THINKWARE DASH CAM™

LIFE
INNOVATION
WITH

THINKWARE DASH CAM™

THINKWARE

Company Introduction

Dash Cam, navigation No.1 Leading Company
THINKWARE

Founded
April 26, 2007

Capital
$4,079,594
(USD)

Overseas Office
/ Beijing Thinker Way Science Technology Co., Ltd
/ Thinkware Systems USA Inc.
/ Mondo System Technology Canada Inc.

Subsidiary Companies
/ Thinkware Mobile Inc.
/ MI works Inc.
/ Beagle Co., Ltd.

Name
THINKWARE Corporation

CEO
Lee, Heung-Bok

Number of Employees
416
(As of 2016)

Sales
$160,367,545
(USD, 2016FY)

Website
www.thinkware.co.kr →

Global Site
www.thinkware.com →

Online Shop
www.inavi.com →

Brand
/ iNavi / Kaltwin
/ Thinkware Dash cam
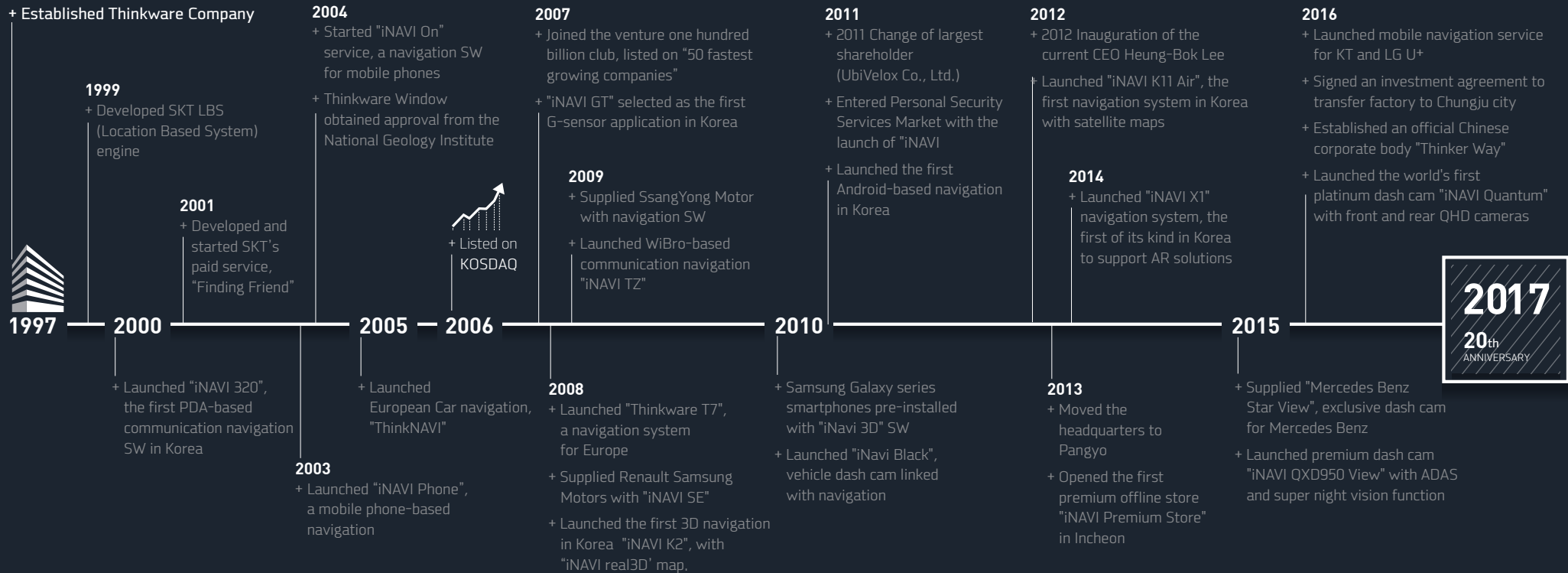/ 兴科威 <Thinker Way>

Main Business

Hardware
/ GPS Car Navigation / Dash Cam / Car Window Film / Tablet PC

Software
/ Digital Maps / Mobile / AR/ADAS

2. History & Award

HISTORY

+ Established Thinkware Company

1999
+ Developed SKT LBS (Location Based System) engine

2001
+ Developed and started SKT's paid service, "Finding Friend"

