

Growth Strategy for Lighting Industry

LIGHTING VISION

2030

Improving Lighting Culture and
Contributing to the Global Environment



Next generation lighting
harmonizing with Society 5.0

Lighting 5.0



Japan Lighting Manufacturers Association

Vison

Improving Lighting Culture and Contributing to the Global Environment

JLMA will expand and accelerate our efforts to achieve SDGs while aiming to create a new lighting culture and contribute to decarbonized society through the diffusion of "Lighting 5.0" which is Next generation lighting harmonizing with Society 5.0.

* "Lighting 5.0" is the concept of lighting of the new era advocated and defined by JLMA.

JLMA has defined "Lighting 5.0" as next generation lighting for "Society 5.0", which is connected to a variety of things and matters, mainly people.

"Lighting 5.0" is not only a conventional lighting to obtain a brightness, but it is a high-value-added lighting that is "healthy," "safe," "comfortable," and "convenient."

Mission

JLMA will promote to wide use of human friendly and environment friendly lighting for realizing of safer and more comfortable living environment and contribute the global environment.

JLMA will contribute to the growth of the lighting industry and making fair and healthy lighting market through our commitment to the Government's growth strategy sharing and exchanging information and negotiation to domestic and overseas stakeholders, as a representative of the lighting industry.

Target by 2030

Lighting 5.0 composition ratio
shall be aimed 40% share of
luminaires shipment.

Reduction of Greenhouse
gas emission shall be aimed 46%

(From based on 2013 , common target of electric and electronic industry of Japan toward carbon neutral)

Reduction of Power consumption
shall be aimed 60%

(From based on 2013 , Improving system efficacy of lighting equipment and utilizing control system)

Roadmap

1 Responding to Paradigm Shifts through "Connected Industries"

- Improvement of a business environment for "Lighting 5.0"
- Organizational restructuring of JLMA in response to the paradigm shift

2 Improving lighting qualities and contributing to SDGs

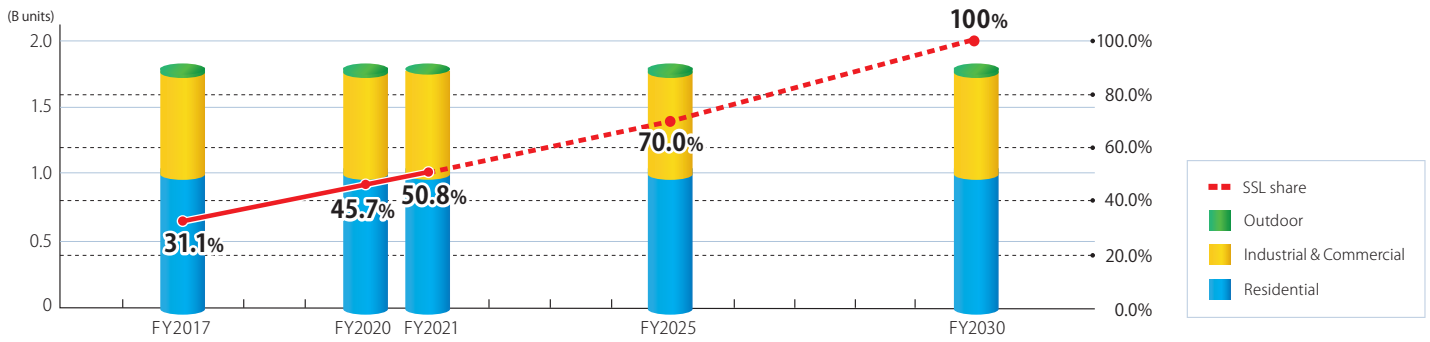
- Accelerating to improve SSL share in stock luminaire market to contribute global environment
- Creating new spatial value by improving lighting qualities
- Studies of fundamental technologies to create new spatial value

3 Responding to Globalization and Borderless Economy

- Improving business environment for overseas market expansion
- Improving of brand value of Japanese lighting products
- Maintaining and Improving fair and healthy market in Japan

