Visual Communications Business Strategy

October 11, 2016
Seiko Epson Corporation

Contents

Projectors

Smart eyewear

New laser projectors

EB-L1300U
8,000 lm

EB-L1505U
12,000 lm

EB-L25000U
25,000 lm

Still Driving the Projector Market

Epson Projectors that Popularized Presentations

EPSON
EXCEED YOUR VISION

1989

The **VPJ-700**, a pioneering 3LCD projector

1994

The ELP-3000, the projector that pioneered the projector market

Developed the projector market, and made presentations a part of business culture

Advantages of Projectors

◆ Ability to flexibly render images
  - ➢ Adjust to any screen size
  - ➢ Project images of any shape (aspect ratio)
  - ➢ Project on almost any surface
  - ➢ High mobility and installation flexibility

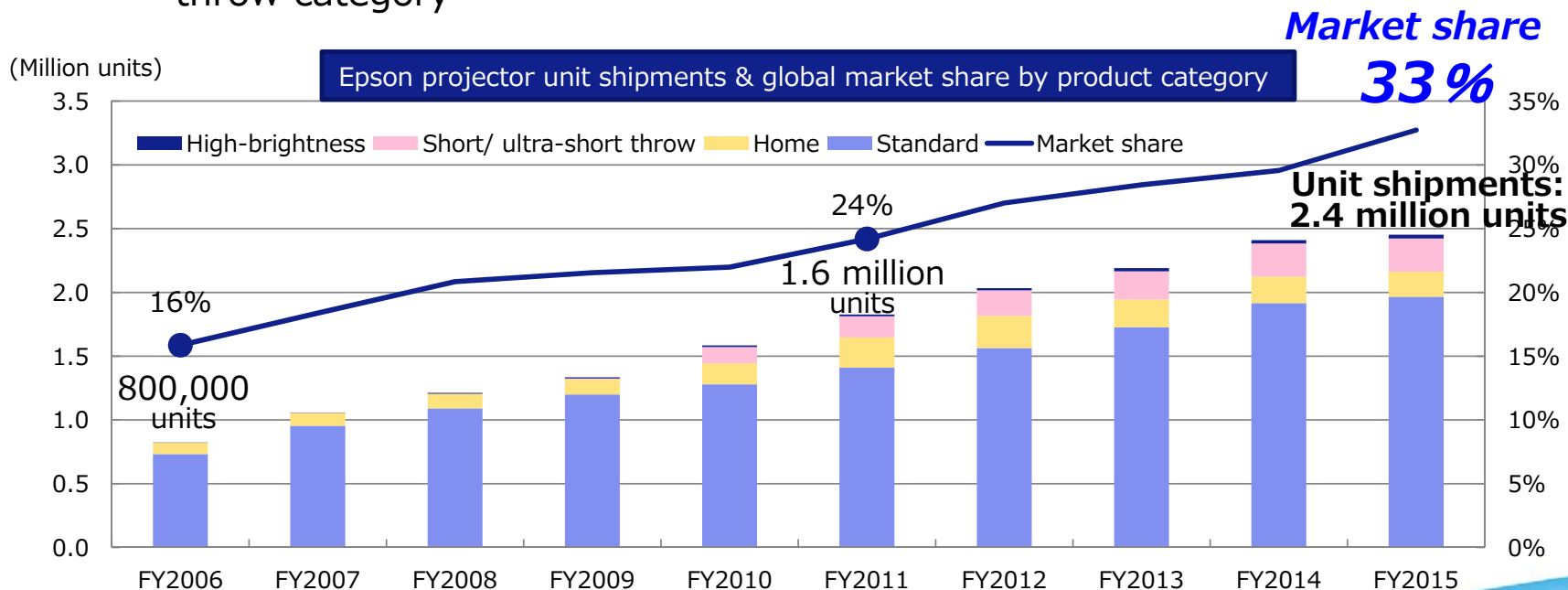◆ The bigger the screen, the greater the energy efficiency advantage

Visual Communications Business Segments

EPSON
EXCEED YOUR VISION

◆ Uses expanded as performance increased
  ➢ First half of the 1990s: VGA, 300 lm Today: SVGA, 3,000 lm to WUXGA、25,000 lm

◆ Reinforced the product portfolio as the market expanded

	Picture size	Business	Schools	Stores	Events	Other		Place used	Home
1990	120-300"	High-brightness						Theater room	Home
1995									
2000	80-150"	Ultra-short & short throw		Incubation categories (signage, lighting, etc.)				Living room	
2005									
2010	-80"	Standard				Smart eyewear B2B		Various places	Smart eyewear B2C
2015									

Epson Projector Unit Shipments and Share

EPSON
EXCEED YOUR VISION

◆ Cumulative unit shipments: 20 million+ units (as of the end of August 2016)

  ➢ Annual unit shipments continue to expand

  ➢ For the past few years we have strategically expanded ultra-short and short throw category

Market share
33%

(Million units)

Epson projector unit shipments & global market share by product category

■ High-brightness ■ Short/ ultra-short throw ■ Home ■ Standard — Market share

16%

24%

1.6 million units

800,000 units

Unit shipments:
2.4 million units

FY2006 FY2007 FY2008 FY2009 FY2010 FY2011 FY2012 FY2013 FY2014 FY2015

*Share of projectors with 500 lumens or more. Source: Futuresource Consulting Ltd.

