade. Standards can also increase the efficiency of production and facilitate the conduct of international trade, resulting in more rapid trade flows, reduced costs, and greater integration of production networks.

However, standards, conformity assessment procedures and technical regulations can also serve as unnecessary or discriminatory barriers to trade. In addition, divergences in technical requirements across economies can negatively impact trade and investment flows by making it difficult for producers and exporters to access information on, and comply with, these diverse and evolving requirements and guidance. Further, standards, technical regulations, and conformity assessment procedures can be misused as a disguised form of protectionism. In the current trading environment, in which great strides have been made in reducing and/or eliminating tariffs, ensuring that these measures are genuinely useful in achieving legitimate objectives and not arbitrary or an excuse for protectionism, and reducing unnecessary divergences in technical regulations, standards, and conformity assessment procedures, is essential to efforts to strengthen regional economic integration in the Asia-Pacific.

Over the past two decades, voluntary standards have proliferated (ITC, 2010), so they have been performing an important role in international trade. Voluntary standards are not mandated by any trade regulation, but if exporters decide to sell to a subset of buyers of these products in destination economies who happen to require these standards, the former have to comply. Voluntary standards are applied to meet growing demands of consumers particularly in developed economies for more complete information on the products they import. These measures likewise are used to protect social rights, protect the environment, and promote other development results. The proliferation per se of these standards is not the problem. Rather, it is the degree of their restrictiveness, and the difficulty of complying with them (APEC, 2016).

Standards & Conformance infrastructure systems, as part of a national quality or innovation system, are at different levels of development across APEC member economies. There is also currently a lack of common indicators or evaluation frameworks for the SCSC and respective economies to conduct proper studies and assess the necessary measures to achieve their objectives.

## V. CONSIDERATIONS FOR QUALITY INFRASTRUCTURE ORGANIZATIONS TO ENCOURAGE INSERTION OF MSMEs THROUGH QUALITY INFRASTRUCTURE SERVICES

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The importance of the National Quality Infrastructure services emanates from the need to ensure that manufacturing processes, intermediaries and final goods and services conform to a given, specified quality, in order to facilitate trade and protect consumers.

Developing countries lack adequate QI to meet the needs of the fast-growing global economy. Because of high costs, weak quality culture and low availability of mainly public QI services, the use by private enterprises is rather limited.

Some basic elements that an initiative should consider during its design and implementation are:

### **Relevance**

Relevance is defined by the OECD/DAC as *“the extent to which the aid activity is suited to the priorities and policies of the target group, recipient and donor”*. Herein, there are some questions, which can help to identify if the initiative selected is relevant.

*Is the design of the initiative (objectives and activities) relevant to the circumstances and needs of the economy’s standards and quality infrastructure?*

*Is the initiative consistent and complementary with other activities, both nationally and regionally?*

In terms of design, the initiative has clear added value and complements other programs/initiatives that tend to focus on overall trade issues, and/or specific aspects of standards and the private sector well.

*Which areas of the quality infrastructure not addressed by the initiative would need support?*

*What cross-cutting issues are there and how are they handled?*

### **Effectiveness**

According to the OECD/DAC effectiveness is *“a measure of the extent to which an aid activity attains its objectives”*. Herein, there are some questions, which can help to identify if the initiative selected is effective.

*What is the progress on all the planned activities towards the achievement of the specific and overall objectives of the intervention?*

It is important to collect baseline and performance data to demonstrate this.

*What are the synergies with other quality infrastructure and standards issues?*

The initiative has adopted a consultative approach in its activities and has managed to bring under the same roof different ministries, agencies and other stakeholders to increase awareness, develop key policies and legislation and provide support to different activities without obvious duplication.

### **Efficiency**

According to the OECD/DAC efficiency *“is a measure of how economically resources/inputs (funds, expertise, time, etc) are converted into results”*. Herein, there are some questions, which can help to identify if the initiative selected is efficient.

*Are resources being efficiently used (including an analysis of the budget, planned and realized)? Can the budget be reduced or reallocated?*

In view of slow disbursement rates, combined with a higher-than-expected budget for administration, it is understandable that efficiency is a concern. The main reallocation would be towards activities with a more sustainable effect than is currently the case.

### **Impact and sustainability**

According to the OECD/DAC the impact is determined by the *“the positive and negative changes produced by a development intervention, directly or indirectly, intended or unintended.”* The benefits of an intervention are sustainable if they are *“likely to continue after donor funding has been withdrawn.”* The two aspects will be treated jointly, since they both deal with lasting effects. Herein, there are some questions, which can help to identify if the initiative selected will have any impact and will be sustainable.

*Are the assumptions/risks reasonable, based on existing knowledge and supported by key stakeholders?*

It could be a way to visualise the chain of events that is necessary for the initiative to attain its overall objective.

*Does the initiative have the potential to facilitate long-term sustainability after completion of activities?*

The sustainability of the various actors of the Quality Infrastructure always remains a matter of concern and largely depends on the industrial development of the economy. In a modern Quality Infrastructure, the financial sustainability of Conformity Assessment bodies depends on the number of tests and analyses per year they perform. The financial sustainability of Accreditation depends on the number of accreditations issued. Similarly, the financial sustainability of standardization activities depends on the number of standards and training activities sold to industry. Unless, according to the economies' priorities, the accreditation and standards development are promoted and funded by government in function of economies' priorities in order to drive specific sectors.

## Management and implementation

*In this section, there are some questions, which can help to identify if the initiative selected is managed and implemented adequately.*

*In case there are delays, what are the major reasons for the delay in the previously-stipulated roadmap and how could they be addressed?*

*Is the initiative adequately structured and equipped to implement and monitor as expected in the initiative document and work-plans? Is the initiative technically equipped with the competencies to manage the project?*

*Are specific strategies defined to achieve objectives?*

*Are all relevant stakeholders (public authorities, private sector, business/industry associations, consumer and other civil society organizations) adequately involved in the development and implementation of initiative activities?*

## Proposed methods. Assessment criteria and data collection

So, how should the evaluation questions be answered? For each question there is a range of potential criteria that can be used to determine how the initiative is performing.

The table below provides a preliminary list of criteria. However, it is important to stay open to unexpected findings and alternative explanations. Depending on data availability, other criteria or indicators may used.

The evaluation would be open to both qualitative and quantitative methods of data collection to address the assessment criteria. It is expected that qualitative methods in the form of individual and group interviews will be most important, depending on the degree to which the initiative has generated quantitative data.

<b>Evaluation aspect</b>	<b>Assessment criteria</b>
<b>Relevance</b>	<ul style="list-style-type: none"><li>• Link to policy documents of economy's government.</li><li>• Link to and compatibility with regional processes.</li><li>• Opinions of stakeholders and donors.</li><li>• Duplication or synergies with other activities.</li></ul>
<b>Effectiveness</b>	<ul style="list-style-type: none"><li>• Activities performed and outputs produced.</li><li>• Enactment of laws, development and approval of policies, strategies, etc.</li><li>• Changes in behavior among individuals and organizations.</li></ul>

Evaluation aspect	Assessment criteria
	<ul style="list-style-type: none"> <li>• Indicators. Firms certified, standards developed, etc.</li> </ul>
<b>Efficiency</b>	<ul style="list-style-type: none"> <li>• Analysis of the Budget, planned and implemented.</li> </ul>
<b>Impact and sustainability</b>	<ul style="list-style-type: none"> <li>• Degree of relevance and effectiveness.</li> <li>• Analysis of context, assumptions and risks.</li> <li>• Analysis of alternative explanations.</li> <li>• Ownership and opinions of stakeholders.</li> <li>• Planned program follow-up.</li> </ul>
<b>Management and implementation</b>	<ul style="list-style-type: none"> <li>• Process, timing and initiation of initiative activities.</li> <li>• Governance and decision-making structure.</li> <li>• Strategies.</li> <li>• Administrative procedures.</li> <li>• Documentation systems.</li> <li>• Monitoring and evaluation framework.</li> <li>• Involvement and views of stakeholders.</li> <li>• Technical assistance of activities and their results.</li> </ul>

## VI. LITERATURE REVIEW

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The following information was taken from the publication: **“APEC Policy Support Unit, SME Internationalization and Measurement”, Police Brief No. 12, 2015. By Bernadine Zhang Yuhua.**

Measuring SME internationalization though is a challenging task. Various attempts have been made to measure international activities at the micro and macro levels. However, the reliability and validity of these measurements are debatable.

At the micro level, the most comprehensive way so far is the measurement by Dunning and Lundan<sup>1</sup>. They use seven indicators to capture the internationalization of a firm:

1. the number of foreign markets involved;
2. the number and revenue of foreign affiliates;
3. the proportion of foreign assets, sales, profit or staff of the firm;
4. the proportion of foreign ownership or management in the firm;
5. the value of R&D conducted abroad;
6. if the firm controls international networks; and
7. the extent the management of the firm is devoted to foreign affiliates.

While the above measurements are constructed for multinational enterprises, they can be adapted for SMEs. For instance, instead of looking at foreign affiliates, the indicators could look at the number of SMEs being subcontractors to foreign companies and/or having foreign subcontractors. Instead of value of R&D conducted abroad, the indicators could reflect the extent of SMEs’ participation in joint ventures, licensing and franchising arrangements.

At macro level, the following indicators could present a valid measurement of the stage of SMEs’ internationalization.

1. number of SMEs exporting directly and value of SMEs’ direct exports;
2. number of SMEs importing directly and value of SMEs’ direct imports;
3. number of SMEs investing abroad and value of SMEs’ investment abroad;

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<sup>1</sup> Taken from “APEC Policy Support Unit, SME Internationalization and Measurement”, Police Brief No. 12, 2015. By Bernadine Zhang Yuhua.



4. number of SMEs being subcontracted by foreign enterprises and value of sales of SMEs being subcontracted by foreign enterprises;
5. number of SMEs subcontracting foreign enterprises and value of purchase of SMEs from foreign subcontractors;
6. number of SMEs cooperating with foreign enterprises under joint ventures, non-equity alliances, licensing and franchising and value of MSMEs' revenue from cooperation with foreign enterprises.

However, most statistical agencies do not collect this kind of data, or even if they do, collect only minimum SME-related data. In many economies, only basic data on the number of SMEs and SMEs' economic contribution is collected, while data on SMEs' involvement in international trade, investment, and cooperation, is scarce.

