

Hisense



Company Profile

Founded	Sep 1969; 49 years ago
Headquarter	Qingdao, China
Owner	Government of China
Product	Air-conditioner Refrigerator Television Washing Machine Smart Phone Medical Instrument Optical component for IT Traffic Control System POS Real Estate
Revenue	17.5 Billion USD (2017) (6 แสนล้านบาท)

Hisense

Hisense - Industries



Multimedia

TV and Display Devices

Internet TV Operation

Mobile Communication Devices

Optical Communication Devices

Chip



Household Appliances

Refrigerator

Freezer

Air-conditioner

Washing Machine

Kitchen Appliance



IT Smart Systems

Smart City

Smart Community

Smart Transportation

Smart Business

Medical Electronic Devices

Smart Home System and

Service



Real Estate and Modern Services

Real Estate

High-end Plaza Chains

Mould Design and Manufacturing

Business

Finance



Qingdao, China

Hisense Hitachi is the China-Japan JV for VRF



Nov 18, 2002

Joint-venture with **Hitachi** for air conditioning manufacturing

Hitachi

World-wide famous enterprise, covers industrial fields like mechanical manufacturing, integrated circuits, electrical systems, magnetically levitated trains, etc.

Hitachi Appliance Inc.

Air Conditioning is a pole industry for Hitachi, it owns the patent for the first scroll compressor in the world, and has experienced more than 20 years' history for development and manufacturing SET FREE series air conditioners.

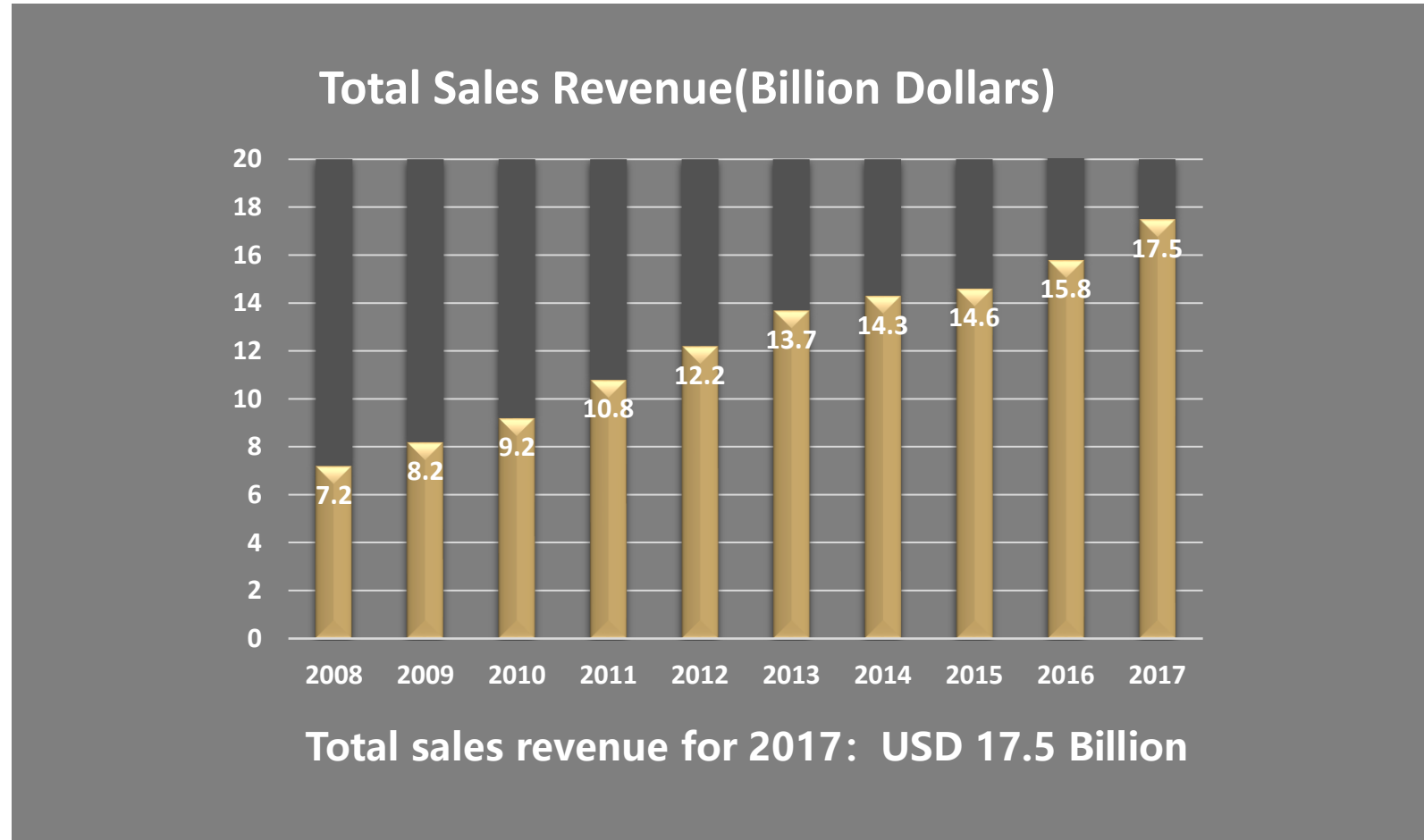
Hisense
OFFICIAL SPONSOR



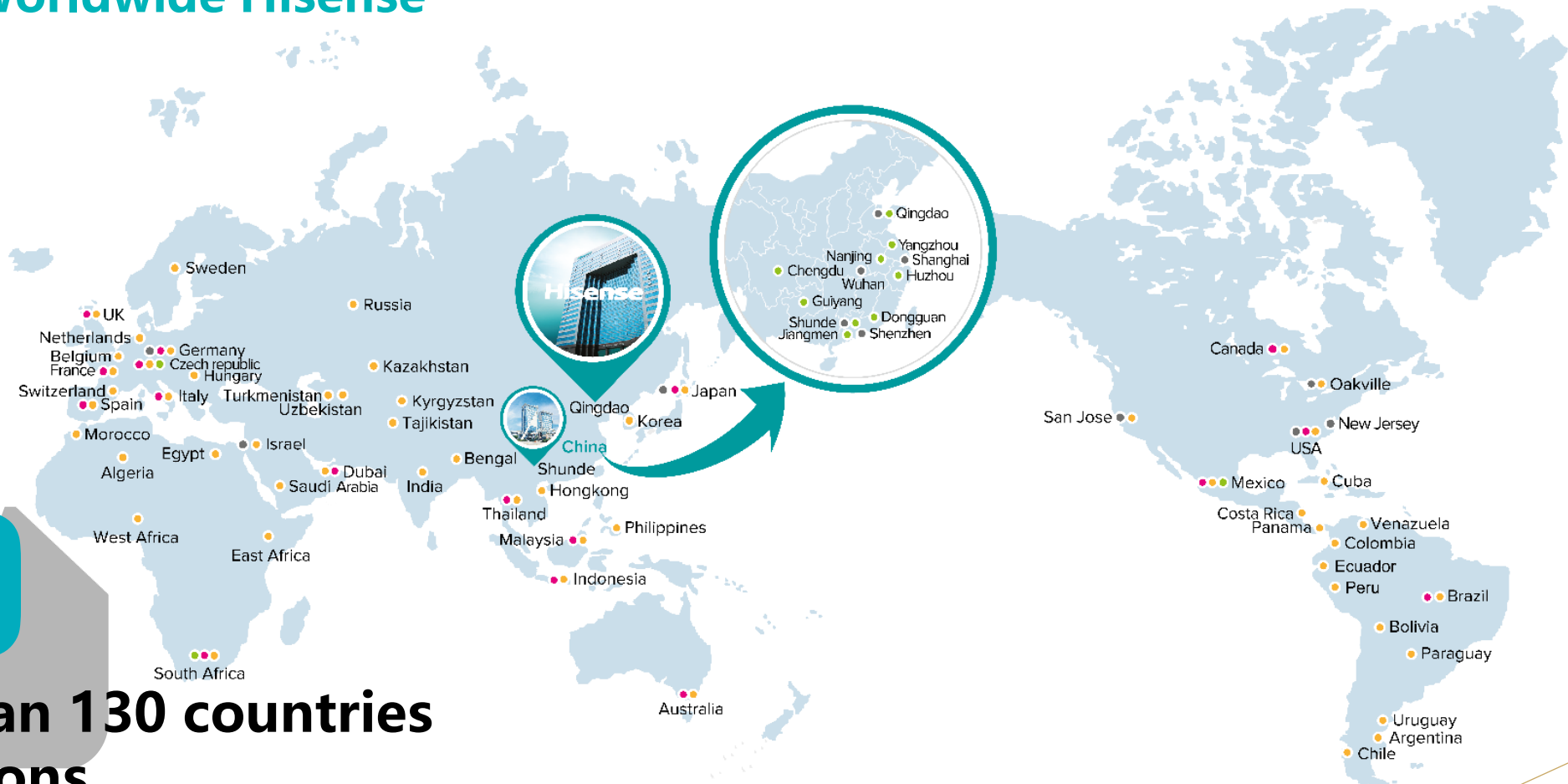
Hisense have paid
110 million USD to be sponsor of world cup 2018.

Hisense

However, it was **less than 1%** of our annual sales amount.



Worldwide Hisense



130

More than 130 countries and regions.

Global R&D Centers, Production Bases and Subsidiaries

- Production Base
- Countries and Regions of Exported Products
- Overseas Company
- R&D Center

Hisense R&D Center in the world



7

R&D Centers in the world

Hisense Service and Training Center in the world



3

Service & Training Centers in the world

Hisense's Sales Performance



TV Market Unit Share
(South Africa): **22.5%**

No. 1



VRF Market Revenue
Share (China): **22.2%**

No. 2



Refrigerator Market
Revenue Share (South
Africa): **21.7%**

No. 1



TV and Refrigerator
Market Unit Share
(Australia): **15.8%**

No. 1



TV Market Unit
Share
(Global): **6.1%**

No. 3

SPORTS SPONSOR



Team Supplier to Red Bull Racing



Official Premium Partner of FC Schalke 04



Official sponsor of Australian Open



Hisense TV: Official Sponsor of FIFA 2018



Official Sponsor of China's Gym Team



In 2016 Hisense became the first China's TOP sponsor of UEFA Cup in the history



Title Sponsor of Hisense 300 NASCAR Xfinity Series And Team sponsor of Joe Gibbs Racing

Hisense Thailand



Le Concorde Tower, Ratchada Road, Bangkok

Qingdao Hisense Hitachi Air-conditioning Systems Co.,Ltd., 18F

(Thailand Branch of China Factory)
Technical Support for VRF and Chiller



Service & Training Center of Asia

Hisense International (Thailand) Co.,Ltd., 14F

(Registered in Thailand with **100 Million Baht capital**)
Trading Company for all products

VRF

Chiller

Television

Refrigerator

ที่ สจ.3 081912



สำนักงานทะเบียนหุ้นส่วนบริษัทกรุงเทพมหานคร
กรมพัฒนาธุรกิจการค้า กระทรวงพาณิชย์

หนังสือรับรอง

ขอรับรองว่าบริษัทนี้ ได้จดทะเบียนเป็นนิติบุคคล ตามประมวลกฎหมายแพ่งและพาณิชย์
เมื่อวันที่ 25 เมษายน 2559 ทะเบียนนิติบุคคลเลขที่ 0105559065594

ปรากฏข้อความในรายการตามเอกสารทะเบียนนิติบุคคล ณ วันออกหนังสือนี้ ดังนี้

1. ชื่อบริษัท บริษัท ไฮเซ็นส์ อินเตอร์เนชั่นแนล (ประเทศไทย) จำกัด
2. กรรมการของบริษัทมี 3 คน ตามรายชื่อดังต่อไปนี้
 1. นางเชววยู่ ฟ่าง
 2. นายหลงฮาน เตอ
 3. นายสีเฟิง จาง/
3. จำนวนหรือชื่อกรรมการซึ่งลงชื่อผูกพันบริษัทได้คือ นายสีเฟิง จาง ลงลายมือชื่อและ
ประทับตราสำคัญของบริษัท/
- 4.ทุนจดทะเบียน 100,000,000.00 บาท / หนึ่งร้อยล้านบาทถ้วน/
5. สำนักงานแห่งใหญ่ ตั้งอยู่เลขที่ 202 อาคารเลขคองคอร์ด ทาวเวอร์ ชั้นที่ 8 ห้อง 807 ถนนรัชดาภิเษก
แขวงห้วยขวาง เขตห้วยขวาง กรุงเทพมหานคร/
6. วัตถุประสงค์ของบริษัทมี 23 ข้อ ดังปรากฏในสำเนาเอกสารแนบท้ายหนังสือรับรองนี้ จำนวน 2 แผ่น
โดยมีลายมือชื่อนายทะเบียนซึ่งรับรองเอกสารและประทับตราสำนักงานทะเบียนหุ้นส่วนบริษัทเป็นสำคัญ

