HIKVISION®

FAST, ACCURATE FACE SEARCH AND IDENTIFICATION
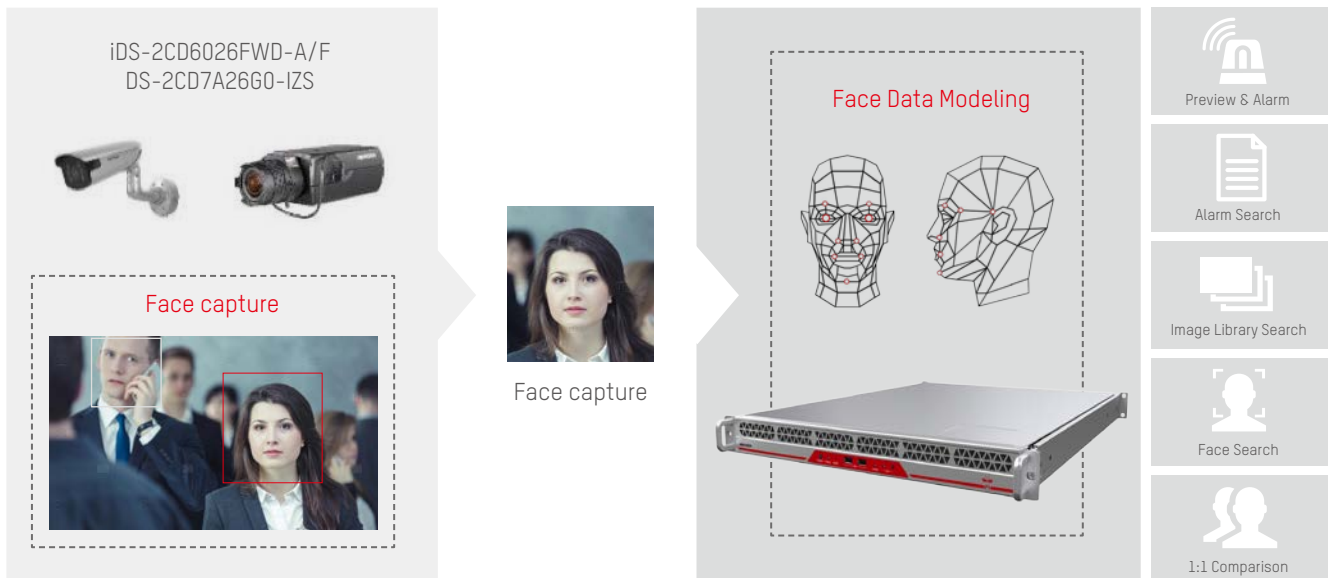## HIKVISION'S DEEPINMIND FACIAL RECOGNITION SERVERS

Every day, the security industry moves toward more intelligent and more efficient methods. With the competition intensifying, security companies continue to expand applications, seeking new growth points. Among the various new technologies of recent years, facial recognition is undoubtedly the most eye-catching.

1 PRIMARY CHALLENGES FOR FACIAL RECGONITION IN CCTV AND BUSINESS SYSTEMS

- Finding specific persons quickly for post-event investigation in massive amounts of stored video
- Pre-setting alarms (using blacklists, for example) for preventive measures
- Confirming that two different images contain the same person
- Identifying VIP customers in order to deliver differentiated services in a friendly manner, or allowing only certain persons to enter safeguarded areas

2 HIKVISION DEEP-LEARNING FACIAL RECOGNITION TECHNOLOGY

iDS-2CD6026FWD-A/F
DS-2CD7A26G0-IZS

Face capture

Face capture

Face Data Modeling

Preview & Alarm

Alarm Search

Image Library Search

Face Search

1:1 Comparison

- Deep-Learning based end-to-end facial recognition solution
- High accuracy of recognition in real case
- High density GPU design with high computing capacity to manage large scale face projects
- Rich functions to meet varied scenario requirements

3 SOLUTION ADVANTAGES

It is well known throughout the international security industry that Hikvision hosts the largest research and development team worldwide. With nearly 8% of its annual revenue going back into R&D, it's no surprise that Hikvision's technology strides several paces beyond its competitors. This fact extends into its facial recognition development as well. Hikvision's teams of engineers – dedicated to this singular technology since 2016 – now number more than 500. Hikvision also holds the largest sample library of images available in the world. Our engineers have moved fast to improve accuracy with enhanced algorithms and an enormous database of samples. With the most powerful platform and a vast array of product lines, Hikvision is going further than any other recognition technology company today.