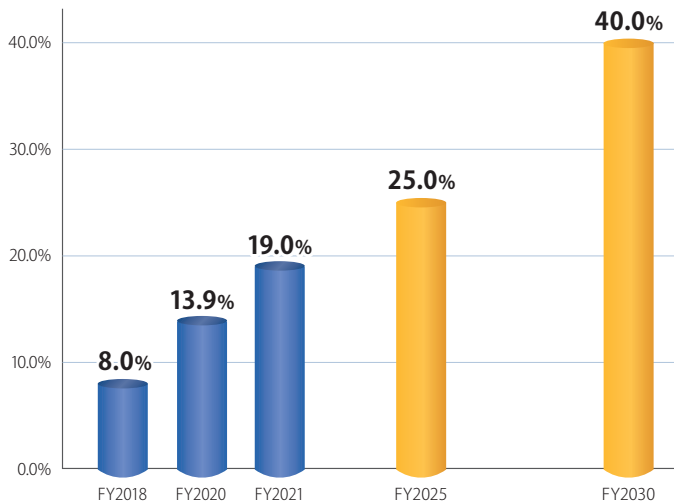
Trend of lighting market in Japan and issues to achieve targets

■ SSL luminaires share trend and target (100% by 2030)



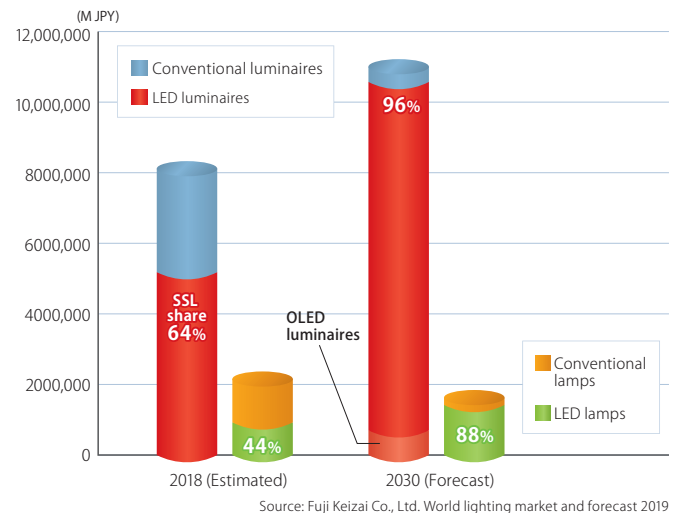
- JLMA estimates **1.81 billion units** of luminaires are installed in Japan from our survey in 2020.
- 1.01 billion units are for residential use, 0.76 billion units are for industrial and commercial use and 0.04 billion units are for outdoor use.
- Estimated SSL luminaires share was 45.7% (Residential 47%, Industrial and commercial 44%, Outdoor 56%) in 2020
- Estimated SSL luminaires share was 50.8% (Residential 52%, Industrial and commercial 48%, Outdoor 61%) in 2021

■ Target of "Lighting5.0" luminaires share harmonizing with Society5.0



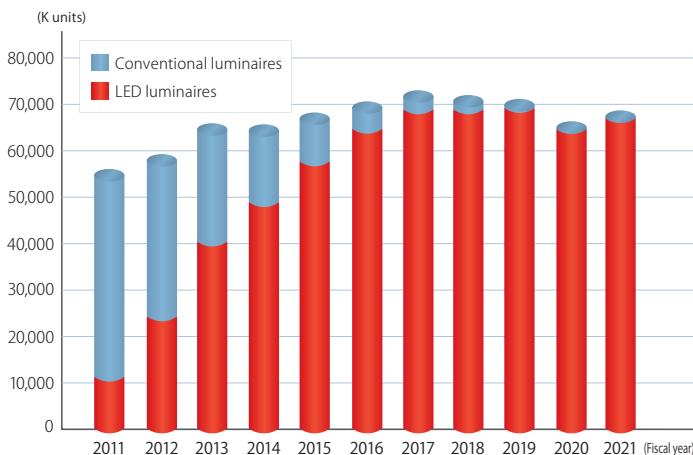
- Promote renewal to LED luminaires and create new businesses through the enlargement of high value-added products such as "Lighting5.0".