In the publication **“CEN - CENELEC 2010. SMEs and Standards. Guide to the European Standardization Process”**, 2nd revised version. [Online] Available at: [http://www.unmz.cz/prilohyarchiv/279/SMEs\\_and\\_standards.pdf](http://www.unmz.cz/prilohyarchiv/279/SMEs_and_standards.pdf), recommendations to make the standardization process better understood can be found.

A list of recommendations is shown below concerning ways in which business associations and standards organizations can work together at both national and regional levels, with the aim of making the standardization process better understood by, and more accessible to, small and medium-sized companies. These recommendations are based on examples of good practice that were identified in a number of different countries throughout Europe.

- Discounted standards for students, and members of professional associations.
- Discounts on subscriptions and memberships for SMEs.
- Promotional campaigns.
- Information on ongoing projects, publications on Technical Committees' websites.
- Direct dialogue with professional associations.
- Monthly online news brochure.
- Financial support for pre-normative research and an information desk.
- Seminars and workshops in close cooperation with SME associations.
- Help desk for SMEs. Help desk for standardization documents (free of charge).

- Online questions and answers, tailor-made responses.
- Training about specific standards (and related regulations); training and awareness campaigns addressed specifically to the needs of SMEs.
- Electronic purchase and download of standards.
- Free of charge consultation of standardization documents and database.
- Workshops with subjects specifically oriented to SMEs in certain sectors.
- Free informative seminars on subjects related to SMEs.
- Invitation to meetings as observers or participants.
- Grants for travel costs. Grants for attending international meetings.
- Specific tax credit program.
- E-Learning course on basics of standardization, targeted at SMEs.
- Awareness of the right to free access to draft standards submitted for public enquiry. Draft Standards Portal for easy and free access to work in progress and opportunity to make comments online.
- Specific license granted to a qualification body for online access to standards by qualified contractors (electrotechnical sectors only).
- Online services with sector-related content in cooperation with trade associations (standards portals).
- Waiving of fees and subsidies for travel expenses for SMEs (at discretion of the Technical Committee).
- In cooperation with SME associations, information about relevant standards is published in their specific magazines and newsletters.
- Online consultation of more than 200 most interesting FAQs concerning interpretation of standards.
- Direct mailing campaigns for new important standards.
- Films made for YouTube about standards and standardization.
- Guides on the use of different standards.

- Customer surveys.
- Twittering about new standards and standardization.
- Participation in research/development projects initiated by different institutes.
- Special agreements with SME organizations.
- Participation in exhibitions. Stand at exhibitions.
- Free annual seminar on the occasion of World Standards Day.
- Invitations to seminars on topics related to the technical areas of existing Technical Committees or emerging areas.
- A spectrum of consultancy & training services for different industries.
- Monthly publications of new standards and specific articles in the members' magazine.
- Distribution of marketing materials to SMEs.
- New proposals site: Suggest new ideas, search, view and comment on new standard proposals.

In the publication “**CEN - CENELEC 2012. Including SMEs in standardisation. Publication as part of the SME Standardisation Toolkit (SMEST) Project.**” [Online] Available at: <http://www.cencenelec.eu/News/Publications/Publications/IncludingSMEsStandardisation.pdf>, 10 things that business associations and standards organizations can do are described.

### **1. Establish good contacts and communication between standards organizations and business associations representing SMEs.**

A continuous exchange of information is necessary to make sure that business associations know about standards and standardization activities that could be relevant for their members. At the same time, it is also important that standards organizations are informed about the needs and concerns of companies that are active in each sector. Business associations at domestic level should aim to be in regular contact with the person(s) within their national standards organization who is/are responsible for the specific sector(s) in which their members are active.

## **2. Create forums for regular dialogue between standards organizations and business associations representing SMEs.**

A number of national standards organizations already have specific committees or working groups that are dedicated to considering the needs and concerns of SMEs, and making sure that these are taken into account in the framework of ongoing and/or future standardization activities.

Such forums are useful for maintaining a permanent dialogue with business associations representing SMEs, sharing information on recent and forthcoming developments across different sectors, and addressing horizontal issues that are relevant to more than one sector. They are most effective when they meet on a regular basis.

## **3. Coordinate the collection and sharing of information about standards and standardization activities.**

Within each business association, it is necessary to closely monitor developments relating to standards that could be of interest to members, and to coordinate the participation of the association and its members in standardization activities.

Many business associations have specific committees that are responsible for carrying out these functions, and ensuring that relevant information is provided to members. This is especially valuable for SMEs, which in most cases do not have the capacity to monitor all standards-related developments that might affect their business activities.

## **4. Ensure that the needs and wishes of SMEs are taken into account.**

Standardization activities are normally open to all stakeholders that wish to participate. However, many small businesses do not have the capacity and/or resources to actively (or even passively) contribute to standardization.

Business associations therefore have a vital role to play in making sure that their members' interests are represented during the development, drafting and revision of relevant standards – at the domestic level and also at the international level.

## **5. Make relevant information available in the language(s) of each economy.**

For reasons of cost, it is not always possible for national standards organizations to ensure that all standards are available in the official language(s) of every economy. Business associations can help by providing information about standards and standardization activities to their members, and identifying which standards should be given priority for translation.

## **6. Organize trainings that are relevant for small and medium-sized companies.**

Various kinds of training events such as seminars and workshops are being organized by standards organizations, often in partnership with business associations at local,

regional, national and European levels. These trainings provide valuable opportunities for managers and professionals working for SMEs to learn about standards and standardization. They may focus on specific subjects of particular interest to SMEs, or to companies active in a certain sector.

**7. Produce practical guides to inform businesses about how to use and implement standards.**

Many business associations and industry organizations prepare and publish guides to inform their members about relevant standards, the benefits of using them, and how to implement them. Such guides are particularly useful for SMEs, especially when they are tailored to the needs of businesses that are active in a specific sector. They also contribute to increasing awareness and understanding of standards and standardization in general.

**8. Develop online tools that make information about standards accessible to SMEs.**

Standards organizations are using the internet to make it easier for companies to find information about standards relevant to their sector. Online tools can also enable SMEs to learn about upcoming and ongoing standardization activities, and take part in online consultations on draft standards. Business associations have a role to play in making sure that their members are aware of what tools exist and how they can take full advantage of them.

**9. Provide advice and expertise that corresponds to the specific needs of SMEs.**

Business associations are providing their members with relevant information and guidance on all kinds of issues related to standards and standardization. They are well placed to deal with specific inquiries and liaise between individual companies and standards organizations. Smaller companies in particular count on business associations to provide them with accurate answers and appropriate advice.

**10. Offer bundles of standards that are relevant for SMEs in specific sectors.**

Standards organizations can collaborate with business associations to offer services such as bundles, packages and subscriptions that are tailored to meet the needs SMEs, and which make it easier (and less expensive) for them to purchase the standards they wish to obtain. User-friendly formats such as pocket-sized guides can also make standards more accessible.

## VII. CASES STUDIES - BEST PRACTICES IN INITIATIVES DEVELOPED

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The following economies shared their best initiatives focused to promote MSMEs competitiveness through standardization & conformance.

<b>Economy</b>	<b>Entity / Organization</b>	<b>Name of the initiative</b>
<b>Australia</b>	Standards Australia	APEC Harmonization of Standards for Data and Information Flows
<b>Australia</b>	National Measurement Institute, Australian Government	NMIA Sector Strategy
<b>Japan</b>	Japanese Industrial Standards Committee / METI	Standards Development Program to Create New Market Partnership Framework to Facilitate Standardization
<b>Korea</b>	Korean Standards Association(KSA)	Establishment of a support platform for the voluntary international standardization of small and medium sized enterprises
<b>Malaysia</b>	Standards Malaysia	National Standards Compliance Program (NSCP)
<b>Peru</b>	Productive Innovation and Technological Transfer of Woodwork (CITEMadera)	Improvement of Wood School Furniture Design
<b>Peru</b>	Productive Innovation and Technological Transfer Center of footwear (CITECCAL)	Definition of footwear specifications for the army to be included as technical requirement for public purchases
<b>Philippines</b>	Industrial Technology Development Institute (ITDI-DOST)	Food Innovation Centers in the Philippines
<b>Chinese Taipei</b>	Taiwan Accreditation Foundation	Sustainability: To support MSMEs continuously using Standardization, Conformity Assessment, Metrology and Accreditation services

In the appendix section, a specific description of each initiative is shown.

## Strategies and means of measurement of impacts among APEC initiatives

Economy	Name of the initiative	Strategies to promote interest and participation among MSMEs	Means of measure achievements or impact (indicators)	Challenges & Opportunities
Australia.	APEC Harmonization of Standards for Data and Information Flows.	<ul style="list-style-type: none"> <li>• Development of guides for SME's on implementation of new standards.</li> <li>• Use of IT tools to solve problems, provide sector specific relevant information or help SME's get business done.</li> <li>• Use feedback mechanisms to constantly adapt and update so elements of success are well identified and can be applied by all. E.g. – Internet based surveys.</li> <li>• Working with relevant and viable associations.</li> <li>• Promote SMEs' participation as standards makers. Encourage participation of representatives of SMEs in standards development and create mechanisms that support this.</li> <li>• Use online social networks.</li> <li>• Develop materials and web based information that can be easily accessed and used by SME's.</li> <li>• Come closer to industry associations in order to promote the awareness of and participation of SMEs in the NQI and provide related services.</li> </ul>	<p>The proposed evaluation and potential indicators for measuring the project's success reflect the project outputs as follows:</p> <ul style="list-style-type: none"> <li>▪ Level of MSME engagement – the project identified the number of participants, types of organizations that will be represented, economic sectors, and MSME priorities, which will be identified for the development of a future standards related work program.</li> <li>▪ Survey – survey results were analyzed and informed the development of an</li> </ul>	<p><u>Limited access of information on QIS.</u>  <b>Action taken:</b> Seminar/workshop/capacity building (open to public and including association)</p> <p><u>Lack of awareness on importance of QIS</u>  <b>Action taken:</b> Use of social media (Youtube, Twitter, Facebook) and mass media (TV, radio)</p> <p><u>Lack of QIS themselves (total number and scope)</u>  <b>Action taken:</b> Capacity building in cooperation with Specialist Regional Bodies</p>

