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Technology CAD Software Market Size, Share & Trends Analysis Report By Application Type (CMOS, Image Sensors, Solar Cells, Analog/RF Sensors), By Region, And Segment Forecasts, 2020 - 2027

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Abstracts

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Technology CAD Software Market Growth & Trends

The global technology CAD software market size is expected to reach USD 315.4 million by 2027, expanding at a CAGR of 9.5%, according to a study conducted by Grand View Research, Inc. Technology Computer-Aided Design (TCAD) software solves physical, fundamental, and partial differential equations such as transport and diffusion equations of a semiconductor device's layer or wafer system. This has significantly increased the predictive accuracy of the simulation software. Rising advancements in the electronics industry have encouraged semiconductor manufacturers to focus on technology computer-aided design software to speed up the R&D process, since TCAD not only ensures reduced testing time but is also cost-effective.

The consumer electronics industry is witnessing the growing usage of advanced electronics components. Rising demand for smart devices would particularly encourage IC manufacturers to adopt technology computer-aided design software. As such, consumer electronics OEMs partner with some of the leading System-on-Chip (SoC) and IC manufacturers, including Intel Corporation; NXP Semiconductors; Texas Instruments Incorporated; and Qualcomm Technologies, Inc. in order to enhance the quality of their respective smart products. For instance, in August 2018, Intel Corporation selected Synopsys, Inc. as its primary software provider. The overall

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situation bodes well for market growth.

The rising adoption of various connected devices, wearable devices, home automation devices, and other smart devices, which support enhanced machine-to-human interaction, is also expected to drive the market over the forecast period. Connected device manufacturers are aggressively collaborating with technology computer-aided design software developers to launch innovative smart devices that can support machine-to-human interaction. Connected devices, such as smart speakers, are increasingly being integrated with Automatic Speech Recognition (ASR) to make them capable of receiving, understanding, and interpreting voice commands. The convenience associated with using voice commands to establish communication between machines and humans is creating opportunities for connected device manufacturers to introduce smart devices that can respond to voice commands.

The advent of the Internet of Things (IoT) has transformed the way organizations can communicate and manage their businesses and industrial procedures. IoT is being increasingly adopted for connected cars, connected toys, home security systems, and smart speakers. Nevertheless, given that connected devices are always vulnerable to intrusion threats, the way devices are connected and secured would be crucial toward rolling out a secure IoT ecosystem and driving IoT adoption. This, in turn, is expected to create potential opportunities for the market over the forecast period.

Technology CAD Software Market Report Highlights

The analog/RF devices segment is projected to witness a CAGR of over 10.0% over the forecast period. Analog/RF devices offer benefits such as high energy transfer efficiency, short processing time, accurate process control, and reduced equipment failure. It is heavily used in consumer electronic devices such as tablets, set-up boxes, television, laptops, smartphones, and several wireless communication devices. The proliferation of such consumer electronic devices is anticipated to propel segment growth

In Asia Pacific, the market is expected to register a healthy CAGR over the forecast period. Growing population, rising disposable income, and rapid urbanization are driving the demand for consumer electronics and the proliferation of smartphones. China accounted for the largest revenue share in 2019, driven by a large number of manufacturing companies present in the country

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Market players are focusing on expanding their business by launching various partnership programs. For instance, in April 2020, Silvaco, Inc. stated that Trixell, a manufacturer of X-ray flat-panel digital detectors, has adopted Silvaco's TCAD-based parasitic extraction flow for developing its next-gen displays for ensuring that all manufacturing requirements are met.

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