2004
+ Started "iNAVI On" service, a navigation SW for mobile phones
+ Thinkware Window obtained approval from the National Geology Institute

2007
+ Joined the venture one hundred billion club, listed on "50 fastest growing companies"
+ "iNAVI GT" selected as the first G-sensor application in Korea

2009
+ Supplied SsangYong Motor with navigation SW
+ Launched WiBro-based communication navigation "iNAVI TZ"

2011
+ 2011 Change of largest shareholder (UbiVelox Co., Ltd.)
+ Entered Personal Security Services Market with the launch of "iNAVI
+ Launched the first Android-based navigation in Korea

2012
+ 2012 Inauguration of the current CEO Heung-Bok Lee
+ Launched "iNAVI K11 Air", the first navigation system in Korea with satellite maps

2014
+ Launched "iNAVI X1" navigation system, the first of its kind in Korea to support AR solutions

2016
+ Launched mobile navigation service for KT and LG U+
+ Signed an investment agreement to transfer factory to Chungju city
+ Established an official Chinese corporate body "Thinker Way"
+ Launched the world's first platinum dash cam "iNAVI Quantum" with front and rear QHD cameras

+ Listed on KOSDAQ

1997
ANNIVERSARY

2000
+ Launched "iNAVI 320", the first PDA-based communication navigation SW in Korea

2003
+ Launched "iNAVI Phone", a mobile phone-based navigation

2005
+ Launched European Car navigation, "ThinkNAVI"

2006

2008
+ Launched "Thinkware T7", a navigation system for Europe
+ Supplied Renault Samsung Motors with "iNAVI SE"
+ Launched the first 3D navigation in Korea "iNAVI K2", with "iNAVI real3D" map.

2010
+ Samsung Galaxy series smartphones pre-installed with "iNavi 3D" SW
+ Launched "iNavi Black", vehicle dash cam linked with navigation

2013
+ Moved the headquarters to Pangyo
+ Opened the first premium offline store "iNAVI Premium Store" in Incheon

2015
+ Supplied "Mercedes Benz Star View", exclusive dash cam for Mercedes Benz
+ Launched premium dash cam "iNAVI QXD950 View" with ADAS and super night vision function

2017
20th ANNIVERSARY

AWARDS

PRODUCT

+ Winner of the CES Innovation Award in 2015, and 2017
+ Winner of the iF Design Award, GD (Good Design), IDEA, Red Dot Awards, and many more

CES INNOVATION AWARDS 2017 WINNER   CES INNOVATION AWARDS 2015 WINNER   iF   GOOD DESIGN   IDEA INTERNATIONAL DESIGN EXCELLENCE AWARDS   reddot award   PIN UP DESIGN AWARDS

BRAND

+ Winner of The Korea Brand Award's grand award in the navigation category for 13 consecutive years and in the dash cam category for 5 consecutive years
+ Winner of the Korea Management Association Consulting's "Brand Power No.1" for 11 consecutive years in the navigation category and in the dash cam category for 5 consecutive years
+ Winner of the Korean Standards Association's "Premium Brand Index" in the navigation category for 5 consecutive years and in the dash cam category for 5 consecutive years
+ Winner of the Korean Customer Council's "Brand of the Year Grand Prize" for 5 consecutive years
+ Winner of the Korean Standard Quality Excellence Index for 3 consecutive years

3. CI (Company Identity) / BI (Brand Identity)

C.I

THINKWARE

B.I

THINKWARE™
DASH CAM

'Thinkware' means to develop and grow through constant thinking. It shows the commitment of Thinkware to grow into an industry leading global IT company through continuous development on both hardware and software.
The red used in CI expresses the active and enthusiastic appearance of Thinker. Through an array of text that symbolizes the togetherness of people, it conveys the image of a human-centered company that promotes the lifestyles of various people.

The BI aims to increase the awareness of the product by providing intuitive information about the brand by using the company name "Thinkware" and the product name "Dashcam". The red color was used to portray the robust energy of the company, and the Gothic font was used to increase the brand awareness and familiarity.

4. Subsidiary Companies

THINKWARE DASH CAM™
Thinkware Systems USA Inc
Mondo System Technology Canada Inc

North America headquarters,
business development,
customer support,
and operations for Dash Cam.