ออกให้ ณ วันที่ 21 เดือน กรกฎาคม พ.ศ. 2560



คำเตือน : ผู้ใดตรวจสอบขอทราบท้ายหนังสือรับรองฉบับนี้ทุกครั้ง



กรมพัฒนาธุรกิจการค้า กระทรวงพาณิชย์
Department of Business Development
Ministry of Commerce
โทร. 02 526 7600

บริการ Creative Services
สายด่วน 1570 www.dbd.go.th

ปรากฏข้อความในรายการตามเอกสารทะเบียนนิติบุคคล ณ วันออกหนังสือนี้

1. ชื่อบริษัท บริษัท ไฮเซ็นส์ อินเตอร์เนชั่นแนล (ประเทศไทย) จำกัด

2. กรรมการของบริษัทมี 3 คน ตามรายชื่อดังต่อไปนี้

1. นางเชววยู่ ฟ่าง
2. นายหลงฮาน เตอ
3. นายสีเฟิง จาง/

3. จำนวนหรือชื่อกรรมการซึ่งลงชื่อผูกพันบริษัทได้คือ นายสีเฟิง จาง ลง
ลายมือชื่อและประทับตราสำคัญของบริษัท/

4. ทุนจดทะเบียน 100,000,000.00 บาท / หนึ่งร้อยล้านบาทถ้วน/

5. สำนักงานแห่งใหญ่ ตั้งอยู่เลขที่ 202 อาคารเลขคองคอร์ด ทาวเวอร์ ชั้นที่ 8 ห้อง 807 ถนนรัชดาภิเษก
แขวงห้วยขวาง เขตห้วยขวาง กรุงเทพมหานคร/

6. วัตถุประสงค์ของบริษัทมี 23 ข้อ ดังปรากฏในสำเนาเอกสารแนบท้าย
หนังสือรับรองนี้โดยมีลายมือชื่อนายทะเบียนซึ่งรับรองเอกสารและประทับตราสำนักงานทะเบียนหุ้นส่วนบริษัทเป็นสำคัญ

ออกให้ ณ

Hisense | HITACHI

Showroom - Service Center - Training Center

Qingdao Hisense Hitachi Air-conditioning Systems Co., Ltd.

Thailand Branch Office



Service & Training Center of Asia



Hisense



Hi-class Factory

Hisense factory in Qingdao, China.



Hisense & Hitachi
VRF Indoor Unit
Production

Hisense & Hitachi
VRF Outdoor Unit
Production

We produce
Hisense VRF and Hitachi VRF



Some Certificates

TÜV Rheinland (China) Ltd.
Member of TÜV Rheinland Group

TÜVRheinland®
Precisely Right.

Qingdao Hisense Hitachi Air-conditioning Systems Co., Ltd.
Mr. Guo Jinde
218, Qianwang Road, Economic and Technological Development Zone
Qingdao, P.R. China

Date : 06.04.2017
Our ref. : 809 01
Your ref. : G.J.D.

Ref : AM Certificate of Conformity (Module A)
Type of Equipment : Inverter-driven Multi-split Air Conditioner (Heat Pump) Outdoor Unit
Model Designation : See Certificate
Certificate No. : AM 90379472 0001
Report No. : 90069336 001

Dear Mr. Guo Jinde,

We herewith confirm that a sample of the above mentioned technical equipment has been tested and was found to be in accordance with the relevant requirements.

Enclosed please find your Certificate of Conformity.

We appreciate your kind support and would like to offer our assistance and continuous services in the future.

With kind regards,
Certification Body

Daniel Liu *Daniel Liu*

Enclosure

北京中德机电检测有限公司 www.tuvr.com.cn 检测、认证、培训、咨询
TÜV Rheinland (China) Ltd. One 1st, AWC Bldg., No. 106, Central Road, East 3rd Ring Road, Chaoyang District, Beijing, 100021, P.R. China
Tel.: 010-5166 6666 Fax: 010-5166 6666 E-mail: tuvr@tuvr.com.cn Internet: <http://www.tuvr.com.cn>

CE

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

Ref. Certif. No.: JFTCV-079848

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE CB

CB TEST CERTIFICATE **CERTIFICAT D'ESSAI OC**

Product: Inverter-driven Multi-split Air-Conditioner (Heat Pump) Outdoor Unit

Name and address of the applicant: Qingdao Hisense Hitachi Air-conditioning Systems Co., Ltd. 218 Qianwang Road, Economic and Technological Development Zone, Qingdao, P.R. China

Name and address of the manufacturer: Yinhua Corporation, Qianwang Road, Economic and Technological Development Zone, Qingdao, P.R. China

Name and address of the factory: Qingdao Hisense Hitachi Air-conditioning Systems Co., Ltd. 218 Qianwang Road, Economic and Technological Development Zone, Qingdao, P.R. China

Design and principal characteristics: AC 380-415V, 3N, 50/60Hz, R410A, class I, IPX4 Rated Input Power: refer to test report

Marking of the product: None

Name: N/A

Model / Type Ref. Ref. No. type: AWVT-212UKSTA AWVT-180UK31A AWVT-170UK31A AWVT-180UK31A AWVT-110UK31A AWVT-90UK31A AWVT-70UK31A

For model differences, refer to test report.

IEC 60335-2-40:2002 + A1 + A2
IEC 60335-1:2010

60069336 001

TÜVRheinland®

TÜV Rheinland Japan Ltd. Global Technology Assessment Center
2-25-1, Akihabara, Chiyoda-ku, Tokyo 100-8585, Japan
Phone: 03-5561-2000
Fax: +81-03-5561-2004
E-mail: info@tuvr.com
Web: www.tuvr.com

Date: 14. 04. 2017 Signature: Eric Zeng

CB

AHRI CERTIFIED®
www.ahridirectory.org

Certificate of Product Ratings

AHRI Certified Reference Number: 10274225 Date: 02-25-2018 Model Status: Active

Old AHRI Reference Number: N/A
Brand Name: HISENSE
Series Name: N/A
AHRI Type: HWBVA-CB
Indoor Type: Non-Ducted Indoor Units
System Model Number: AWVT-120JH9QB
Module Model Number 1: AWVT-120JH9QB
Module Model Number 2: N/A
Module Model Number 3: N/A
Module Model Number 4: N/A
Module Model Number 5: N/A
Module Model Number 6: N/A
Module Model Number 7: N/A

Rated as follows in accordance with the latest edition of AHRI Standard 1230 for VRF Air-Conditioning and Heat Pump Equipment and subject to rating according to AHRI-approved, independent, third-party testing:
Cooling Capacity (REF) 114000
EER (REF) 12.10
SEER 126.50
SCLH: N/A
SCLH: N/A
High Heat (HT) 126000
High COP (HT) 4.26
Low Heat (LT) 96000
Low COP (LT) 2.68

AHRI CERTIFIED®
www.ahridirectory.org

AHRI
AHRI Model Status are those that an AHRI Certification Program Participant is currently producing AHJ selling or offering for sale. CR new models that are being marketed but are not yet being produced. Production Discontinued Model Status are those that an AHRI Certification Program Participant is no longer producing. DTC will only apply to models that are currently being produced. The new published status above apply to the company's AHRI Model Status.

AHRI does not endorse the production listed on this Certificate and makes no representation, warranty or guarantee as to, and assumes no responsibility for, the production listed on this Certificate. AHRI expressly disclaims all liability for the damage of any kind arising out of the use or performance of the products or the unauthorized alteration of data listed on this Certificate. Certified ratings are valid only for models and configurations listed in the directory of our certification.

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This Certificate and its contents are proprietary products of AHRI. This Certificate shall only be used for individual, personal and confidential reference purposes. The contents of this Certificate may not be reproduced, copied, disseminated, altered, copied, printed, or otherwise utilized, in any form or manner or by any means, except for the user's individual, personal and confidential reference.

CERTIFICATE VERIFICATION
To verify the AHRI Model Status on this certificate can be verified at www.ahridirectory.org, click on "Verify Certificate" link and enter the AHRI Certified Reference Number and the date on which the certificate was issued, which is listed above, and the Certificate No., which is listed at bottom right.

©2018 Air-Conditioning, Heating, and Refrigeration Institute CERTIFICATE NO.: 13164601/1901000

AHRI

EUROVENT CERTIFIED PERFORMANCE
Eurovent Certification S.A.S. - 69501, rue de la Vallée - 75009 PARIS FRANCE
R.C.S. PARIS 513 123 637 - NAF 71.20Z

Certification Diploma N° : 18.02.005

Eurovent Certia Certification certifies that

Variable Refrigerant Flow

from

Qingdao Hisense Hitachi Air-Conditioning Systems Co., Ltd.
Located at
218, Qianwang Road, - Qingdao Economic and Technology Development Zone
266102 Qingdao, China

Trade name
Hisense

have been assessed according the requirements of following standard
OM-15-2018

All products inside this defined scope are certified according to "Certify-all" principle

The list of certified products is displayed at:
<http://www.eurovent-certification.com>

Qingdao Hisense Hitachi Air-Conditioning Systems Co., Ltd.
is authorised to use the EUROVENT CERTIFIED PERFORMANCE mark
in accordance with the rules specified in the Operational Manual
OM-15-2018

Erick MELQUIOND
President

Approval date : 2018/02/14
Re-checked on : 2018/02/14
Valid until : 2019/09/30

EUROVENT

TÜVRheinland®

Certificate of Appointment

No. UA 50380480-0001

The Applicant
Qingdao Hisense Hitachi Air-conditioning Systems Co., Ltd. Test/Evaluation Center
218, Qianwang Road, Economic and Technological Development Zone
Qingdao
P. R. China

has been appointed as a suitable CTF Stage 2 Testing Laboratory for the standard(s)
IEC 60335-1 (BROU)*
IEC 60335-2-40*
IEC 62233
*(restricted to specific classes. Refer to Audit report)

An assessment of the laboratory was conducted according to the applicable clauses of ISO/IEC 17025 as well as the rules outlined in OD-2048
by a TÜV Rheinland auditor
Assessment Report No. 16082045-001
This certificate is valid until the next scheduled audit or up to 18 months,
at the discretion of TÜV Rheinland.

Date of issue: 09.06.2017 National Certification Body

TÜV Rheinland Japan Ltd.
4-2-2, Kita-Yamanashi, Tsukuba-shi, 284-0821 Yamanashi, JAPAN
Tel. + 81-48-470-1800 e-mail: info@tuvr.com
Fax. + 81-48-475-5231 <http://www.tuvr.com>

