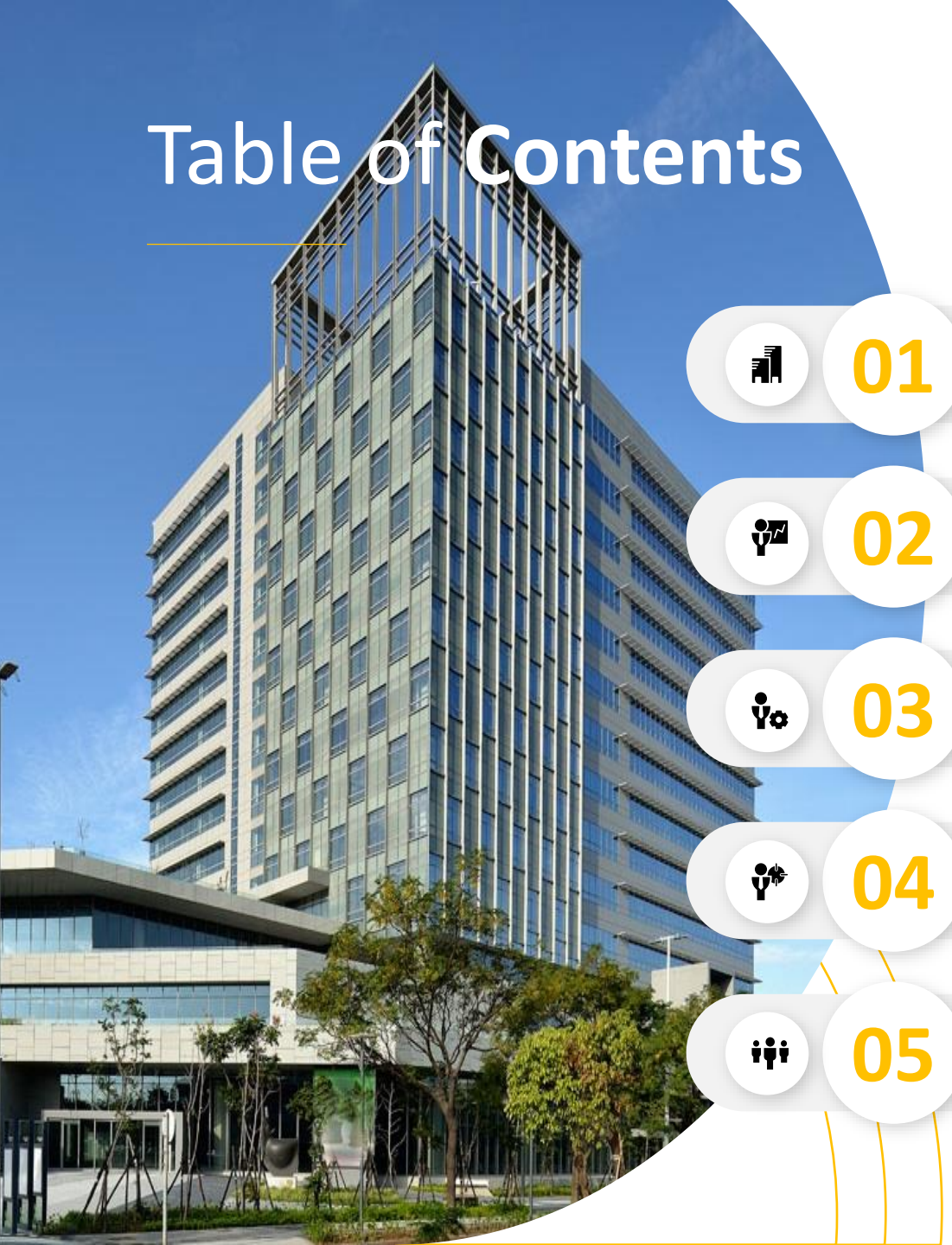
# Andes Technology Corp.
# Investor Conference Report

# 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.



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# Company Overview

http://www.andestech.com

## Andes Highlights

- Founded in March 2005 in Hsinchu Science Park, Taiwan, ROC.
- Well-established high technology IPO company
- Over 400 people; 80% are engineers.
- TSMC OIP Award “Partner of the Year” for New IP (2015)
- Founding Premier membership in the RISC-V International Association (RISC-V Foundation) (2020)
- Al Global Media Award “Most Outstanding Embedded Processor IP Supplier” (2020)
- Hsinchu Science Park Innovation Award - AndesCore™ NX27V (2020)
- EE Awards - “Taiwan-Product Award” & ”Asia-Company Award” (2021)
- Top 500 High-Growth Companies Asia-Pacific 2023