MAP
Innovation Works

/ Navigable map development and
content provision
/ Digital map production update and
GIS DB construction
/ Map ASP business such as logistics control,
firefighting control, etc.

THINKWARE

THINKWARE *mobile*

Mobile-based services and
tablet PC business

兴科威
THINKWARE
Beijing Thinker Way Science
Technology Co., Ltd.

China headquarters,
business development,
customer support,
and operations for Dash Cam,
and map service.

BEAGLE™
Passion & Creation

Development and service provision
of outdoor sports apps

GLOBAL
DOMESTIC

Business

1. Business Highlight

1,800
On & Offline Stores
(Biggest in Korea)

32 %
Thinkware users on
Economically Active
Population

20
Introduced in
Countries

8
Premium Stores
(Korea & Overseas)

55 %
Market Share in Korea
(Dash Cam)

40 %
Market Share in Korea
(Car Navigation)

$159,447,405
(USD)
Sales (As of 2016)

No.1
Brand Power
Ranked in Korea
(black box / Car navigation)

20 th
Anniversary of
foundation

1,500
Intellectual
Property Rights

290
Number of
Models Launched

680
Number of Paten
(Korea Domestic +
International)

63
Original Technology for
AR/ADAS

2. Business Structure

1. Navigation (mobile)

⁄ Providing smart car life with the best navigation technology

Based on the original electronic map technology and the "big data" it collected over 20 years, Thinkware is realizing a "smart car life" for its customers that applies advanced IT technology such as ADAS and augmented reality (AR) technology.

⁄ Specialized mobile navigation for KT and LG U+, Korea's main telecommunication companies

The mobile navigation service provided to KT and LG U+ is a mobile platform that provides Korea's largest real-time traffic information. With around 26.7 million users, it has the most users in the Republic of Korea and provides fast and accurate customized services according to gender, age, and location, based on the user database.

3. Car Window Film

⁄ Premium Car Window Film, Kalt Win selected by "Thinkware"

This is a premium Car Window Film that enhances the funtion of heat rejection, visibility, and the smooth use of advanced devices mounted in a car. "Kalt Win", which was developed following a strategic collaboration with famous major brand manufacturers across the world, offers excellent features as well as complete premium services from installation to after-sales management through iNAVI car window film experts.

5. Tablet PC

⁄ "iNAVI Tab" recognized in the tablet PC market for education and followed by mass type market

We have entered the education tablet PC market with a tablet based on Thinkware's navigation manufacturing technology and UbiVelox's tablet software technology. After launching the first product "MyPad", a tablet PC for education, we introduced "All & G Pad", a tablet PC for education optimized for smart learning following research and development with teachers for 3 years. With the brand name "iNAVI Tab", it is currently recognized as a product with high cost effectiveness in the mass tablet PC market.

2. Dash cam

⁄ The state-of-the-art Dash cam that leads the global market

As the first Dash cam to be equipped with QHD cameras and also featuring a leading advanced driver assistance system (ADAS), Thinkware's Dash cam proved its superiority by passing the strict internal criteria of 144 items. Thinkware's Dash cam is recognized not only for its technology but also for its design by winning three major global design awards. (If, IDEA and Reddot)

4. S/W Solution (Map / AR / ADAS)

① Map

⁄ Electronic map software that harnesses 20 years of iNAVI know-how

It is an aeronautical and satellite 3D map that is made up of 3 million aerial photographs taken by flying the distance of 32 rotations of the earth and 8 million pieces of 3D data in Korea. "Extreme Air 3D" accurately recreates images of buildings using the electronic map software developed by i-NAVI, which has concentrated on map development for the last 20 years.

② AR / ADAS

⁄ iNAVI's specialized state-of-the-art augmented reality solution and intelligent driver assistance system

[AR]
"Extreme AR" is an augmented reality system exclusively developed by Thinkware that displays the route line and a variety of road information on the navigation screen by capturing data from the car's surroundings.

[ADAS]
It is an advanced intelligent driver assistance system that supports safe driving by applying technologies, such as a front collision warning system, lane departure warning system, front vehicle departure warning, traffic light change indicators, and traffic line change notice system, to Thinkware's navigation and black box devices.

