



Han Wang Technology Co., Ltd.



Content

- ◆Company Profile
- ◆HanWang Core Technologies
- ◆Partners and Cooperation

Company Profile



- Founded in 1998
- Over 600 employees in total
- The leading intelligent recognition solution provider in the world
- Han Wang's core technologies:
 - Pattern recognition technology
 - Intelligent hardware devices

Headquarters: Beijing, China

Constructive Area: 23,000sqm



Company Profile

Honors

- The 1st Prize for National Science & Technology Progress Award
- Awarded as a National Key Hi-tech Enterprise
- Awarded the Gold Medal at the World Exhibition of New Thoughts, New Innovations and New Products in Germany
- Hanwang On-line Handwriting Recognition Software has been awarded as one of the National Top Ten Innovation Software Products
- The 2nd Prize for Beijing Technological Progress Award
- The 1st Prize for National Chinese HWR Evaluation Competition



Company Profile

Presidents and Prime ministers of P.R. China visited HanWang



Company Profile

Hanwang Manufacture Co., Ltd.

- Wholly-owned by Hanwang technology
- Established in 1998
- Address: Hebei Province, China
- Over 700 employees
- Area: 21.4 acres
- ISO9001/ISO14001/OHSAS18001
- The largest pen tablet factory in the world
- The second largest e-book reader manufacturer worldwide
- Annual capacity: more than 1million pieces of pen tablets



Company Profile

Factory Overview



Company Profile

➤ Core technologies:

--Pattern recognition technology

Handwriting recognition, OCR, Face recognition...etc.

--Intelligent hardware technology

Handwriting tablet , Scanning Pen, Drawing tablet, E-book...etc.



HanWang Products



Hanwang pens



Handwriting mouse



Scanning pen



Drawing tablets



HanWang Products



Face ID



HanWang Eyes

HanWang Products



N516



N518



D20& D21



N800



T61



E920



HanWang Core Technology

Hanwang core technology--Pattern recognition technology

- Handwriting recognition technology
- OCR Technology
- Face recognition
- Electromagnetic Module

Overview Of

Handwriting recognition technology

Overview of HWR

➤ Support all the commonly-used OS, CPU.

(1) OS supported

Android, iOS, Blackberry, Windows, WinCE 7.0 for Automotive, QNX, Vxworks, Symbian, Linux, etc.

(2) CPU supported

ARM 7, ARM 9, ARM 11, MIPS/MIPS II, PowerPC, FreeScale (i.MX53, i.MX61), SuperH (SH-2, SH-4), Atom, X86 Series, Xscale, etc.

➤ High Recognition accuracy for HWR

Chinese HWR engine: above 99%*

Latin HWR engine: above 98%*

➤ High Recognition speed for HWR

Chinese HWR engine :above 20 characters/second (CPU:600 MHz)

Latin HWR engine: above 10 words/second (CPU:600 MHz)

* Based on Hanwang internal test for printed handwriting style.



Overview of HWR

➤ Support super-large character set (Chinese)

GB2312-1980: 6,763 chars

BIG5+HKSCS-2001: 17,442 chars

GBK: 21,003 chars

GB18030-2000: 27,533 chars

➤ Multi-languages recognition :about 70 languages

Simplified Chinese, Traditional Chinese, Thai, Japanese, Korean, Vietnamese, Persian, Arabic, English, French, German, Italian, Dutch, Luxembourg, Danish, Norwegian, Irish, Portuguese, Spanish, Swedish, Finnish, Polish, Hungarian, Czech, Slovakian, Slovenian, Estonian, Romanian, Croatian, Latvian, Lithuanian, Turkish, Maltese, Russian, Ukrainian, Belarusian, Bulgarian, Greek, Indonesian, Malaysian, Pilipino, Hindi, Urdu, Bengali, Telugu, Andorra, Austria, Belgium, Bosnia, Canada, Croatia, Gibraltar, Liechtenstein, Moldavia, Vatican City, Switzerland, San Marino, Monaco

Overview of HWR

Multi-Languages supported



HanWang Handwriting Recognition Product

- ❖ **UWrite™—Handwriting recognition engine (SDK)**
- ❖ **UltraWrite™ -- Handwriting recognition software (IME)**