■ Trend of worldwide lighting market and forecast



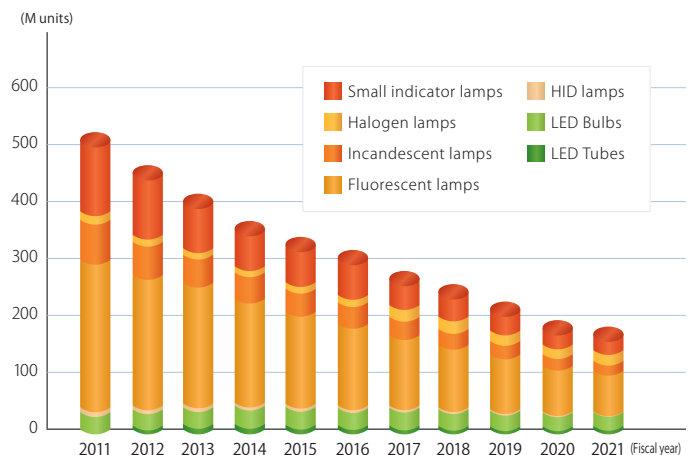
- Support to members who entering business of new developing countries.
- Support to members who entering high-value-added lighting market in overseas.
- Market monitoring to avoid poor quality products selling

■ Trend of Luminaires shipment (quantity) in Japan



- Luminaire shipment in 2020 was dropped down due to COVID-19 pandemic.
- Need to increase shipment through replacement of conventional luminaires to LED luminaires and renewal of early type of LED luminaires.

■ Trend of Lamps shipment (quantity) in Japan



- Shipment of conventional lamps are reducing due to SSL luminaires installation increasing.
- Need to create new circular economy business model.
- Conventional lamps business will be restructured.

1 Responding to Paradigm Shifts through "Connected Industries"

Business environments such as standardization of products by collaboration with other industries shall be established and organizational structure of JLMA shall be made adapting to them, in order to respond to various business models by "Connected Industries" using advanced technologies and to change to the smart society (Society5.0).

1. Improvement of a business environment for "Lighting 5.0"

- 1-1-1. Promotion of standardization regarding "Lighting 5.0"
- 1-1-2. Making collaboration across industries centered on IoT, AI and big data

2. Organizational restructuring of JLMA in response to the paradigm shift

- 1-2-1. Promotion of new member participation from different industries
- 1-2-2. Organizational restructuring of committees and secretariats in response to "Lighting 5.0" policy.

2 Improving lighting qualities and contributing to SDGs

SSL share in installed stock luminaire market shall be aimed to 100% by 2030, which is also government target, in order to achieve an international commitment to reduce greenhouse gas emissions by 46% (compared with 2013 levels) and to achieve to carbon neutral by 2050.

New spatial value harmonizing with Society 5.0 shall be provided with creating new functions and improving lighting qualities through dissemination of "Lighting 5.0".

1. Contributing to the global environment by accelerating replacement installed stocks to SSL luminaires

- 2-1-1. Visualization of trends in the SSL luminaires share in installed stock
- 2-1-2. Promotion of luminaires replacement and renewal activities by market sector

2. Creating new spatial value by improving lighting qualities

- 2-2-1. Enlargement of high-value-added products through "Lighting 5.0"
- 2-2-2. Contribution to build resilient and sustainable society through "Area Disaster Prevention Lighting Systems"

3. Studies of fundamental technologies to create new spatial value

- 2-3-1. Studies for realizing of better lighting environments (CIE activities)
- 2-3-2. Research on lighting systems (smart cities, connecting to HEMS, new light sources, etc.)

3 Responding to Globalization and Borderless Economy

Japan is the country possessing advanced energy saving and environment friendly technology and is also a country that has produced Nobel Prize winners in the field of white LEDs.

Japanese lighting industry also has advanced energy saving technologies and excellent lighting quality, and it is required to provide these technologies to the global market, especially to the rapidly developing Asian countries. JLMA will prepare an environment to supply Japanese lighting products and technologies to these markets.

Since LED lighting products have become popular globally, LED lighting products have been trading globally and borderless.

JLMA implements market monitoring to avoid importing LED lighting products which is not compiled to Japanese regulations.

