

CustomIQ Research

Facial Recognition Software

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What's in this Report

This report is intended to assist buyers of facial recognition software. Buyers use facial recognition software to identify and verify faces, as well as to detect face attributes, such as age, gender, emotions and ethnicity. Common buyers of facial recognition software include retailers, advertisers and security and law enforcement agencies. Retailers and advertisers generally use the software solution for security and marketing purposes, whereas security and law enforcement agencies use the software solution solely for security purposes. Suppliers can typically be categorized as a facial recognition software specialist, digital security solutions provider or an information technology (IT) firm. This research excludes security software and video analytics software that do not have facial recognition capabilities.

Application of Facial Recognition Software in Retail

Application	Description
Customer Service	<ul style="list-style-type: none">Identify VIP customers who should receive special treatment from associates to further build customer loyalty
Customer Data Collection	<ul style="list-style-type: none">Discern trends among different demographic mixes to tailor advertising and purchase recommendationsUnderstand customer emotional responses to advertising and customer service to improve advertising and service effectivenessTrack customer eye gaze to determine effectiveness of product and advertising placement
Loss & Fraud Prevention	<ul style="list-style-type: none">Detect if a person returning an item has purchased the product in-store to prevent return fraudRecognize known shoplifters and alert loss prevention and security professionals to prevent crime
In-Store Security	<ul style="list-style-type: none">Indicate the entry of dangerous criminals or disgruntled former employees to reduce safety risk and in-store violence
Transaction Activity	<ul style="list-style-type: none">Use facial scans to charge registered customer accounts instead of using a card or cash to payEmploy facial scans when a customer pays with a card to increase payment transaction security



Major Vendors

Company	US Market Share (%)	Market Share Performance (3-year trend)	Total Revenue (\$m)	Profit Margin (%)	Financial Risk Level
Amazon.com Inc.	5-10	Increasing	177,866.0	2.3	Low
Beijing Kuangshi Technology Co., Ltd. (operating as FacePlusPlus)	<5	Increasing	<100	N/A	N/A
Clarifai Inc.	<5	Steady	<100	N/A	N/A
Ever AI	<5	Steady	<100	N/A	N/A
FaceFirst Inc.	<5	Increasing	<100	N/A	N/A
Gemalto	<5	Decreasing	3,357.1	1.9	Low
IDEMIA	<5	Increasing	2,000-5,000	N/A	N/A
International Business Machines Corp.	10-15	Steady	79,139.0	14.9	Low
Kairos AR Inc.	<5	Increasing	<100	N/A	N/A
Microsoft Corp.	10-15	Steady	110,360.0	31.8	Low
NEC Corp.	<5	Increasing	25,365.8	2.4	Medium
SensibleVision Inc.	<5	Steady	<100	N/A	N/A
Verint Systems Inc.	<5	Increasing	1,135.2	4.3	Medium

ProcurementIQ estimates there are a total of 50 vendors in the facial recognition software market. These vendors can be categorized as either a facial recognition software specialist, digital security solutions provider or an IT firm.

Facial recognition software specialists primarily offer facial recognition solutions. Examples of this vendor type include Ever AI, FaceFirst and FacePlusPlus. The benefit of procuring facial recognition software from a specialist is that this vendor type focuses on facial recognition research and development and, thus, often offers more software capabilities than other vendor types, such as ethnicity detection, face clustering and even skin-status evaluation. Therefore, buyers that are seeking capabilities beyond facial identification and verification are recommended to consider specialists.

Digital security solutions providers account for the majority of market vendors. This vendor type offers facial recognition software as part of a portfolio of intelligent security solutions. Some digital security solutions providers that operate in the market include Gemalto and IDEMIA. Buyers may be able to negotiate bundling discounts with a digital security solutions provider if they purchase related security solutions in addition to facial recognition software, such as data encryption, cloud security or biometric scanners and software.

Only a few **IT firms** operate in the facial recognition software market, namely Amazon, IBM, Microsoft and NEC. These companies offer a wide range of solutions in addition to facial recognition software, such as IT infrastructure, analytics and cloud services. Buyers that are looking for facial recognition software in addition to other IT solutions can benefit from purchasing from an IT firm by negotiating bundling discounts.



Facial Recognition Software Capabilities by Vendor

Company	Face Verification	Face Identification	Emotion Detection	Age & Gender Detection	Ethnicity Detection	Eye Gaze Estimation
Amazon.com Inc.	X	X	X	X		
Beijing Kuangshi Technology Co., Ltd. (operating as FacePlusPlus)	X	X	X	X	X	X
Clarifai Inc.	X	X		X	X	
Ever AI	X	X	X	X	X	
FaceFirst Inc.	X	X				
Gemalto	X	X				
IDEMIA	X	X				
International Business Machines Corp.	X	X		X		
Kairos AR Inc.	X	X	X	X	X	
Microsoft Corp.	X	X	X	X		
NEC Corp.	X	X		X		X
SensibleVision Inc.	X	X				
Verint Systems Inc.	X	X				

Key Takeaways:

- Face verification and identification are standard capabilities across market vendors. Buyers that wish for other capabilities, such as emotion detection and age and gender detection, should send a query about those specific features to potential vendors during the vendor selection process. By doing so, buyers can ensure the software solution they purchase has all of the features needed to satisfy their requirements.
- Eye gaze estimation is an emerging technology. As a result, most vendors in the market currently do not offer this capability; only two of the top vendors offer eye gaze estimation. A few small vendors also offer eye gaze estimation capabilities, such as Sightcorp and Visage Technologies. Buyers seeking this particular feature will have limited vendor options and less negotiating power, because they have few alternative vendors to leverage during negotiations.



Application of Facial Recognition Software in Industries Other than Retail

Industry	Application
Advertising	<ul style="list-style-type: none">• Track customer eye gaze to determine effectiveness of product and advertising placement• See how audiences react emotionally to advertisement to measure effectiveness of a campaign• Analyze demographic attributes to recommend tailored ads to customers in front of smart signage
Banking & Finance	<ul style="list-style-type: none">• Identify individuals with a history of fraud and other criminals to prevent crime• Authorize customers' identities to ensure secure transactions
Healthcare	<ul style="list-style-type: none">• Use facial scans to diagnose genetic diseases• Employ facial scans to track patient medication consumption• Evaluate patient's level of pain to manage medication usage
Hospitality	<ul style="list-style-type: none">• Scan customers' faces to charge their accounts instead of using card or cash payments for purchases• Recognize VIP and undesirable guests to alert staff to take appropriate measures
Security & Law Enforcement	<ul style="list-style-type: none">• Establish identity of suspects without profiling by race, gender or age• Spot fugitives and missing persons