Lily Cai

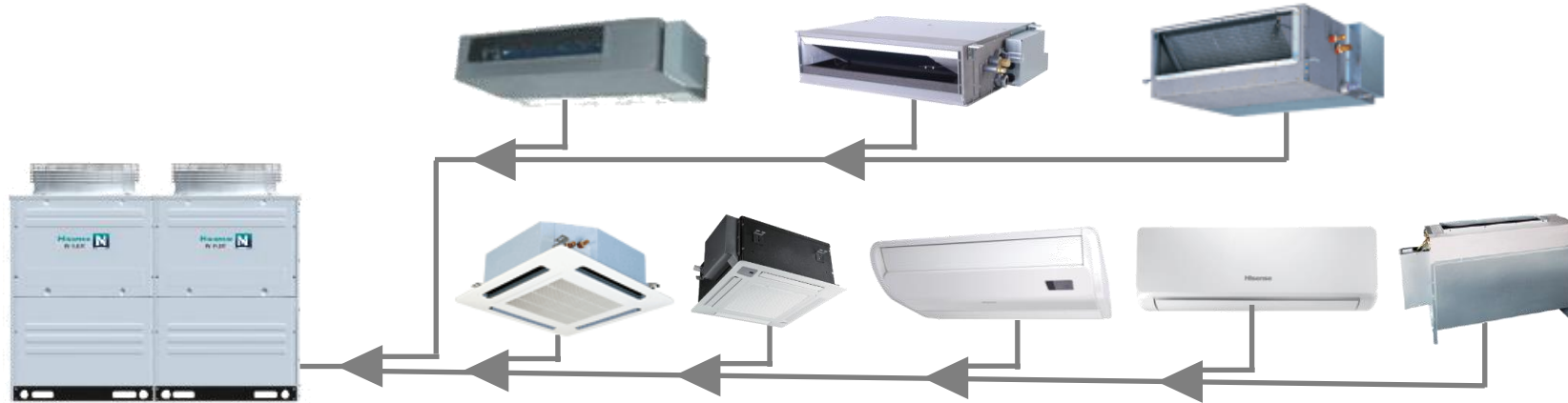
CTF

Hisense



Hi-quality Product

Hisense



VRF System



PART ONE

Outdoor Units

Outdoor Units Products Lineup

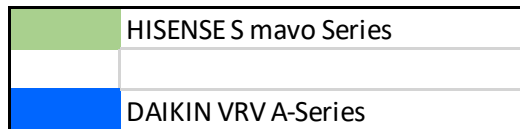
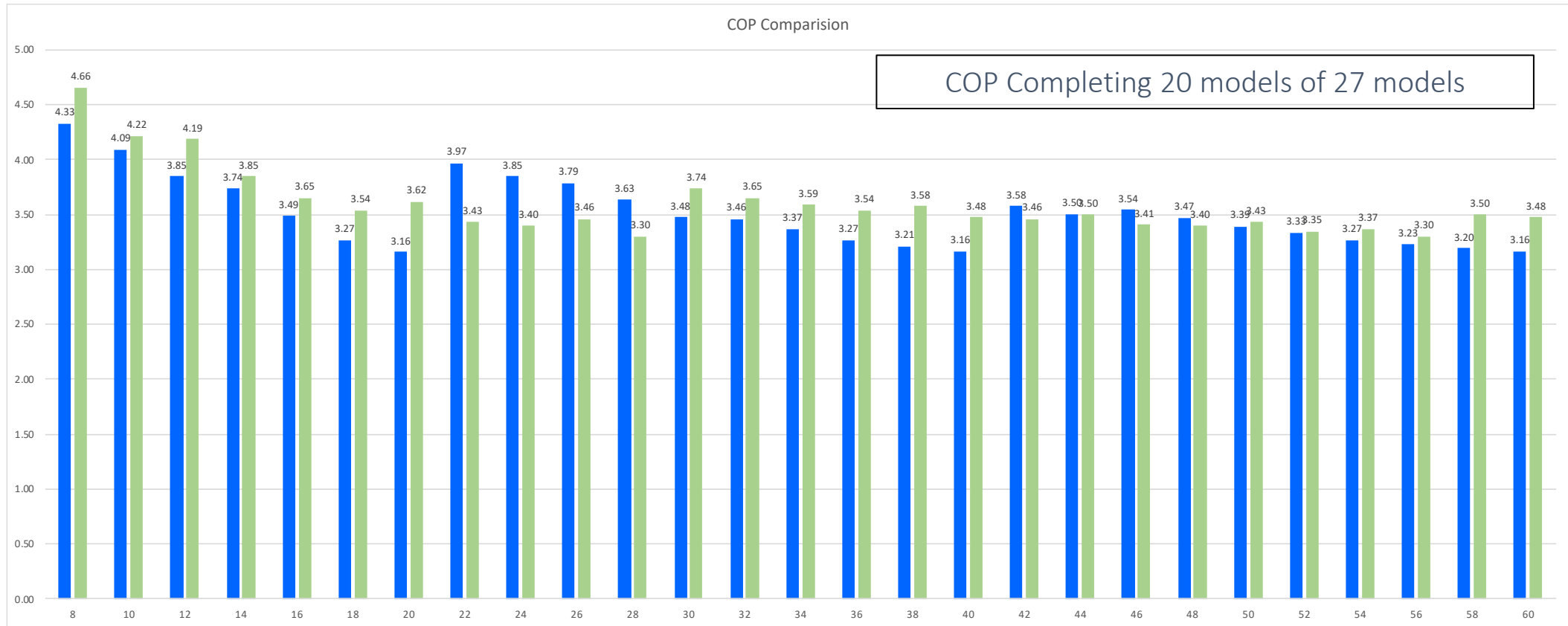
Top Flow Series – Hi-FLEXi S-Mavo Series ^{NEW}

All DC

Model	Power Supply	8~12 HP	14~28 HP	30~44 HP	46~56 HP	58~66 HP	68-84 HP	86~88 HP	90~112 HP
Standard	AC3/380~415V/ 50/60Hz								
		Single Unit:8-28HP		30~56HP		58~84HP		86~112HP	
High Efficiency	AC3/380~415V/ 50/60Hz								
		Single Unit:8-22HP		24~44HP		46~66HP		68~88HP	




Latest products

VRF Energy Efficiency (COP) comparison Hisense VS D Brand

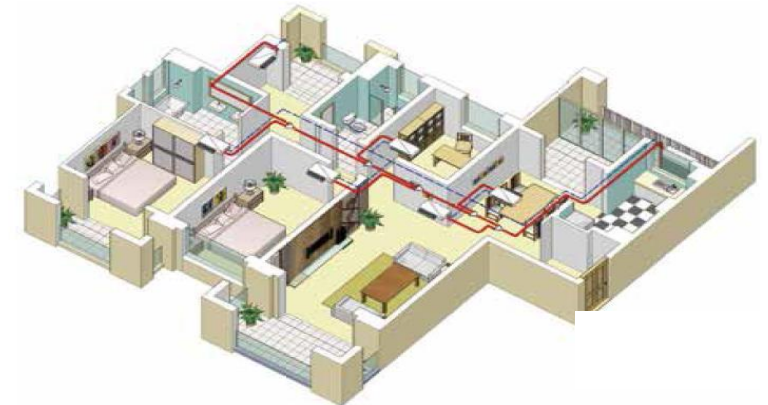


- ประสิทธิภาพคอยล์ร้อนของ Hisense มีค่าดีกว่า DAIKIN 20 รุ่น จากทั้งหมด 27 รุ่น

Hi-Smart H Series – Outdoor Unit

New Appearance										
	Power Supply	3HP	4HP	5HP	4HP	5HP	6HP	8HP	10HP	12HP
220-240V ~ 50/60Hz	●	●	●	●	●	●	—	—	—	—
380~415V 3N~ 50/60Hz	—	—	●	—	●	●	●	●	●	●
220V 3N~ 60Hz	—	—	—	—	—	—	●	●	●	●

- Full DC inverter-driven compressor and fan motor.
- Acquired certification of MEPS/SAA/RCM (except yellow area) .



MEPS



CE CB



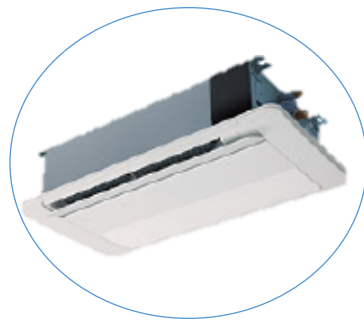
PART TWO

Indoor Units

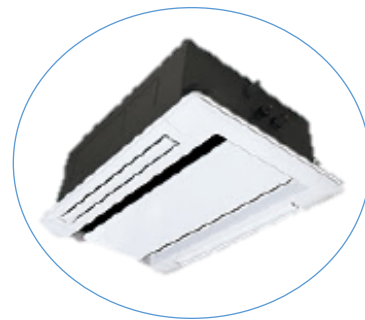
Indoor Units



Console



1-Way Cassette



2-Way Cassette



4-Way Cassette



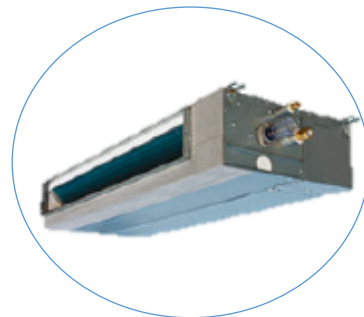
4-Way Cassette
(Compact)

Types of Indoor Unit

Ceiling Ducted Type
(High/Low Static Pressure)



Ceiling Ducted
(DC Low-height)



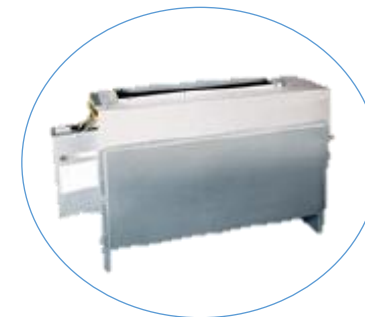
Ceiling &
Floor



Wall Mounted



Floor Concealed



Indoor Units

1-Way Cassette

Key features

- 6 models from 7,500 BTU to 24,200 BTU
- Efficiency DC inverter fan motor,
- Adjustable air speed 6 flow rate
- Super low noise level
- Wider 3D-air blow range, original position return when stop
- Standard equipped drain pump with max. drainage height 1200mm
- Fresh Air introducing



Indoor Units

4-Way Cassette

Key features

- 11 models from 9,600 BTU to 54,600 BTU
- 360 ° around air supply , more even temperature
- DC Fan motor, 6 flow rate adjustable
- Standard equipped drain pump with max. drainage height 850mm;
- Compact and thin;
- Broad range of air supply
- Fresh air introducing



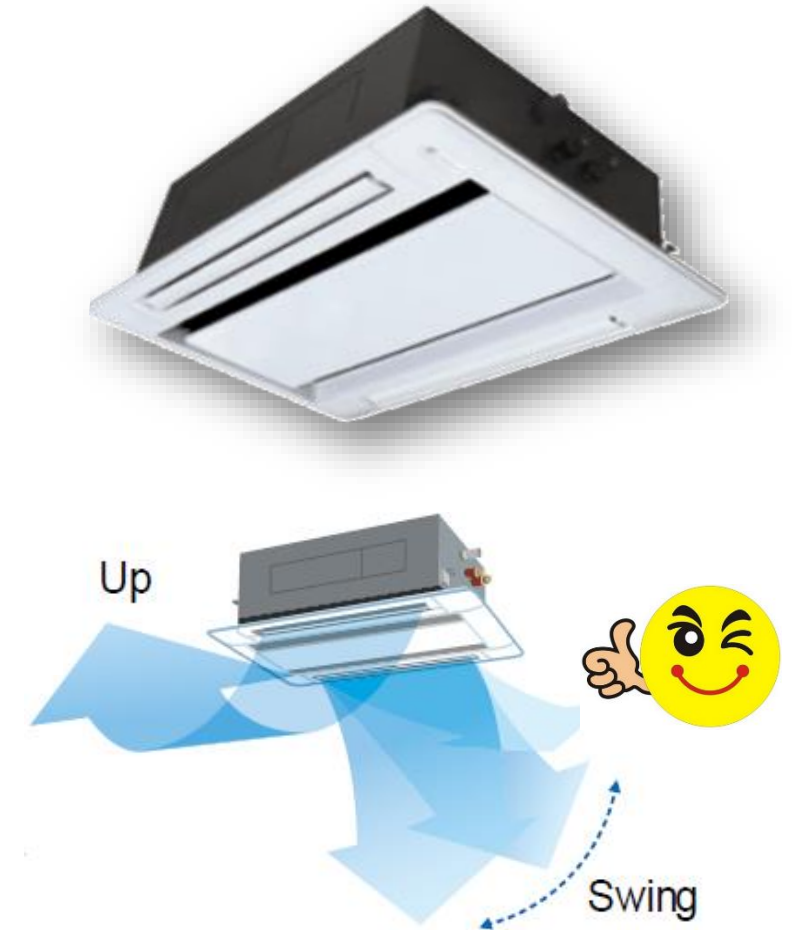
Indoor Units

2-Way Cassette

Key features

- 11 models from 7,500 BTU to 54,600 BTU
- DC Fan motor, Adjustable air speed 4 flow rate
- Standard equipped drain pump with max. drainage height 1200mm;
- Low noise level;
- Super compact structure design;
- Fresh Air Introducing;
- Individual louver control.

The louver setting function allows the angle of 2 louvers to be individually adjusted.

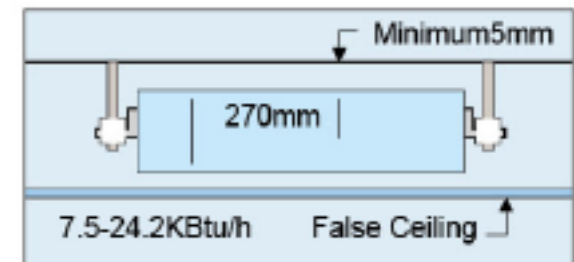


Indoor Units

Ceiling Ducted (High Static Pressure)

Key features

- 15 models from 7,500 BTU to 95,600 BTU;
- 3 flow rate adjustable (H/M/L)
- Adjustable indoor unit static pressure: **50, 80 Pa**
 - FCU 7,500 BTU – 24,200 BTU
- Adjustable indoor unit static pressure: **90, 120 Pa**
 - FCU 28,700 BTU – 54,600 BTU
- Max. static pressure **220 Pa**
 - FCU 76,500 BTU – 95,600 BTU
- Drain pump can be supplied as optional part with max. drainage height 900mm



Indoor Units

Ceiling Ducted (DC Low-height)

Key features

- 9 models from 5,800 BTU to 24,200 BTU ;
- Ultra-thin body design, height is 192mm;
- Efficiency **DC motor**, 6 flow rate adjustable;
- Adjustable indoor unit static pressure; **0, 10, 30 Pa**
- Adjustable humidity for comfort;
- Standard equipped drain pump with max. drainage height 1200mm.