3. Primary Thinkware Technology • Navigation

DRIVING

≪ 85km/h

Extreme AR Solution

It is an augmented reality solution applied to navigation based on Thinkware's own compu-ter technology. It provides realistic and precise route guidance by displaying the route and its surrounding area along with guidance information on the screen with computer graphics.

Extreme ADAS

"Extreme ADAS", which uses Thinkware's unique image processing technology, can be used for lane departure warning system(LDWS), forward collision warning system (FCWS), curve speed warning system (CSWS), and other warnings when the driver is deemed to be at risk of an accident, such as driving carelessly or driving when drowsy. This is a state-of-the-art intelligent driver assistance system also includes the front vehicle start alarm (FVSA), traffic light change alarm (TLCA), and lane change forecast (PLCA) to maximize driver's convenience.

Extreme AIR 3D

It is an aerial 3D map that adapts three million photos captured by an exclusive aircraft and more than 8 million pieces of 3D data in Korea. It is an electronic map solution that accurately reflects the areas and landscapes through precise surveying. In addition, it provi-des a variety of visual information in different view modes, such as drone view and birds-eye view. Also, the world's first high-precision nationwide aerial map and building images of up to 50 cm that is represented as (4 pixel per m2) can be stored in an SD card and viewed via a non-streaming method using Thinkware's own high-efficiency compression process.

Extreme 3D

It is a map that displays the roads and buildings in 3D and accurately delivers information about the surrounding area when driving. In recent years, we have researched and deve-loped techniques to enable various 3D graphics to be displayed in accordance with user's preference through non-actual image rendering techniques.
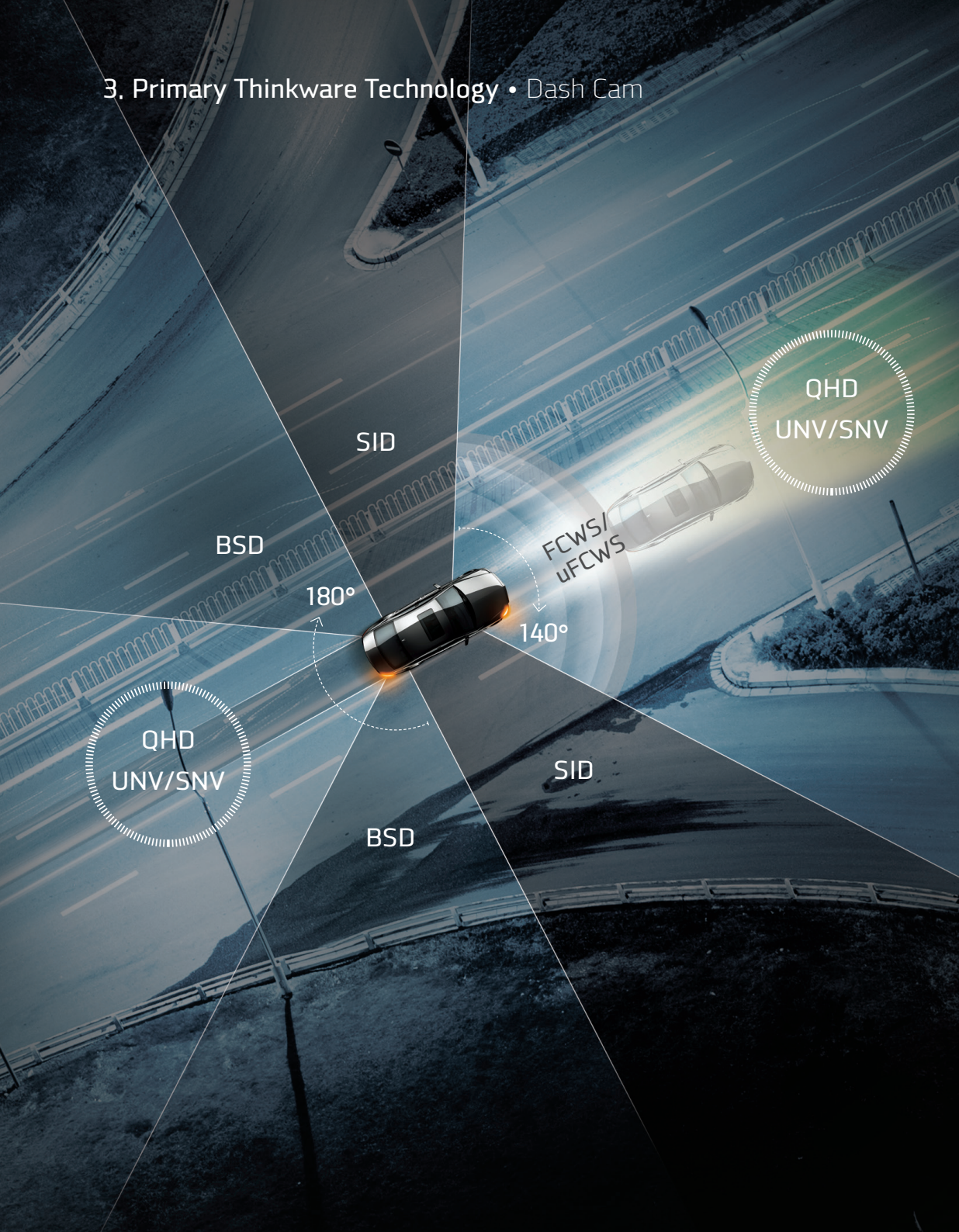
T-Link