## Andes Mission

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

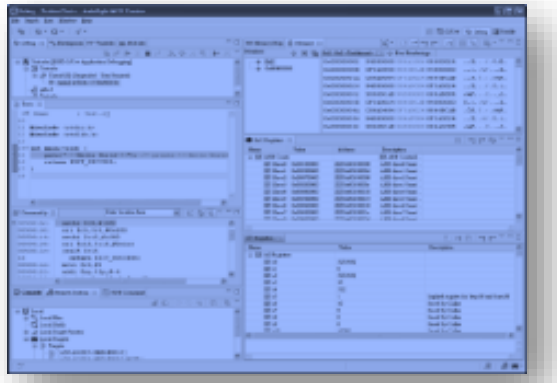
## Emerging Opportunities

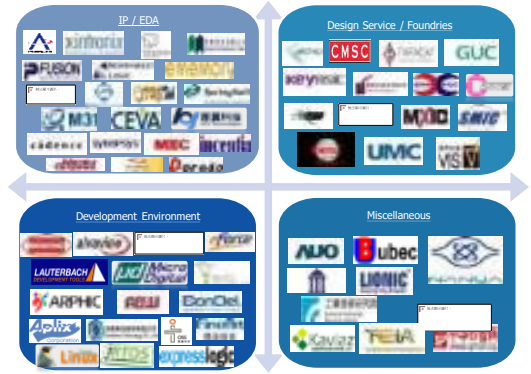
- Smart and Green electronic devices
- Cloud Computing and Internet of Things and Machine Learning

ANDES TECHNOLOGY

# Business Status Overview

- **300+** commercial licensees
  - Geographically distributed in Taiwan, China, Korea, Japan, Europe, and USA
  - **600+** license agreements signed
- AndeSight™ IDE:
  - **~25,000** installations
- Eco-system:
  - **500+** partners
- **12B+** Accumulative SoC Shipped