UWrite™-SDK

❖ **Standard edition**

---UWrite™ Letter

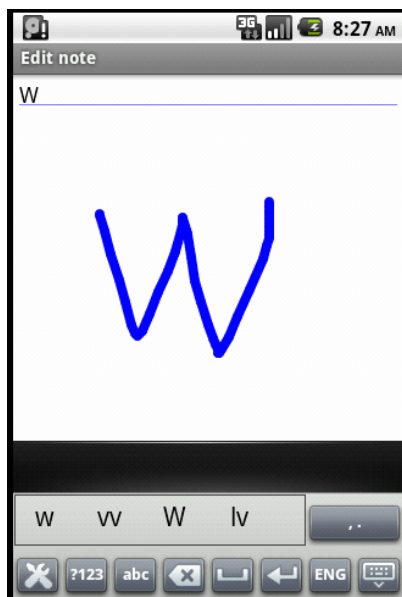
❖ **Professional edition**

---UWrite™ Cursive & Freestylus™

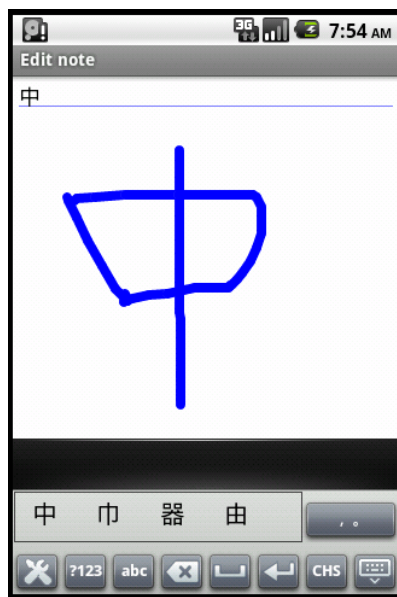
Standard Edition

- UWrite Letter is for character-based recognition.

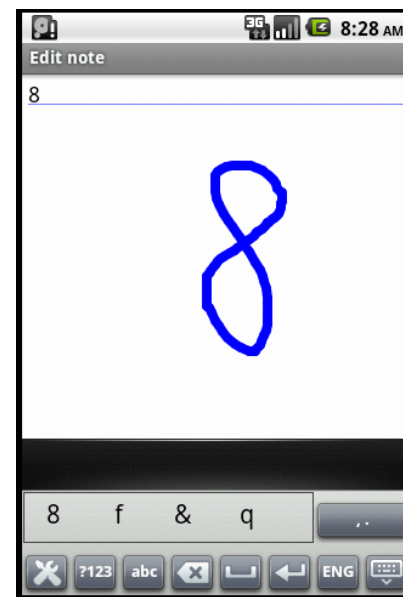
English



Chinese

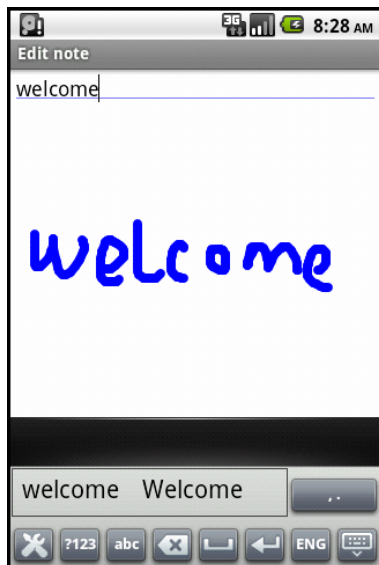


Number



- UWrite Cursive is for word-based recognition, especially for Latin languages.

English



German



Professional Edition

Freestylus™ is for word-based or short sentence-based recognition. It's for Chinese.

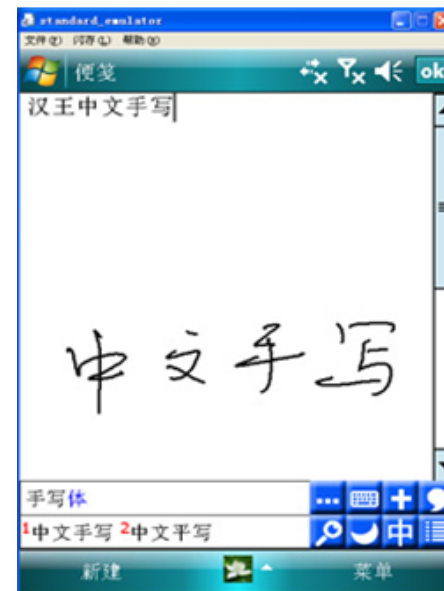


UltraWrite™ -input method

HanWang can also provide the total input method based on his own UI design.