1. Improving business environment for overseas market expansion

- 3-1-1. International exchange with government sector and industrial sector of foreign countries.
- 3-1-2. Responding to international environmental issues and trade issues

2. Improving of brand value of Japanese lighting products

- 3-2-1. Collecting of local information and promoting of Japanese lighting products through participation in overseas exhibitions
- 3-2-2. Participating in overseas events and business matching activities

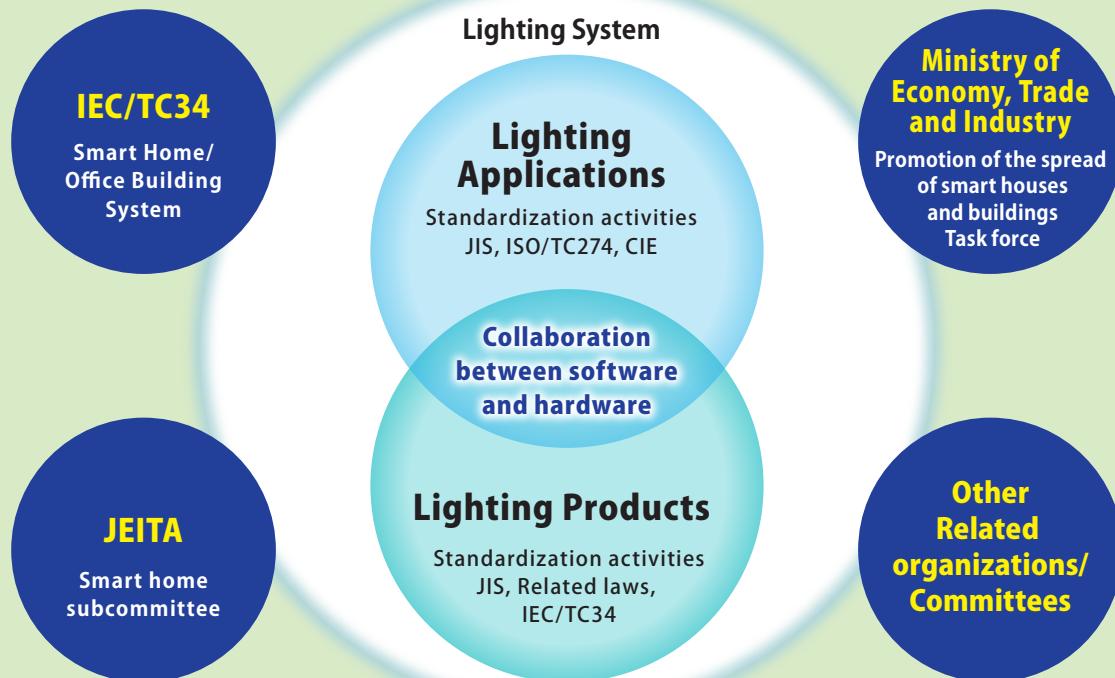
3. Maintaining and Improving fair and healthy market in Japan

- 3-3-1. Implementation of market monitoring such as trial buying tests
- 3-3-2. Technical support for photometric laboratories and promotion of standardization activities