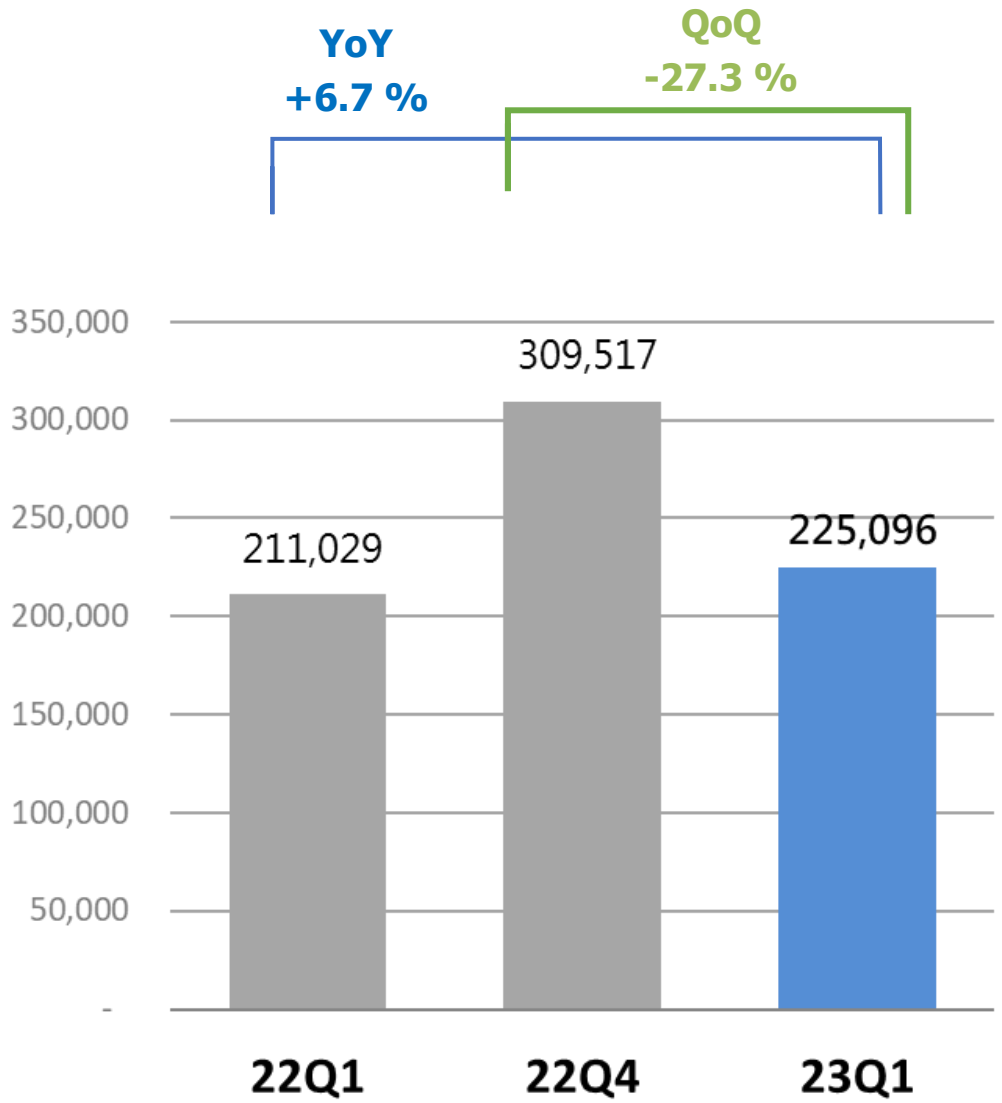



# Operation Results

http://www.andestech.com

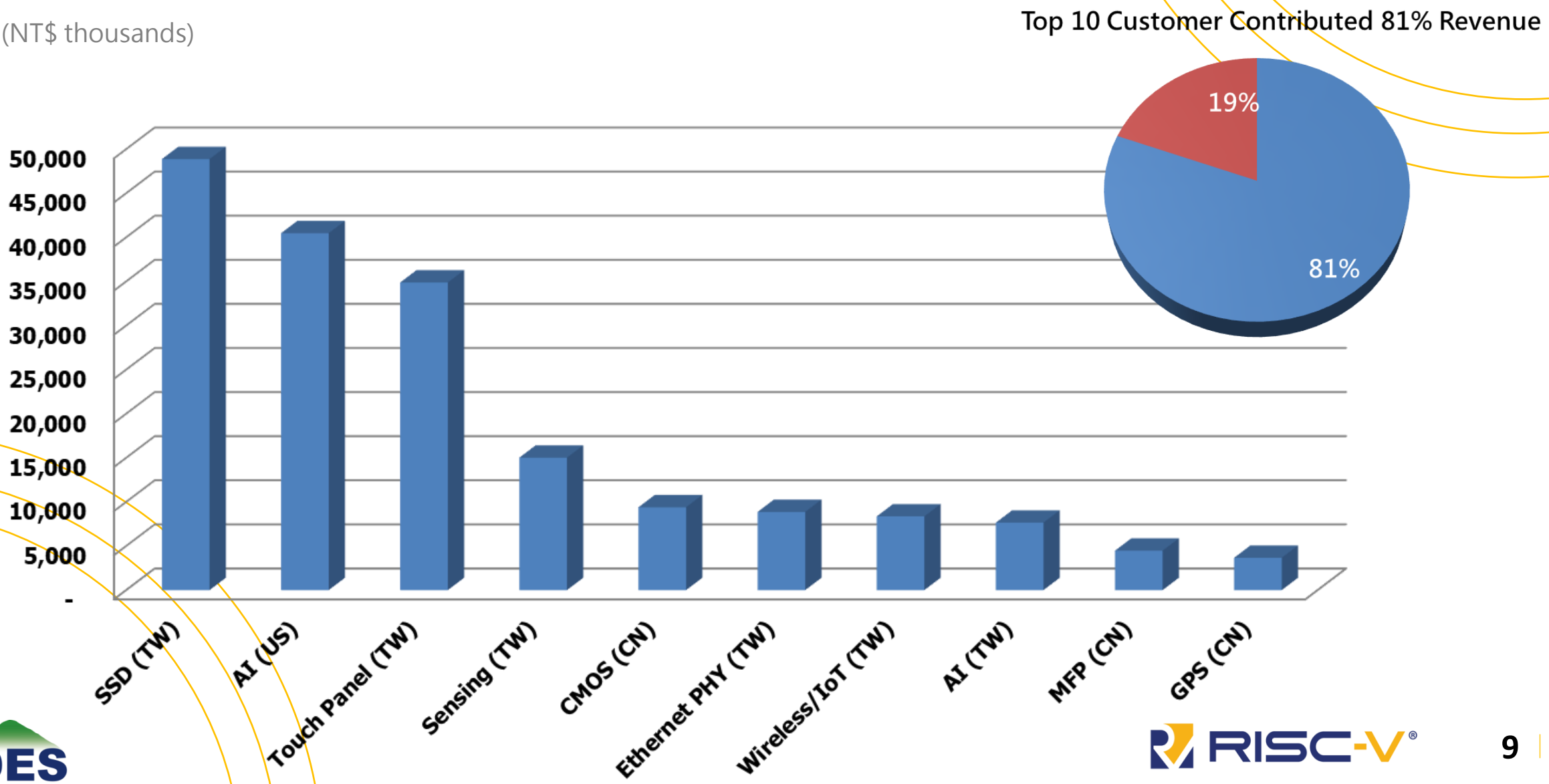