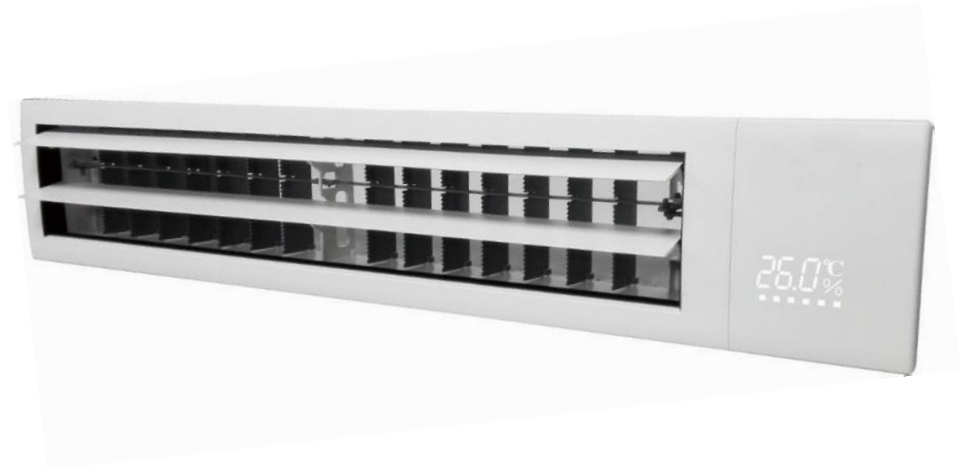


Indoor Units

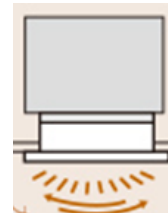
Ceiling Ducted (DC Low-height)

3D Air-flow Panel 🙌😜

- 3 wind setting type (normal, 3D, super long distance)
- Temperature and humidity display
- Wide louver working angle



Horizontal louver 0~60°, 7 angle setting



Vertical louver -45~45°, 7 angle setting

Indoor Units

Ceiling Ducted (DC Low-height) 

Adjustable humidity 

- With a humidity sensor. Precisely control the temperature and humidity, there are "temperature first" and "humidity priority" two modes.
- The humidity control range is 35%- 90%



Indoor Units

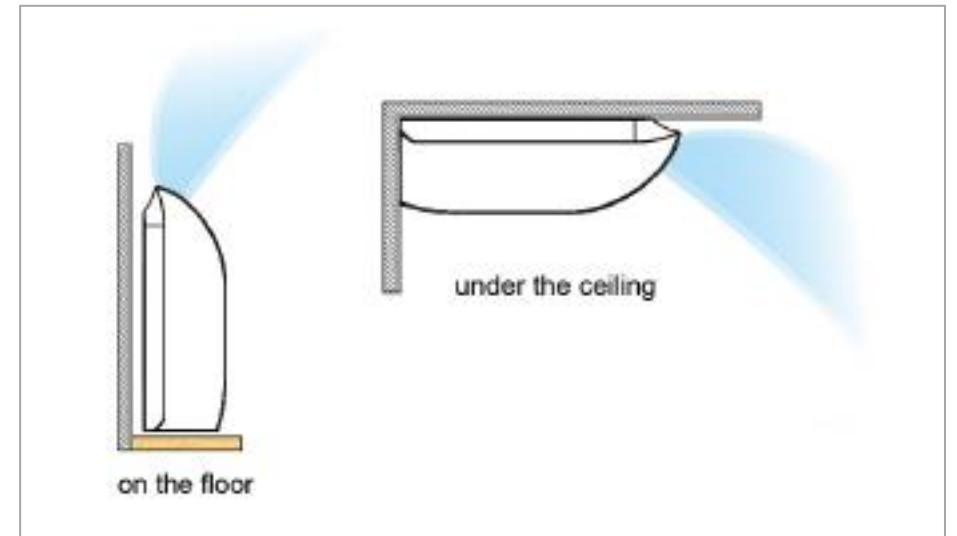
Ceiling & Floor

Key features

- 8 models from 17,100 BTU to 48,500 BTU
- Flexible installation;
- Intelligent 3D air flow;



Horizontal & Vertical Air Louver

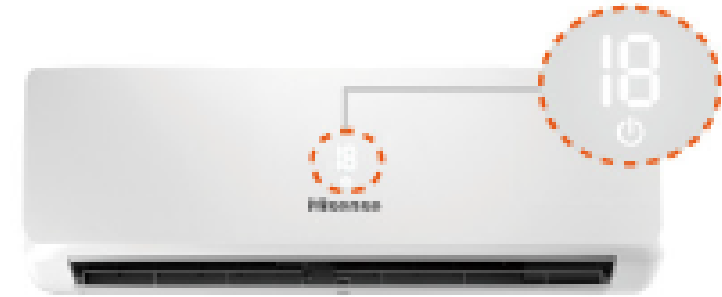


Indoor Units

Wall Mounted

Key features

- 8 models from 7,500 BTU to 24,200 BTU
- 4 fan speed adjustable;
- Hidden LED display;
- Sleep mode can be kept for 8 hours;
- Low sound level



Floor Concealed

Key features

- Compact design
- 3 fan speed adjustable;
- 4 models from 9,600 BTU to 24,200 BTU



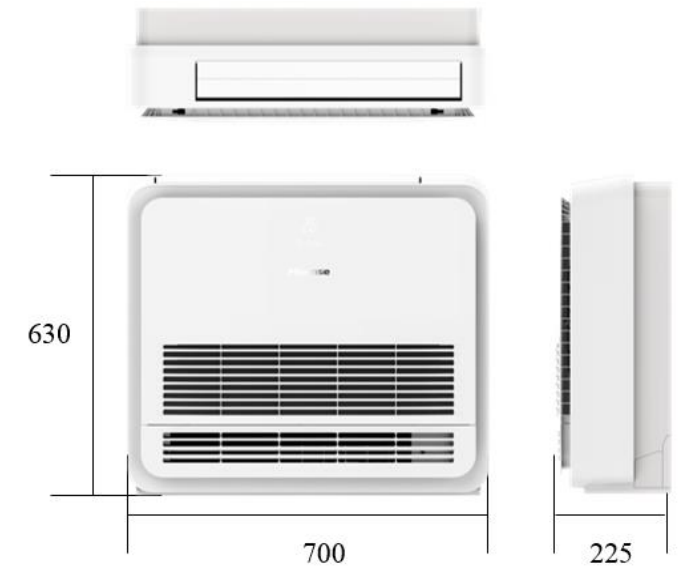
Indoor Units

Console 

Key features

- Suspension flat design, realizing digital display function
- Display the indoor temperature in real time
- DC fan motor
- 6 air flow speed adjustment

HP	0.5HP	0.8HP	1.0HP	1.2HP	1.5HP	1.8HP
Outer Dimensions (mm)	630×700×225					
Cooling Capacity (kW)	1.5	2.2	2.8	3.6	4.5	5.0
Heating Capacity (kW)	2.0	2.5	3.3	4.2	5.0	5.6

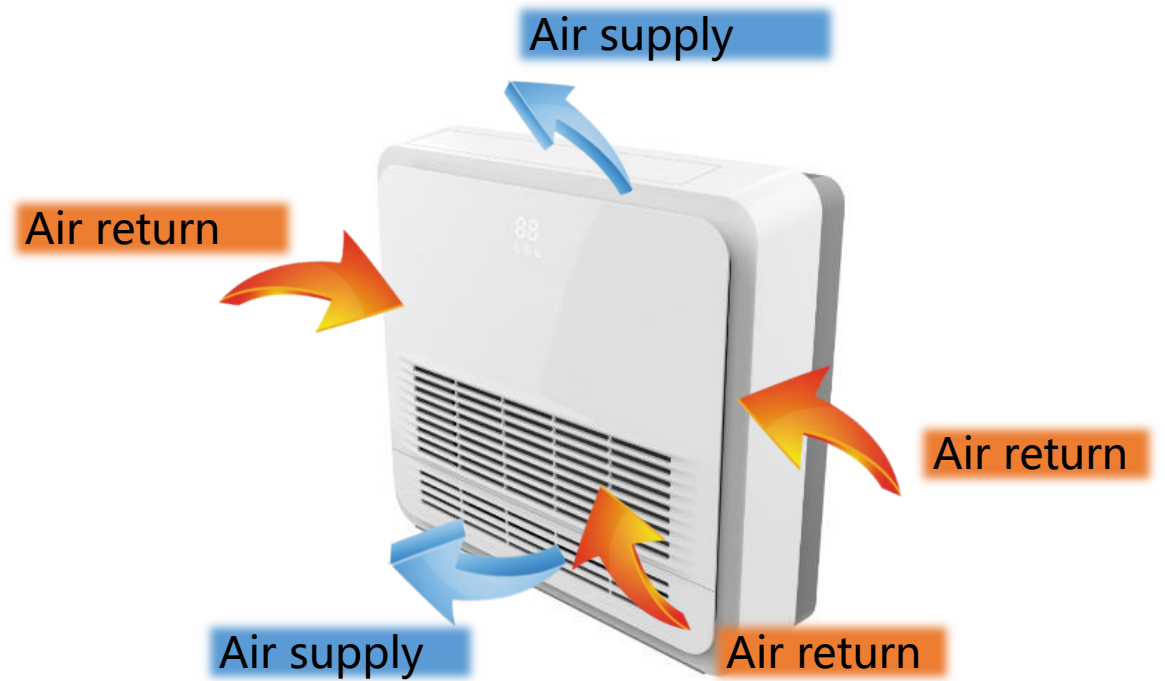
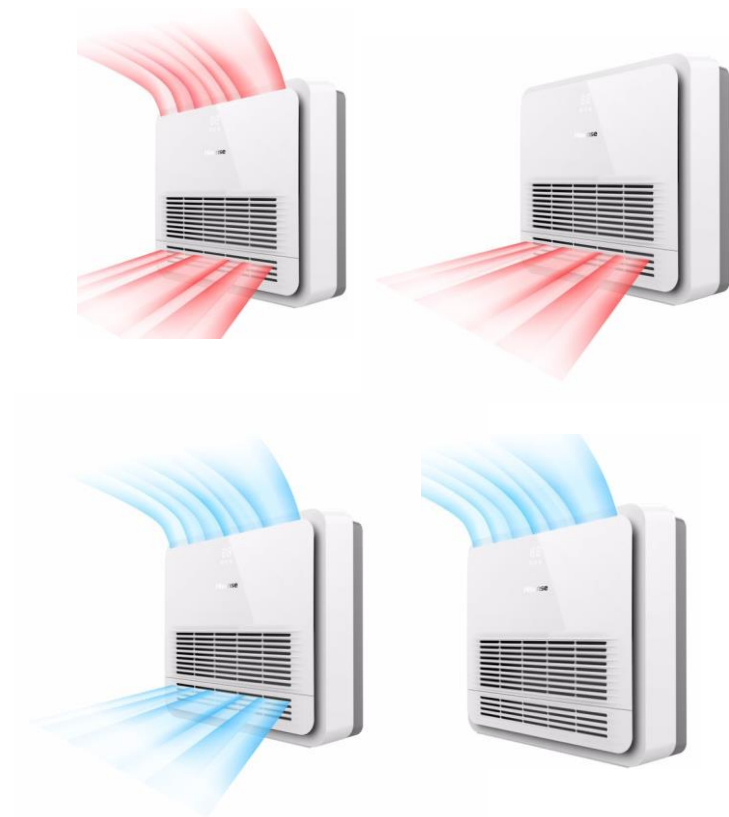


Indoor Units

Console NEW

Key Features

- Floor heating mode & 3D air cooling mode





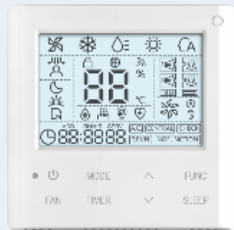
PART THREE

Control System

Hisense Controller Lineup

Individual Controller

Wired Controller (5)



HYXE-M01H



HYXM-VB01



HYXE-S01H



HYXE-VA01



HYXE-J01H

Wireless Controller (1)



HYE-W01

Remote Receiver (3)



HYRE-V02H



HYRE-T02H



HYRE-X01H

Hisense Controller Lineup

Central Controller (2)

Centralized on/off controller



HYJ-J01H

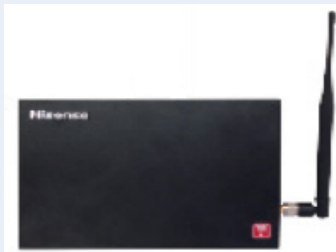
Central Controller



HYJM-S01H

Centralized control system (4)