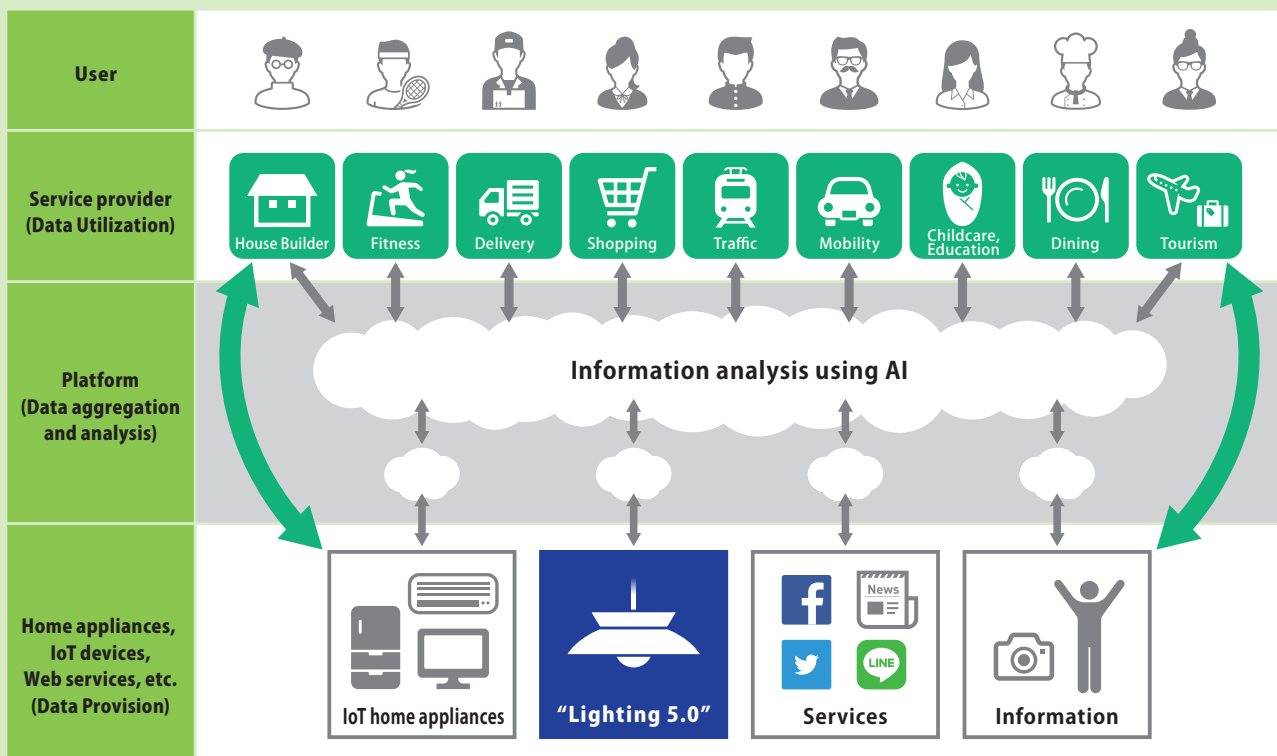
1 Responding to Paradigm Shifts through "Connected Industries"

■ Promotion of standardization for "Lighting 5.0" harmonizing with Society 5.0

Extended systemization utilizing advanced technologies such as IoT, AI, Cloud computing, etc.