Advanced algorithm
- Dedicated algorithm R&D team since 2006 with 500+ engineers in 2017
- Rich experience from traditional algorithm to deep learning

High volume of video samples for Deep Learning
- Many years of experience in the security industry
- Best data sample available

Robust hardware selection and powerful platform
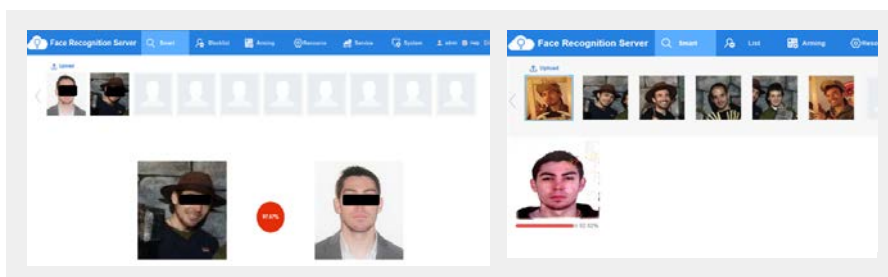- Enormous range of camera options and DeepinMind NVRs and servers

NEW PLATFORM	ITEM	RANK	TIME
Imagenet	Scene classification	No.1	2016
Pascal voc	Object detection	No.1	2016
Mot challenge	Multi-target tracking	No.1(world record)	2015
Imagenet	Target Location	No.2	2016
Trecvid	Event detection	No.2	2016

4 BLACKLIST ALARM FOR PREVENTIVE MEASURES

- Preview and verification of persons in real-time
- Active comparison with blacklist database; linked to alarm
- Especially useful in critical safety areas to identify persons of interest
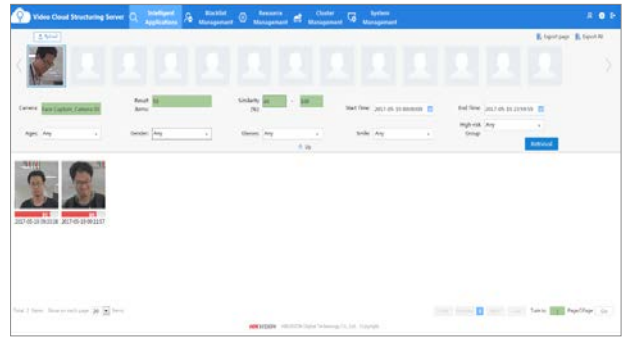
5 1:1 IDENTITY CONFIRMATION

- Source face and target face 1:1 comparison for identity confirmation
- Most effective in public safety checkpoints for fast and effective identity confirmation such as airport customer entries, embassy visa application areas, and more

6 FACE SEARCH LOCATES TARGETS

- Upload face images to the system to initialize searches
- High search accuracy even from wide angle images; the recognition system is unimpeded by the presence of eyeglasses
- Useful for target searches for persons not yet included in the system database

7 HIGH CAPACITY AND HIGH PERFORMANCE SINGLE-FACTAL RECOGNITION SERVER SOLUTION

1 DeepinMind Server = **1,000,000** Blacklist Library

Massive search in a second

1:N comparison search within 3 seconds among 100K blacklisted targets
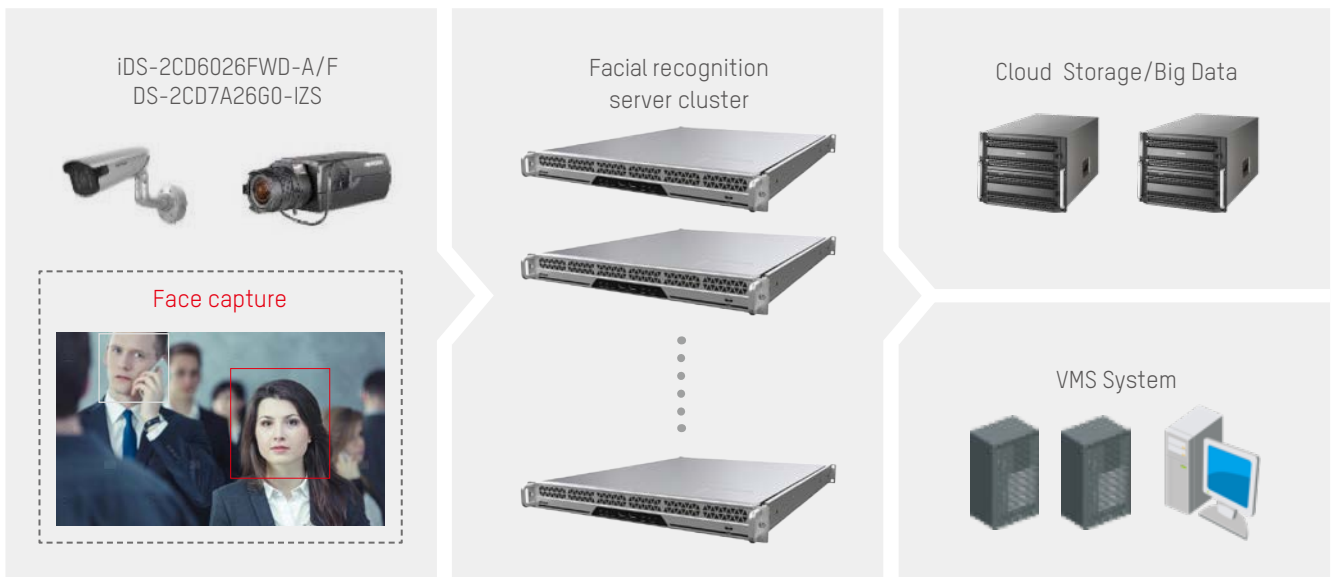
- A single DeepinMind Facial Recognition Server supports up to 1 million blacklisted targets – enough for mid- to large-scale project
- High speed target searches in massive database

