

# Global Quantum Dots Market Boosted By Growing Focus On High-Resolution Displays in Smartphones and Tablets

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*Orbis Research's Inclusive Report: Global Quantum Dots Market to grow at a Outstanding CAGR of 120.84% during the period 2017-2021*

SUITE 600, DALLAS, TEXAS, UNITED STATES, April 20, 2017 /EINPresswire.com/ --

## Description

Latest Research Report – [Global Quantum Dots Market](#) 2017-2021

The Key Players in the Global Quantum Dots Market: QD Vision, Quantum Materials, Nanoco, and Nanosys

Other Prominent Vendors in the market are: NanoAxis, NN-Labs, Samsung, Sigma-Aldrich, Siva Power, and Voxtel

Commenting on the report: “Previously, the majority of the android smartphones had small screen size of less than 3.2 inches and 320 × 480 HVGA (half video graphics array) screen, with a pixel density of 180 PPI (pixels per inch). However, with the increase in functionalities and the number of applications that run on these devices, the demand for large and high-resolution displays is increasing at a rapid pace. This has compelled manufacturers to incorporate high-resolution display in these devices. As of 2016, we have smartphones and tablets that employ 5.5-inch to 7-inch QHD screens with 538 PPI or greater available in the market. Some of the display technologies that have been incorporated by OEMs in smartphones, UHD TVs, and tablets are AMOLED, LCD, OLED, and super AMOLED that offer better display quality. Though AMOLED and OLED offer better contrast ratio and superior color gamut than LCDs, the majority of these devices still have LCDs. This is because LCDs have low manufacturing cost and low energy consumption. The color quality of LCDs can also be enhanced by placing LED or quantum dot light emitting diode (QLED) in the backlight.”

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According to the report, binary compounds such as cadmium selenide, cadmium sulfide,

cadmium telluride, and indium arsenide are popular compounds that are used to make quantum dots. In 2014, cadmium selenide was the most commonly used material to produce quantum dots. Quantum dots that are produced from the above material contain cadmium, which is toxic. Global environmental regulations such as RoHS (restriction of hazardous substances), REACH (registration, evaluation, authorization and restriction of chemicals), and TSCA (Toxic Substances Control Act) have kept the limitation on the amount of cadmium, mercury, and lead that can be used in consumer electronic devices. This has resulted in an increase in the production of cadmium-free quantum dots, which has provided ample opportunity for quantum dots to be used in a variety of consumer electronic display devices. For instance, Dow Chemical Company has built a cadmium-free quantum dot manufacturing plant in South Korea, which was commissioned by Nanoco.

Further, the report states that in 2016, the cost of production of quantum dots was between \$3,000 per gram to \$8,000 per gram, which varies on the basis of composition. The solvent, which is typically octadecene used for quantum dot synthesis, accounts for about 90% costs of the raw material. In addition, the low adoption of this technology is restricting the vendors to increase the production capacity. However, the vendors are trying to reduce the production cost by adopting new processing technology and increasing production capacity. For instance, in 2011, Quantum Materials developed an automated process using microreactor technology instead of batch processing technique to increase the yield of quantum dots per cycle.

The study was conducted using an objective combination of primary and secondary information including inputs from key participants in the industry. The report contains a comprehensive market and vendor landscape in addition to a SWOT analysis of the key vendors.

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Hector Costello  
Orbis Research  
+1 (214) 884-6817  
[email us here](#)

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