7

Vision for the Future of Visual Communications

Epson 25 Corporate Vision

Creating a new connected age of people, things and information with efficient, compact and precision technologies.
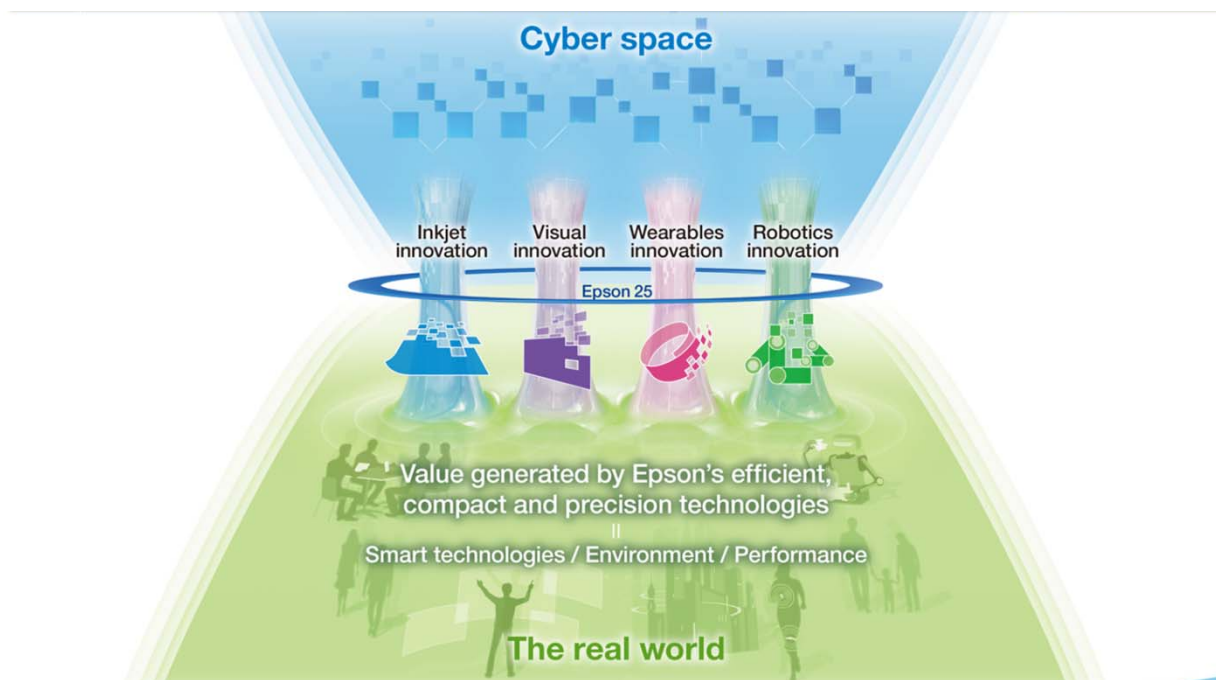
Epson 25 Corporate Vision: Visual Innovation

EPSON
EXCEED YOUR VISION

Refine original microdisplay and projection technologies, and create outstanding visual experiences and a natural visual communications environment for every aspect of business and lifestyles.

Visual innovation

3LCD

Signage

Ultra-high brightness technologies

Lighting

Smart eyewear

Laser light source and other optical control technologies
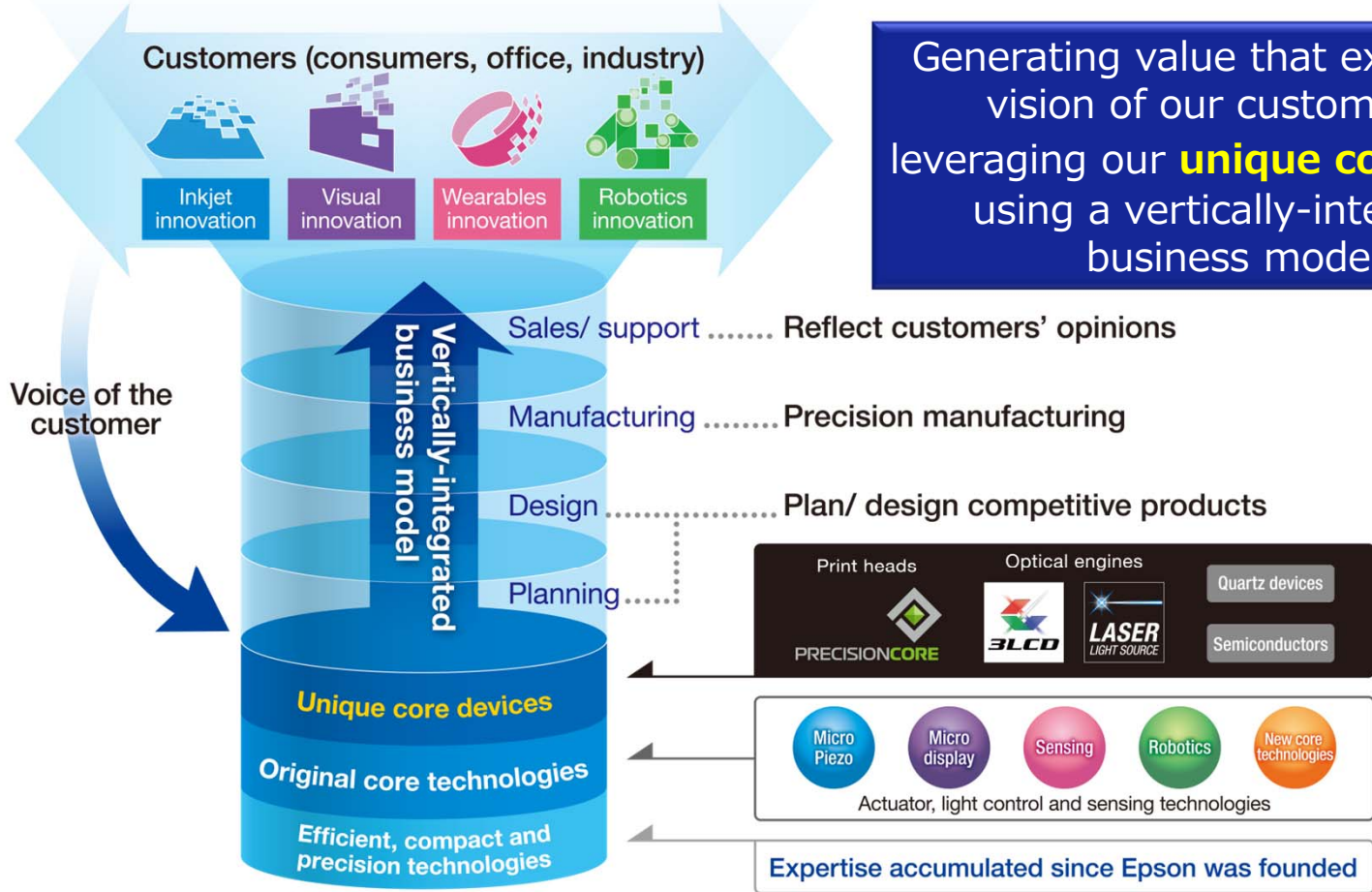
Lighter, more compact; sensing and AR technology