Economy	Name of the initiative	Strategies to promote interest and participation among MSMEs	Means of measure achievements or impact (indicators)	Challenges & Opportunities
			<p>issues paper to identify key opportunities relating to data interchange which can enable cross-border MSME trade.</p> <ul style="list-style-type: none"> <li>▪ Issues paper – responses to the issues paper were analyzed and informed discussions at the workshop.</li> <li>▪ Two-day workshop – a report was prepared outlining key findings from the project and recommendations for APEC economies.</li> <li>▪ Recommendations – the effectiveness of the recommendations will be measured based on any feedback and</li> </ul>	



Economy	Name of the initiative	Strategies to promote interest and participation among MSMEs	Means of measure achievements or impact (indicators)	Challenges & Opportunities
			responses provided by APEC member economies.	
Australia	NMIA Sector Strategy	<ul style="list-style-type: none"> <li>• Promote the development of products instead of testing for “compliance” through the quality infrastructure. Market pull vs. product push approach - Analyze market needs first</li> <li>• In conjunction with export promotion campaigns and trade associations, provide ‘extension’ services to help SME’s meet the quality requirements to be part of global value chains</li> <li>• Develop user cases of SME’s that have overcome barriers or challenges and have become models of best practices – i.e. success stories.</li> <li>• Use feedback mechanisms to constantly adapt and update so elements of success are well identified and can be applied by all. E.g. – Internet based surveys</li> <li>• Working with relevant and viable associations.</li> <li>• Come closer to industry associations in order to promote the awareness of and participation of SMEs in the NQI and provide related services.</li> <li>• Re-focus the quality infrastructure from just testing for ‘compliance’ to also helping them develop their products</li> <li>• Provide relevant information that is sector specific</li> <li>• Stakeholder engagement (Understand the sector, the key players, and their drivers, concerns and needs; Participate in non-metrology stakeholder events, e.g. government, industry associations, S&amp;C</li> </ul>	Activities overseen through NMIA’s Strategy and Policy Sub-Committee, which in turn reports to NMIA’s Executive	<p><u>Lack of awareness on importance of QIS</u>  <b>Action taken:</b> Case studies of success stories on good practices; Use of social media (Youtube, Twitter, Facebook) and mass media (TV, radio</p> <p><u>Lack of financial and human resources to use QIS</u>  <b>Action taken:</b> Assist MSMEs to apply for other forms of Government funding to access NMIA QIS expertise.</p>

Economy	Name of the initiative	Strategies to promote interest and participation among MSMEs	Means of measure achievements or impact (indicators)	Challenges & Opportunities
		<p>infrastructure, research agencies; Leverage external advocates + build on strong existing relationships + engage at multiple levels (senior, technical, business development, ...); Track external strategies, drivers and trends; Internal pre- and post-engagement briefing/de-briefing; Success stories &amp; other promotional material</p> <ul style="list-style-type: none"> <li>• Staff skills (Populate teams with representatives from across the organization to develop multidisciplinary teams; Select leaders that can model “best practice”; Develop “soft skills” – communication, emotional intelligence, stakeholder engagement; Develop project management skills, ability to manage multiple priorities; Grow strategic, lateral and “big picture” thinking – ability to engage comfortably outside area of expertise.</li> </ul>		
Japan	Standards Development Program to Create New Market Partnership Framework to Facilitate Standardization	<ul style="list-style-type: none"> <li>• Development of guides for SME’s on implementation of new standards</li> <li>• Help SME’s to implement standards that relate to processes and productivity improvement in their production/service systems</li> <li>• Develop user cases of SME’s that have overcome barriers or challenges and have become models of best practices – i.e. success stories</li> <li>• Working with relevant and viable associations</li> <li>• Promote SMEs’ participation as standards makers. Encourage participation of representatives of SMEs in standards development and create mechanisms that support this</li> </ul>	<p>No. of registered advisors in JSA: +/- 10 advisors</p> <p>No. of registered Standardization Partner Organizations: 114 organizations</p>	<p><u>Lack of awareness on importance of QIS</u>  <b>Action taken:</b> Case studies of success stories on good practices; Enhance cooperation between NSBs and CABs</p> <p><u>Lack of financial and human resources to use QIS</u>  <b>Action taken:</b> Provide subsidies to MSMEs</p> <p>Hire retired experts at QIS</p>

Economy	Name of the initiative	Strategies to promote interest and participation among MSMEs	Means of measure achievements or impact (indicators)	Challenges & Opportunities
		<ul style="list-style-type: none"> <li>• Create partnerships between SME's and big companies through publicly funded 'cooperation centers'</li> <li>• Develop materials and web based information that can be easily accessed and used by SME's</li> <li>• Fund National Quality Infrastructure organisations to engage with SME's and develop and use best practice case studies</li> <li>• Come closer to industry associations in order to promote the awareness of and participation of SMEs in the NQI and provide related services</li> </ul>	<p>No. of MSMEs applied to the scheme. <b>Result obtained:</b> 16 MSMEs In 2016</p> <p>No. of developed standards. <b>Result obtained:</b> 5 Standards as of 31 December 2016</p>	
Korea	Establishment of a support platform for the voluntary international standardization of small and medium sized enterprises	<ul style="list-style-type: none"> <li>• Development of guides for SME's on implementation of new standards</li> <li>• Use of IT tools to solve problems, provide sector specific relevant information or help SME's get business done</li> <li>• Develop materials and web based information that can be easily accessed and used by SME's</li> </ul>	<p><b>Result obtained:</b></p> <p>N° discovering international standard(draft): 22</p> <p>N° supporting suggestions of international standards(draft): 9</p> <p>N° supporting adoption of international standards(draft): 1</p> <p>Project on implementation</p>	<p><u>Lack of awareness on importance of QIS</u> <b>Action taken:</b> Case studies of success stories on good practices.</p> <p><u>Lack of financial and human resources to use QIS</u> <b>Action taken:</b> Create database of standard experts</p>
Malaysia	National Standards Compliance Program (NSCP)	<ul style="list-style-type: none"> <li>• Help SME's to implement standards that relate to processes and productivity improvement in their production/service systems</li> <li>• Develop user cases of SME's that have overcome barriers or challenges and have become models of best practices – i.e. success stories</li> </ul>	<p>Number of people trained. <b>Result obtained:</b> 2883 participants were trained</p>	<p><u>Limited access of information on QIS.</u> <b>Action taken:</b> Seminar/workshop/capacity building (open to public and including association)</p>

Economy	Name of the initiative	Strategies to promote interest and participation among MSMEs	Means of measure achievements or impact (indicators)	Challenges & Opportunities
		<ul style="list-style-type: none"> <li>• Use feedback mechanisms to constantly adapt and update so elements of success are well identified and can be applied by all. E.g. – Internet based surveys</li> <li>• Reference standards in legislation</li> <li>• Working with relevant and viable associations</li> <li>• Use online social networks</li> <li>• Develop materials and web based information that can be easily accessed and used by SME's</li> <li>• Come closer to industry associations in order to promote the awareness of and participation of SMEs in the NQI and provide related services</li> <li>• Provide relevant information that is sector specific</li> </ul>	<p>Follow up surveys to all MSMEs that participated in the CBI. <b>Result obtained:</b> 88% of the respondent indicated positive progress towards getting certification</p> <p>Productivity gained. <b>Results obtained:</b> Contribution of standards to total factor productivity (TFP) is positive for 3 sectors; E&amp;E (0.15%), F&amp;B (0.08%) and Agriculture (0.02%) respectively.; 80% of the industries agreed that standards improved business operations, reduced loss and injury, reduced waiting and delivery time; 65% of the industries agreed that standards minimise rejections of products due to non-compliance and compensation claims</p> <p>No. of material developed. <b>Result obtained:</b> Developed 10 information materials on popular standards. <b>Impact:</b> Knowledge on standards among the</p>	<p><u>Lack of awareness on importance of QIS</u> <b>Action taken:</b> Case studies of success stories on good practices; Use of social media (Youtube, Twitter, Facebook) and mass media (TV, radio)</p> <p><u>Lack of financial and human resources to use QIS</u> <b>Action taken:</b> Tax reduction for investment in QIS</p> <p><u>Lack of qualified experts of QIS</u> <b>Action taken:</b> Capacity building of human resources development with international cooperation funding such as APEC, etc</p>

Economy	Name of the initiative	Strategies to promote interest and participation among MSMEs	Means of measure achievements or impact (indicators)	Challenges & Opportunities
			<p>industries especially MSMEs increased.</p> <p>Improvement of MSMEs impact on Gross Domestic Product (GDP) and Competitiveness Index. <b>Result obtained:</b> The study has proven that Standards contribute to 1.3% (for E&amp;E), 4.6% (for F&amp;B) and 1.5% (for Agriculture) of Malaysian GDP growth.</p>	
Peru	Improvement of Wood School Furniture Design	<ul style="list-style-type: none"> <li>Promote SMEs' participation as standards makers. Encourage participation of representatives of SMEs in standards development and create mechanisms that support this.</li> <li>Help SME's to implement standards that relate to processes and productivity improvement in their production/service systems:</li> <li>Reference standards in legislation</li> <li>Develop materials and web based information that can be easily accessed and used by SME's</li> <li>Foster innovation technological centres to support SMEs</li> <li>In conjunction with export promotion campaigns and trade associations, provide 'extension' services to help SME's meet the quality requirements to be part of global value chains</li> </ul>	<p>At least 12,500.000.00 USD in Programs of Public Purchases of School Furniture have used the harmonized designs, promoting the quality and application of technical standards in MSMEs.</p> <p>At least 1,500 MSMEs at a domestic level know and apply technical standards and quality control procedures in their products and processes for the manufacture of school furniture.</p>	<p><u>Limited access of information on QIS.</u> <b>Action taken:</b> Seminar/workshop/capacity building (open to public and including association).</p> <p><u>Lack of awareness on importance of QIS</u> <b>Action taken:</b> Case studies of success stories on good practices;</p> <p><u>Lack of financial and human resources to use QIS</u> <u>Lack of qualified experts of QIS</u> <b>Action taken:</b> Capacity building of human resources</p>

