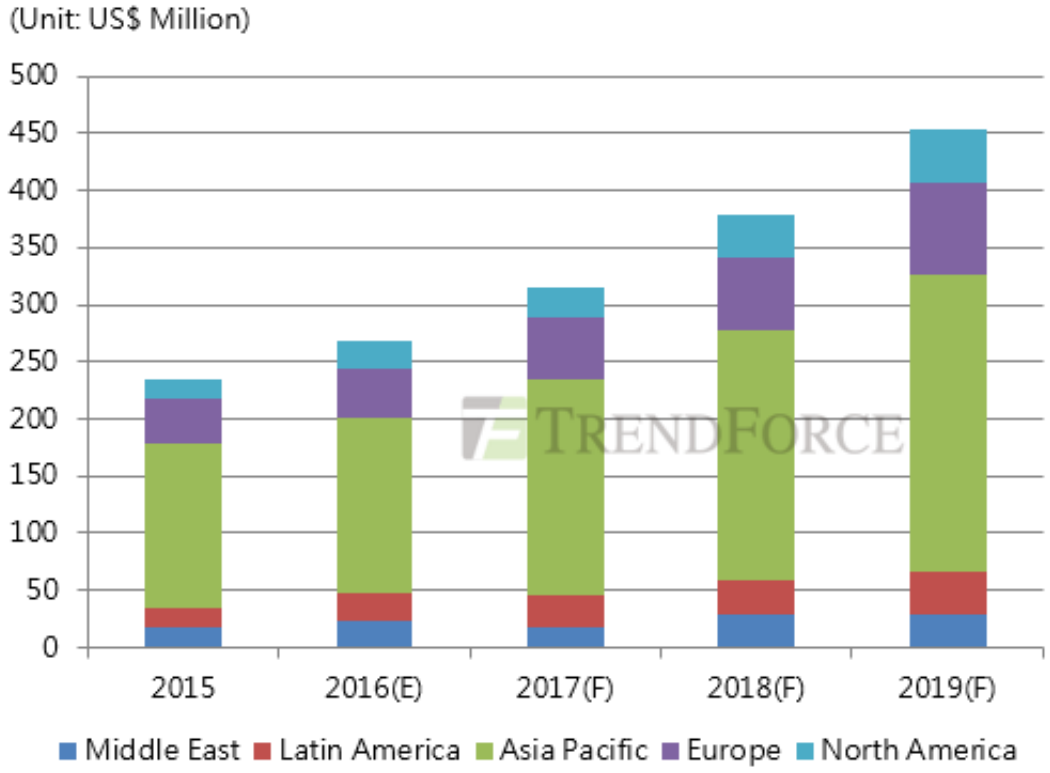
TrendForce Expects Facial Recognition to Hit US$450 Million in Market Value in 2019 Due to the Rise of Smart Security and Smart Retail Applications

2016-01-25 Christy Lin

Facial recognition technology is expected to enjoy accelerated growth over the next five years as its applications emerge in the government, enterprise, finance, consumer and other market sectors. According to the global market research firm TrendForce, the market value of facial recognition solutions is projected to reach US$230 million in 2015 and will grow to an estimated US$450 million in 2019. This represents a compound annual growth rate (CAGR) of 17.97% in the 2015~2019 period. Asia Pacific is going to be the main growth driver of the facial recognition market, and the region presently accounts for almost 60% of the global market.

Figure: Market Values of Facial Recognition Solutions by Regions, 2015~2019



*Note: Items included in the estimates and forecasts are facial recognition solutions for digital signage and security systems.

Source: TrendForce, Jan., 2016

TrendForce analyst Christy Lin said that compared with fingerprints, human faces have biometric features that cannot be easily duplicated. Moreover, facial recognition is also likely to be more widely accepted by consumers and has a wider scope of applications. While the technology is primarily used in security and monitoring systems, its application is gradually expanding to other areas such as smart retail and mobile payment. Last year, Alipay, the online payment platform under Alibaba, jointly launched a payment verification system with Face ++, which is a cloud-based facial recognition platform operated by a Chinese startup known as Megvii. Aptly named “Smile to Pay,” this payment verification system lets Alipay users pay for their online shopping simply by taking selfies. Other major technology companies that have been investing in facial recognition in recent years and hold related technology patents include Microsoft, Google, Apple and Facebook.

Lin also noted that the current mainstream facial recognition systems, which record and match 2D images of individuals' facial features (i.e. eyes, nose, mouth and ears), can still be deceived by regular photos and videos. However, developers are now advancing towards 3D facial recognition. One major type of 3D facial recognition solutions verifies both the image that a face produces under visible light and the depth of facial features with the help of infrared (IR) light. Another common 3D facial recognition technology uses IR light dots to measure and verify the distances and depths of facial features. The infrared light source that is used to support both types of facial recognition solutions is usually 850nm or 940nm in wavelength.

A prominent example of 3D facial recognition technology is the RealSense Camera, a 3D scanning solution jointly developed by Intel and Microsoft. RealSense Camera is designed to work with Microsoft's biometric authentication software known as Windows Hello and uses IR laser to capture facial features for record keeping and verification. Since more efficient processors will be needed to manage 3D models stored in the databases of facial recognition systems, Intel stands to benefit greatly from developing and promoting products for this application. Biometric identification technology therefore constitutes an opportunity for Intel to turn things around as the chip maker is being hard pressed by competition from ARM and Qualcomm.

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