

## **The role of advanced materials in industrial product design in view of The Disruptive Technology**

**Assist. Prof. Dr. Ahmed Kamal Ali**

**Assistant Professor, at industrial design dpt, faculty of applied arts- Helwan University-  
Head of Product Design Department - faculty of applied arts- 6th of October University**

**[draka1974@gmail.com](mailto:draka1974@gmail.com)**

### **Abstract**

Experts participating in the World Government Summit 2017, stated that new waves of technology will continue to change every aspect of our lives, gradually becoming the dominant standard in the twenty-first century and beyond. They stressed the need for governments to make the most of these waves, and that disruptive technology ) can accelerate any country's transition towards new paths of growth and prosperity.

Disruptive technology is used to describe innovations that design and improve a product or service in ways that neither the market nor consumers expect, but which are highly attractive to both.

Industrial design is not far from this accelerating explosion of knowledge in what modern sciences and advanced technologies have created in various fields, which in turn led to changing consumer purchasing habits, so the consumer always needs to replace the product and acquire the latest technology from it without a productive exit from the market or the end of its lifespan, but because the product The new one works with new and different technological techniques and carries new formal efficiencies and new engineering and use functions resulting from the use of advanced materials that are completely different from traditional materials.

Advanced materials are materials with advanced properties in terms of physical, chemical, mechanical, thermal and metallurgical thanks to nanotechnology, where scientists were able to develop and discover a range of methods for the production of materials with distinctive characteristics such as shape memory alloys, liquid metal, structural colors

The research believes that the industrial designer must identify these advanced materials and study their characteristics, advantages, strengths and weaknesses so that he can use them in creating his designs for the industrial product and provide new functional, usable and formal solutions that are unfamiliar to the products.

### **Keywords:**

disruptive technology - advanced materials - industrial design