■ Collaboration across industries centered on IoT, AI, and Big data

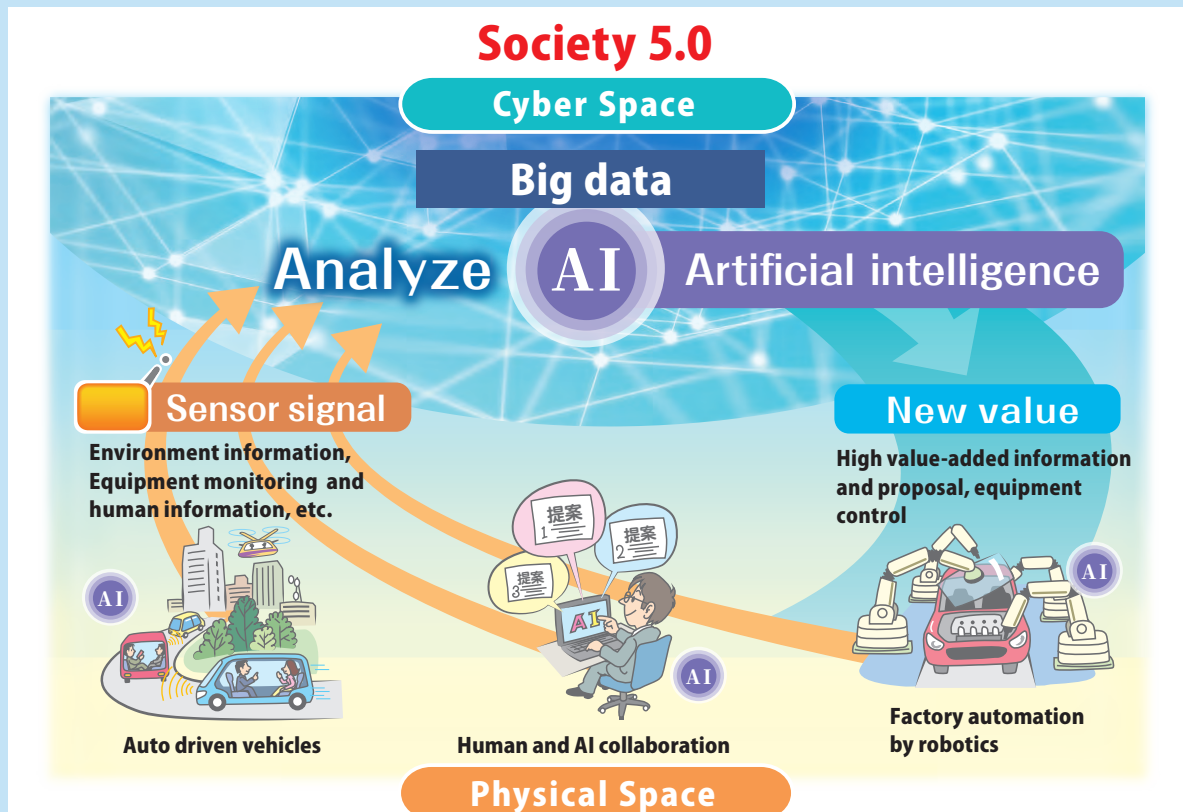


Source: METI "Smart Life Policy" (February 2018) with JLMA modification

2 Improving lighting qualities and contributing to SDGs

■ About Society 5.0 (The society that Japan aims for as advocate forth by Japanese government)

A human-centered society that achieves both economic development and resolution of social issues through a system that highly integrates cyberspace (virtual space) and physical space (real space).



■ Creating new spatial value by improving lighting qualities harmonizing with Society 5.0

Next generation Lighting harmonizing with Society 5.0 **Lighting 5.0**

Lighting 5.0 is defined as human-friendly, safe, secure, convenient, and high-quality lighting that creates comfortable lifestyles matches to diverse environments and by connecting to various things and things that beyond fields and industries.

Concept of "1.0 to 4.0" in "Lighting 5.0"

"1.0" is the first light that mankind acquired (flames such as torches, candles, oil, and gas lamps), "2.0" is Edison's incandescent light bulb, "3.0" is a discharge lamp, and "4.0" is LED lighting.

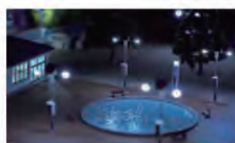
4 values provided by "Lighting 5.0"

Wellness



Lighting that maintains and improves biological functions, that helps elderly people or that helps getting a good night's sleep.

Safety & Security



Lighting that automatically turns on during a power failure, that watches families far away or that detects and warns of disasters.

Comfort



Lighting that dimming and color tuning according to the life scene, that lets you feel natural light or that with functions such as speakers and projectors.

