

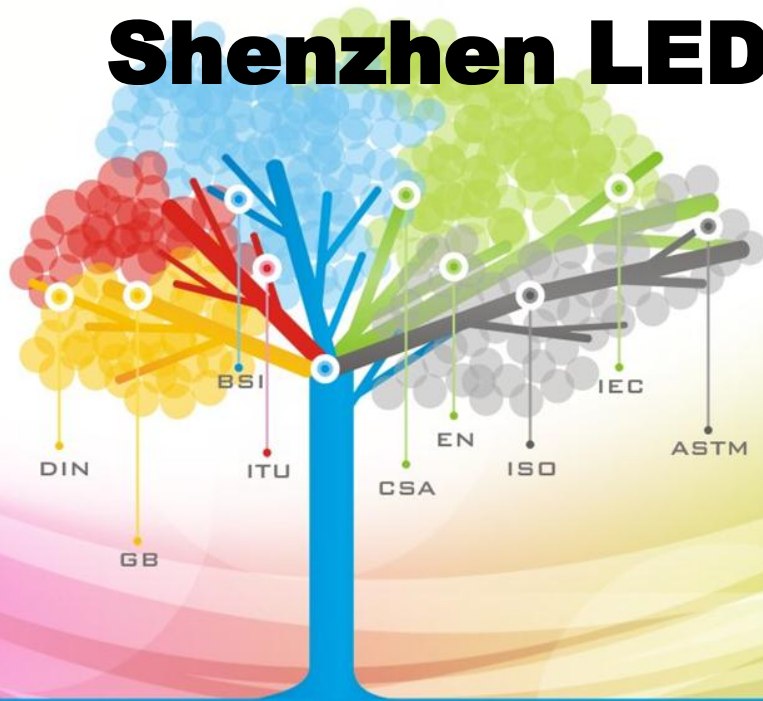


深圳市标准技术研究院  
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Standardization Application Research Centre of  
Shenzhen Institute of Standards and Technology

# Non-economic benefits of standards

## Shenzhen LED Standards Alliance



# Summary

- **Background** and **objectives** of the project
- **Four steps** to conduct the assessment
- **Conclusion** of the project

# Background

## Objective

- Assess the non-economic benefits of **alliance standards** for LSA members

## Basis

- ISO methodology

## Duration

- June 2013-August 2013

# Four steps to conduct this assessment

1

## Understand the value chain

- Clarify industry boundaries
- Understand the industry value chain
- Select assessment samples
- Analyze the company value chains

2

## Identify the impacts of standards

- Identify the functions that are most affected by standards
- Determine the standards used in the key functions

3

## Select the key operational indicators

- Identify the key value drivers
- Select the key operational indicators
- Describe specifically how standards affect each key operational indicators

4

## Quantify the benefits of standards

- Quantify the most important impacts of standards
- Calculate the non-economic benefits