Epson's Projector Business Strengths

Epson's Vertically Integrated Business Model

Customers (consumers, office, industry)

Inkjet innovation | Visual innovation | Wearables innovation | Robotics innovation

Generating value that exceeds the vision of our customers by leveraging our **unique core devices** using a vertically-integrated business model.

Voice of the customer

Vertically-integrated business model

Sales/ support .... Reflect customers' opinions

Manufacturing .... Precision manufacturing

Design .... Plan/ design competitive products

Planning ......

Print heads — PRECISIONCORE
Optical engines — 3LCD, LASER LIGHT SOURCE
Quartz devices
Semiconductors

Unique core devices

Original core technologies

Efficient, compact and precision technologies

Micro Piezo | Micro display | Sensing | Robotics | New core technologies
Actuator, light control and sensing technologies

Expertise accumulated since Epson was founded

◆ Core technologies & core devices for gorgeous images

High-Temperature Polysilicon ("HTPS") TFT liquid crystal panels
- **High resolution**
  - ✓ e.g. 1920 x 1080 pixels on 0.61" (~1.5 cm) diagonal panel
- **High optical efficiency**
- **Long lifespan**
  - ✓ Inorganic alignment layer for high environmental resistance
- **Epson-produced for stable quality**

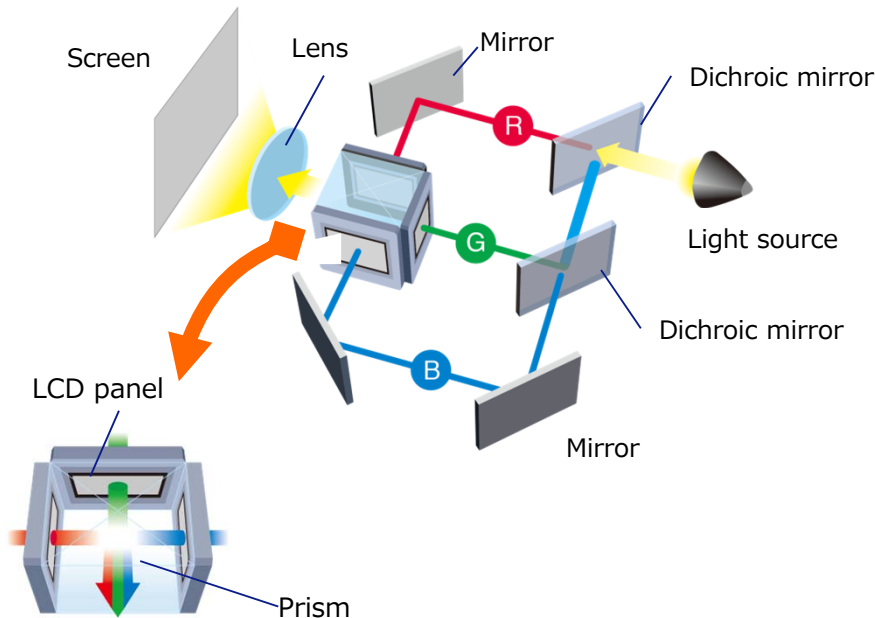**3LCD system optical design engineering & manufacturing technology**
- **Optical component unit development capability**
- **Optimum combinations**
- **Miniaturization & energy efficiency**