For Android



For Windows mobile



Advantages of HanWang handwriting recognition technology

Advantages of handwriting recognition technology

1. **Rich experiences in working with partners**, took part in 10000+ projects.

PDA , Mobile phone, Tablet, Automotive vehicle... etc.

Key clients : Samsung, Nokia, RIM, Sony, LG, ZTE, HUAWEI, Canon, Lenovo... etc.

2. **High Recognition rate and speed & Support all commonly used platforms.**

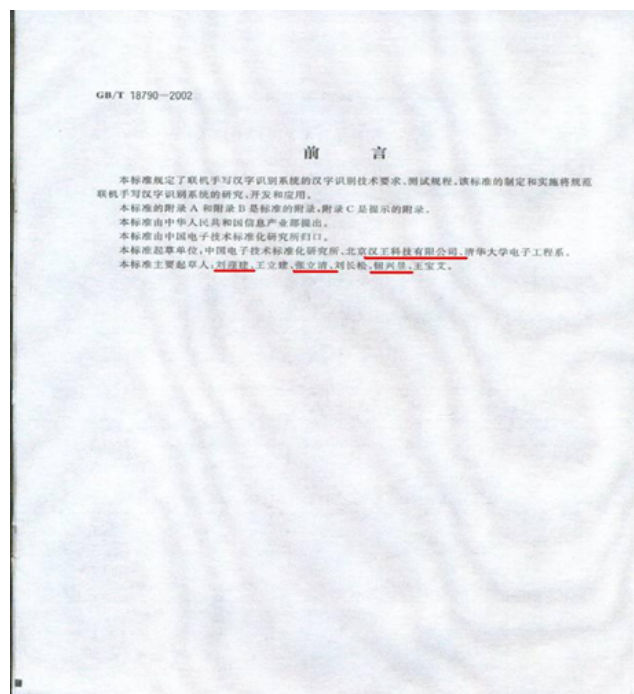
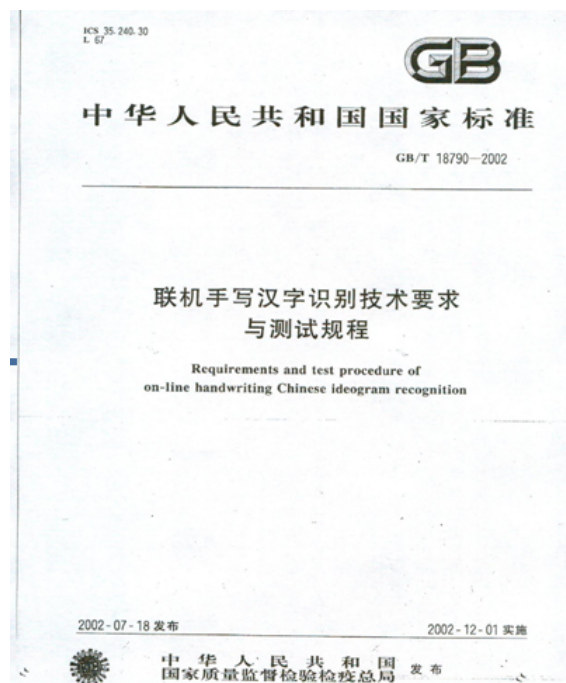
3. **Excellent after-sale services**, fast feedback and periodical upgrade.

4. **Support all kinds of Chinese Character sets**, including the biggest one: GB18030



Advantages of handwriting recognition technology

5. HanWang, as the affiliate of Chinese Academy of Science, made the National Standard on Handwriting recognition in China --GB/T 18790-2002



Advantages of handwriting recognition technology

- **Free style handwriting recognition-** Totally Understood Chinese people's handwriting habits, support all common and special handwriting ways such as cursive & variant characters. (行草书和异体字)

持 攀 社 东 竟 辉 号 漫
今 详 及 和 票 逮 雅 逮
产 票 坡 浙 珍 皇 却 乃 立
也 横 级 省 比 野 的 永
部 笔 据 即 泪 勇 见 领

High recognition accuracy for English cursive word.