Economy	Name of the initiative	Strategies to promote interest and participation among MSMEs	Means of measure achievements or impact (indicators)	Challenges & Opportunities
		<ul style="list-style-type: none"> <li>• The application of standardized designs of school furniture Peruvian Technical Standards (PTS).</li> <li>• Training courses for the supervisors of the Desk Executive Center (agency in charge of the procurement process), as well as training for MSMEs in the processes of quality assurance both in the raw material and in the manufacturing processes, according to the NTP used in the standardization processes of the designs. These includes species identification, wood moisture measurement, wood quality assessment, ergonomic dimensions, among others.</li> </ul>		<p>development with international cooperation funding such as APEC, among others</p> <p><u>Lack of QIS themselves (total number and scope)</u>  <b>Action taken:</b> Capacity building in collaboration with Specialist Regional Bodies</p>
Peru	Definition of footwear specifications for the army to be included as technical requirement for public purchases	<ul style="list-style-type: none"> <li>• In conjunction with export promotion campaigns and trade associations, provide 'extension' services to help SME's meet the quality requirements to be part of global value chains.</li> <li>• Help SME's to implement standards that relate to processes and productivity improvement in their production/service systems.</li> <li>• Promote SMEs' participation as standards makers. Encourage participation of representatives of SMEs in standards development and create mechanisms that support this.</li> <li>• Implementation of innovation/incubation centers. Government research institutes.</li> <li>• Come closer to industry associations in order to promote the awareness of and participation of SMEs in the QI and provide related services.</li> </ul>	<ul style="list-style-type: none"> <li>• CITECCAL tested materials against technical specifications approved by the Peruvian army; Test reports were issued.</li> <li>• Army Purchase Agency includes Peruvian Technical standards for materials and footwear in their purchase processes and performs quality control through specialized or accredited laboratories.</li> </ul>	<p><u>Lack of awareness on importance of QIS</u>  <b>Action taken:</b> To develop technical specifications according to the army requirements based on technical standard, which is a first step to make them use QIS.</p>

Economy	Name of the initiative	Strategies to promote interest and participation among MSMEs	Means of measure achievements or impact (indicators)	Challenges & Opportunities
Philippines	Food Innovation Centers in the Philippines	<ul style="list-style-type: none"> <li>Promote the development of products instead of testing for “compliance” through the quality infrastructure. Market pull vs. product to push approach – Analyze market needs first.</li> <li>Help SME’s to implement standards that relate to processes and productivity improvement in their production/service systems</li> <li>Implementation of innovation/incubation centers. Government research institutes.</li> <li>Foster innovation technological centers to support SMEs</li> </ul>	<p>No. of standards adopted /certification obtained</p> <p>No. of people trained. <b>Result obtained:</b> More than 100</p> <p>New products developed. <b>Result obtained:</b> More than 11,000 product concepts/1000 product prototypes</p> <p>No. Of MSMEs that received certification/accreditation for their quality programs</p> <p>Productivity gained.</p>	<p><u>Limited access of information on QIS.</u> <b>Action taken:</b> Seminar/workshop/capacity building (open to public and including association)</p> <p><u>Lack of financial and human resources to use QIS</u> <b>Action taken:</b> Provide subsidies to MSMEs</p> <p><u>Lack of QIS themselves (total number and scope)</u> <b>Action taken:</b> Collect information on QIS to be provided through websites such as APEC, etc.</p> <p><u>Lack of qualified experts of QIS</u> <b>Action taken:</b> Capacity building of human resources development with international cooperation funding such as APEC, etc; Collect and share information on capacity building of each economy.</p>

Economy	Name of the initiative	Strategies to promote interest and participation among MSMEs	Means of measure achievements or impact (indicators)	Challenges & Opportunities
Chinese Taipei	Sustainability: To support MSMEs continuously using Standardization, Conformity Assessment, Metrology and Accreditation services.	<ul style="list-style-type: none"> <li>• Development of guides for SME's on implementation of new standards.</li> <li>• SME's classification depending on their level of understanding or engagement with the quality infrastructure – and target accordingly in order to apply differential treatment.</li> <li>• Help SME's to implement standards that relate to processes and productivity improvement in their production/service systems.</li> <li>• Develop associations of sustainable SME's that can support and learn from each other or utilizing existing associations.</li> <li>• Working with relevant and viable associations.</li> <li>• Develop materials and web based information that can be easily accessed and used by SME's.</li> <li>• Fund National Quality Infrastructure organisations to engage with SME's and develop and use best practice case studies.</li> <li>• Re-focus the quality infrastructure from just testing for 'compliance' to also helping them develop their products.</li> </ul>	<ul style="list-style-type: none"> <li>• No. of educational programs developed.</li> <li>• No. of MSMEs graduated from educational programs.</li> <li>• No. of MSMEs including the investment of Quality Infrastructure into their budgets /plans.</li> <li>• No. of MSMEs that apply to the soft loans.</li> <li>• No. of MSMEs that were approved to the soft loans.</li> <li>• No. of MSMEs with the government mark on quality.</li> <li>• No. of MSMEs that are included in the value supply chain of exporters.</li> <li>• No. of MSMEs using/used the materials.</li> <li>• No. of materials developed.</li> </ul>	<p><u>Limited access of information on QIS</u>  <b>Action taken:</b> Seminar/workshop/capacity building (open to public and including association).</p> <p><u>Lack of awareness on importance of QIS</u>  <b>Action taken:</b> Case studies of success stories on good practices; Enhance cooperation between NSBs and CABs.</p> <p><u>Lack of financial and human resources to use QIS</u>  <b>Action taken:</b> Provide subsidies to MSMEs; Tax reduction for investment in QIS</p> <p><u>Lack of QIS themselves (total number and scope)</u>  <b>Action taken:</b> Collect information on QIS to be provided through websites such as APEC, etc.</p>



Economy	Name of the initiative	Strategies to promote interest and participation among MSMEs	Means of measure achievements or impact (indicators)	Challenges & Opportunities
				<u>Lack of qualified experts of QIS</u> <b>Action taken:</b> Collect and share information on capacity building of each economy.

## VIII. CONCLUSIONS AND RECOMENDATIONS

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Based on the information received, the efforts of APEC economies to foster standards and conformance initiatives among MSMEs as a way to promote competitiveness in global markets are evident.

The most frequent strategies considered by the initiatives received were:

- Helping MSME's to implement standards that relate to processes and productivity improvement in their production/service systems.
- Working with relevant and viable associations.
- Developing materials and web based information that can be easily accessed and used by MSME's.
- Working more closely with industry associations in order to promote the awareness and participation of MSMEs in the NQI and provide related services.
- Promote awareness of Quality Infrastructure services through IT tools.

These initiatives face challenges and opportunities. The usual barriers to taking action can be classified into the following categories: Limited access to information on QIS; Lack of awareness of the importance of QIS; Lack of financial and human resources to use QIS; Lack of QIS themselves (total number and scope) and Lack of qualified experts in QIS.

Not all the initiatives need to consider indicators to be successful. The achievements of objectives are the usual way to show conformance and effectiveness.

It is worthwhile to mention the efforts of some economies (like Malaysia) to measure improvement of MSMEs' impact on Gross Domestic Product (GDP) and Competitiveness Index through the implementation of standards. This kind of indicators could be considered to measure impacts in terms of improving MSMEs' competitiveness.

It is open to discussion to explore other ways to measure the sustainability of initiatives. Various conditions can affect the definition of an initiative; it is not the same to measure the manufacturing and service sectors, and the objectives and scope of the initiative must also be taken into account.

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# **APPENDIX**

## QUESTIONNAIRE

Which of these strategies have you ever considered in your initiatives to promote interest and participation among MSMEs in using quality infrastructure services? Mark it, if any. You can mark as many as you considered

- Development of guides for MSME's on implementation of new standards.
- Use of IT tools to solve problems, provide sector specific relevant information or help MSME's get business done.
- MSME's classification depending on their level of understanding or engagement with the quality infrastructure – and target accordingly in order to apply differential treatment.
- Promote the development of products instead of testing for “compliance” through the quality infrastructure. Market pull vs. product push approach - Analyse market needs first
- In conjunction with export promotion campaigns and trade associations, provide ‘extension’ services to help MSME's meet the quality requirements to be part of global value chains.
- Help MSME's to implement standards that relate to processes and productivity improvement in their production/service systems
- Develop user cases of MSME's that have overcome barriers or challenges and have become models of best practices – i.e. success stories
- Use feedback mechanisms to constantly adapt and update so elements of success are well identified and can be applied by all. E.g. – Internet based surveys.
- Develop associations of sustainable MSME's that can support and learn from each other or utilizing existing associations.
- Reference standards in legislation.
- Working with relevant and viable associations
- Promote MSMEs' participation as standards makers. Encourage participation of representatives of MSMEs in standards development and create mechanisms that support this.

- Use online social networks
- Create partnerships between MSME's and big companies through publicly funded 'cooperation centers'.
- Implementation of innovation/incubation centers. Government research institutes.
- Develop materials and web based information that can be easily accessed and used by MSME's
- Fund National Quality Infrastructure organisations to engage with MSME's and develop and use best practice case studies
- Fund National Quality Infrastructure organisations to increase level of promotion and education to MSME's.
- Foster innovation technological centres to support MSMEs.
- Come closer to industry associations in order to promote the awareness of and participation of MSMEs in the NQI and provide related services.
- Re-focus the quality infrastructure from just testing for 'compliance' to also helping them develop their products.
- Provide relevant information that is sector specific.

**Explain how did you apply the selected strategy (ies) and what results did you have?**

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**If you have not considered any one of the alternatives mentioned, which other means applied in your initiative?**

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**If you have considered any other strategy, please indicate and explain it.**

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Which of these indicators have you ever considered to make your initiative sustainable? Mark it, if any. You can mark as many as you consider. Is any other indicator was used, please explain.