HTPS TFT liquid crystal panel

Magnified Sectional View

Microlens

Inorganic alignment layer

Liquid crystal

HTPS TFT

6 μm
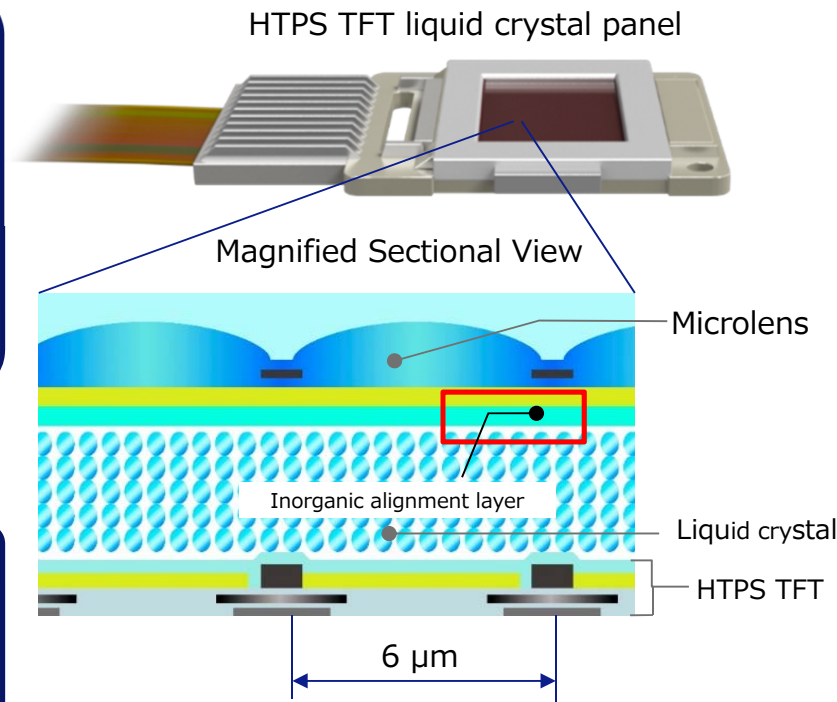
How Epson Projectors Work

3LCD, 3-chip optical engine

The 3 primary colors (RGB) are combined and projected on a screen

Screen
Lens
Mirror
Dichroic mirror
R
Light source
G
Dichroic mirror
B
LCD panel
Mirror
Prism

Other major projection system

RGB are displayed sequentially and combined with black-and-white images for a certain amount of time

Reflective mirror
Lens
Screen
Color wheel
Light source
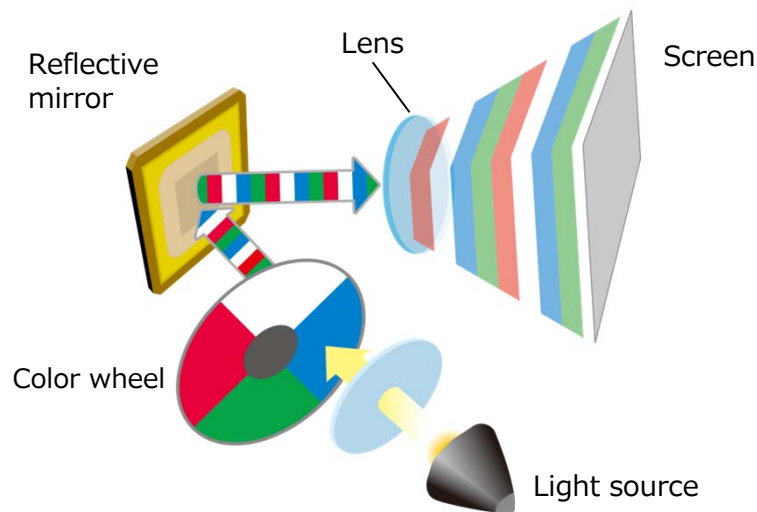
Advantages of Epson Projectors

◆ Brighter, sharper, more natural-looking images than competing technology

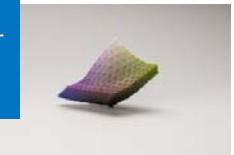**3LCD, 3-chip optical engine**

Other major projection system

Images using the same effective white brightness

3LCD projector gamut

Gamut of other major projection system

No color breakup

Color breakup

Artificially created image

◆ Brightness
  ➢ Colors up to 3X brighter[*1]

◆ Gamut
  ➢ Up to 3X wider color gamut, with excellent color reproduction & gradations[*2]

◆ Movie support
  ➢ Smooth playback of even fast-moving images.
    No color breakup.

Note: The gamut volumes of these 3LCD projectors and other major projection systems, such as 1-chip DLP, were generated using the brightest mode possible. Volume was measured in 3D in the CIE L*a*b* coordinate space.

*1 Compared with other major projection system. Color Brightness (Color Light Output) measured in accordance with IDMS 15.4. Color Brightness will vary depending on usage conditions. Leading 3LCD projectors compared to leading 1-chip DLP projectors, based on NPD data for June 2013 through May 2014 and PMA Research data for Q1 through Q3 2013.

*2 Compared with other major projection system. Gamut volume of leading 3LCD projectors compared to leading 1-chip DLP business and education projectors, based on NPD data for June 2013 through May 2014. Volume is measured in 3D in the CIE L*a*b* coordinate space.

New Added Value Using Peripheral Technologies

EPSON
EXCEED YOUR VISION

◆ Innovations in communication using interactive technology

Using tables and other surfaces as interactive displays

Finger touch-enabled interactive functionality

PC-free interactivity

◆ High added value with applied camera technology

Easy Image Alignment

Auto-correction of picture quality & colors

Auto color correction for multi-projector displays

Maintain high-quality with auto color correction

Camera for auto correction

Easily combine multiple images

16

Extensive Lineup

◆ Extensive lineup for every size and type of venue
  ➢ 364 models in 60 series worldwide (as of the end of August 2016)
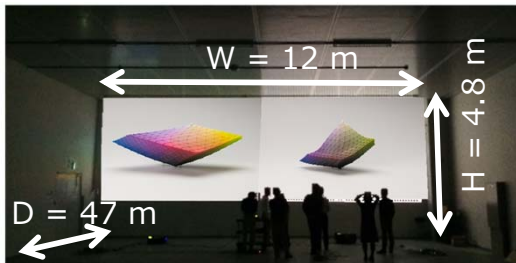◆ Strong trust relationships with customers and sales channels

These are only some of the models in Epson's lineup. Epson products and services vary by region.