# 1Q23 Revenue Analysis

(NT$ thousands)

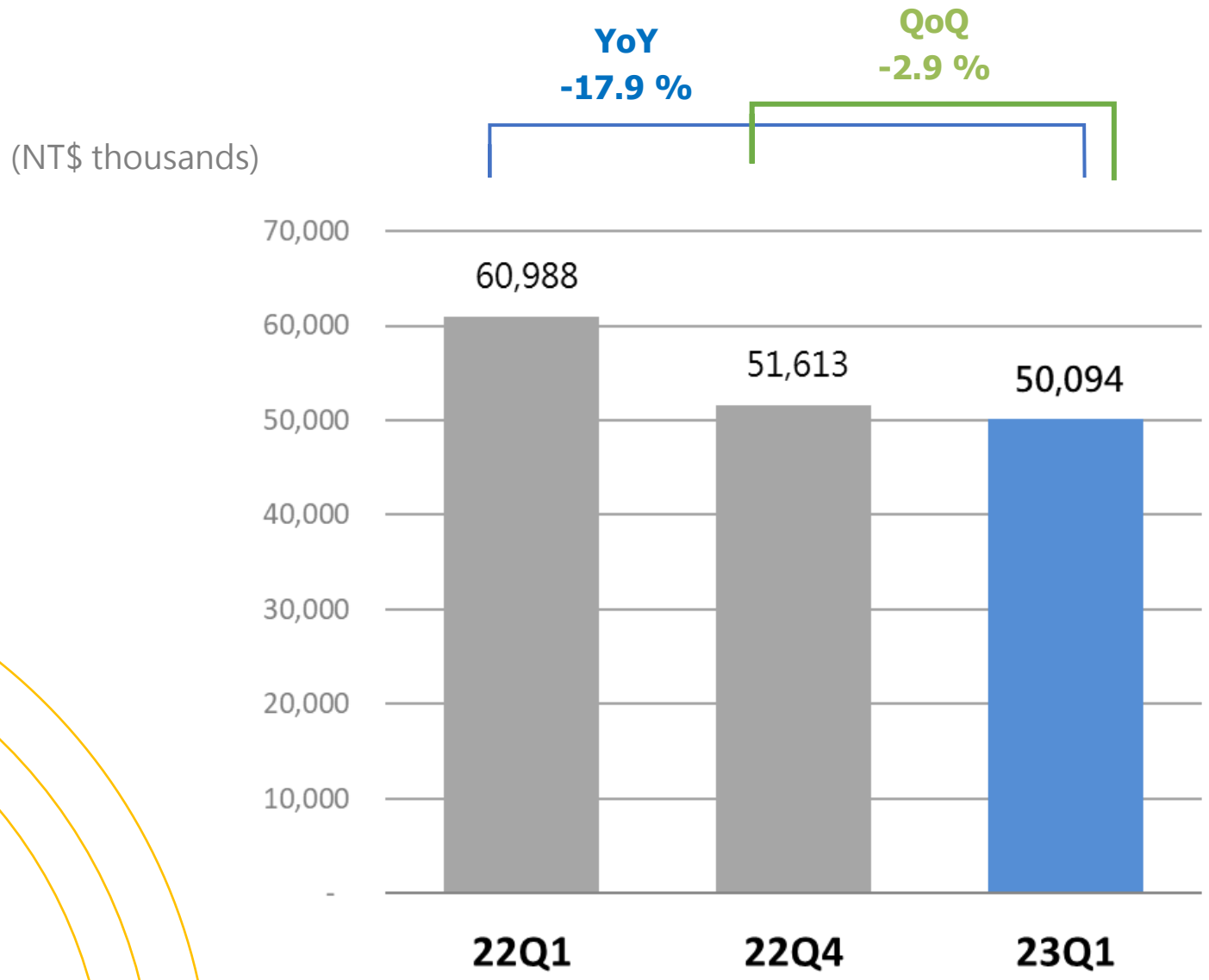


# 1Q23 Top 10 Customers Analysis by Revenue

(NT$ thousands)