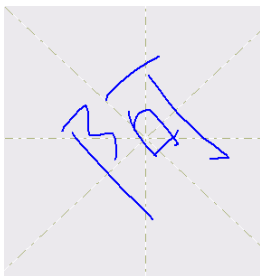


Advantages of handwriting recognition technology

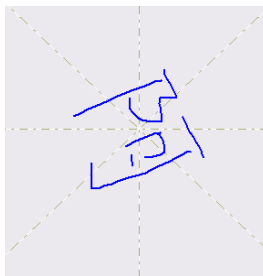
Special features HanWang can provide:

➤ Slant character recognition

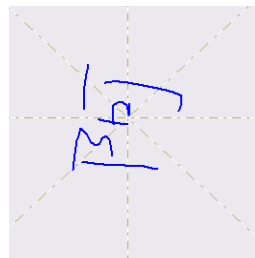
-45 angle:



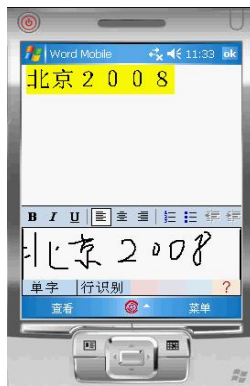
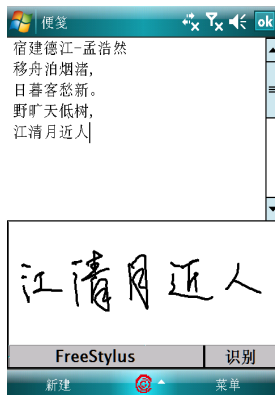
45 angle:



-90 angle:



➤ Support mixed recognition mode



Advantages of handwriting recognition technology

➤ Overlapped handwriting recognition technology



Text input—Keyboard products

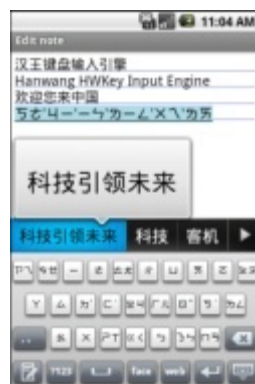
Hanwang Keyboard input can support:

Approximately 30 languages in total

English (American English, British English, Canadian English, Australian English, New Zealand English), German (Germany), German (Switzerland), Filipino, Finnish, French, Dutch, Indonesian, Ireland, Italian, Malaysian, Bokmal (Norway), Nynorsk (Norway), Portuguese (Portugal, Brazil), Spanish (Spain) Spanish (Mexico), Swahili, Swedish, Dutch (South Africa), Albanian, Catalan, Danish

HW Keyboard in Chinese includes: 4 methods

Pinyin Input, Stroke Input, Traditional Bopomofo Input, Traditional Cangjie Input



Text input-Keyboard products

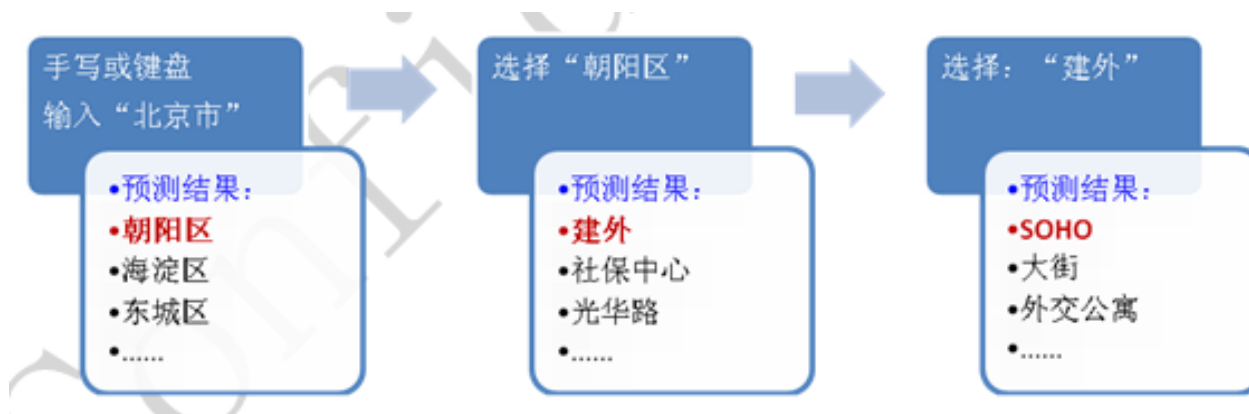
★ Text input for Automotive

provides POI tool and implementing the prediction function of POI DB, including letter based auto-completeness , word based auto-completeness. multilevel-based prediction.