Home			Business					
High quality	Standard	Built-in DVD player	Basic	Mobile	Ultra short-throw desktop	Enhanced specs	Wall-mountable ultra-short throw	Bright permanent installation

Education					Large venues and events			
Enhanced specs	Ultra short-throw desktop	Wall-mountable ultra-short throw	Ultra short-throw desktop	Wall-mountable ultra-short throw	EB-L25000U	EB-L1000 Series	EB-Z Series	EB-G7000 Series

R&D

◆ Sustained creation of high-performance projectors from Epson's R&D departments

  ➢ Develop core devices & projectors
    ✓ Develop devices-based vision of end-user requirements and product trends
    ✓ Develop projectors that make the most of device characteristics
    ✓ Synergistic effect produced by consolidating in a single location

Projector development

Products make the most of device characteristics

Device development

Develop devices-based vision of end-user requirements and product trends

Expansive communication space
Most depts. & personnel consolidated on one floor

W = 12 m
H = 4.8 m
D = 47 m

◆ Overwhelming lead in number of registered patents*

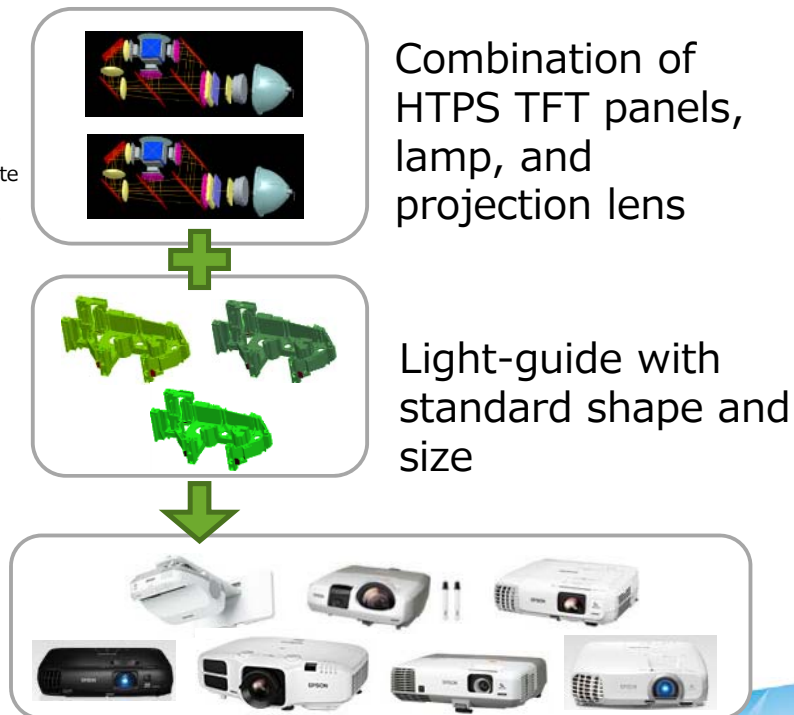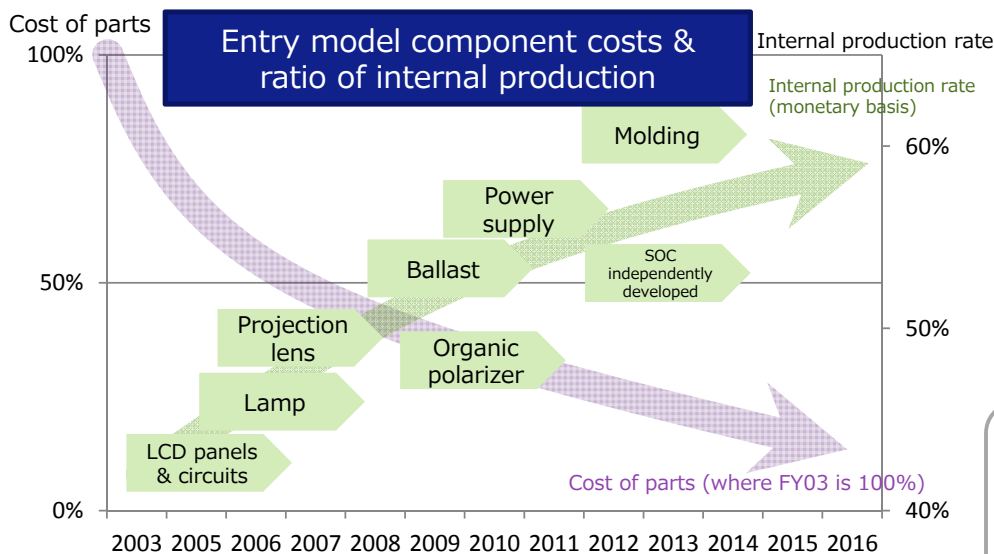| No. of registered projector-related patents in Japan & the U.S.							
	Epson	Co. A	Co. B	Co. C	Co. D	Co. E	Co. F
Japan	3,112	1,372	1,241	871	772	537	468
U.S.	1,718	892	907	677	364	241	236