Actions	Indicators	Explain briefly how did you apply?	Result obtained
Educational programs on planning (government financed)	N° of educational programs developed		
	No of MSMEs graduated from educational programs		
	N° of MSMEs including the invest in use services of Quality Infrastructure into their budgets /plans		
Soft loans	N° of MSMEs that applied for the soft loans		
	N° of MSMEs that were approved for the soft loans		
	N° of MSMEs that received conformity assesment services for their quality programs		
Simplified materials on Quality Management System.	N° of material developed		
	N° of MSMEs using/used the materials		
Study on money value of compliance with Quality Infrastructure	Improvement of MSMEs impact on Gross Domestic Product (GDP) and Competitiveness Index.		
Government Recognition program (Premium Mark)	Inclusion in official government listed suppliers		
	No of MSMEs with the government mark on quality.		
	No of MSMEs that are included in the value supply chain of export		



If there is any other indicator used, please mention it and explain.

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**Which of these indicators have you ever considered to measure the impact of your initiative in terms of improving competitiveness of MSMEs' access to global markets? You can mark as many as apply.**

Indicator	Measurement	Explain briefly how did you apply?	Result obtained
Number of MSMEs	Participation in Standards Development		
	Number of Standards Adopted / Certifications obtained		
Training-related outcomes	Number of people trained		
	Follow up surveys		
	New products developed		
	New market access		
Economic Performance	Sales Gained / Training Expenditures		
	Increase in market access / New markets		
	Productivity gained		

If there is any other indicator used, please mention it and explain.

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**Challenges that you have faced in your initiative to promote quality infrastructure services (QIS). You can mark as many as apply.**

- Limited access of information on QIS.
- Lack of awareness on importance of QIS.
- Lack of financial and human resources to use QIS.
- Lack of QIS themselves (total number and scope).
- Lack of qualified experts of QIS.

If there is any other, please mention it and explain.

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**Opportunities that you have considered in your initiative to promote quality infrastructure services (QIS). You can mark as many as apply.**

To respond to limited access of information on QIS

- Seminar/workshop/capacity building (open to public and including association)
- More support from international organization
- Correct available promotion

Explain briefly your results from each alternative selected

If there is any other, please mention it and explain.

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To respond to lack of awareness on importance of QIS

- Case studies of success stories on good practices
- Use of social media (Youtube, Twitter, Facebook) and mass media (TV, radio)
- Enhance cooperation between NSBs and CABs

Explain briefly your results from each alternative selected

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If there is any other, please mention it and explain.

To respond to lack of financial and human resources to use QIS

- Create database of standard experts
- Provide subsidies to MSMEs
- Hire retired experts at NSBs to support MSMEs
- Tax reduction for investment in QIS

Explain briefly your results from each alternative selected

If there is any other, please mention it and explain.

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To respond to lack of QIS themselves (total number and scope)

- Collect information on QIS to be provided through websites such as APEC, etc.
- Capacity building in cooperation with Specialist Regional Bodies

Explain briefly your results from each alternative selected

If there is any other, please mention it and explain.

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To face lack of qualified experts of QIS

Capacity building of human resources development with international cooperation funding such as APEC, etc.

Collect and share information on capacity building of each economy.

Explain briefly your results from each alternative selected

If there is any other, please mention it and explain.

Additional information, if any.

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## Economy: Australia

**Project or initiative title:**

APEC Harmonization of Standards for Data and Information Flows.

**Project summary:**

New technologies including Internet-based platforms increase opportunities for MSMEs to participate in regional and global markets without having to establish physical operations in different economies. Efficiently and securely moving data around the globe is an essential feature of modern day business practices. This is becoming even more important as trade in digital goods and services increases.

The project brought together APEC MSME representatives, National Standards Bodies (NSBs) and regulators to exchange views on the role of international data interchange standards in facilitating MSME engagement in the global economy. It sought to deliver recommendations that promote the role of voluntary international standards in facilitating the movement of data. It also encouraged APEC member economies to participate in cross-border data interchange standards development and adopt international standards in order to facilitate technical harmonization across APEC economies.

**Start date:**

30 May 2015

**Completion date:**

31 December 2016

**INITIATIVE DETAILS****Objective**

The objective is to develop recommendations to facilitate MSME trade – especially access to regional and global markets – by supporting the development and use of international standards.

**Expected outputs**

An APEC survey, issues paper, workshop and recommendations report was delivered

**Expected outcomes****Outcome 1: Building relationships**

The Australian Treasury and Standards Australia convened a two-day APEC Harmonization of Standards Workshop on 4-5 November 2015 in Sydney, Australia.

The workshop was the primary output of this APEC HOST Project, which is supported by the APEC Small to Medium Enterprises Working Group (APEC SMEWG). The workshop was developed and delivered by Standards Australia and funded by the Department of Foreign Affairs and Trade.

The workshop brought together 51 participants covering 15 APEC member economies, together with regional industry organizations and representatives from ISO/IEC JTC 1. This included representatives from government, regulators, national standards bodies, industry associations and SMEs. A full list of participants is in Annex 1 of the Workshop report.

The workshop provided an opportunity for stakeholders to discuss findings from the APEC Harmonization of Standards for Data and Information Flows Issues Paper and contribute to developing recommendations to support SMEs remaining globally competitive in the digital age.

Experts and stakeholders identified and discussed the movement of data from a standardization perspective with a focus on SMEs.

The workshop highlighted the need to develop a series of tailored actions for APEC member economies, with individual action plans applicable to specific circumstances. The workshop also facilitated networking among government bodies, SME representatives, NSBs, industry associations and professional organizations across the APEC region. Although opportunities and challenges vary across APEC economies, sharing different perspectives provides a baseline for developing a 'Digital Standards Roadmap' for SMEs and other stakeholders for individual action plans. Workshop participants also discussed how NSBs, SMEs, policy makers, regulators and other stakeholders can further collaborate to promote data driven innovation and a standards-related trade agenda.

Participants considered four key areas: key issues and challenges facing SMEs in relation to the movement of cross border data that could be addressed voluntarily through international standards; major barriers for SMEs in meeting domestic and international regulations on the movement of data between APEC member economies; impacts on data driven innovation that could be addressed through standards development participation, technical convergence and regulatory coherence; and key outcomes that APEC could aim for in the medium to long-term to promote the seamless movement of data.

## **Outcome 2: Workshop recommendations**

The workshop participants identified several key issues, opportunities and challenges faced by SMEs in relation to the movement of cross-border data and produced a set of key recommendations. Recommendations are intended to identify forward directions for consideration of APEC's SCSC and SMEWG, subject to the availability of resources. They do not constitute the views of Standards Australia, the Australian Government or APEC. The recommendations support SME trade, business

connectivity and innovation in the Asia-Pacific region. In no particular order, the APEC SMEWG should consider:

Given the resource constraints faced by SMEs in dealing with standards and regulatory frameworks related to cross-border transfer of data, the development of dedicated APEC support to enable SMEs to play a stronger role in standardization, including efforts specifically aimed at enhancing the engagement of APEC member economies, especially developing economies in ISO/IEC JTC 1;

Exploring the benefits of an information portal for gathering, analyzing, exchanging and sharing cross-border data and information flows. Greater SME engagement in cross-border business may be supported through the creation of an APEC central web portal for use by SMEs, consumers and businesses to enhance transparency of economy-specific policies and practices on the transfer of data. This would improve the awareness and understanding among SMEs of obligations specific to each member economy;

Encouraging regulators to consider referencing international data transfer standards when developing and implementing regulation/legislation and technical regulations as a means to minimize the duplication of work and create regulatory coherence among APEC member economies. Regulations need to be supported by using consensus based international standards. These standards and regulations should be harmonized wherever possible. Member economies' regulators and policy makers to take stock and assess which international standards could be adopted to facilitate the movement of data.

Developing a strategy for the use and harmonization of international standards that support the movement of data. This could be significantly supported by developing an APEC 'standardization roadmap' which clearly identifies SME industry priorities and a program of work to support greater engagement and involvement in standardization. A Voluntary Action Plan could advance this initiative;

Maintaining the role of APEC forums such as the APEC SMEWG and APEC Sub-Committee on Standards Conformance in exchanging views and best practices on the movement of data. APEC can play a leading role in increasing awareness of the importance of cross-border data transfer to international trade and the role of standards in achieving this objective.

In addition to supporting new business and trade opportunities, the recommendations aim to improve supply chain integration, reduce regulatory compliance and enhance transport and logistics across APEC.

It is important for APEC to maintain a dialogue with SMEs (such as through standards roundtables and workshops) and actively pursue the harmonization of standards to ensure there is continuing interoperability and efficient movement of data.

## **Beneficiaries**

An established understanding of MSME business needs helps NSBs and other stakeholders overcome technical barriers to the movement of data.

The proportion of MSMEs is substantially greater in developing economies. These MSMEs are often challenged by the limitation of staff and financial resources when contributing in standards development settings.

This project allows MSMEs of developing countries to share their perspectives and business needs regarding the movement of data with other relevant stakeholders including NSBs, regulators and governments.

Long-term or indirect beneficiaries: APEC economies, NSBs, MSMEs and other relevant stakeholders will gain a better understanding of the role of voluntary international standards in facilitating the movement of data across borders. Accordingly, stakeholders will have the opportunity to contribute to discussion on standards harmonization work and regulatory coherence.

APEC economies will have the opportunity to review their standards, technical regulations and regulatory policies to better support MSMEs access regional and global markets. MSMEs will subsequently have greater opportunities to engage in cross-border trade.

## **Work Plan**

The work plan included the following steps:

1. Established an informal project steering group of stakeholders.
2. Designed and undertook a survey.
3. Finalized Issues Paper – ahead of the APEC SME Ministerial Meeting of September 2015.
4. Invited APEC economies, MSME representatives and other NSBs to participate in the workshop to discuss the issues paper and the role of data interchange standards in facilitating participation in cross-border trade by MSMEs in APEC economies – ahead of the APEC SME Ministerial meeting of 25 September 2015.
5. Standards Australia organized the workshop venue and facilities, accommodation of guests and participants – October 2015.
6. Standards Australia with Australian Government Treasury hosted the Workshop, up to 80 participants (4 from each APEC economy) – 4 and 5 November 2015.



7. Consulted APEC economies on draft recommendations – ahead of the first SMEWG meeting in 2016.
8. Standards Australia finalized the Recommendations Paper and published – ahead of the SME Ministerial Meeting in 2016.
9. The Australian Government Treasury in collaboration with Standards Australia prepared a completion report by 31 December 2016.

### **Risks**

Risks include difficulties in accommodating potentially conflicting views or agendas promoted by different stakeholders. The project assisted stakeholders to focus on areas of common interest.

