# What are the Technologies Present in High-End TVs that offer Awesome Graphics?

The landscape of television technology has seen several significant changes taking place over the last decade. The technological advancements have resulted in a plethora of technical features being added. So varied are the technologies being incorporated, especially for ensuring high-end graphics, that choosing one to suit the needs of the viewer has become confusing and difficult. Some leading innovations that have changed the TV-viewing experience, especially of the 40 inch hd tv, are:

**4K resolution:** This refers to the presence of 3840x2160 pixels being packed in close proximity within the TV panel. In comparison to the 1080pixels of the Full HD screen, this is a huge jump; one that has taken the display to heights that make it vivid and true to life. UHD is another term used to describe the 4K resolution technology. This technology also comes with the facility for upscaling. Thus, HD content streamed or telecast can be up-scaled to 4K content by these Smart TVs.

**LED vs. QLED vs.OLED**: This refers to the different types of display panels present in the 43 inch 4k tv. Previously LEDs were used to light up the LCD TV screens thereby enabling Smart TVs to become flat and thin. With the introduction of the QLED technology, a quantum dot screen was planted between the LED panel and the LCD. This helped filter the light emitting from the LEDs and enhancing the picture quality to make it more vibrant and energy-efficient. The OLED technology enabled the Smart TV firmware to control the lighting of individual pixels. This led to the better image contrast with the screen being able to produce true blacks. The OLED technology makes for the best possible graphics for the screen and is present only in the best 43 inch led tv.

**HDR**: This technology expanded the range of the colour accuracy of the picture and contrast ratio of the screen. Resultantly, the bright parts became more luminous and thus displayed enhanced depth and the blacks became darker. The colour range also expanded to include several hues and tones of the primary colours of red, green and blue. The HDR technology, thus, improved the vibrancy of the picture as a whole. Two very popular HDR technologies found in the high-end Smart TVs are HDR10 and Dolby Vision.

**Refresh rates**: This is a measure of the absolute number of frames that a Smart TV screen can display within a second. The more the refresh rate the more seamless is the TV viewing experience. It helps to reduce the blurring of the images for fast-paced videos and games while also yielding crisper details. While the accepted refresh rate is 60Hz, some of the best

40 inch smart tv also have enhanced refresh rates of 120Hz while the high-end Smart TVs might have a refresh rate of even 240Hz.

The improved graphics that are currently available in most high-end Smart TVs make it better suited for playing games using a console. With better graphics, the picture quality also increases thereby enabling better streaming of videos and OTT content.