*Cumulative numbers from 2006 to 2015

18

Ability to Meet Cost Targets

◆ Internal production for increased cost competitiveness

◆ Control of stable quality

◆ Stable component supply

◆ Platform standardization among models and generations

Combination of HTPS TFT panels, lamp, and projection lens

Light-guide with standard shape and size

Entry model component costs & ratio of internal production

Cost of parts
100%

Internal production rate

Internal production rate (monetary basis)

- Molding — 60%
- Power supply
- Ballast
- SOC independently developed
- Projection lens
- Organic polarizer — 50%
- Lamp
- LCD panels & circuits

50%

Cost of parts (where FY03 is 100%)

0% — 40%

2003 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

Production Capacity

◆ Preparation of production plants to handle mid-term demand growth

> ➤ HTPS TFT panel production in Japan
>> ✓ Suwa Minami Plant & Chitose Plant
>
> ➤ Assembly performed overseas, where there is a strong labor pool
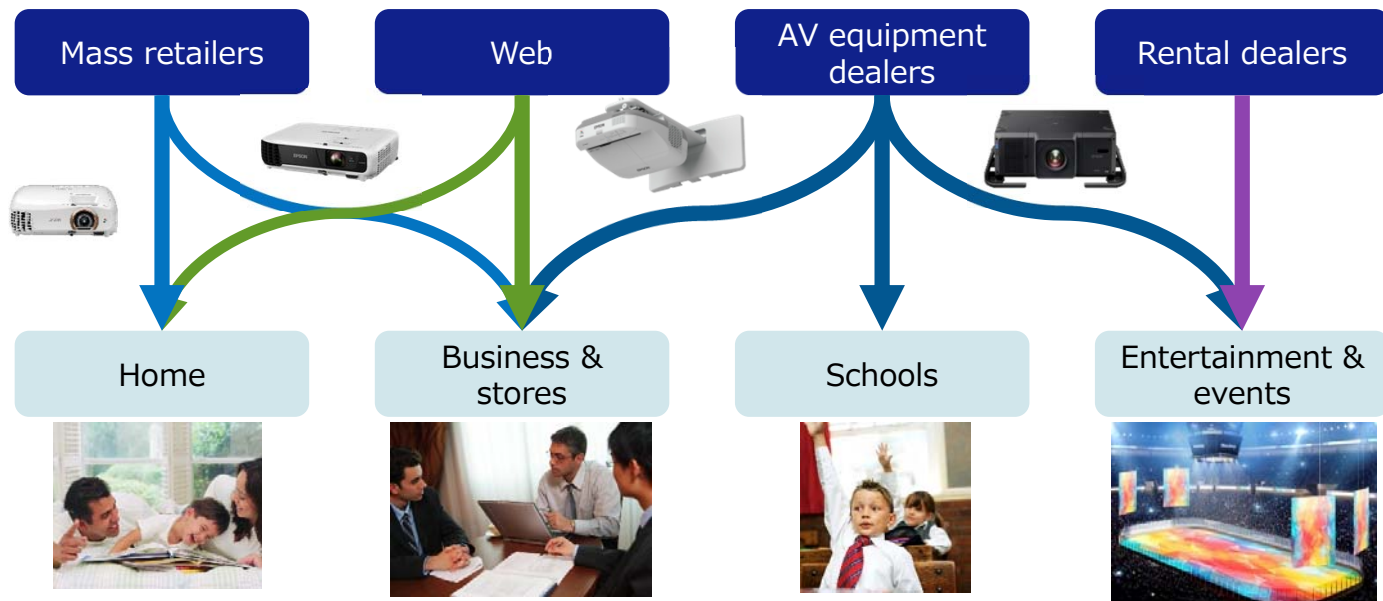>> ✓ China (Shenzhen) & the Philippines

Suwa Minami Plant

Chitose Plant

New factory in the Philippines
Full-scale operations to start in the spring of 2017

Enhanced Sales Channels

◆ A variety of sales channels for the best sales and support organization for customers
  ➢ Strong trust relationships with sales channels
  ➢ Earn the No. 1 share with multiple channels in major countries

Mass retailers	Web	AV equipment dealers	Rental dealers

Home	Business & stores	Schools	Entertainment & events

Service and Support Network

◆ **Worldwide service and support**

➢ Provide customer-centric market support network that emphasizes speed

✓ Sales sites around the world

✓ Skilled, low-cost repair service overseas

Sales sites and optical unit repair sites

Belgium

Beijing

Japan

India

Taiwan

Mexico

Columbia

★ Sales companies

● Optical unit repair sites

U.S.

Brazil

Chile

Argentina

The Projector Market and Epson's Status

Projector Market Environment and Outlook

EPSON EXCEED YOUR VISION

◆ Projector market will remain steady, with unit shipments synchronized with major sporting events