Hi-Mit



HYJE-H01H

Hi-Dom



HCCS-H128H2C1YM
HCCS-H128H2C1NM

BMS-BACnet



BMS-Modbus



HCPC-H2M1C



PART FOUR

Feather

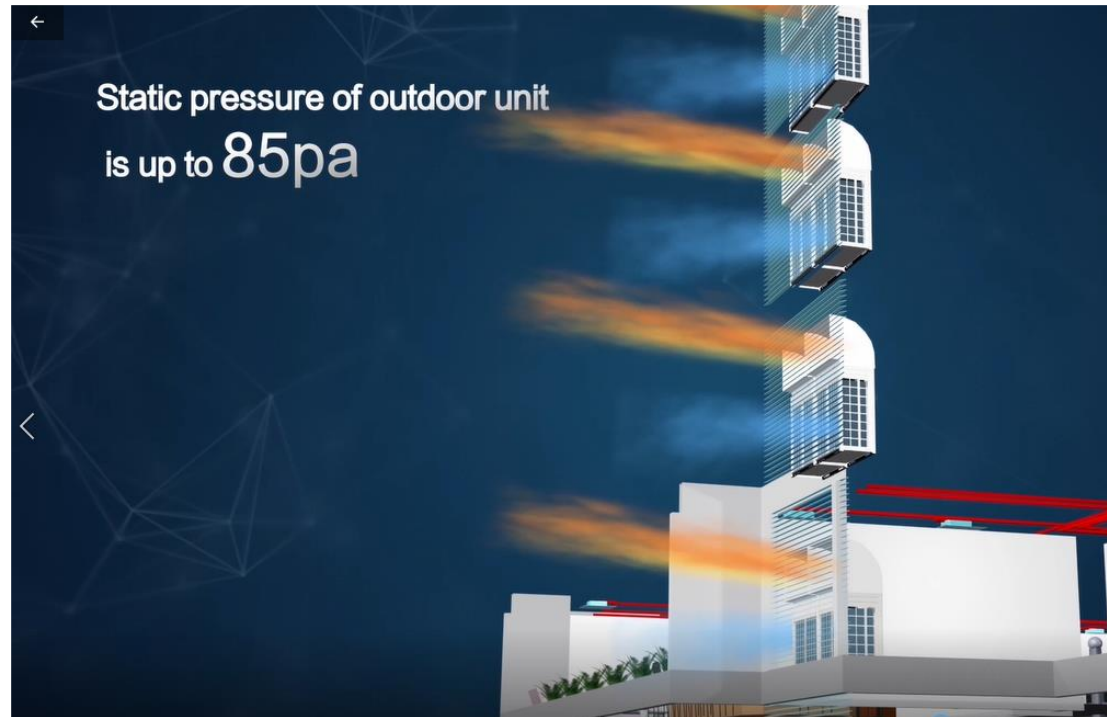
One FCU can be powered off

Hisense

When one indoor unit need maintenance ,it can be powered off separately, and have no influence on the whole system.



Convenient to do repair or cleaning !



Extra-high external static pressure design

The efficient axial fan is designed adopting CFD, finite element method, aviation dynamic fluid simulation analysis and other advanced concepts; its air inlet angle and outlet angle are optimized; together with unique horn air vent design, the external static pressure of outdoor unit is higher, which can better exhaust air and ensure smooth air flow.

- ◎ Adopt high-efficiency DC fan motor
- ◎ The use of high-efficiency fan reduces energy consumption of the motor
- ◎ Can achieve industry-leading level of external static pressure 85Pa

Leading brand to avoid hot air short circuit !

All FCU have outlet air temperature sensor.

Hise



Outlet temperature can be checked easily from remote controller.

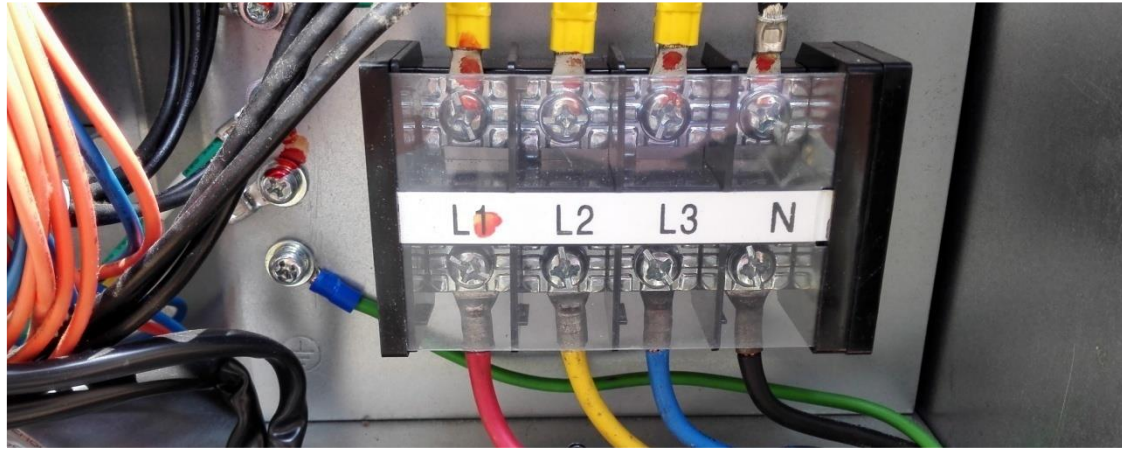
Very useful to analyze problem !

FCU automatically close EEV to stop condensation

Float switch is a standard part in Hisense IDU. To protect the ceiling from getting wet or soaked, the float switch will work to stop IDU when condensed water can't be drained in time because of blockage in the drain pump or drain pump breakdown.



Phase Reverse Protection



If L1, L2, L3 were connected by wrong phase, no damage to the machine.
Alarm code will tell you to change the connection.

EEV with 2,000-Step Adjustment

Refrigerant flow control

Indoor units adopt microcomputer electric expansion valve with 2000-step automatic adjustment function, which can make precise flow adjustment automatically according to the actual load of indoor units with more accurate temperature regulation and better energy efficiency.



2000-Step Electric Expansion Valve

Most precise in the market !

Auto-restart Function



The system operates normally before power off

01

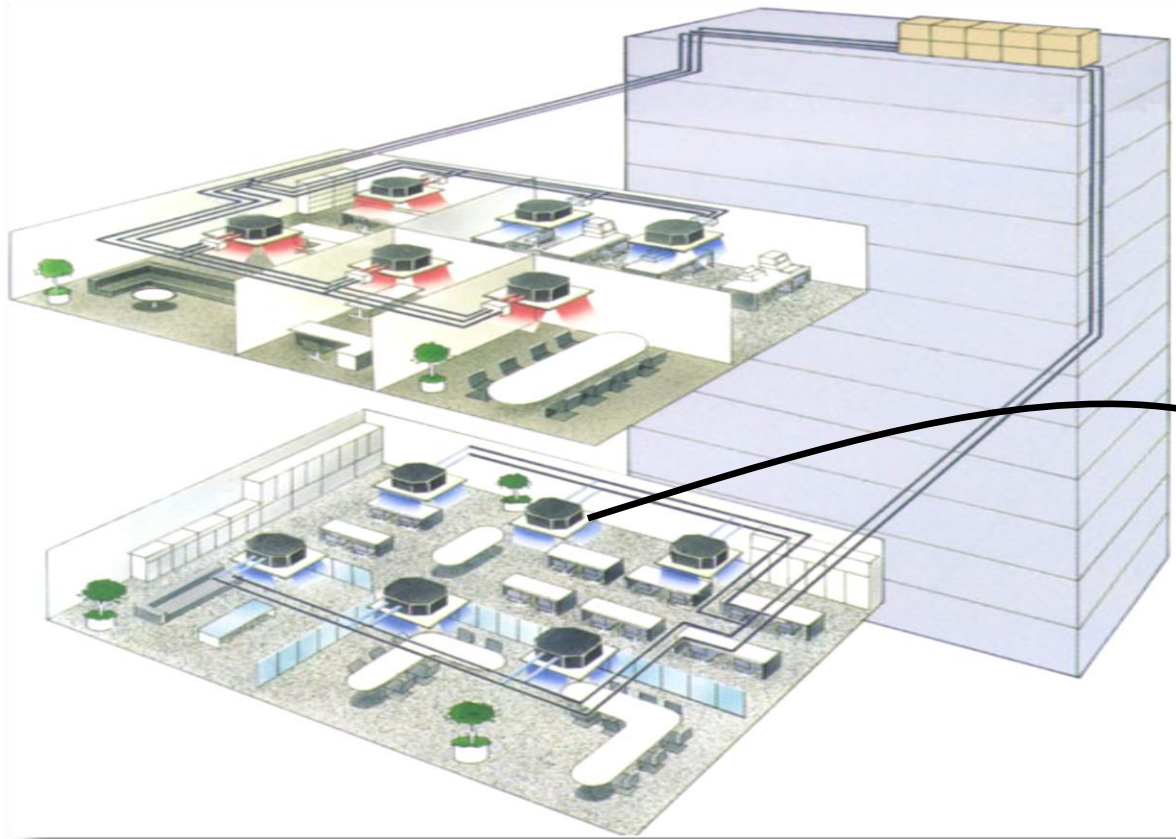
After power off (memory storage) system stops running

02

Restore to the previous state when the power supply is recovered.

03

Central Controller can be connected from FCU



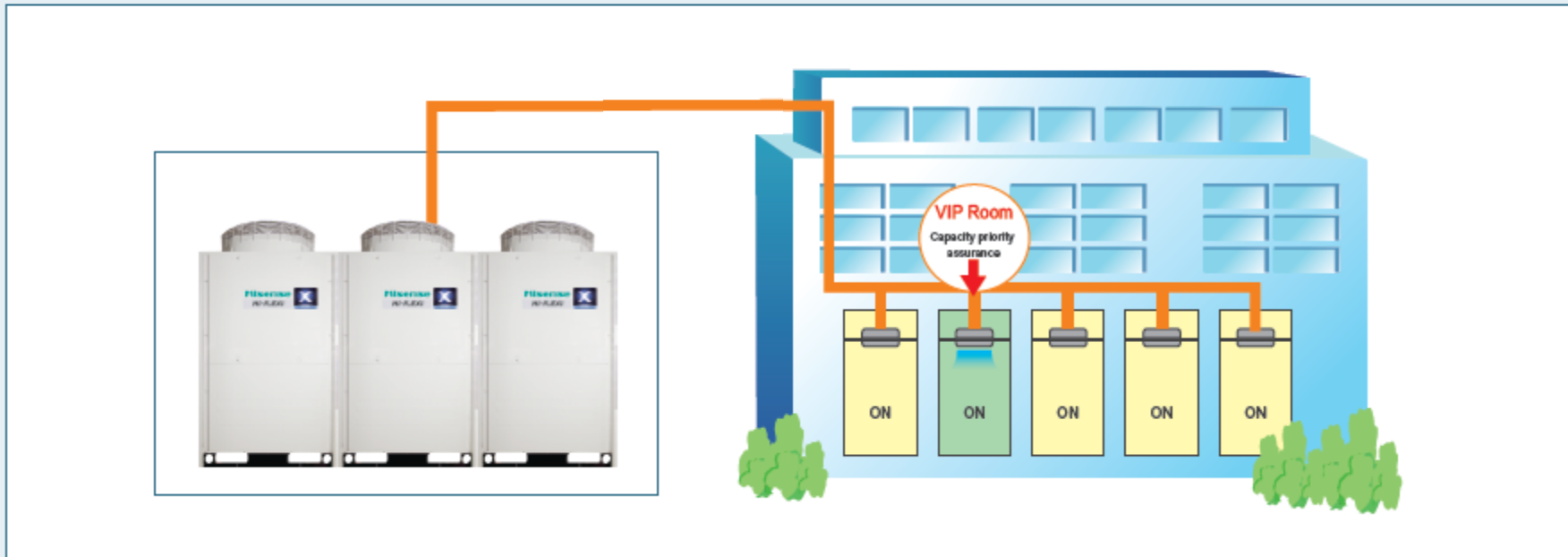
Save cost and installation time !

Hise

FCU can be set as VIP

VIP mode

Hi-FLEXI X series has the VIP mode setting function. Under this mode, the system will satisfy the cooling need of the VIP room firstly.