It is a real-time communication traffic information service that provides the best route by analyzing nationwide road information, big data, and the real-time traffic condition. It is an exclusive iNAVI traffic information service that provides road traffic information by combi-ning more than 2 million user points of interests (POIs) accumulated over the last 20 years, more than 200 million search logs, big data analyzing more than 60 million pieces of route data, and more than 270,000 pieces of road traffic information.

Drive X

It is a smart vehicle diagnosis and management system that shows the driver's driving habits and vehicle status. It provides statistics such as the coolant temperature, battery voltage and service life, transmission oil temperature, mileage, driving time, and fuel consumption oil cost to the driver to support more efficient vehicle management.

3. Primary Thinkware Technology • Dash Cam

QHD

The QHD cameras support an image resolution of (2560 x 1440), allowing 3.69-megapixel video recordings, which is four times higher than HD images.

UNV / SNV (Ultra / Super Night Vision)

Thinkware's unique image technology enables bright and clear recording even in low-light environments through image signal processing (ISP) technology.

Extreme ADAS

In addition to navigation, the "Extreme ADAS" is equipped with Thinkware's unique image processing technology not only for navigation but also for the Dash cam. It is a state-of-the-art intelligent driver assistance system that supports safe vehicle operation, such as vehicle motion detection in the stop state and real-time rear view image provision, in addition to an alarm system that operates while driving, such as rear blind spot detection (BSD), front collision warning system (FCWS), lane departure warning system (LDWS), and front vehicle departure warning (FVDW).

Largest domestic front/rear wide view angle of 320 degrees

A total viewing angle of 320 degrees is provided, with a front view of 140 degrees and a rear view of 180 degrees, compared to the 280-degree front and rear view angle of existing Dash cam. We have minimized blind spots with the largest viewing angle of any black boxes in Korea.

BSD (Rear blind spot detection)

It is a function that uses BSD sensors to help drivers recognize danger factors by detecting rear and side blind spots which cannot be seen with a side mirror when changing lanes.

SID (Super Intelligent Detection)

It is a state-of-the-art intelligent sensing recording function which uses the world's first G sensor combined with sound technology to detect and record sensitive impact sounds which can occur when parking in a narrow parking space.

FCWS / uFCWS (Front / urban Front Collision Warning System)

It is a function to provide 1st and 2nd grade warning notifications to drivers according to the risk level when the risk of collision is estimated by calculating the interval with the preceding car when driving at approximately 30km/h.

Dual Save

It is a technology that safely stores the impact detection video in the external and internal memory card at the same time, and can safely protect the recorded image in the event of an accident or a break in the recording due to impact.

Drive X

It is a function that provides important vehicle information to the driver in real time, such as the average fuel consumption of the vehicle, vehicle diagnostics, and the gear position when the car is stopped.