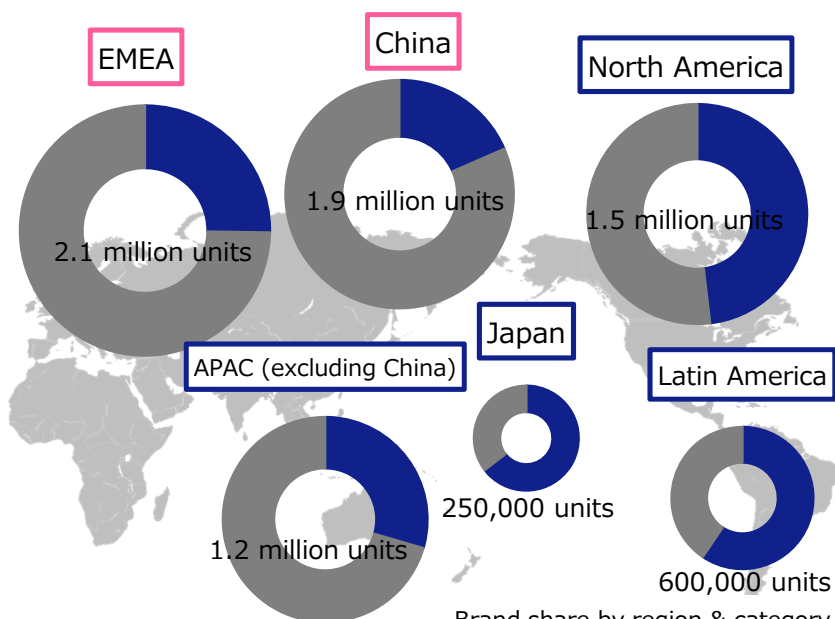| Category	Market size (FY2015)	Outlook
High brightness*, total	190,000 units 2.3 billion USD	Demand to steadily expand
Units with 10,000 lm or more	*25,000 units 1 billion USD*	*The launch of competitive models by Epson will further stimulate market expansion*
Ultra-short & short throw	7.3 million units 6.5 biillion USD	Demand particularly in the education segment will remain steady, but competition from FPDs is expected.
Standard		
Home		Demand will be steady due to the increase in available content and greater variety in how visual content is enjoyed in the home

* High brightness is defined here as a projector that produces at least 5,000 lm and has a replaceable lens.

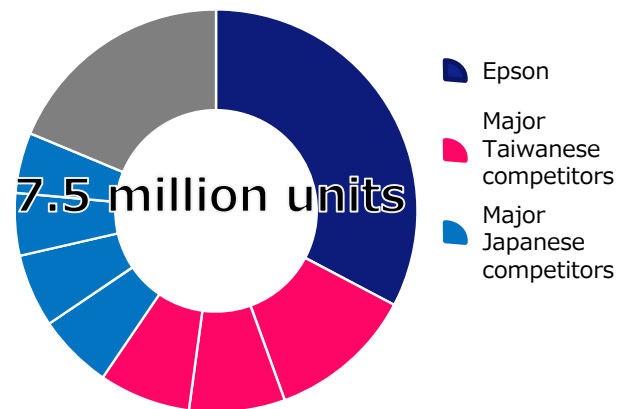Date: Futuresource Consulting Ltd.

Projector Competitive Environment

◆ Though we have established a dominant global presence, there are still untapped regions & product categories.

➢ China, EMEA (Europe, the Middle East & Africa) & high-brightness category

Global market share (unit volume)

7.5 million units

- Epson
- Major Taiwanese competitors
- Major Japanese competitors

EMEA
2.1 million units

China
1.9 million units

North America
1.5 million units

APAC (excluding China)
1.2 million units

Japan
250,000 units

Latin America
600,000 units

Brand share by region & category in FY2015
Data source: Futuresource Consulting Ltd.

Product category	Epson's share
High brightness, total	16%
Units with 10,000 lm or more	*10%*
Ultra-short and short throw, standard, home	33%

Growth Initiatives

Growth Initiatives

EPSON
EXCEED YOUR VISION

◆ Refine original microdisplay and projection technologies, and create outstanding visual experiences and a natural visual communications environment for every aspect of business and lifestyles.

➤ Strengthen sales and support for customers in all regions
   ✓ Sales policies in high potential regions (China, EMEA)

➤ Continue to evolve core technologies and devices to expand projector applications
   ✓ Expand the high-brightness segment primarily by using the new laser light source, and create new markets to achieve mid-term growth.

Sales Policies in High-Potential Regions (China, EMEA)

EPSON
EXCEED YOUR VISION

◆ China
  ➢ Strengthen development of channels such as AV equipment & rental dealers
  ➢ Expand sales of interactive projectors for education
  ➢ Focus sales promotions on rapidly expanding online markets

◆ EMEA (Europe, the Middle East, & Africa)
  ➢ Further reinforce the sales organization to develop the high-brightness market
  ➢ Build a sales organization in emerging markets (Middle East, etc.) and roll out sales campaigns
  ➢ Raise awareness that 3LCD projectors produce up to 3X brighter colors

◆ HTPS TFT panels
  ➢ Higher definition
  ➢ Longer lifespan

◆ Laser light source
  ➢ High brightness
  ➢ Long lifespan
  ➢ Low power consumption

◆ Si-OLED microdisplays
  ➢ Smaller, lighter, higher definition
    ✓ High image quality for unprecedented AR & VR experiences

◆ Gorgeous images
◆ Brighter, more amazing big displays
  ➢ High-performance, high-brightness projectors
◆ Provide images in new spaces
  ➢ Signage, lighting, etc.