Language barriers and recruiting an appropriate number of participants to complete the survey was also an identified risk.

The project included using Australia's attendance at the SMEWG meeting in Atlanta in June 2015 to encourage participation in the survey. The project budget included covering travel costs for APEC travel eligible participants from developing economies to attend the workshop and encourage participation.

Additional sources of information may need to be used to ensure the project allows for meaningful analysis. These risks will also be managed through the survey design, and testing findings through the workshop.

### **Monitoring and Evaluation**

The proposed evaluation and potential indicators for measuring the project's success reflect the project outputs as follows:

- Level of MSME engagement – the project identified the number of participants, types of organizations that will be represented, economic sectors, and MSME priorities, which will be identified for the development of a future standards related work program.
- Survey – survey results were analyzed and informed the development of an issues paper to identify key opportunities relating to data interchange which can enable cross-border MSME trade.
- Issues paper – responses to the issues paper were analyzed and informed discussions at the workshop.
- Two-day workshop – a report was prepared outlining key findings from the project and recommendations for APEC economies.

- Recommendations – the effectiveness of the recommendations will be measured based on any feedback and responses provided by APEC member economies.

**Final outputs**

Survey, Issues Paper, Workshop and Recommendations Report, and Completion Report

**Final outcome**

It was proposed that a follow up APEC SCSC sponsored project proposal with the support of APEC SMEWG be submitted to action the recommendations of the APEC HOST project in 2017.

## Economy: Australia

<b>Project or initiative title:</b> NMIA Sector Strategy
<b>Project summary:</b> NMIA's Sector Strategy maximizes the outcomes of investment in measurement science by bringing a multi-disciplinary approach to addressing current and future challenges in priority sectors of the Australian economy. NMI's targeted sectors are energy, environment, food and health. These sectors align with the government's "Science & Research Priorities" and "Industry Growth Centers" which target sectors of strategic importance.
<b>Start date:</b> July 2013
<b>Completion date:</b> Ongoing
<b>INITIATIVE DETAILS</b>
<b>Objectives</b> <ul style="list-style-type: none"><li>- Identify Australia's present and future measurement needs in key sectors of the economy and prioritize efforts in the gap between those needs and existing public/private capabilities to better align NMIA's capabilities with their requirements.</li><li>- Combine, coordinate and balance NMIA's diverse capabilities to address major challenges effectively.</li><li>- Contribute to initiatives of the Australian Government including the National Innovation and Science Agenda (NISA) and Industry Growth Centers.</li></ul>
<b>Expected outputs and outcomes</b> <ul style="list-style-type: none"><li>- Targeted multidisciplinary engagements, including with industry bodies, and at industry events and conferences in partnership with other Government agencies</li><li>- Stakeholders have access to the breadth of measurement capabilities and services as a "one-stop shop" for measurement expertise</li><li>- Industry and research leaders give seminars at NMIA</li><li>- Stakeholder analyses inform NMIA's work programs and business plans</li></ul>

- Sector Teams oversee support for innovation and commercialization through collaborative technology transfer activities with industry that lead to:
  - new cost-recovered projects and new agreements
  - active or new collaborative research projects
  - papers in peer-reviewed journals

**Beneficiaries**

NMIA’s full range of stakeholders, including government, private, academic and international, to inform an appropriate balance of effort and resources across the many and varied Australian requirements.

**Work Plan**

Articulated in Annual Sector Work plans developed by NMIA’s multi-disciplinary sector teams.

**Risks**

That NMIA will misallocate resources developing inappropriate capabilities or be unable to achieve cost recovery for the new services developed.

That core capabilities are impacted in the effort to increase focus on service delivery.

**Monitoring and Evaluation**

Activities overseen through NMIA’s Strategy and Policy Sub-Committee, which in turn reports to NMIA’s Executive

**Final outputs**

Ongoing

**Final outcome**

Ongoing

## Economy: Japan

<b>Project or initiative title:</b> <ul style="list-style-type: none"><li>- Standards Development Program to Create New Market.</li><li>- Partnership Framework to Facilitate Standardization.</li></ul>
<b>Project summary:</b> <p>These programs are focused on participation of entities with less experience (MSMEs) into standardization activities.</p> <p>Recently, standards have been closely linked with technology innovation and better business opportunities. In Japan, many MSMEs have cutting-edge technologies, but they have fewer human and monetary resources, which causes difficulties developing standards. Therefore, the two new schemes were established to support MSMEs' participation in standardization activities.</p> <p><u>Standards Development Program to Create New Market</u></p> <p>In Japan, standards are usually developed through a series of discussions by a related industrial association including various stakeholders. In this new scheme, the Japanese Standards Association (JSA) will provide an expert (advisor) to support MSMEs proposing a standard, including administration to develop the standard (e.g. preparation of draft standard).</p> <p><u>Partnership Framework to Facilitate Standardization</u></p> <p>Many MSMEs are located in local areas of Japan; and their businesses are supported by various organizations such as local banks, local governments, universities and technology institutes. In this scheme, some of these organizations are registered as "Standardization Partner Organizations" in close collaboration with the JSA to support MSMEs' business activities within standardization.</p>
<b>Start date:</b> July 2014
<b>Completion date:</b> These schemes are ongoing.
<b>INITIATIVE DETAILS</b>
<b>Objectives</b>  Promote MSMEs' market competitiveness through their participation in the regional, national and international standardization activities.

<p><b>Expected outputs</b></p> <p>There expected to be 100 new standards for cutting-edge technology developed by 2020.</p>
<p><b>Expected outcomes</b></p> <p>MSMEs will participate in the standardization activities sustainably.</p>
<p><b>Beneficiaries</b></p> <ul style="list-style-type: none"> <li>- Private companies (especially MSMEs).</li> <li>- Local entities (Standardization Partner Organizations).</li> </ul>
<p><b>Work Plan</b></p> <ol style="list-style-type: none"> <li>1) Awareness raising on benefit of standards to MSMEs.</li> <li>2) Establishment of network of Standardization Partner Organizations.</li> <li>3) Advice and technical assistance on standardization for MSMEs.</li> <li>4) Development of draft standards.</li> </ol>
<p><b>Risks</b></p> <ol style="list-style-type: none"> <li>1) Some products/technologies may not be suitable for standardization.</li> <li>2) Some products/technologies may not be covered by the expertise of advisors.</li> </ol>
<p><b>Monitoring and Evaluation</b></p> <ol style="list-style-type: none"> <li>1) 114 Standardization Partner Organizations are registered as of 31 December 2016.</li> <li>3) In 2016, 16 MSMEs applied for these schemes.</li> </ol>
<p><b>Final outputs</b></p> <ol style="list-style-type: none"> <li>1) Some standards have been developed through the schemes.</li> <li>2) Website is used effectively to share the case of MSMEs' standardization.</li> </ol>
<p><b>Final outcome</b></p> <p>The number of MSMEs participating in standardization activities has been increasing.</p>

## Economy: Korea

<p><b>Project or initiative title:</b></p> <p>Establishment of a support platform for the voluntary international standardization of small and medium sized enterprises.</p>
<p><b>Project summary:</b></p> <p>To enhance global competitiveness, establish support platforms for voluntary activities in international standardization of small and medium sized enterprises.</p> <p>The main purpose is to support companies for a unified movement toward the international market and for strengthened competitiveness in international standards.</p> <p>The sponsor of this project is the Korean Agency for Technology and Standards and the host of the project is Korean Standards Association.</p> <p>The total available funds are 793,000 USD, of which 740,000 USD is from government subsidy and 53,000 USD is from private funds.</p> <p>The duration of the project is 3 years.</p>
<p><b>Start date:</b></p> <p>July, 2014.</p>
<p><b>Completion date:</b></p> <p>June, 2017</p>
<p><b>INITIATIVE DETAILS</b></p>
<p><b>Objectives</b></p> <ul style="list-style-type: none"><li>- Enhance global competitiveness by discovering international standards, supporting suggestions for international standards and supporting adoption of international standards.</li><li>-Establishment a support platform for voluntary activities in international standardization.</li></ul>
<p><b>Expected outputs</b></p> <ul style="list-style-type: none"><li>- Discover 15 cases of SMEs' technologies that can be suggested as an ISO/IEC international Standard.</li></ul>

- Support 3 cases of the procedure for presentation and proposal to suggest the technologies to ISO/IEC as an international standard.
- Operate help desk to solve difficulties and answer questions of SMEs in international standardization.
- Operate a manpower pool composed of experts to be able to provide relevant advice and secure resources for consultation and training.
- Hold a public training session to raise the awareness of SMEs about standardization.
- Establish and operate a system for providing the current status of publication of ISO and IEC standards and other relevant information.

**Expected outcomes**

- Establish the support platform for voluntary international standardization of SMEs.

**Beneficiaries**  
SMEs.

**Work Plan**

**Enhance global competitiveness**

- Discover international standards.
- Support suggestions for international standards.
- Support adoption of international standards.

**Establish a support platform for voluntary activities in international standardization**

- Operate help desk.
- Operate a manpower pool of international standards experts.
- CEO's breakfast meeting.
- Standard expertise building training.
- Establish an information provision system.