# Step 1 Select assessment samples

## Focus on

- LED lighting industry

## Samples

- 2 manufacturers, 3 suppliers, 1 consumer in LSA

## Based on

- Standards consciousness
- Strong standards enforcement

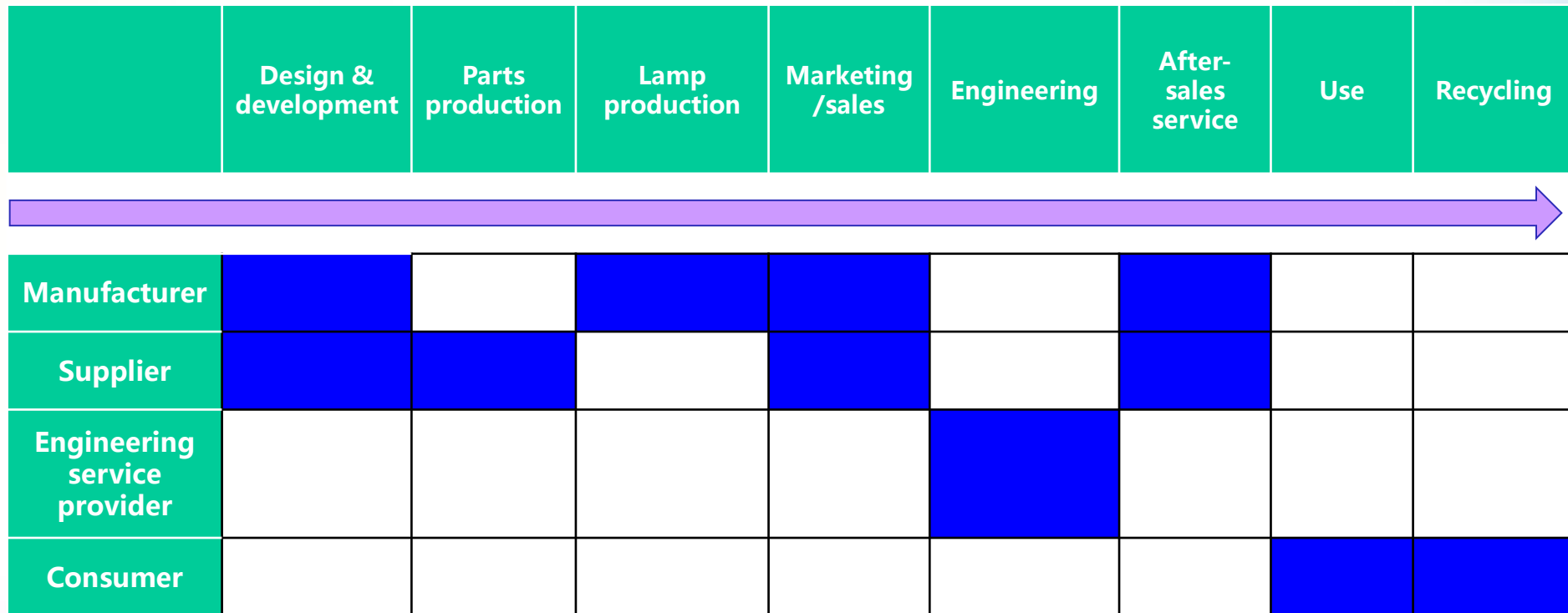
## Through

- Questionnaires and interviews

LSA member type		Company name
Manufacturer	Lamps	Shenzhen Bang-Bell Electronics Co., Ltd.
	Lamps	Shenzhen SED Baili Electric Co., Ltd.
Supplier	Power supply	Shenzhen Moso Power Supply Technology Co., Ltd.
	Power supply	China Great Wall Computer Shenzhen Co., Ltd.
	Intelligent modules	China Wisest Technology Co., Ltd.
Consumers		Shenzhen lighting environment management center

# Step 1 Analyze the value chain (1)

## Industry value chain



# Step 1 Analyze the value chain (2)

## LSA value chain

	Manufacturer	Supplier	Consumer
Management & administration			
R&D			
Procurement			
Production			
Logistics			
Marketing & sales			
After-sales service			
Engineering			
Usage and maintenance			

# Step 2 Select key value drivers

LSA member type	Key value drivers
Manufacturer & Supplier	More potential image of the industry
	Higher quality products
	Enhanced customer confidence
Consumer	Reduce fiscal spending
	Provide better lighting environment for public
	Reduce manpower and energy consumption



# Step 2 Identify the intensity of the impacts from standards

	Manufacturer	Supplier	Consumer	Note
Management & administration	Low impact	Low impact	Low impact	<ul style="list-style-type: none"> <li>Technical standards are the basis for product development, and principally affect production enterprises in the R&amp;D function;</li> <li>Standardized products have a significant impacts on the Usage and Maintenance function.</li> </ul>
R&D	High impact	High impact	Low impact	
Procurement	Medium impact	Medium impact	Medium impact	
Production	Medium impact	Medium impact	Low impact	
Logistics	Low impact	Low impact	Low impact	
Marketing & sales	High impact	High impact	Low impact	
After-sales service	Low impact	Low impact	Low impact	
Engineering	Low impact	Low impact	Medium impact	
Usage and maintenance	Low impact	Low impact	High impact	

High impact
  Medium impact
  Low impact

# Step 2

## Determine the scope of assessment

LSA member type	Scope
Manufacturer	R&D
	Marketing & sales
Supplier	R&D
	Marketing & sales
Consumer	Usage and maintenance