预测前缀	预测结果 (通用预测产品)	预测结果 (车载导航智能预测产品)
北京市	场, 民, 委, 场经济, 政府...	朝阳区, 海淀区,
建外	面, 国, 贸, 资, 部, 地...	大街, SOHO ...

Text input-Keyboard products

For example, “北京市朝阳区建外SOHO” (beijing chaoyang district jianwai SOHO)



OCR Technology

(Optical Character Recognition)

HW pattern recognition-OCR

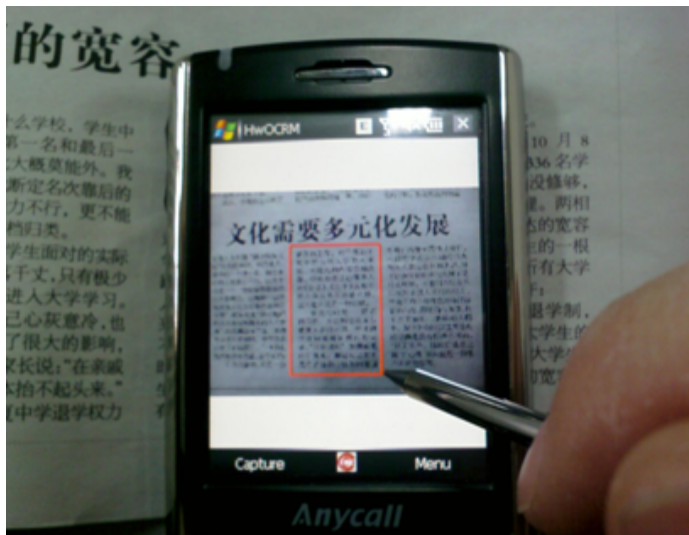
OCR are Fully applied in Industries of Banking, Tax administration, Transportation and data processing, etc.

HW Bizcard Reader:

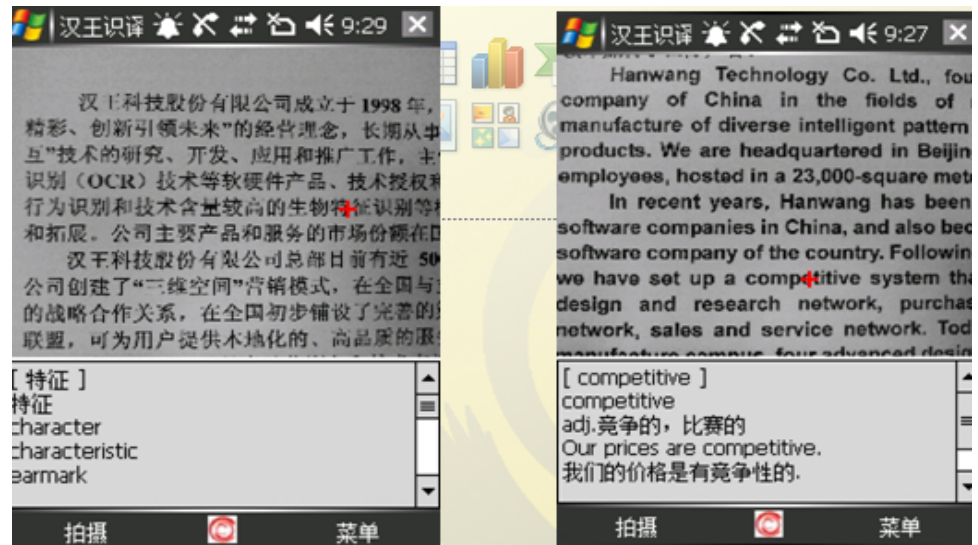
- English and Chinese version
- Japanese and English version
- 11 European languages version: German, English, Spanish, etc.