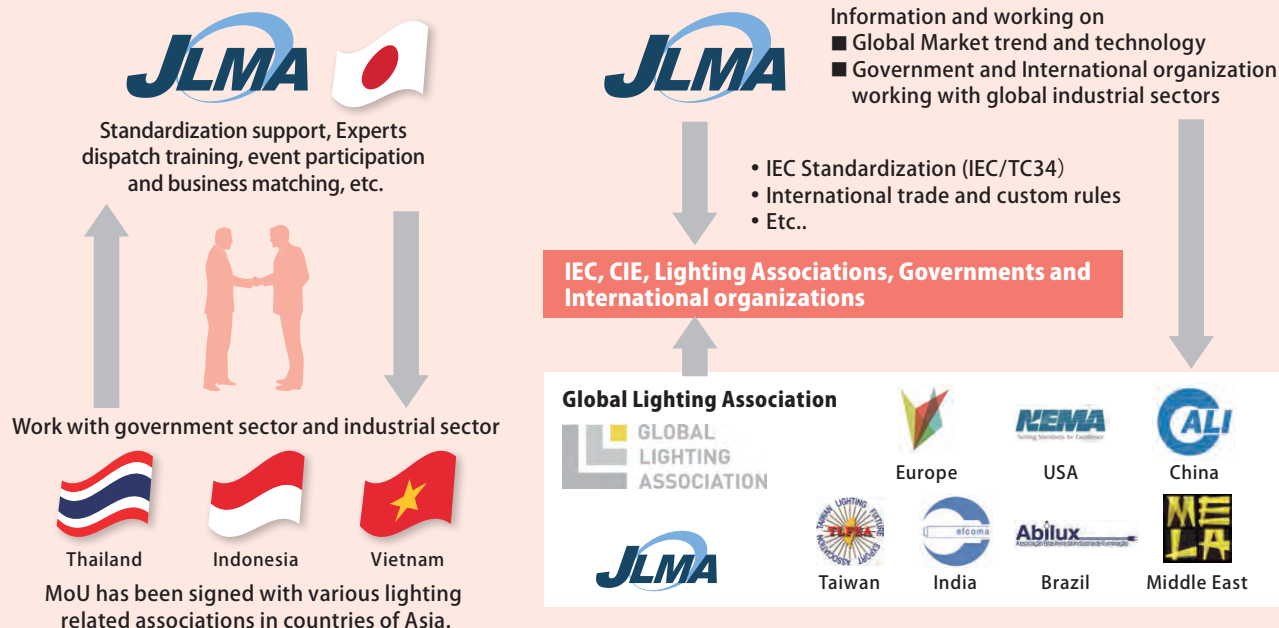
Convenient



Lighting that detects people and turns on/off without contact, that detects the surrounding light and automatically adjusts the light or linked to the schedule.

3 Responding to Globalization and Borderless Economy

■ International exchange with government sector and industrial sector of foreign countries.



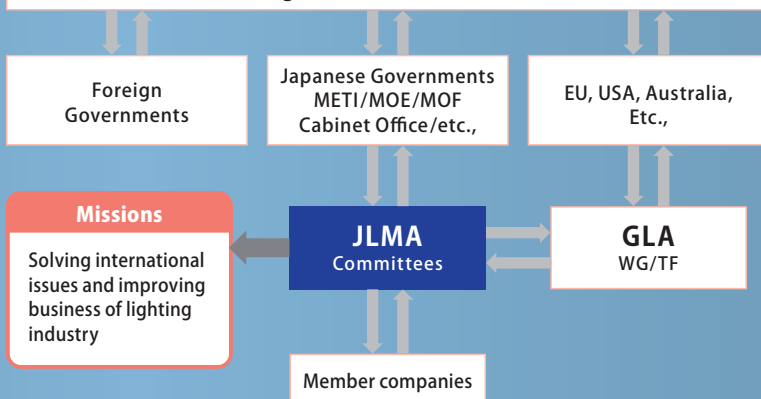
■ Improving of brand value of Japanese lighting products

Participation to overseas exhibition

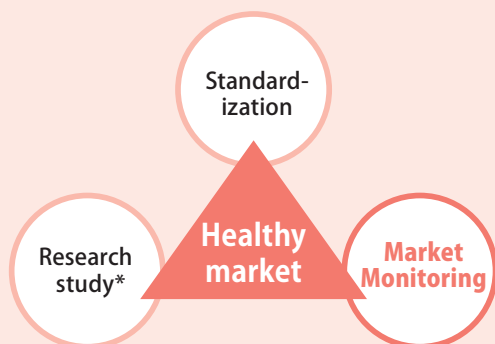


■ Working for global environmental issues and trading issues

UNFCCC (United Nations Framework Convention on Climate Change)
 UNEP (United Nations Environment Programme)
 WCO (World Customs Organization)



■ Maintaining and improving fair and healthy market in Japan



Increasing **global and borderless trade** of LED lighting products

Decreasing production of conventional lighting products

Increasing import products not complying Japanese regulation

Implementation of market monitoring such as trial buying tests

* Research study of evaluation method for lighting and visual sensation

Next generation lighting
harmonizing with Society 5.0



Profile of the Japan Lighting Manufacturers Association

The Japan Lighting Manufacturers Association (JLMA) is conducting standardization, dissemination, certification business and international activities in order to contribute to appropriate development of lighting industry (light sources, luminaires, control devices, and components) and related industry and to improve assurance of people's safety and livelihood culture.

Main Activities

Dissemination Activities	Standardization Activities	Certification Business	International Activities
<ul style="list-style-type: none">■ Public-relations activity■ Information transmission■ Statistical survey■ Cooperation with related organizations	<ul style="list-style-type: none">■ Participation to domestic standardization■ Participation to international standardization■ Enacting and revising JLMA technical standards	<ul style="list-style-type: none">■ Certificate of exit light■ Self-evaluation service of emergency light■ Voluntary registration services for recessed luminaires (S-type)■ Approval for luminaires for public facilities	<ul style="list-style-type: none">■ Support for international interaction■ Support for international standardization■ Promotion of GLA activities



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