◆ Enable new ways to communicate
  ➢ Smart eyewear

Advantages of High-Brightness Epson Projectors

◆ Produce amazing, scalable big-screen images

◆ High investment efficiency and peace of mind for users

 ➢ High-brightness and a long lifespan
   ✓ Inorganic materials and laser light source for long-term reliability

 ➢ Bright yet compact
   ✓ 30% smaller than previous model

 ➢ Bright yet have low power requirement
   ✓ High energy efficiency
   ✓ Heat generation controlled

 ➢ Highly robust due to new sealed construction
   ✓ Dust-proof construction and smoke protection

Inorganic phosphor wheel

Inorganic HTPS TFT panels

Previous model
Lamp x 2 10,000 lm

New product EB-L1500U
Laser light source 12,000 lm

741 mm

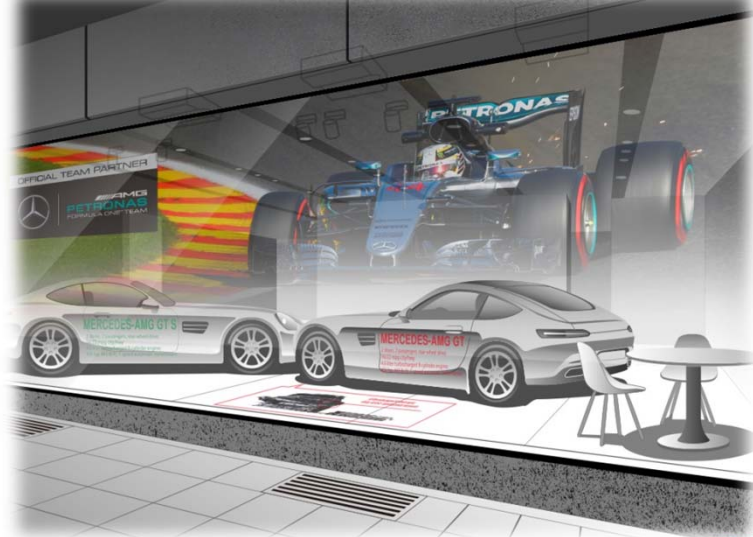30% reduction

492 mm

EB-L25000U
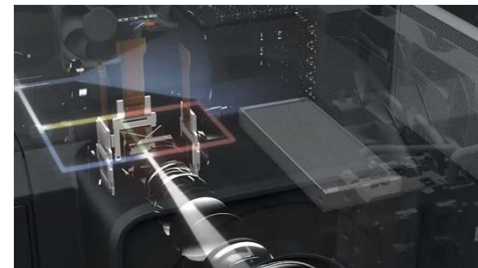
New Market Creation: Signage and Lighting

◆ **Projectors for signage and spatial performance, etc.**
  ➢ Propose new displays that leverage the advantages of projection technology
    ✓ Project an endless variety of images anywhere and in any size

Dramatic spatial performance in the home
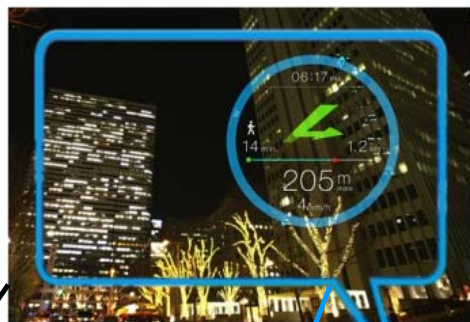

Dramatic spatial performance in retail

New Market Creation: Smart Eyewear

◆ **Develop new markets by providing wearable new ways to communicate information**

➢ Advantages of Epson smart eyewear
  - ✓ Anytime, anywhere*
  - ✓ Binocular, see-through lenses
  - ✓ Hands-free

MOVERIO Pro BT-2000

Actual scenery

Information projected on smart eyewear

The user sees the actual scenery with information superimposed on it

*Be sure to exercise care when using smart eyewear.

New Market Creation: Smart Eyewear

◆ Smart eyewear is uniquely able to form certain markets in the personal, service and industrial fields

Personal	Service	Industry
Spread use with new ways to enjoy	Offer a smart tourism experience	Support the development of industry and society

Movies

Si-OLED
BT-300
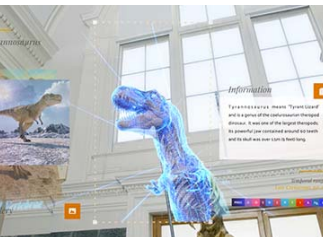
Exhibit commentary at museums

Equipped with Epson's high-precision sensors
BT-2000

Images photographed by drones
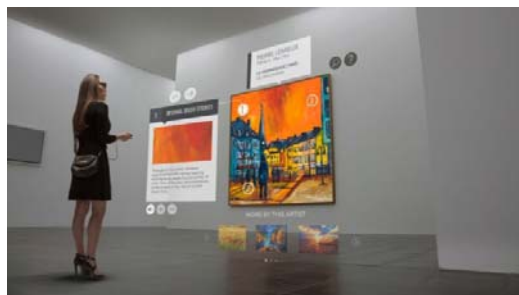
Information about works at art museums

Use in projector assembly

33

Financial Targets

Visual Communications Business Targets

◆ Financial targets

		FY2015 Result	FY2016 Forecast	FY2018 Targets
Revenue		¥184.0 billion	¥173.0 billion	¥200.0 billion
Business profit		¥15.5 billion	¥15.0 billion	Steadily improve profitability while strategically investing
Exchange rates	USD	¥120.14	¥106.00	¥115
	EUR	¥132.58	¥121.00	¥125

◆ Key indicators

		FY2015 Result	FY2016 Forecast	FY2018 Targets
Number of projectors		2.4 million units	Up 4% vs. FY2015	Up 20% vs. FY2015
Share of high-brightness (10,000 lm or higher) category		10%		Double
New segments	Smart eyewear	Launch products for industry	Launch OLED products	Smart eyewear is uniquely able to form certain markets in the personal, service & industrial fields
	Signage & lighting	Aim to contribute under the next mid-range business plan		