# Step 3 Find out the key standards

	Standards reference	Title
<b>Manufacturer</b>	SQL/LSA 001	Shenzhen LED lighting products technical specification and energy efficiency requirements
	SQL/LSA 003	Interchange between LED lights generic interface and key parts
<b>Power supplier</b>	SQL/LSA 001	Shenzhen LED lighting products technical specification and energy efficiency requirements
	SQL/LSA 002	LED street light control gear technical specification
	SQL/LSA 003	Interchange between LED lights generic interface and key parts
<b>Intelligent module supplier</b>	SQL/LSA 003	Interchange between LED lights generic interface and key parts
	SQL/LSA 004	LED Intelligent street lighting technical specifications
<b>Consumer</b>	SQL/LSA 005	LED lighting field test methods for Road lighting
	SQL/LSA 001	Shenzhen LED lighting products technical specification and energy efficiency requirements

# Step 3

## Select key operational indicators

LSA member type	Function	Operational indicators
Manufacturer & Supplier	R&D	Industry order
		Product quality
		Resource depletion
		Staff professionalism
	Marketing & sales	Market influence
		Customer confidence
Consumer	Usage and maintenance	Financial expenditure
		Resource depletion
		Energy
		Environment
		Public satisfaction

# Step 4 Specify the impact in detail

## For production enterprises

Function	Operational indicators	Definition of indicators & Impact of standards
R&D	Industry order	<ul style="list-style-type: none"><li>• Decrease in product variety</li><li>• Interface consolidation</li></ul>
	Resource depletion	<ul style="list-style-type: none"><li>• Decrease in product variety</li></ul>
	Product quality	<ul style="list-style-type: none"><li>• Decrease in product variety</li><li>• Reallocation of resources</li></ul>
	Staff professionalism	<ul style="list-style-type: none"><li>• Decrease in product variety</li></ul>
Marketing & sales	Market influence	<ul style="list-style-type: none"><li>• Consensus-based standards have strong public trust</li><li>• Standards are used as a tool for promoting</li></ul>
	Customer confidence	<ul style="list-style-type: none"><li>• More convenient to compare the products</li><li>• Active in standardization shows the strength of a company</li></ul>

# Step 4 Specify the impact in detail

## For Consumer

Function	Operational indicators	Definition of indicators & Impact of standards
Usage and maintenance	Fiscal expenditure	<ul style="list-style-type: none"><li>• Reduction in the maintenance rate</li><li>• Less power consumption</li></ul>
	Resource depletion	<ul style="list-style-type: none"><li>• Less maintenance time, manpower and material resource</li></ul>
	Energy saving	<ul style="list-style-type: none"><li>• First electricity saving</li><li>• Secondary electricity saving</li></ul>
	Environment	<ul style="list-style-type: none"><li>• Reduce carbon emissions</li></ul>
	Public satisfaction	<ul style="list-style-type: none"><li>• More comfortable lighting environment</li></ul>

# Step 4 Quantify the impact

## For production enterprises

	Function	Operational indicators	Quantification
Manufacturer & Supplier	R&D	Industry order	60%
		Resource depletion	20%
		Staff professionalism	5%
	The total impact derived from standards on R&D function estimated by interviewees is: <b>60%</b>		
	Marketing & sales	Market influence	50%
		Customer confidence	100%
The total impact derived from standards on marketing/sales function estimated by interviewees is: <b>50%</b>			

# Step 4 Quantify the impact

## For Consumer

- **Energy**

Annual energy saving is up to  $21,754 \times 10^3$  kW.h , annual energy saving rate is about **54%**;

- **Fiscal expenditure**

Annual fiscal expenditure reduce  $17,403.2 \times 10^3$  Yuan;

- **Environment**

An annual reduction of **12,943.29 tons** of carbon dioxide, **98.77 tons** of sulfur dioxide, **84.87 tons** of nitrogen oxides and **41.21 tons** of soot emissions.



# Conclusion

- **LSA** production enterprises

Function that standards affect most : **R&D, Marketing & sales**

Non-economic benefit of standards : about **41%**

- **LSA** Consumer

Function that standards affect most : **Usage and maintenance**

Non-economic benefit of standards : about **54%**

An annual reduction of **12,943.29 tons** of carbon dioxide,  
**98.77 tons** of sulfur dioxide, **84.87 tons** of nitrogen oxides  
and **41.21 tons** of soot emissions.

# Thank you!



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