Safe Harbor Notice

Except for the historical information contained herein, the matters addressed in this presentation are forward-looking statements that involve certain risks and uncertainties that could cause actual results to differ materially, including but not limited to weather, impact of competitive products and pricing, industry-wide shifts in the supply and demand for semiconductor products, rapid technology change, semiconductor industry cycle, and general economic conditions.

Except as required by law, Andes undertake no obligation to update any forward-looking statement, whether as a result of new information, future events or otherwise.
Agenda

- Overview of Andes Technology Corporation
- Operating Results
- Product Application
- New Products and Ecosystems
- Concluding Remarks
Overview of Andes Technology Corporation

Andes Highlights

- Founded in March 2005 in Hsinchu Science Park, Taiwan, ROC.
- Core RD team from AMD, DEC, Intel, MIPS, nVidia, and Sun veterans.
- Just over 140 people; 80% are engineers.
- EETimes' Silicon 60 Hot Startups to Watch (2012)
- TSMC OIP Award “Partner of the Year” for New IP (2015)
- A founding member of RISC-V Foundation (2016)
- IPO on Taiwan Stock Exchange (March 2017)

Andes Mission

- Innovate performance-efficient processor solution for low-power SoC

Emerging Opportunities

- Smart and Green electronic devices
- Cloud Computing, Artificial Intelligence and Internet of Things
Operating Results
Business Status Overview

- **>145** commercial licensees
  - Geographically distributed in Taiwan, China, Korea, Japan, Europe, and USA.
  - **>204** license agreements signed

- **AndeSight™ IDE:**
  - **>11,000** installations

- **Eco-system:**
  - **>120** partners

- **2.5B** Accumulative SoC Shipped:
  - (by 2017 end)
Agreement Growth Analysis

<table>
<thead>
<tr>
<th>Year</th>
<th>IP Agreements</th>
<th>Accumulated IP Agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2007</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2008</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>2009</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>2010</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>2011</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td>2012</td>
<td>16</td>
<td>27</td>
</tr>
<tr>
<td>2013</td>
<td>24</td>
<td>27</td>
</tr>
<tr>
<td>2014</td>
<td>27</td>
<td>31</td>
</tr>
<tr>
<td>2015</td>
<td>27</td>
<td>39</td>
</tr>
<tr>
<td>2016</td>
<td>31</td>
<td>107</td>
</tr>
<tr>
<td>2017</td>
<td>39</td>
<td>134</td>
</tr>
</tbody>
</table>
2017 Revenue Analysis

Revenue

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>208,635</td>
<td>289,377</td>
</tr>
</tbody>
</table>

Up 38.70%
2017 Top 10 Customers Analysis by Revenue

Revenue (NT$ thousands)

Top 10 Customer Contributed 53% Revenue

Networking (US) 28,000
Wireless/LoT (TW) 25,000
Gaming (TW) 20,000
Audio/BT (HK) 15,000
32bit MCU (TW) 10,000
BT (CH) 9,000
Touch Panel (TW) 8,000
Touch panel (KO) 7,000
Voice recog (CH) 6,000
IoT (US) 5,000

Driving Innovations™
## Royalty & Contributors Analysis

<table>
<thead>
<tr>
<th>Year</th>
<th>Royalty</th>
<th>Customer numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>445</td>
<td>1</td>
</tr>
<tr>
<td>2012</td>
<td>660</td>
<td>2</td>
</tr>
<tr>
<td>2013</td>
<td>1,285</td>
<td>5</td>
</tr>
<tr>
<td>2014</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>2015</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>2016</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>2017</td>
<td>25</td>
<td>25</td>
</tr>
</tbody>
</table>

### Graphical Representation

![Graph showing Royalty and Customer numbers from 2011 to 2017](chart.png)

- **Royalty** in NT$ thousands:
  - 2011: 445
  - 2012: 660
  - 2013: 1,285
  - 2014: 10,819
  - 2015: 12,321
  - 2016: 13,320
  - 2017: 38,287

- **Customer numbers**
  - 2011: 1
  - 2012: 2
  - 2013: 5
  - 2014: 9
  - 2015: 15
  - 2016: 15
  - 2017: 25

This data illustrates a significant increase in both royalties and customer numbers from 2011 to 2017.
### Total Customers Annual and Accumulated Shipment