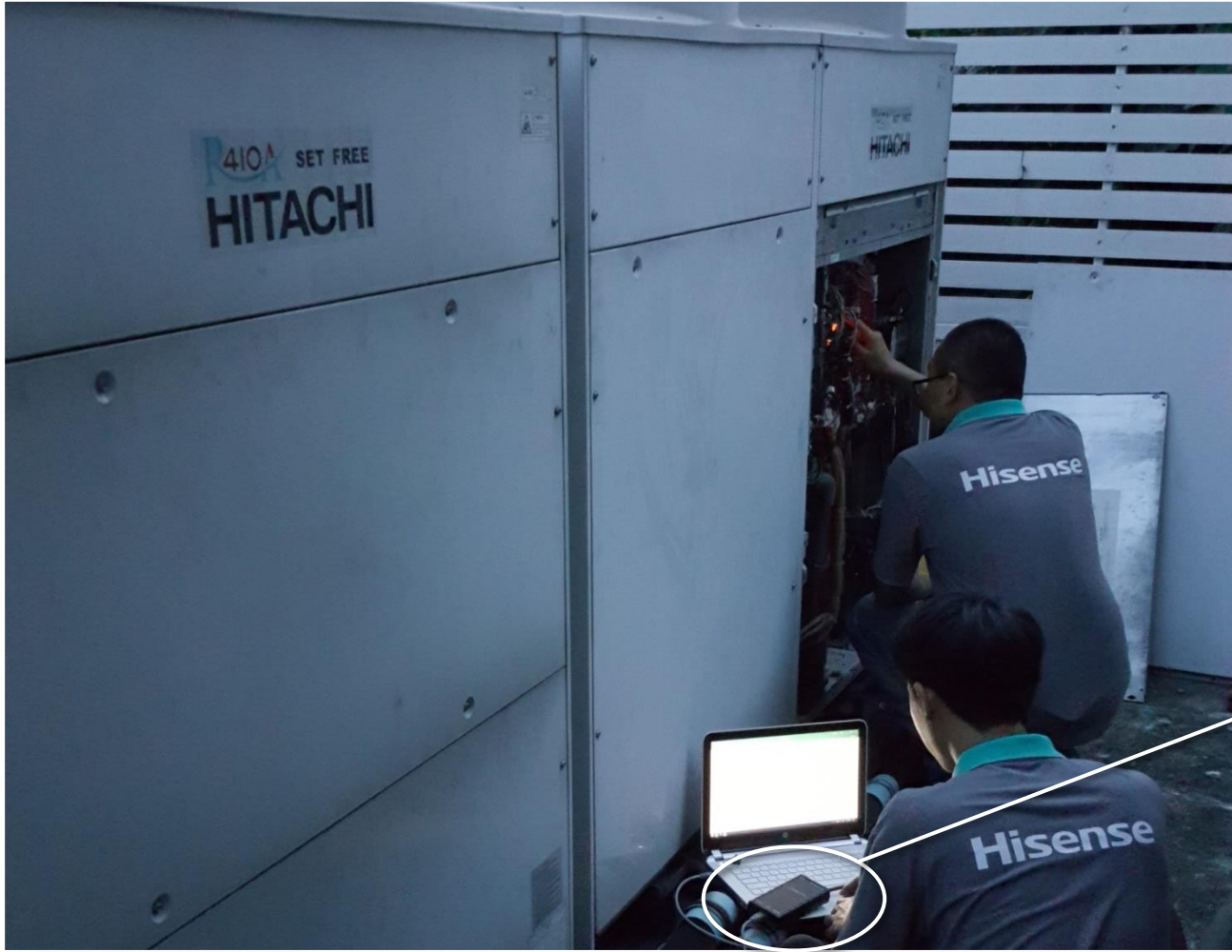


Max. 5 FCUs in one system can be set as VIP.

Hisense



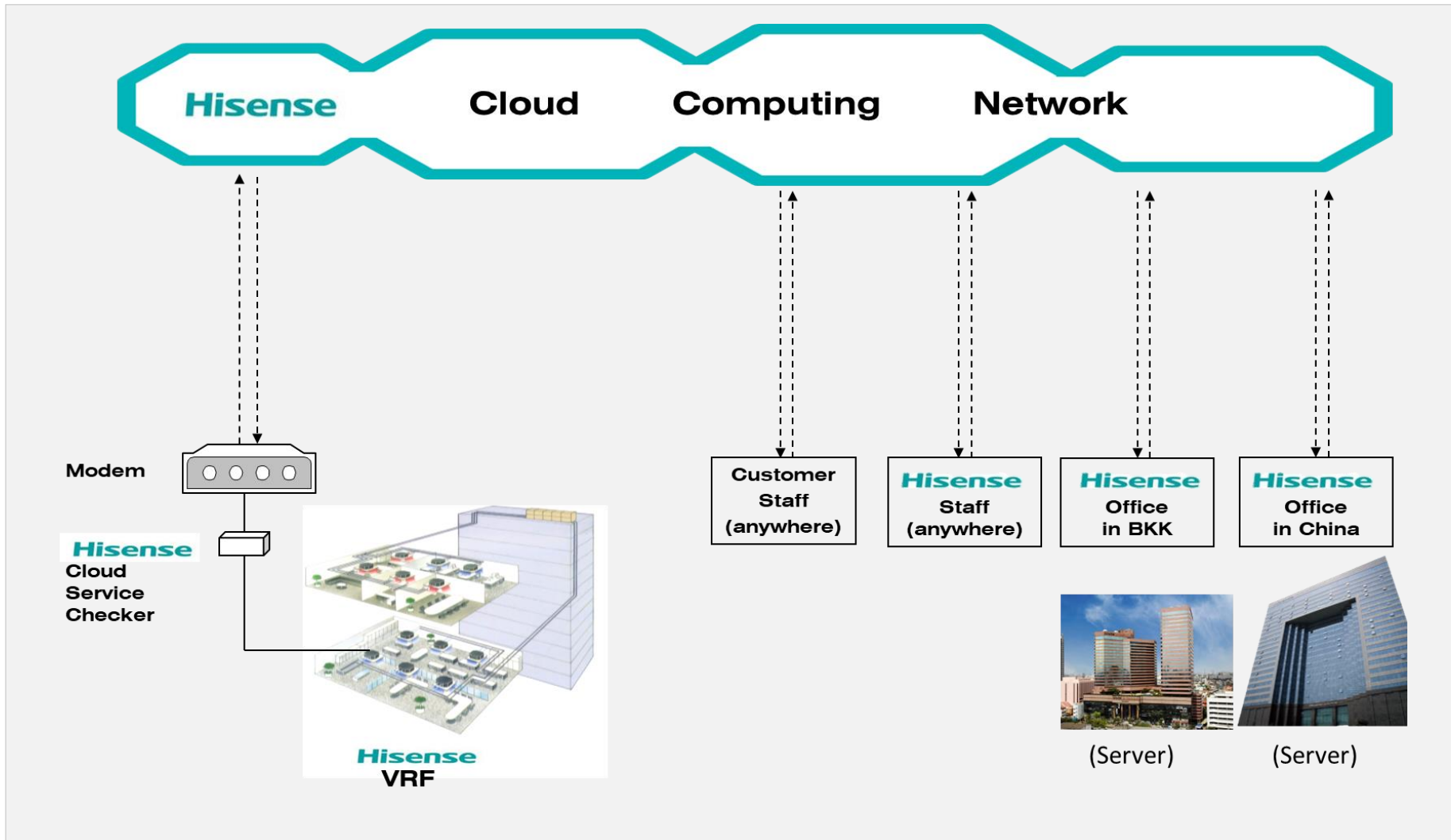
Hi-sense of Service



Before Air Cloud Watching System was born...

Last technology used **Service Checker** to connect on site.

We developed Air Cloud Watching System
aim to connect all VRF around the world.



Easy to access, just enter the **web site**



Each customer have their own **password**.

Map and summary of problems are shown

Hisense VRF
Cockpit
GW management
Data
Curve
admin

home > Cockpit


Fault classification
Data for the last 7 days

Phase anomaly
20%

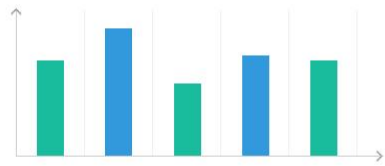
Phase anomaly
20%

Phase anomaly
20%

Phase anomaly
20%




Project failure
Data for the last 7 days



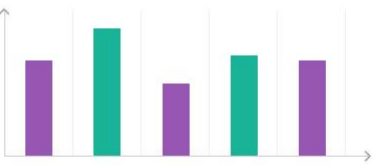
Prediction classification
Data for the last 7 days

Phase anomaly
80%

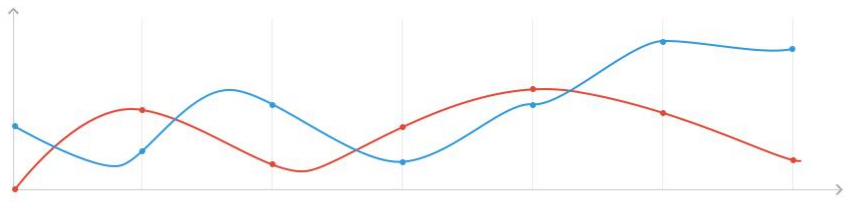
Phase anomaly
80%



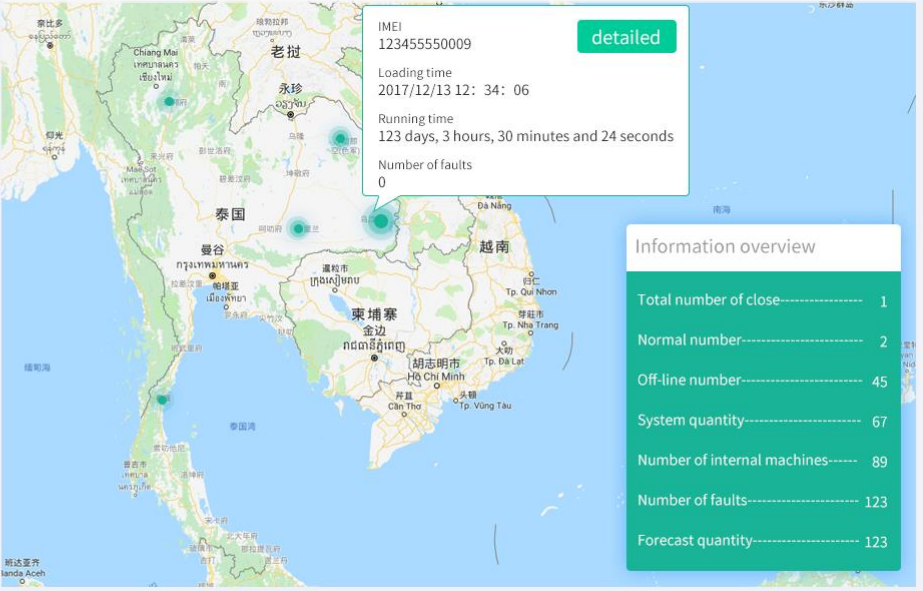
Project prediction
Data for the last 7 days



Project failure
Data for the last 7 days



Project orientation



IMEI
123455550009 detailed

Loading time
2017/12/13 12: 34: 06

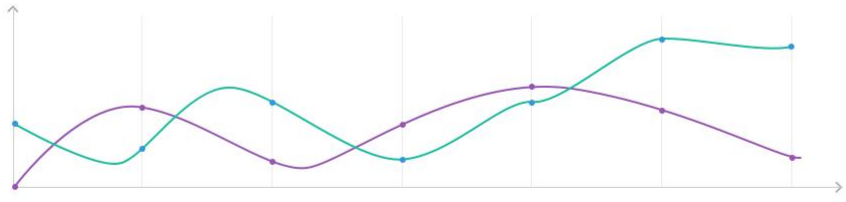
Running time
123 days, 3 hours, 30 minutes and 24 seconds

Number of faults
0

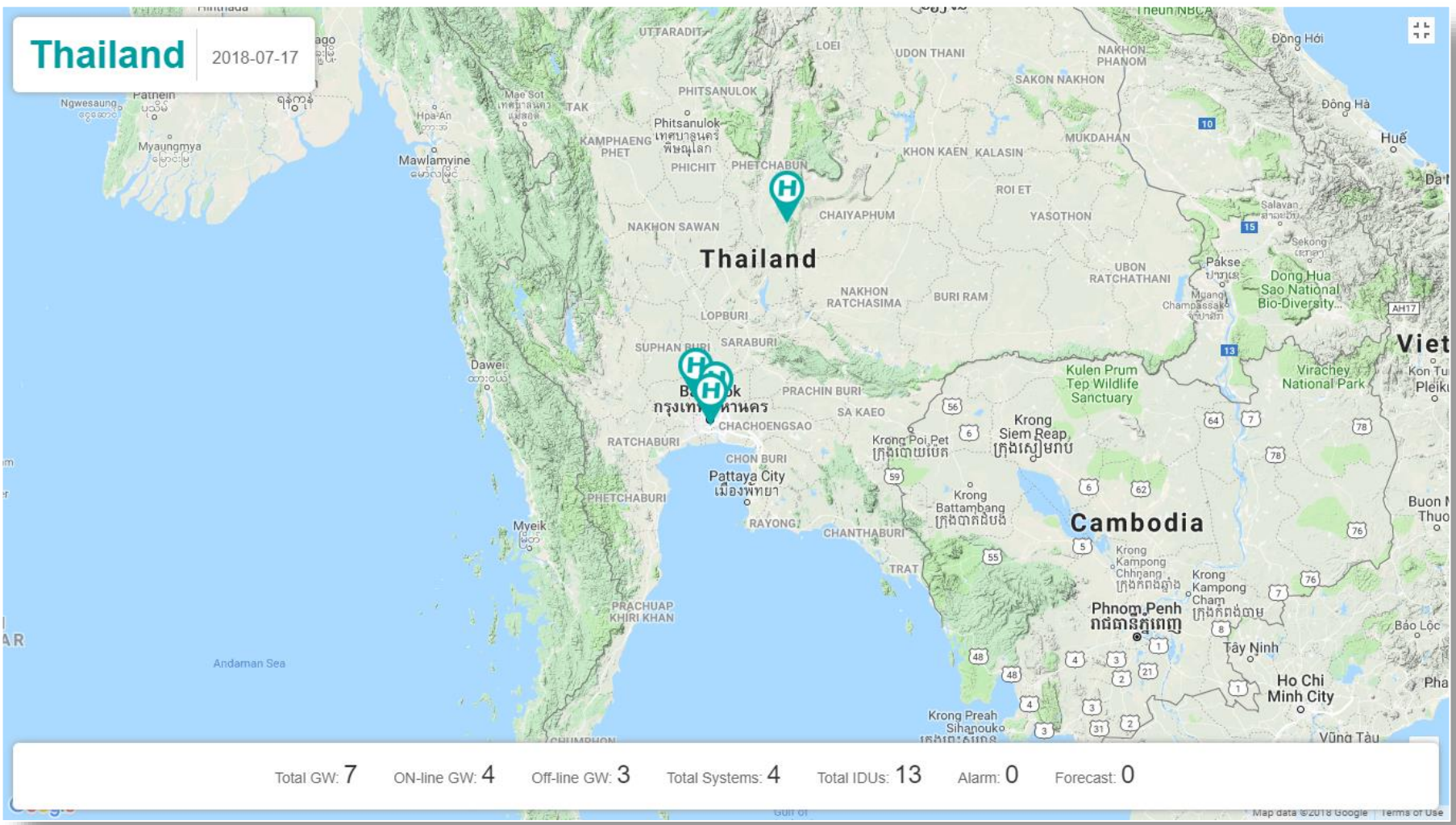
Information overview

Total number of close	1
Normal number	2
Off-line number	45
System quantity	67
Number of internal machines	89
Number of faults	123
Forecast quantity	123

Prediction classification
Data for the last 7 days



One customer can have many projects summarized together



New project can be added up in the future.