OCR Technology



OCR- Extract product




OCR- Translator product



OCR-ID recognition products

姓名	杨晶涛		
性别	男	民族	汉
出生	1971年3月20日		
住址	北京市朝阳区酒仙桥东路1号		
1998年10月30日 签发			
有效日期	20 年		
编号	620402710320131		

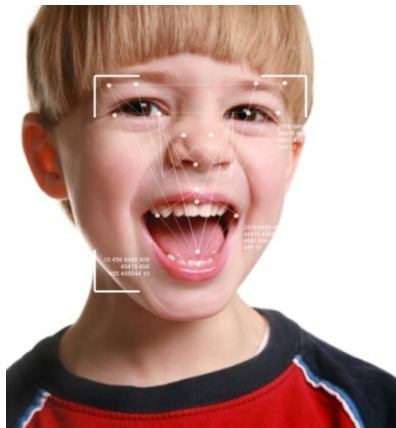


姓名 杨晶涛
性别 男 民族 汉
出生 1971 年 3 月 20 日
住址 北京市朝阳区酒仙桥东路1号
1998 年 10 月 30 日 签发 有效期 20 年
编号 620402710320131



汉王
Hanvon

Facial recognition



Face recognition

Bionics: people have two eyes:

The two camera

infrared camera visible light camera.



Dual Sensor

We are developing the face recognition technology in mobile devices , automobile for personal identification .



Face recognition

- 80000 units has been installed worldwide since face id released in 2009.
(Middle-high level security market)
- Replacing RFID and Fingerprint