#### (Unit: M ps)

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Shipment</td>
<td>430</td>
<td>590</td>
</tr>
<tr>
<td>Accumulated Shipment</td>
<td>1,910</td>
<td>2,500</td>
</tr>
</tbody>
</table>
Royalty Analysis

(NT$ thousands)

<table>
<thead>
<tr>
<th>Year</th>
<th>Royalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>13,320</td>
</tr>
<tr>
<td>2017</td>
<td>38,287</td>
</tr>
</tbody>
</table>

Up 187%
2017 Top Ten Royalty Contributors Analysis by Application

Top 10 Royalty Customers
Contribution: 97%

<table>
<thead>
<tr>
<th>Application</th>
<th>Contributions (NT$ thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gaming (TW)</td>
<td>13,400</td>
</tr>
<tr>
<td>Touch Panel (KO)</td>
<td>12,000</td>
</tr>
<tr>
<td>Wireless/IoT (TW)</td>
<td>9,000</td>
</tr>
<tr>
<td>Touch Panel (TW)</td>
<td>6,000</td>
</tr>
<tr>
<td>Wireless display (TW)</td>
<td>4,000</td>
</tr>
<tr>
<td>Surveillance (TW)</td>
<td>2,000</td>
</tr>
<tr>
<td>Touch Panel (TW)</td>
<td>1,000</td>
</tr>
<tr>
<td>32bit MCU (TW)</td>
<td>500</td>
</tr>
<tr>
<td>USB 3.0 (TW)</td>
<td>500</td>
</tr>
<tr>
<td>Others</td>
<td>500</td>
</tr>
</tbody>
</table>

Contribution: 97%

3%
Consolidated Gross Margin

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Profit</td>
<td>207,599</td>
<td>288,437</td>
</tr>
<tr>
<td>Gross Margin</td>
<td>99.50%</td>
<td>99.68%</td>
</tr>
</tbody>
</table>
Consolidated Operating Expenses

**YoY**

+6.71%

(NT$ thousands)

- 300,000
- 250,000
- 200,000
- 150,000
- 100,000
- 50,000

<table>
<thead>
<tr>
<th>Year</th>
<th>Consolidated Operating Expenses (NT$ thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>245,107</td>
</tr>
<tr>
<td>2017</td>
<td>261,545</td>
</tr>
</tbody>
</table>

- **Selling expenses**
- **Administration expenses**
- **R&D expenses**
Consolidated Operating Income

**YoY**

-%; +64,400千元

(NT$ thousands)

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>(37,508)</td>
</tr>
<tr>
<td>2017</td>
<td>26,892</td>
</tr>
</tbody>
</table>
Consolidated Operating Margin

YoY
+ 27.27pt

-17.98%
9.29%

2016 2017
Consolidated Operating Income

YoY
-\% ; +53,394千元

(NT$ thousands)

2016: (31,861)
2017: 21,533
Consolidated Net Profit Margin

YoY
+ 22.71 pt

2016 2017

-15.27% 7.44%

Consolidated Net Profit Margin
Consolidated Earnings Per Share

<table>
<thead>
<tr>
<th>Year</th>
<th>EPS (NT$ dollar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>-0.86</td>
</tr>
<tr>
<td>2017</td>
<td>0.54</td>
</tr>
</tbody>
</table>
Revenue Analysis by Payment Model

(2017/01-12 New Agreements: 39)

- License: 83%
- Royalty: 13%
- Maintenance and others: 4%
Revenue Analysis by Region

- Taiwan: 47%
- China: 25%
- USA: 16%
- Others: 12%
Revenue Analysis by Product

- 28% - N13
- 20% - D10
- 16% - N9
- 12% - N8
- 7% - N7
- 6% - N10
- 4% - D15
- 2% - N6
- 2% - E8
- 2% - EVB
- 1% - Platform IP
- 1% - N12
- 1% - S8
- 0% - N11
Customer Application Analysis

- IoT: 37%
- Storage: 18%
- Sensing: 12%
- MCU: 9%
- Connectivity: 6%
- Artificial Intelligence: 3%
- Automotive: 3%
- Navigation: 3%
- Networking: 3%
- Others: 3%

*Based on 2017 agreements number
Product Application
Rich Customers’ Applications

Consumer
- Touch Screen
- eBook/eDictionary
- Power management
- Bio-medical device
- CMMB
- MCU
- TCON

Communication & IoT
- Wireless display
- WiFi, Bluetooth
- GPS, GPON, NFC
- Gateway/router
- Portable Karaoke
- Sigfox LPWAN
- IoT Cat0 base station
- IoT MCU
- ESL
- Smart Meter
- Smart Lighting

Storage & Sensor
- USB3.0
- SSD, eMMC
- Anti-virus
- Sensor Hub
- mSATA
- Secure SD
- Fingerprint Recognition

Industrial & Video
- Motor Control
- Wireless Charger
- Surveillance
- Barcode scanner
- ADAS
- VEDR
- 4K2K CODEC
- 8K4K CODEC
- and more…..