Customer can Control FCU by internet

The screenshot displays the Hisense VRF web interface. At the top, there is a navigation bar with the Hisense VRF logo on the left and menu items 'Cockpit', 'GW Management', 'Data', and 'Curve'. The 'GW Management' menu item is currently selected. On the right side of the navigation bar, there is a user profile icon labeled 'admin' and a circular icon with a person silhouette. Below the navigation bar, a breadcrumb trail reads 'Home > GW Management > Control list'. The main content area is titled 'Control list' and contains six control cards for FCUs. Each card is labeled 'control' at the top right and features a temperature display, a status indicator, and two mode icons. The first five cards are arranged in a single row, and the sixth card is positioned below the first one. The temperature settings are 19°C, 19°C, 19°C, 26°C, 19°C, and 26°C. The status indicators are 'ON' buttons. The mode icons are a snowflake (cool) and a fan (low).

FCU ID	Temperature (°C)	Status	Mode 1	Mode 2
1	19	ON	cool	low
2	19	ON	cool	low
3	19	ON	cool	low
4	26	ON	cool	low
5	19	ON	cool	low
6	26	ON	cool	low

While Hisense staffs don't have authorize to do it.



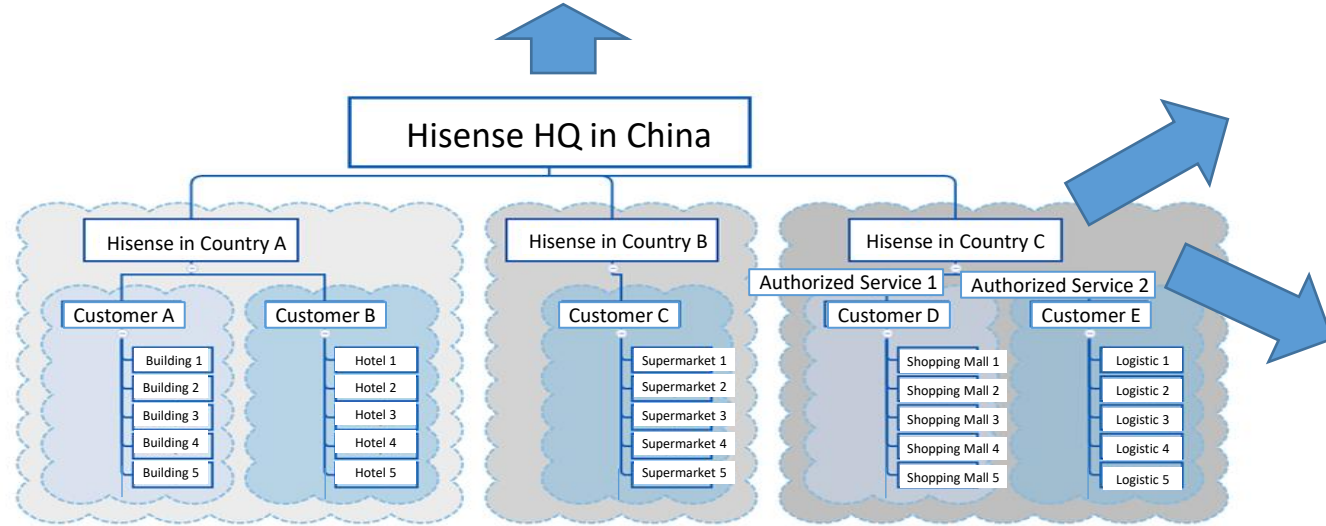
Hisense HQ in China can see all projects in the world.



Hisense office in each country can see all projects in their country.



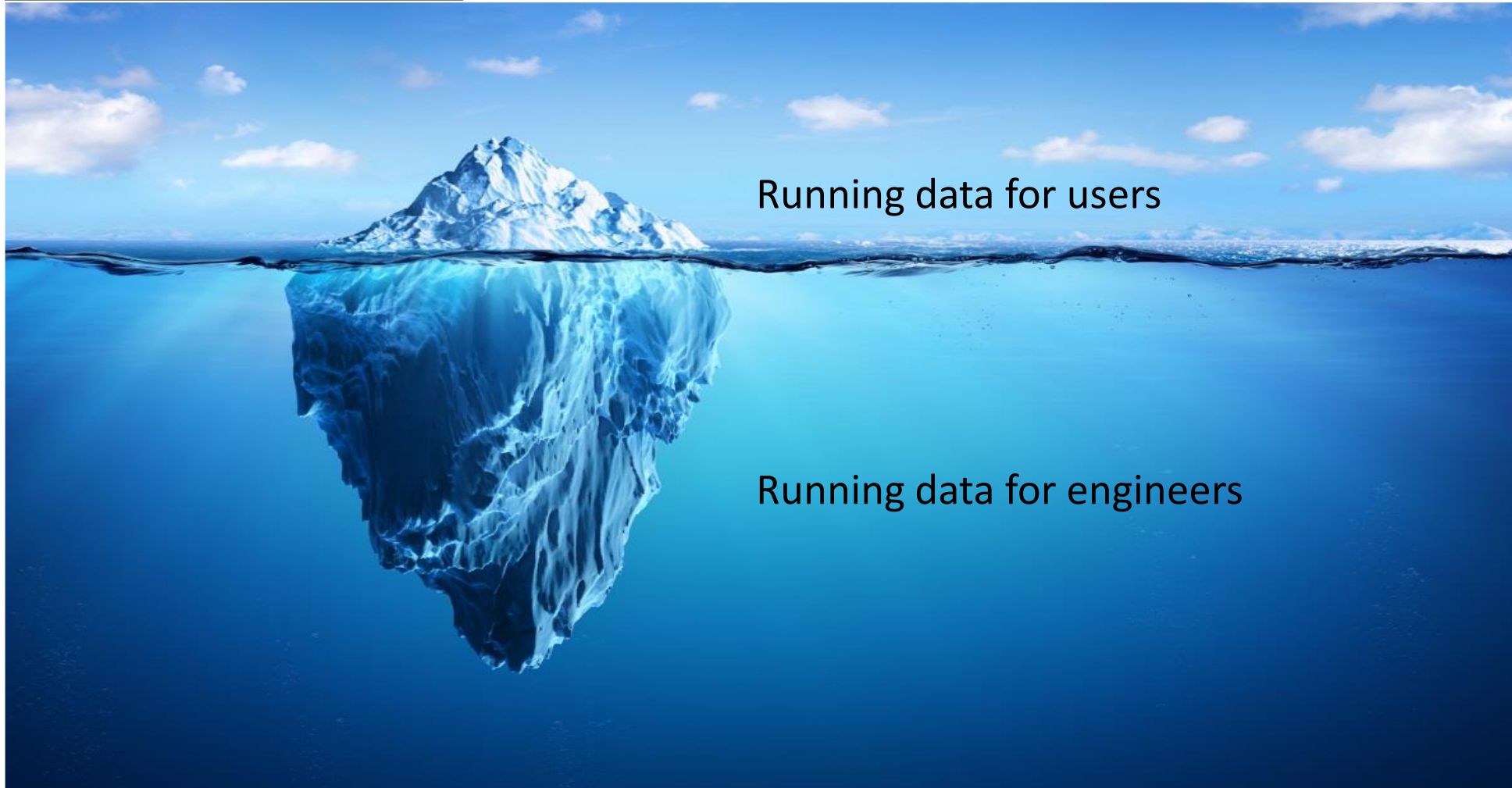
Hisense Authorized Service Company can see all projects in their account.



Customer can see all projects of themselves.

All layers can access these data to help each other

Running Data
can be seen in **depth**



Running data for users

Running data for engineers



60 parameters of outdoor unit

Display Setting			
Outdoor Units		Indoor Units	
No.	Contents	Unites	Description
1	Alarm Detect		Alarm Detection Day
2	Time		Alarm Detection Time
3	Alarm REC No.		Alarm Detection Recode
4	Cycle State		Cycle State(STOP/COOL/HEAT/DEFROST)
5	Run/Stop		Run/Stop
6	Run State		Run State
7	For Defrost		For Defrost
8	Emergency Run		Emergency Run
9	Test Run		Test Run
10	Test Mode		Test Order
11	Pro. Code		Protection Code
12	Pro. Level		Protection Level
13	INVCD		Inverter Stop Reason Code
14	INV State		Inverter Run State
15	FANCD1		FANCD1
16	FAN1 State		FAN1 Run State
17	Comp1 Run Time	hr	Comp1 Run Time
18	Comp1 Mainte	hr	Run time since compressor1 maintenance (Run time since reset)
19	H1	Hz	Interver Compressor Frequency
20	H2	Hz	Interver Compressor Total Frequency
21	Fo		Fan Air Tap(0-16)
22	oE1	%	Expansion Valve1 Opening
23	EVB	%	Bypass Expansion Valve Opening

Display Setting			
Outdoor Units		Indoor Units	
No.	Contents	Unites	Description
24	Pd	MPa	High Pressure
25	Ps	MPa	Low Pressure
26	Td1	°C	Inverter Compressor1 Top Temperature
27	Td2	°C	Inverter Compressor2 Top Temperature
28	Td	°C	Inverter Compressor1 Top Average Temperature When running(When stoping: Td=Td1)
29	TdSH	°C	Discharge Gas Superheat
30	TBg	°C	Plate heat exchanger outlet temperature
31	Te1	°C	Heat Exchanger Liquid temperature1
32	Tchg	°C	Shut-off valve Liquid temperature
33	Ta	°C	Outdoor temperature
34	Tfin	°C	Interver Fin temperature
35	Tg1	°C	Heat Exchanger1 Gas temperature
36	A12	A	Interver Compressor1 2nd Current
37	A1	A	Interver Compressor1 Current
38	A2	A	Interver Compressor2 Current
39	Info1	Hz	Control Information 1
40	Info2	°C	Control Information 2
41	ROM No		Outdoor Control PCB Rom Number
42	C11		Compression Radio Reduction Prevention Restricted Control
43	C13		High PR. Increase Prevention Restricted Control
44	C14		Inverter Module Temperature Increase Restricted Control
45	C15		Td Reduction Prevention Restricted Control
46	C16		TdSH Reduction Prevention Restricted Control

Display Setting			
Outdoor Units		Indoor Units	
No.	Contents	Unites	Description
39	Info1	Hz	Control Information 1
40	Info2	°C	Control Information 2
41	ROM No		Outdoor Control PCB Rom Number
42	C11		Compression Radio Reduction Prevention Restricted Control
43	C13		High PR. Increase Prevention Restricted Control
44	C14		Inverter Module Temperature Increase Restricted Control
45	C15		Td Reduction Prevention Restricted Control
46	C16		TdSH Reduction Prevention Restricted Control
47	C17		Overcurrent Prevention Restricted Control
48	Y52C1		Inverter compressor relay output
49	Y52C2		Constant speed compressor 2 relay outputs
50	CH1		Crankshaft plus tropical 1 (inverter compressor) relay outputs
51	CH2		Crankshaft plus tropical 2 (Constant speed compressor) relay outputs
52	Y211		Relay for 4way-valve 1
53	Y212		Relay for 4way-valve 2
54	Y20A1		Relay for Gas Bypass 1
55	Y20A2		Relay for Gas Bypass 2
56	Y20B		Relay for Liquid Bypass 1
57	Y20C		Gas-liquid bypass solenoid valve relay output
58	Y20F1		Back to the oil 1 solenoid valve relay output
59	Y20F2		Back to the oil 2 solenoid valve relay output
60	20CHG		Automatic charge solenoid valve CHG