8 SCALABLE CLUSTER SOLUTION FOR CITY SURVEILLANCE
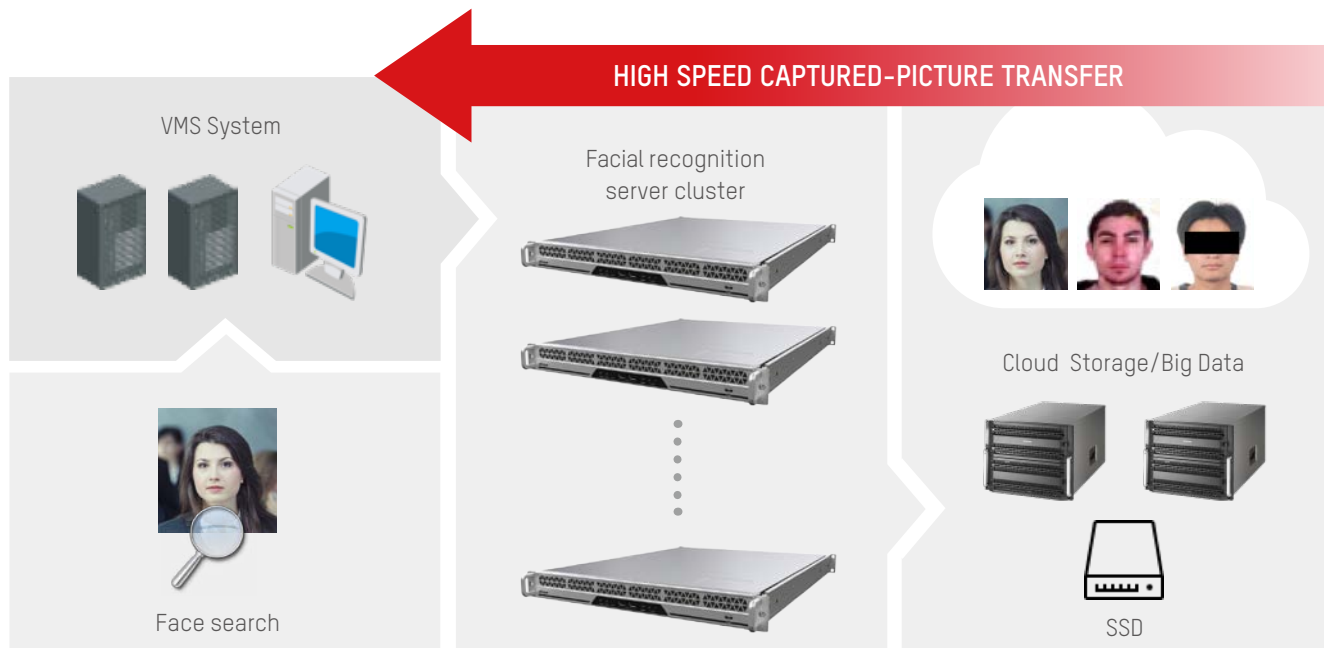

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Face capture

Facial recognition server cluster

Cloud Storage/Big Data

VMS System

- Billions of high-definition facial images stored and searchable
- Supports millions of blacklisted targets
- Cluster up to 200 servers for super-large city surveillance projects

9 HIGH SPEED FACE SEARCH IN CITY SURVEILLANCE SYSTEM

HIGH SPEED CAPTURED-PICTURE TRANSFER

VMS System

Face search

Facial recognition server cluster

Cloud Storage/Big Data

SSD

Using SSD and picture acquiring speeding up technology to response quickly to face search requirements

10 PRODUCT SHOWCASE

DS-IE6316 /32/64-E/FA

- 1-to-1 face comparsion
- Real-time blacklist alarm
- 20 Images/sec of facial modeling and analysis, 8 pairs/sec
- (DS-IE6316-E/FA)
- 80 Images/sec of facial modeling and analysis, 32 pairs/sec
- (DS-IE6316/32/64-E/FA)

DS-IC0116-F

- 1-to-1 face comparsion
- 80 images/sec of facial modeling and analysis, 8 pairs/sec
- Server cluster – up to 200 servers – for large city surveillance projects

11 APPLICATIONS

Public Squares

Airports

Shopping Malls

Train Stations

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HIKVISION'S DEEPINMIND FACIAL RECOGNITION SERVERS

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