

Global Market of Quantum Dot Display Components: Key Research Findings 2017

◆ Research Outline

Yano Research Institute has conducted a study on the global market of quantum dot display components with the following conditions:

1. Research period: From December 2016 to February 2017
2. Research targets: Manufacturers of quantum dot (QD) display components, QD displays, TVs, and etc.
3. Research methodologies: Face-to-face interviews by the expert researchers, interviews via telephone/email, and literature research

What are Quantum Dot Display Components?

Quantum dot (hereafter QD) display components in this research indicate components for displays using QD which include QD materials (i.e., QD particles and binder-resin-contained solution) and barrier films for QDEF (Quantum Dot Enhancement Film.)

◆ Key Findings

■ **2016 Global Shipment Volume of QD Materials Attained 30t, and of Barrier Films for QDEF 6.4 Million m²**

QD displays attains higher luminance and better color gamut with less energy compared with conventional LCD displays by adding QDEF (Quantum Dot Enhancement Film) to the backlighting components of LCD displays. However, only one firm from South Korea decided mass producing of QD displays, because the costs of QD materials are too expensive and because cadmium is found to be included in QD particles. In 2016 the global shipment volume of QD materials and barrier films for QDEF was 30 tons and 6.4 million m² respectively, both based on the shipment volume at manufacturers.

■ **2017 Global Shipment Volume of QD Materials Projected to Achieve 77t, 256.7% on Y-o-Y Basis, and of Barrier Films for QDEF 16 Million m², 250.0% on Y-o-Y Basis**

Because multiple Chinese TV makers are planned to start mass production of TVs using QD displays, the market of QD display components is likely to leap forward. The global shipment volume of QD materials are expected to attain 77 tons, 256.7% of the size of the previous year and the shipment volume of barrier films for QDEF to attain 16 m², 250% of the size of the preceding year, both based on the shipment volume at manufacturers.

■ **For Barrier Films for QDEF, Those Laminate Types Using Transparent Evaporation Films Started Being Adopted**

Mainstream of barrier films for QDEF, until the first half of 2016, had been those that use inorganic materials such as silica and silicon nitride being multilayered and laminated by means of sputtering. However, the strong requirement to reduce costs has led the makers to use those types using transparent evaporation films laminated together with PET films.

◆ **Report Format:**

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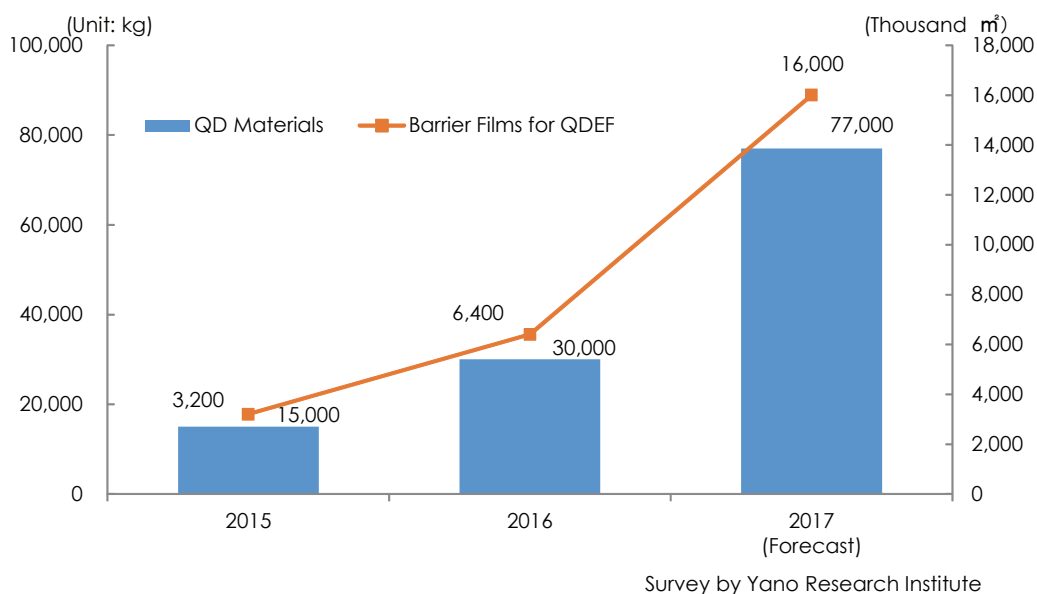
Contacts: Public Relations

Yano Research Institute Ltd. (URL: <http://www.yanoresearch.com>)

Phone: +81-3-5371-6912

E-mail: press@yano.co.jp

■ **Figure 1: Transition and Forecast Global Market Size of Quantum Dot (QD) Display Components**



Notes:

1. The market size is calculated based on the shipment volume at manufacturers.