Andes Core

ANDES TECHNOLOGY
Driving Innovations™
IoT Application - 1

- Bluetooth Speaker
- Sigfox LPWAN
- Healthcare device
- Wearable device
- Electronic price tags
- Sensor Hub

IoT LPWAN

- Smart Home
- Smart Energy
- Smart Agriculture
- Smart Retail
- Smart Mobility
- Internet of Things
- Open Data
IoT Application -2

- Wearable devices
- Drone
- Portable Karaoke
- GPS/Beido in shared bikes
- Contactless payment (NFC)
- WiFi/GPS/FM/Bluetooth combo
Automotive Applications

◆ N13
  ◆ Calibration of AVM (Around View Monitoring) in NISSAN New X-Trial

◆ N10
  ◆ CAR Event Recorder
  ◆ ADAS

◆ D10
  ◆ ADAS
AI Applications

- **D15F** Video recognition
- **N9** Dataflow Processing
- **D10** Voice Recognition
- **N9** AI companion

Courtesy: Wave Computing

Andes Embedded™

SoC for WiFi in AI Companion

Yes, boss, I understand...
Emerging Applications

- **AI**
  - Deep Learning
- **Next generation TV**
- **Network Engine**
  - Router
- **Drone**
- **Robot**
- ...  
- Many new applications are emerging
New Products and Ecosystems
New AndesCore™ Revealed in 2017

New Cores Announced/Released in 2017

- Protocol Processing
- Gateway
- Storage

N25

- Sensor
- WiFi

N9

- Sensor
- WiFi

N10(F)

- Sensor
- WiFi

N13

- Wearable
- Switch
- Router

D10(F)

- Gateway

D15(F)

- DSP
- FPU

E8

N8

S8

N7

N8

BT sensor
ZigBee sensor
Strong security

Power consumption

IoT graphic source:
Wilgengebroed on Flickr

Driving Innovations™
AndesCore™ V5 Families

**Ultra Performance**

- **E25***
  - V5m, 32-bit
  - 5-stage, 1GHz
  - Custom Inst.

- **EX25***
  - V5m, 64-bit
  - 5-stage, 1GHz
  - Custom Inst.

**Next Generation V5 (V5m with adv. features)**

- **NX25**
  - V5m, 64-bit,
  - 5-stage, 1GHz
  - Compact

- **N25**
  - V5m, 32-bit
  - 5-stage, 1GHz
  - Compact

**To Release**

- **Extensible Instructions**

**Released**

- **Modern Architecture**

---

- 28HPC Rvt library, slow silicon, 0.81V, 0C, with I/O constraints; * Available early 2018
# Summary of AndesCores vs. Competitors

<table>
<thead>
<tr>
<th>AndesCore™</th>
<th>Power Efficiency¹ (DMI PS/ mW)</th>
<th>Competitors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N7</strong></td>
<td>+42%</td>
<td>Cortex-M0+</td>
</tr>
<tr>
<td><strong>N8</strong></td>
<td>+43%</td>
<td>Cortex-M3</td>
</tr>
<tr>
<td><strong>N9</strong></td>
<td>+43%</td>
<td>Cortex-M3</td>
</tr>
<tr>
<td><strong>D10</strong></td>
<td>+48%</td>
<td>Cortex-M4</td>
</tr>
<tr>
<td><strong>N13</strong></td>
<td>+185%</td>
<td>Cortex-A5</td>
</tr>
<tr>
<td><strong>N13</strong></td>
<td>+45%</td>
<td>Cortex-R4</td>
</tr>
<tr>
<td><strong>D15F</strong></td>
<td>+121%</td>
<td>Cortex-M7</td>
</tr>
</tbody>
</table>

1. Power Efficiency is DMI PS/ MHz divided by power consumption (mW/ MHz) when running Dhrystone.
64 Bit Infrastructure and Eco-System