FK605

Time attendance



F710

Access control & Time attendance

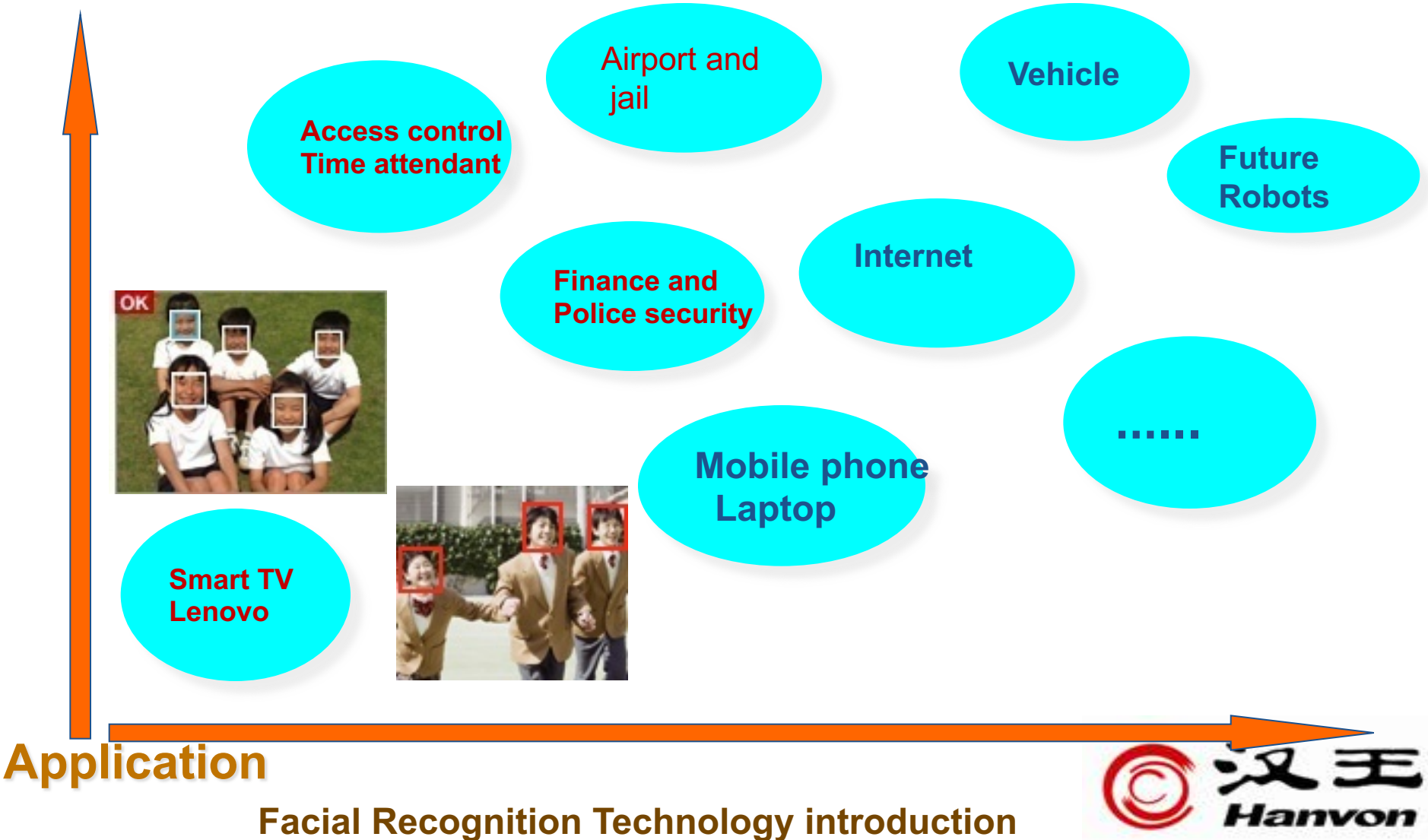


FA007

Access control & Time attendance



Product orientation



Electromagnetic Module Technology

Electromagnetic module technology

❖ Cordless and Battery-free Pen Technology

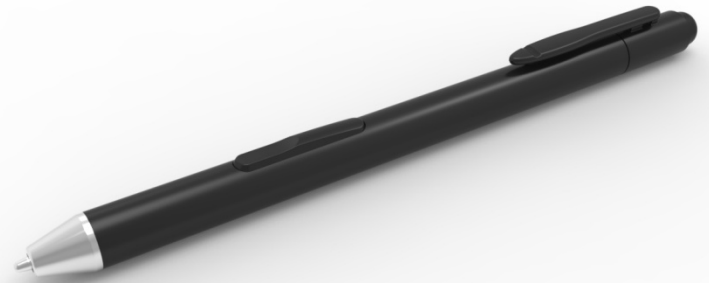
The drawing pen is light weighted and easy to use without unwanted hassle of batteries or wires.

❖ Pressure-sensitive Technology

With excellent pressure sensitivity, the drawing pen can sense tiny pressure from light hand. Let users work easily and comfortably like the feel of traditional painting or drawing and create brush-like effects. Smooth Drawing and Fast Report Rate

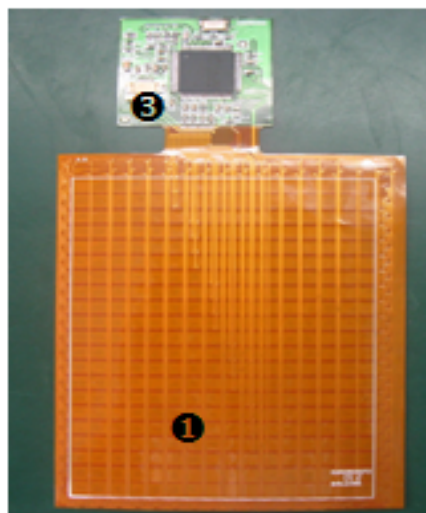
❖ Accuracy with High Resolution

Board Resolution can reach 5080lpi.
Pen accuracy can reach $\pm 0.1\text{mm}$.

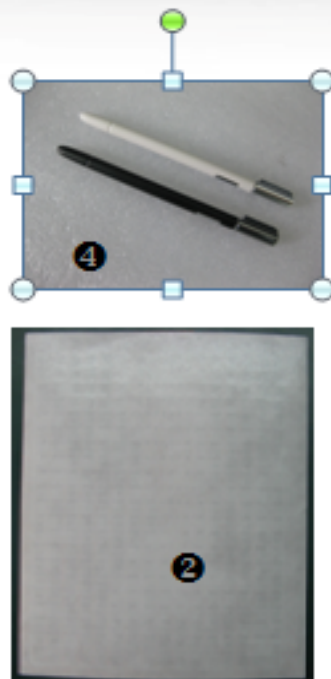


Electromagnetic module technology

Including: ① Sensor Board ② Mask film ③ Control Board ④ EM-Pen



Front side



Rear side

Electromagnetic Resonances Touch

Available size : 2" – 100"

Electromagnetic module technology

ERT (Electromagnetic Resonance Touch) is one of Hanvon's core technologies. The ERT panel, when embedded in electronics, allows for handwriting input with a high degree of pressure sensitivity, accuracy and resolution. Various software applications for this technology include painting, signature, note taking, annotating, etc.