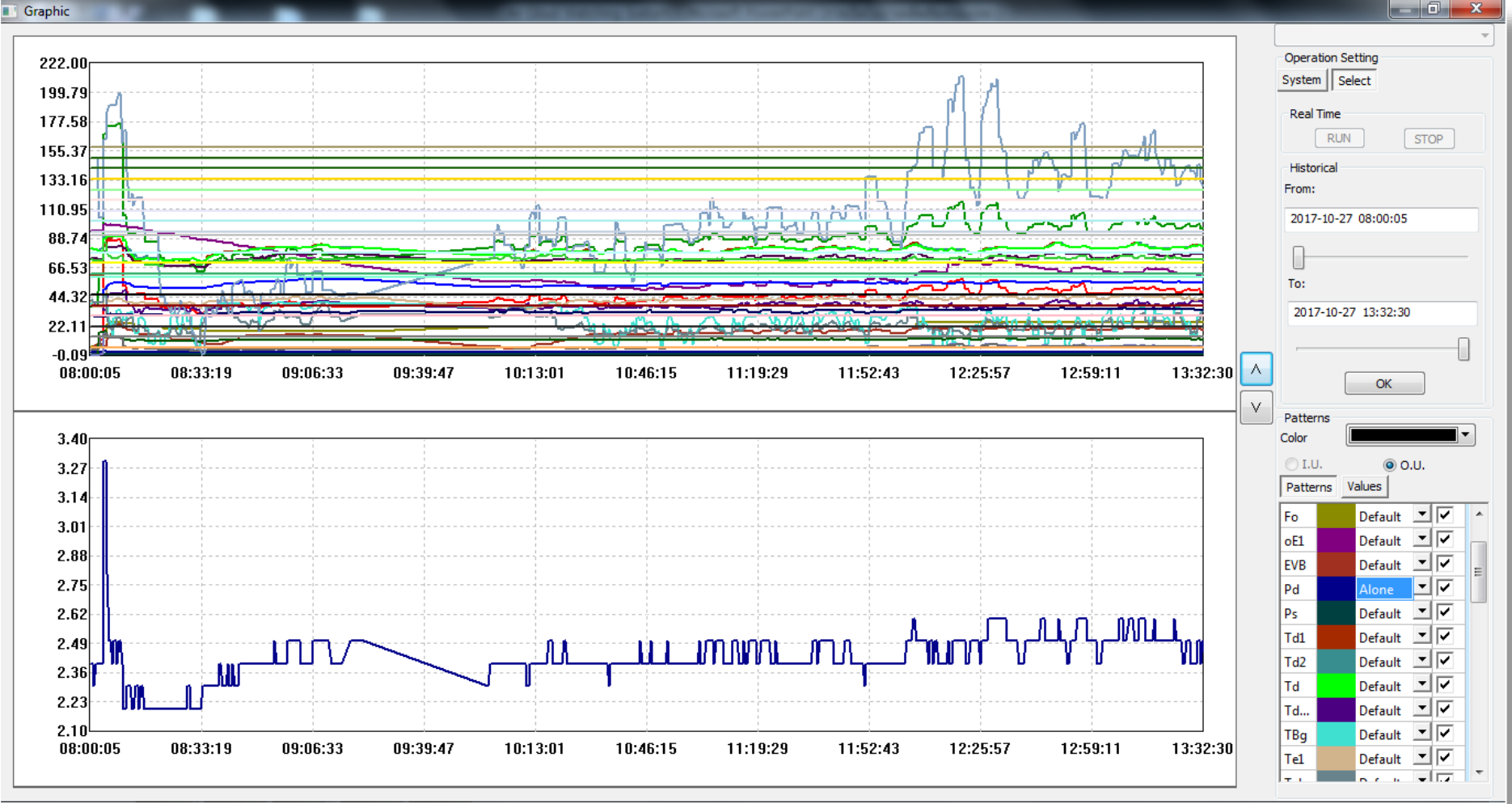


29 parameters of indoor unit

Display Setting			
Outdoor Units		Indoor Units	
No.	Contents	Unites	Description
1	Sys.No.		System Number
2	Unit No.		Indoor Unit address
3	Model		Model Code
4	Hp		Outer Unit Code
5	Run/Stop		Operation Run/Stop
6	Test/Org.		Test Operation Test/Usual
7	Mode		Operation Mode(Heat/Cool/Dry/Fan)
8	Oil Return		Oil Return Control
9	Air		Air Flow(High/Medium/Low/Soft)
10	iE	%	Expansion valve Opening
11	Tl	°C	Liquid Pipe Temperature
12	Tg	°C	Gas Pipe Temperature
13	Ti	°C	Intake Air Temperature
14	To	°C	Discharge Aire Temperature
15	dT	°C	Air Temp.Diff. Ti-To
16	Ts	°C	Setting Temp.
17	Ts Rev.	°C	Setting Temp. Revised Value(0-4)
18	Tr	°C	Remote Sensor Temp.
19	Fd	Hz	Requested Frequency
20	d1		Unit Stop Reason
21	ARM		Alarm Code
22	Op1		Room Thermostat
23	Op2		Compensation Setting Cancellation for Heating

Display Setting			
Outdoor Units		Indoor Units	
No.	Contents	Unites	Description
24	Op3		HA Control
25	Op4		Power On/Off
26	Op5		Pulse On/Off from Remote Place
27	Op6		Circulator During Heating
28	Op7		E. Heater Heating
29	Op8		Comp.3min. Time Off Guard
30			
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46			

Real Time Operation can be shown in Graph



Real Time Operation can be shown in Graph



Hisense

Running data are uploaded to cloud every 2 minutes.



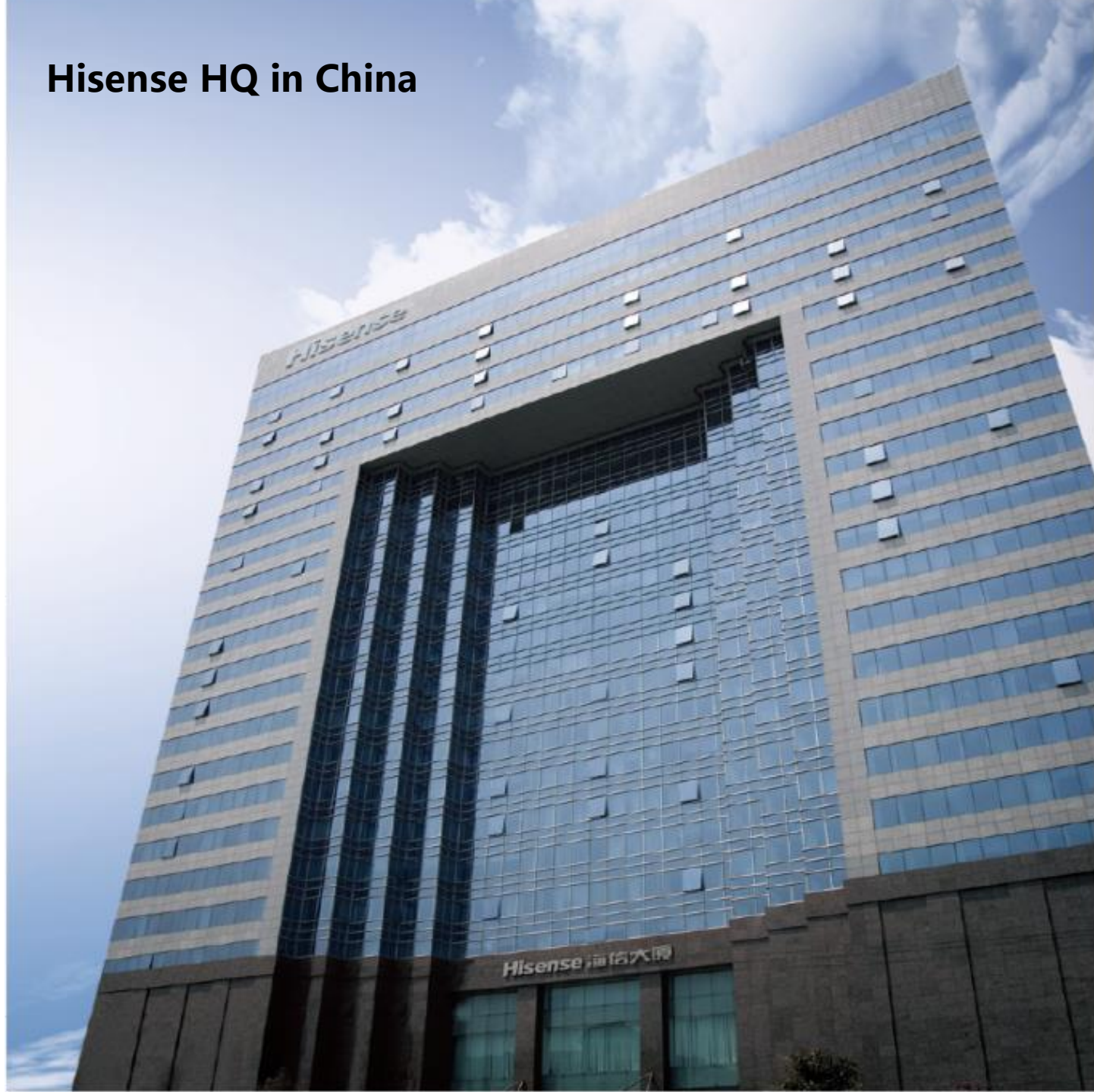
Hisense

Hisense HQ in China

Cloud Server

AI (Artificial Intelligence)

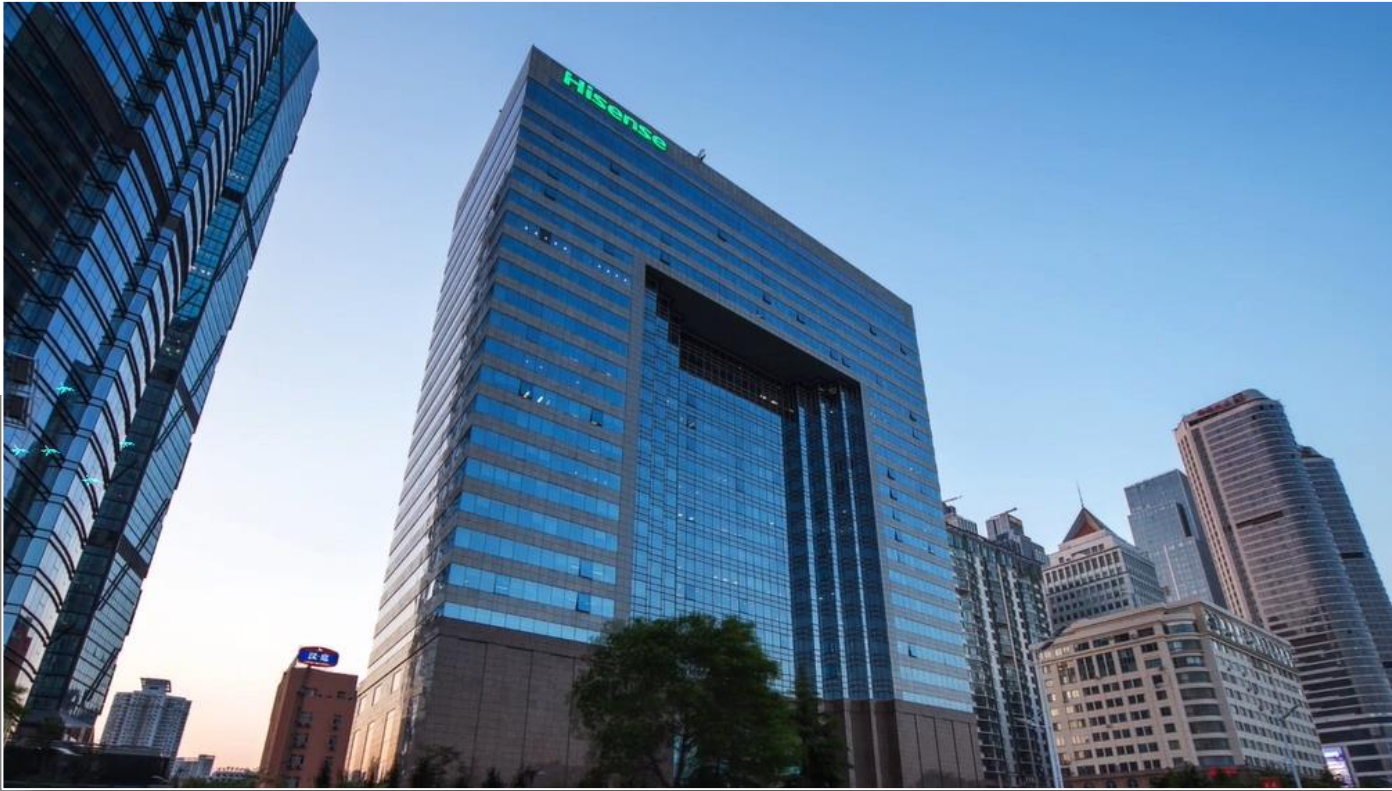
R&D Team for VRF 210 Persons



Problem can be prevent before
systems breakdown



Hisense



Thank you.