Processor IP's
AndesCore™
NX25

Processor Architecture
AndeStar™
V5, V5m

Development Platforms
AndeShape™

Development Tools
AndeSight™

SW Stacks
AndeSoft™

Driving Innovations™
Two Ecosystems: Andes and Knect.me
Built up Ecosystem *knect.me* to help IoT Developing

- to *knect* solutions - Silicon IP’s, SW stacks, tools, applications, systems and products

**Includes:**

- SoC IP Platforms
- Software Stack
- Development Boards
- Development Tools

**To Form a IoT League**

- to *knect* chip vendors, partners, application developers, system vendors
Added A.I. to Knect.me Ecosystem

What is “IoT League”? We invite Andes’ customers to provide products information which contains AndesCore. IoT League can enhance exposure and reputation in IoT domain. Various applications can help Andes’ customers to attract more and more users to adopt their IoT products.

Companies in alphabetical order

Andes Technology
Airoha
Hycon
Ite TECH INC.
M Communication
Weltrend
Wave Computing
Andes Awarded
Leader of IoT Solutions Providers

“Top 25 IOT Solutions Providers 2017 — APAC CIO Outlook Magazine

Andes Technology Corporation: Delivers High Performance/Low Power 32/64-bit Processor IP

Embedded processor brings up the bottom line operations of the device by adding flexibility and optimizing the cost. The Hsinchu, Taiwan-based Andes Technology Corporation serves as a distinguished and fastest growing embedded processor intellectual property supplier, which is comprised with a multitude of IoT solution providers and system technologies. With over two decades of experience in profiling processors based on Andes instruction set architecture, having tools kits available for Andes-xtm™ based software development and debugging, their operating system to Andes Core, bringing software stacks to support various applications including especially IoT, developing platforms for Andes Core embedded SOC and strengthening help and support to SOC design teams from varied sectors, Andes has become the choice of customers around the world. Being an intellectual property supplier, the company provides digital IP, complete infrastructure, and ecosystems for SOC design engineers to use.

Since enterprises have become highly reliant on digital technologies to automate their business functions, they also need to ensure a proficient SOC solution supplied by the semiconductors industry to be integrated into their organizational systems for better scalability, flexibility, and power saving. “We see ourselves as a one-stop-supplier in embedded processor intellectual property industry and it is our responsibility to enable customers to design high-quality SoCs,” states Frankwell Lin, President, Andes Technology Corporation. To address a Andes developed a spectrum of innovative products that include the patented Andes-tm™ Instruction Set Architecture, the leading performance-efficient AndesCore™ Processors, the flexible pre-integrated and pre-verified AndesCore™ Platform IP solution, the intuitive AndesCore™ Software Integrated Development Environment (IDE), and the comprehensive AndesCore™ Software Stacks. “Software development easily consumes more than 70 percent of total-months of a typical SoC project. To alleviate the design into the Andes-tm™, a comprehensive list of functionalities that include an on-chip memory, a digital core, a debug core, a local script engine, HDK-assisted support, a profiler, a flash programmer, and a virtual SOC platform that enables rapid performance evaluation and early software development. With these, it helps customers to efficiently develop, debug, and optimize their software to achieve aggressive project schedules, for meeting their business objectives,” said Lin.

Andes Technology proffers high performance/low power 32/64-bit processors that increase the processing speed of embedded applications invariably.

Migrating from one design to another and designing a new design requires the design team to customize the product and the design process. A comprehensive list of functionalities that include an on-chip memory, a digital core, a debug core, a local script engine, HDK-assisted support, a profiler, a flash programmer, and a virtual SOC platform that enables rapid performance evaluation and early software development. With these, it helps customers to efficiently develop, debug, and optimize their software to achieve aggressive project schedules, for meeting their business objectives,” said Lin.

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Asian Science Park Excellence Prize

“2017 ASPA Excellence Prize”
— Asian Science Park Association
Concluding Remarks
Andes: Even Better Value in Future

- Andes revealed new AndeStar™ V5 architecture processor cores N25/NX25 IP, to be applied in networking, deep learning/AI, high end storage, etc. emerging application
- Andes aggressively involved in RISC-V Foundation new technology and clusters development, contributing and leveraging RISC-V eco-system, promoting RISC-V to mainstream SoC, targeting to become world leader of embedding technology
- Andes has proven its strength, core competence and value, now it is in another transition turning point
Thank You!

www.andestech.com
Q&A