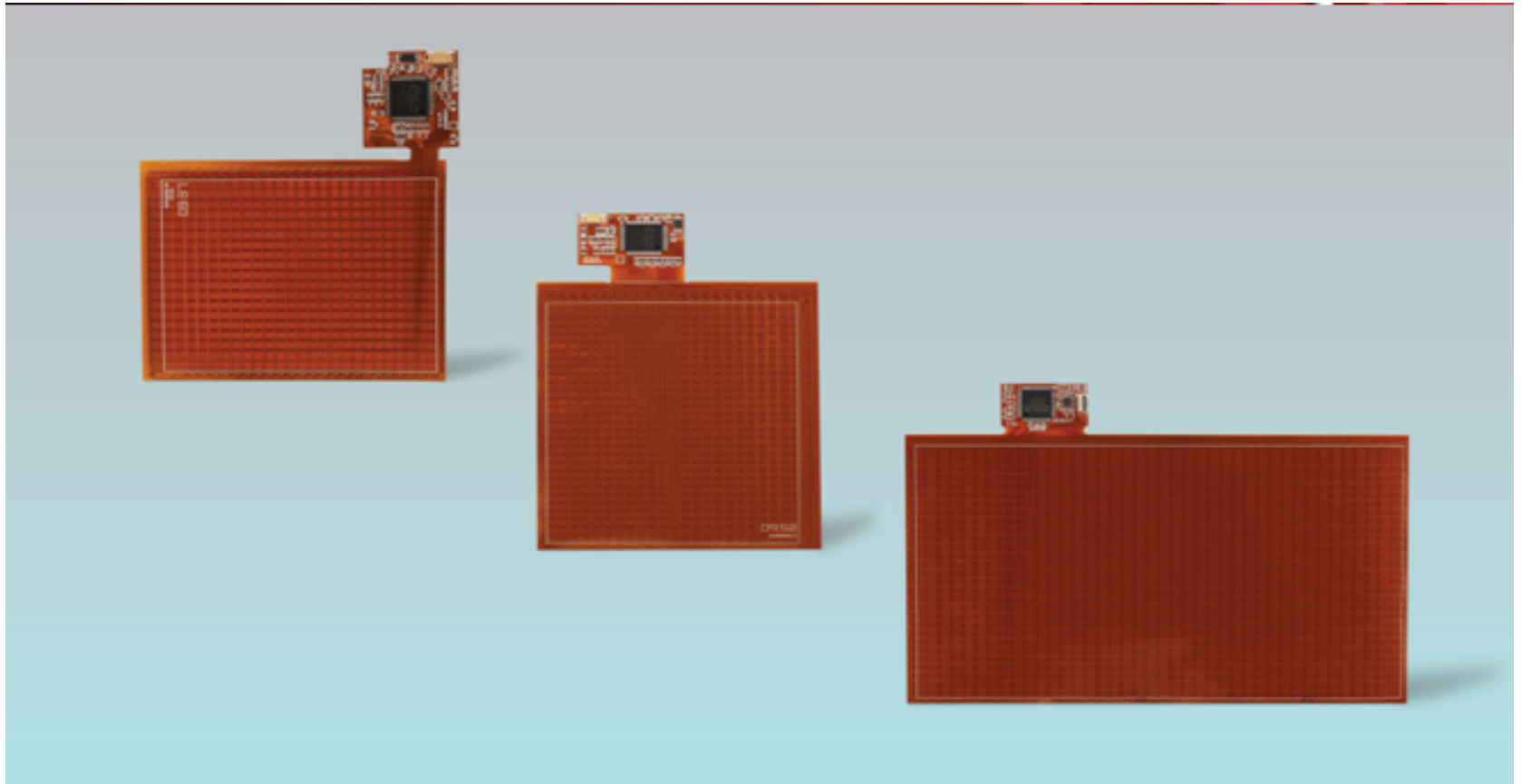
1. Pen
2. Sensor board
3. Shield plate
4. Control unit

Electromagnetic module technology



Electromagnetic Touch Pen

Electromagnetic module technology



Electromagnetic Touch Board

Electromagnetic module technology

Drawing table



E-book and E-reader



Signature board

Mobiles and pads



Application

Cooperation and Partners

Cooperation

Major partners



Cooperation

Major partners

ZTE中兴



lenovo联想

Haier 海尔



 **中国农业银行**
AGRICULTURAL BANK OF CHINA

sim
SIM Technology

 **中國銀行**
BANK OF CHINA

 **中国建设银行**
China Construction Bank

 **汉王**
Hanvon

Partners and Cooperation

Automotive infotainment partners



Thanks

We care about you

We Provide

*Leading Technology
High Quality
Professional Service
Long-term Oriented*