**Monitoring and Evaluation**

- Number discovering international standard(draft): 22
- Number supporting suggestions of international standards(draft): 9



<p>- Number supporting adoption of international standards(draft): 1</p> <p>The performances are monitored and evaluated every year by government.</p>
<p><b>Final outputs</b></p> <p>N/A because it is not finished yet</p>
<p><b>Final outcome</b></p> <p>N/A because it is not finished yet</p>

## Economy: Malaysia

<b>Project or initiative title:</b>  National Standards Compliance Program (NSCP)
<b>Project summary:</b> In 2013, Standards Malaysia conducted a feasibility study on the National Standards Compliance Program (NSCP). The objective of this study was to develop the National Standards Compliance Program (NSCP) that will help companies, especially SMEs, to increase their market competitiveness in order to further penetrate global & domestic markets successfully by meeting standards requirements of products and services.  <b>National Standards Compliance Program (NSCP)</b> is a program aimed at bridging initiatives and information on standards compliance. NSCP was launched by the Prime Minister of Malaysia on 4 June 2014.
<b>Start date:</b> November 2013.
<b>Completion date:</b>  On-going.
<b>INITIATIVE DETAILS</b>
<b>Objectives</b>  To provide a one-stop-center for national reference on standards compliance as a platform for collaboration and establish an information hub for standards and compliance.
<b>Expected outputs</b>  <ol style="list-style-type: none"><li>1. Information hub on standards compliance established.</li><li>2. 30 companies signed up through NSCP.</li><li>3. 30 Capacity buildings conducted in a year in 6 regions in Malaysia.</li><li>4. At least 3 collaboration established in a year with implementing agencies/ state government.</li><li>5. 30 companies participating in Capability Development (handholding activity).</li><li>6. 30 companies undergoing Technology Audit activity.</li></ol>

<p><b>Expected outcomes</b></p> <ol style="list-style-type: none"> <li>1. Increase competitiveness of Malaysian products and services;</li> <li>2. Increase worldwide marketability;</li> <li>3. Increase organizational efficiency and productivity;</li> <li>4. Wealth creation and income generation through increased market access.</li> </ol>
<p><b>Beneficiaries</b></p> <p>Industries, especially MSMEs. Implementing agencies.</p>
<p><b>Work Plan</b></p> <p>The NSCP activities comprise the following:</p> <ol style="list-style-type: none"> <li><b>1. Publication of NSCP handbook, promotional materials (flyers, brochures, posters, information calendar and video) and success stories</b></li> <li><b>2. Establishment of NSCP One Stop Center (NSCP OSC)</b> -To give physical advice to the MSMEs on standards compliance.</li> <li><b>3. Establishment of NSCP portal; <a href="http://nscp.jsm.gov.my/">http://nscp.jsm.gov.my/</a></b></li> <li><b>4. Participation in major events e.g. Halal Fiesta Malaysia (HALFEST) SME Annual Showcase (SMIDEX), Malaysia Agriculture, Horticulture and Agrotourism Show (MAHA) and Malaysia International Halal Showcase (MIHAS) to promote NSCP</b></li> <li><b>5. Collaboration with implementing agencies and state government</b></li> <li><b>6. Capacity Building for Industries</b> To train and give comprehensive understanding to the SMEs on popular standards e.g.;</li> </ol> <ul style="list-style-type: none"> <li>- a) MS ISO 9001-Quality Management Systems (QMS).</li> <li>- b) MS ISO 14001- Environmental Management Systems.</li> <li>- c) MS 1722/ OHSAS 18001-Occupational Safety &amp; Health Management Systems (OHSMS).</li> <li>- d) MS 1500- Halal Food.</li> <li>- e) MS 1514-Good Manufacturing Practice (GMP) for Food.</li> <li>- f) MS1480-Food Safety According to Hazard Analysis and Critical Control Point (HACCP) System.</li> <li>- g) MS ISO 22000- Food Safety Management Systems.</li> <li>- h) MS ISO/ IEC 17025 - General Requirement for the Competence of Testing and Calibration Laboratories.</li> </ul>

<p><b>7. Capability Development (handholding activity)</b></p> <ul style="list-style-type: none"> <li>- To guide and assist the MSMEs to be ready for certification.</li> </ul> <p><b>8. Technology Audit</b></p> <ul style="list-style-type: none"> <li>- To identify technology gaps that exist in the company as well as to give recommendations and solutions.</li> </ul> <p><b>9. ISO Methodology</b></p> <ul style="list-style-type: none"> <li>- To assess the economic benefits of standardization to an organization, and therefore to assess the benefits of standards within a particular industry sector. This activity will be conducted to the identified companies, preferably those that have participated in NSCP.</li> </ul>
<p><b>Risks</b></p> <ol style="list-style-type: none"> <li>1. Many agencies offer similar initiatives in Malaysia which affect the monitoring and evaluation mechanism to really understand each program's effectiveness.</li> <li>2. Limited buy-in from the government agencies providing the budget to centralize all assistance with regard to standards and compliance under NSCP. Hence limited budget allocation to have comprehensive assistance.</li> <li>3. Since NSCP is only focused on standards and compliance for SMEs, the assistance scope is very limited for SMEs to stand on their own, especially MSMEs which require comprehensive and end to end support.</li> <li>4. SMEs' commitment to participating effectively. Some participants do not turn up during the training even though it is free of charge. Companies also send irrelevant representatives.</li> <li>5. Awareness on standards is still low among the SMEs. Standards and compliance are always considered costly and unimportant rather than creating new opportunities, quality control and investment.</li> </ol>
<p><b>Monitoring and Evaluation</b></p> <ol style="list-style-type: none"> <li>1. Feedback form after the training to see the effectiveness of the session.</li> <li>2. Conduct survey to participants to know their implementation stage and progress.</li> <li>3. WG on Standards Reform Initiative –Competition, Standards &amp; Liberalization (SRI-CSL) Meeting to monitor, evaluate, and provide recommendations on the implementation of the program.</li> </ol>
<p><b>Final outputs</b></p> <ol style="list-style-type: none"> <li>1. 77 companies signed up through NSCP.</li> </ol>

2. 85 capacity building workshops were conducted in all regions in Malaysia. A total of 2883 participants participated.
3. 28 companies successfully completed the Capability Development activity.
4. 30 companies underwent the technology audit.
5. Established collaboration with SME Corporation Malaysia (SME Corp.), Majlis Amanah Rakyat (MARA), Malaysia External Trade Development Corporation (MATRADE), Malaysian Green Technology Corporation (MGTC), Sarawak State Government, Sabah State Government.

**Final outcome**

The NSCP provides a platform for MSMEs/ SMEs to gain and enhance their knowledge of standards compliance which enables them to increase the competitiveness of their products and services, marketability, efficiency and productivity of the organization.

## Economy: Peru

<b>Project or initiative title:</b>  Definition of footwear specifications for the army to be included as technical requirement for public purchases
<b>Project summary:</b>  Footwear technical specifications based on Peruvian national standards (NTP) were revised and a new product standard, NTP-ISO 20347:2008 Personal Protective Equipment – Occupational Footwear, was proposed for the army.  The main aim of the project was to promote competitiveness among MSMEs by using common requirements under the same conditions.  The project lasted 07 months including the test of footwear manufactured by MSMEs for public purchases.
<b>Start date:</b> April 2016
<b>Completion date:</b> October 2016
<b>INITIATIVE DETAILS</b>
<b>Objectives</b>  To develop a footwear technical specification to be used in the Peruvian army based on Peruvian standards, NTP-ISO 20347:2008 Personal Protective Equipment – Occupational Footwear and materials specifications for national manufacturers.  Acquisition of fifteen (15) types of footwear (high mountain boots, beige combat boots, beige highland combat boots, black combat boots, black padding combat boots, PVC boots, leather slippers and canvas slippers) for the Peruvian army.
<b>Expected outputs</b>  Fifteen (15) footwear specifications approved by the Wardrobe and Mattress Technical Committee of the Army Purchase Agency to be used in public purchases.
<b>Expected outcomes</b>  - Participation of at least 05 footwear manufacturing MSMEs in the Peruvian army purchase process.  - Acquisition of 15 types of footwear products for the Peruvian army.

<p><b>Beneficiaries</b></p> <ul style="list-style-type: none"> <li>- Army personal that are consumers of this type of footwear.</li> <li>- MSME Footwear Manufacturers.</li> </ul>
<p><b>Work Plan</b></p> <ul style="list-style-type: none"> <li>- Search for and revision of technical information (national and international standards, footwear purchasing requirements, etc).</li> <li>- Discussion of technical proposals with the participation of MSME representatives.</li> <li>- Approval of technical specifications to be used for public purchases by the army.</li> <li>- Public purchase process requested by the Peruvian army (Purchase Army Agency) with the participation of MSMEs.</li> <li>- Tests of footwear samples based on technical specifications by laboratories.</li> <li>- Data analysis of test results by an external institution.</li> <li>- Acquisition of 15 different types of footwear by the Peruvian army.</li> </ul>
<p><b>Risks</b></p> <ul style="list-style-type: none"> <li>- Errors in the technical specifications due to the materials in the market that do not fulfill requirements or the requirements being too stringent to be achieved by any manufacturer.</li> <li>- Purchase process by the Peruvian army does not take into account the defined technical specifications.</li> <li>- Peruvian army does not perform quality control tests to assess conformity against technical specifications.</li> </ul>
<p><b>Monitoring and Evaluation</b></p> <p>CITECCAL dealt with enquiries presented by the Army Purchase Agency during the purchase process.</p> <p>CITECCAL tested materials against technical specifications approved by the Peruvian army; Test reports were issued.</p>
<p><b>Final outputs</b></p> <p>Acquisition of eight (08) types of footwear (high mountain boots, beige combat boots, beige highland combat boots, black combat boots, black padding combat boots, PVC boots, leather slippers and canvas slippers) for the Peruvian army. The footwear</p>

passed the technical specifications approved by Wardrobe and Mattress Technical Committee of the Army Purchase Agency.

**Final outcome**

Army Purchase Agency includes Peruvian national standards for materials and footwear in their purchase processes and performs quality control through specialized or accredited laboratories.



## Economy: Peru

<b>Project or initiative title:</b> Improvement of Wood School Furniture Design
<b>Project summary:</b> <p>The project sought to harmonize all designs of school furniture made of wood in order to have a single standard model that meets the national technical standards for ergonomics, safety and quality, is feasible for domestic MSMEs to produce and has a useful life of at least 03 years. In addition, the project included furniture that required assembly, was stackable, or was made of lesser-known timber species, which are alternatives to those traditionally used in the manufacture of school furniture.</p> <p>In a joint project with the specialists of the Ministry of Education - MINEDU, the school furnishings designs were revised and some improvements were proposed that were implemented through the manufacture of prototypes, then validated with standards through quality control tests. This resulted in the standardization of the 07 sizes of school furniture in wood for the educational levels of initial, primary, secondary and teacher.</p> <p>This standardization resulted in better procurement programs for school furniture, facilitated the adoption of technical standards by MSMEs and increased the useful life of school furniture.</p>
<b>Start date:</b> April 2009
<b>Completion date:</b> December 2009
<b>INITIATIVE DETAILS</b>
<b>Objective</b> <p>To standardize the designs of the school furniture of wood on the part of the Ministry of Education, in accordance with the productive capacity of the MSMEs of the sector and the Peruvian technical standards.</p>
<b>Expected outputs</b> <p>Wooden school furniture of the Ministry of Education standardized for the levels of initial, primary, secondary and teacher, in its 07 sizes.</p>

**Expected outcomes**

Increase in the useful life of school furniture made of wood, at least 03 years.