F800 PRO

+ 1080p Sony Exmor R STARVIS image Senseor with Super WDR(Front & Rear)
+ Super Night Vision2.0(Driving & Parking mode)
+ Energy Saving parking Recording
+ Geo pencing
+ Locate Vehicle
+ Driving Impact Notification
+ Time Lapse(parking mode)
+ Safety Camera Alert
+ Road Safety Warning System (LDWS, FCWS, uFCWS, FVDW)
+ 140 Degrees Wide Angle
+ Built-in Wi-Fi / Built-in GPS
+ Mobile App(iOS & Android Compatible)
+ G-sensor Incident Detection
+ Integrated Thermal Protection

China

QX800
2ch QHD / Ultra Night Vision

F800 Pro
FHD(Front & Rear) /
Super Night Vision 2.0 / Energy Saving parking Recording

F770
2ch FHD / Super Night Vision

X550
2ch FHD / Super Night Vision

HX700
2ch SUPER CLEAR HD

X330
FHD

Global

F800 Pro
FHD(Front & Rear) / Super Night Vision 2.0 /
Energy Saving parking Recording

F800
FHD(Front & Rear) / Super Night Vision 2.0

F770
2ch FHD / Super Night Vision

X500
2ch FHD / ADAS

X550
2ch FHD / Super Night Vision

F100
2ch FHD-HD

F50
FHD

X330
FHD

X350
FHD

Locking Box (F50/F100)

IR Camera

External Battery (BAB-100)

5. China Business

Premium Store in China

It is the first overseas offline store for distributing and installing products from Thinkware's Chinese Dash Cam brand "Thinker Way", and for installing Car Window Film

하얼빈

길림

우루무치

북경

청도

라사   성도   중경

상해

심천

兴科威
THINKWARE

韩国 **NO.1** 名品 行车记录仪
车辆智能设备 & 高品质安装服务

兴科威 **THINKWARE**

5. Global Business

We have a presence in 17 main countries across the world, including North America and Europe, and established around 2,700 overseas online and offline network channels.

5. Global Exibition

Participation in global exhibitions

The technology of Thinkware is hightly recognized across the world following our participation in CES, IFA and other international exhibitions and we are continuing to increase brand awareness.

CES
SEMA

Gadget Show
CV Show
IFA
Automechanika

IT Show
PC Show
Sitex
COMEX
AAITF
Cars@Expo

IAAE
Auto Salon

U.K

U.S.A

Germany

Japan

Dubai

China

Singapore

Australia

Finance Statements

Finance Statements

(USD, 2016FY)

Major business sales in 2016

Dash Cam

108,813,240

Map Platform

39,463,434

Etc

11,170,732

Total

159,447,405

(USD)

Financial statements Past three years (14~16FY)

(USD, 2016FY)

Classification	2016FY	2015FY	2014FY
Cash and cash equivalents	28,798,388	24,464,041	15,809,783
Inventories	37,537,301	37,878,291	29,637,466
Other current assets	32,418,899	35,292,932	65,037,258
Current assets	98,754,588	97,635,264	110,484,508
Tangible assets	39,892,557	35,595,472	39,002,258
Intangible assets	19,894,722	22,446,724	18,011,753
Other non-current assets	12,812,617	14,087,643	12,346,158
Non-current assets	72,599,896	72,129,839	69,360,169
Total assets	171,354,484	169,765,104	179,844,676
Current liabilities	40,660,322	45,887,227	52,096,933
Non-current liabilities	18,877,218	17,534,041	33,997,161
Total Liabilities	59,537,540	63,421,269	86,094,095
Common Stock	4,079,594	4,170,651	3,636,965
Share Premium	48,789,943	48,759,221	35,968,136
Other components of equity	(11,062,058)	(17,123,291)	(20,202,153)
Other comprehensive income	(359,652)	(21,842)	0
Retained earnings	69,617,059	70,461,813	74,347,634
Equity attributable to owners of the parent	111,064,886	106,246,551	93,750,582
Non-controlling interests	752,058	97,284	0
Total Equity	111,816,944	106,343,835	93,750,582
Revenue	159,447,405	133,681,258	151,429,085
Operating profit	4,725,762	2,746,189	4,177,637
Net profit	1,816,083	812,957	905,743

Appendix (Certification, Patent)

- ISO9001 -

- FCC -

- CE -

- NOM24 -

- NOM01 -

- DTS -

- CCC_F770 -

- CCC_QX800 -

- CCC_X550 -

- CCC_HX700 -

About **THINKWARE DASH CAM**™

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