**Beneficiaries**

At least 879,233 students.

**Work Plan**

- 1) Review of school furniture designs and related Peruvian Technical Standards (NTPs).
- 2) Proposal of a new design for school furniture.
- 3) Proposal of timber species that meet NTP requirements.
- 4) 1st manufacture of prototypes according to new design.
- 5) Prototype observations
- 6) 2nd prototype fabrication with built-in improvements.
- 7) Validation of prototypes by functional tests according to Peruvian Technical Standards made in the Laboratory of Finished Products of CITEMadera.
- 8) Development of Technical specification of validated Prototypes.

**Risks**

Ministry of Education (MINEDU) educational infrastructure specialists do not apply standardized designs.

Regional and local government purchases of wood desks do not adopt standardized designs.

**Monitoring and Evaluation**

The application of standardized designs of school furniture have been adopted in the purchases of the Program "Compra MyPeru" of the National Fund for Compensation and Social Development - FONCODES, through which 103,424 school desks have been acquired plus 390 Mipymes at domestic level among the years 2013 to 2016; that implementation included training courses for the supervisors of the Desk Executive Center (agency in charge of the procurement process), as well as training for MSMEs in the processes of quality assurance both in the raw material and in the manufacturing processes, according to the NTP used in the standardization processes of the designs; These include

species identification, wood moisture measurement, wood quality assessment, ergonomic dimensions, among others.

**Final outputs**

School Furniture standardized by the Ministry of Education for the initial, primary, and secondary levels and for teachers, in their 07 sizes, have the technical files of completed products (validated Prototypes, Construction Plans, Technical Specifications, Cost Structure).

Standardized and validated quality verification procedures for the purchase and manufacture of school furniture.

**Final outcome**

At least 12,500.000.00 USD in Programs of Public Purchases of School Furniture have used the harmonized designs, promoting the quality and application of technical standards in MSMEs.

At least 1,500 MSMEs at a domestic level know and apply technical standards and quality control procedures in their products and processes for the manufacture of school furniture.

## Economy: Philippines

<b>Project or initiative title:</b> Food Innovation Centers in the Philippines
<b>Project or initiative background:</b> <p>The Industrial Technology Development Institute, Department of Science and Technology (ITDI-DOST) Philippines together with various DOST agencies, regional offices and state universities and colleges (SUCs) are involved in the nationwide establishment of several food innovation centers (FIC) in the regions of the economy. The development of FICs by region started in 2011 and was generally aimed at addressing the processing and technical requirements of the Philippine food industry, mainly MSMEs, and was heavily focused on research, development and innovation with subsequent techno-transfer activities. This is being realized through the implementation of three DOST-driven projects, namely: (1) Design and Development of Process Equipment for the Food Processing Firms, (2) HITS: Roll-Out of DOST-Designed Food Processing Equipment to the Regions, and the (3) Development of Competence of the DOST Food Innovation Centers (FICs) and Recognition of Most Innovative Products.</p>
<b>INITIATIVE DETAILS</b>
<b>Objectives</b> <p>To provide food facility for product conceptualization, development and prototyping in support of MSMEs in the various regions of the Philippines.</p>
<b>Methodology</b> <p>This is being realized through the implementation of three DOST-driven projects, namely:</p> <ol style="list-style-type: none"><li>(1) Design and Development of Process Equipment for the Food Processing Firms,</li><li>(2) HITS: Roll-Out of DOST-Designed Food Processing Equipment to the Regions, and</li><li>(3) Development of Competence of the DOST Food Innovation Centers (FICs) and Recognition of Most Innovative Products.</li></ol>

## **Results and Discussion**

The project entitled Design and Development of Process Equipment for the Food Processing Firms was funded by the DOST-High Impact Technology Solutions (HITS) and DOST-Grants-in-Aid (GIA) Program from 2011 to 2013. This project, spearheaded by ITDI in cooperation with the Project Management and Engineering Design Service Office (PMEDSO) and Metals Industry Research and Development Center (MIRDC), promoted locally developed equipment addressing the needs and problems of food processing sector thereby enhancing their performance/competitiveness. A total of seven types of equipment have been designed and their prototypes developed and field-tested including water retort, vacuum packaging, immersion freezer, vacuum fryer, spray dryer, freeze dryer and vacuum evaporator. Of the seven types of equipment, only five were transferred to the regions in the ensuing project with the immersion freezer and vacuum evaporator undergoing design improvement.

An offshoot project, aimed at regional mobilization of the developed food processing equipment from 2013 to 2015 was HITS: Roll-Out of DOST-Designed Food Processing Equipment to the Regions project of ITDI in collaboration with DOST-PMEDSO and MIRDC, which distributed five localized types of equipment to the regional FIC to be promoted and used by food processing MSMEs: vacuum packaging machine, water retort, freeze dryer, vacuum fryer, and spray dryer. This lowered financial barriers to entry for micro- and small-scale food processing entrepreneurs who seek new processes. These machines, which used to be available exclusively as imported products, were made available for interested organizations and individuals through licensing of capable fabricators. To date, the recipient FICs include Region II, IV B, VI, VII, VIII, IX, X, XI, NCR and ITDI main.

Parallel to these projects supporting the established FIC operation, the project Development of Competence of the DOST Food Innovation Centers and Recognition of Most Innovative Products of ITDI and the Philippine Council for Industry and Energy Research and Development (PCIEERD) will strengthen the capabilities of FIC managers and Food Product Development Teams (FPDTs) in three phases. Phase 1 involves detailed training sessions that include product development, food safety and regulations, food packaging, nutrition labeling, product costing and marketing strategies. Phase 2 intends to formulate at least 2,000 product concepts with 200 product prototypes using the DOST designed and developed food processing equipment to serve as models for training of the regional FICs. The last phase encourages excellence in innovation activities among regions through recognition awards and monetary incentives.

## **Beneficiaries**

Industry Partners/Micro, Small and Medium Enterprises (MSMEs).  
Government Institutions.  
Academic Institutions.

## Economy: Chinese Taipei

<b>Project or initiative title:</b>  Sustainability: To support MSMEs continuously using Standardization, Conformity Assessment, Metrology and Accreditation services.
<b>Project summary:</b>  Many economies provide different kinds of incentives to encourage MSMEs to use quality infrastructure services, but when these incentives expire, the MSMEs stop using accredited conformance assessment services. This made it important to try to analyze the problems MSMEs are facing and provide a sustainable solution and help MSMEs to understand the benefits of Standardization, Conformity Assessment, Metrology and Accreditation and encourage MSMEs' involvement in these activities.
<b>Start date:</b> N/A
<b>Completion date:</b> N/A
<b>INITIATIVE DETAILS</b>
<b>Objectives</b>  <ol style="list-style-type: none"><li>1. Analyze the financial issues that MSMEs are facing while adopting Standardization, Conformity Assessment Activities.</li><li>2. Improve MSMEs' understanding.</li><li>3. Create a greater appreciation from MSMEs of quality infrastructure.</li></ol>
<b>Expected outputs</b>  <ol style="list-style-type: none"><li>1. A number of educational programs developed.</li><li>2. Soft loans for MSMEs.</li><li>3. Simplified materials on Quality Management System.</li><li>4. Study on financial value of compliance with Quality Infrastructure.</li><li>5. A number of national or regional government recognition programs (Premium Mark).</li></ol>

<p><b>Expected outcomes</b></p> <p>A sustainable model for educating MSMEs about the benefit of quality infrastructure and encouraging MSMEs to be involved in the conformity assessment activities.</p>
<p><b>Beneficiaries</b></p> <p>MSMEs</p> <p>Regulatory authorities</p> <p>CABs</p> <p>Accreditation Bodies</p>
<p><b>Work Plan</b></p> <p>Training Activities:</p> <ul style="list-style-type: none"> <li>• APEC or APEC members could host regional or national workshops for MSMEs on Standardization and Conformity Assessment Activities.</li> <li>• APEC SCSC could host training session for regulators for standardization, conformity assessment, metrology and accreditation.</li> </ul> <p>Assistance for MSMEs:</p> <ul style="list-style-type: none"> <li>• Soft loan projects initiated by government for MSMEs for helping them adopt Standardization and Conformity Assessment Activities.</li> <li>• Develop simplified materials on Quality Management Systems: APEC SCSC or APEC member provides communication experts to help develop simplified materials.</li> <li>• APEC Handbooks on successful case studies.</li> <li>• Promotion of the value quality infrastructure.</li> <li>• Proceed with a study on the improvement of MSMEs impact on Gross Domestic Product (GDP) and Competitiveness Index.</li> <li>• Design regional or national government recognition program (Premium Mark).</li> <li>• Encourage APEC members to include a list of official government listed suppliers which are accredited or certified.</li> <li>• Encourage APEC members to develop recognition systems and fund them.</li> </ul>

<p><b>Risks</b></p> <p>None</p>
<p><b>Monitoring and Evaluation</b></p> <ol style="list-style-type: none"> <li>1. No. of educational programs developed.</li> <li>2. No. of MSMEs graduated from educational programs.</li> <li>3. No. of MSMEs including the investment in Quality Infrastructure into their budgets /plans.</li> <li>4. No of MSMEs that apply for the soft loans.</li> <li>5. No of MSMEs that were approved for the soft loans.</li> <li>6. No of MSMEs with the government mark on quality.</li> <li>7. No. of MSMEs that are included in the value supply chain of exporters.</li> <li>8. No. of MSMEs using/having used the materials.</li> <li>9. No. of materials developed.</li> </ol>
<p><b>Final outputs</b></p> <p>N/A (As this is an initiative to be developed)</p>
<p><b>Final outcome</b></p> <p>N/A (As this is an initiative to be developed)</p>



# PHOTO GALLERY



## SCSC Supporting MSMEs Trade Facilitation Through Standardization Activities

Lima, 16 August 2016





**Speakers of the Workshop “Supporting Micro, Small and Medium Enterprises Trade Facilitation through Standardization activities”**

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