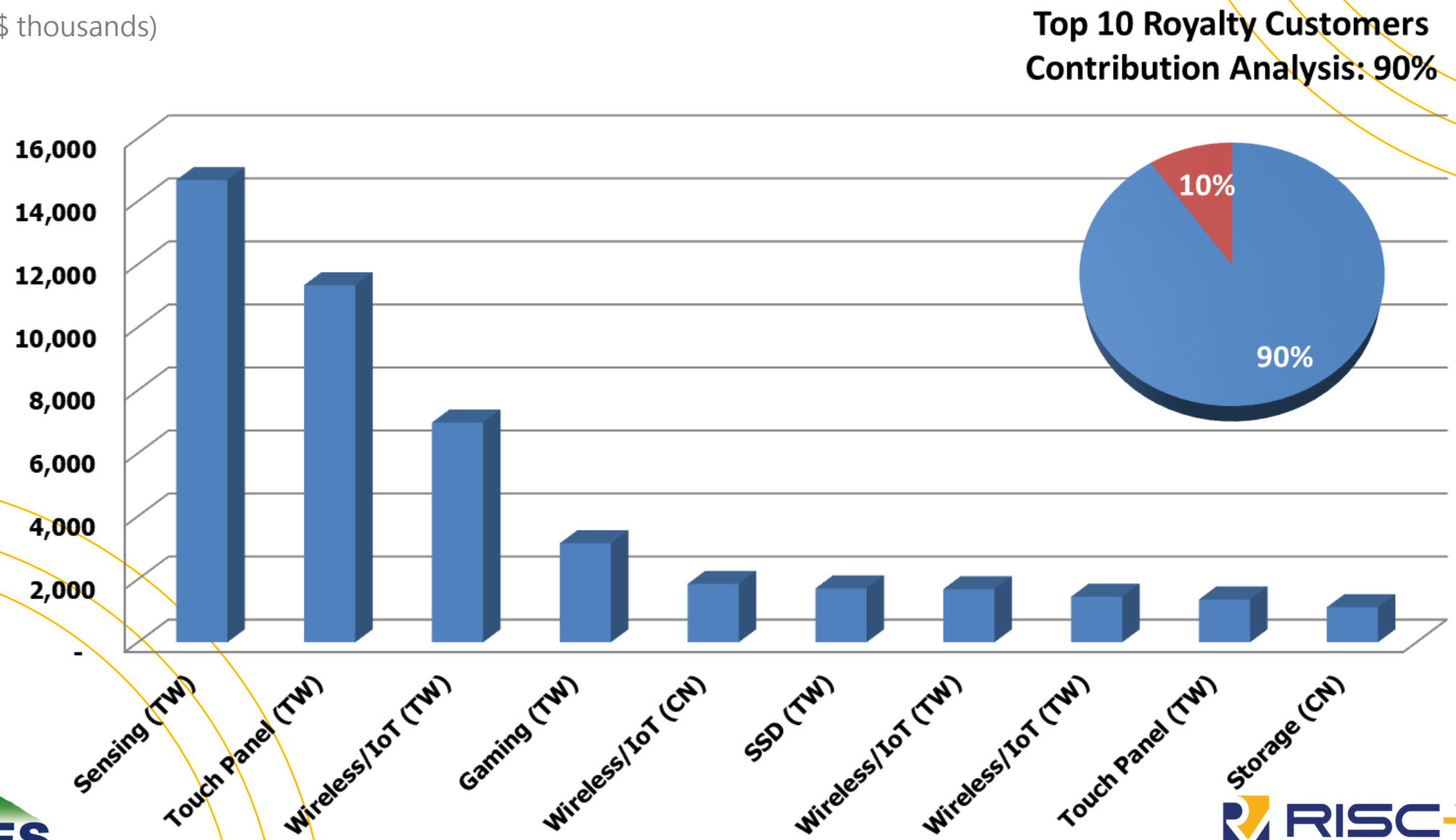


# 1Q23 Royalty Analysis

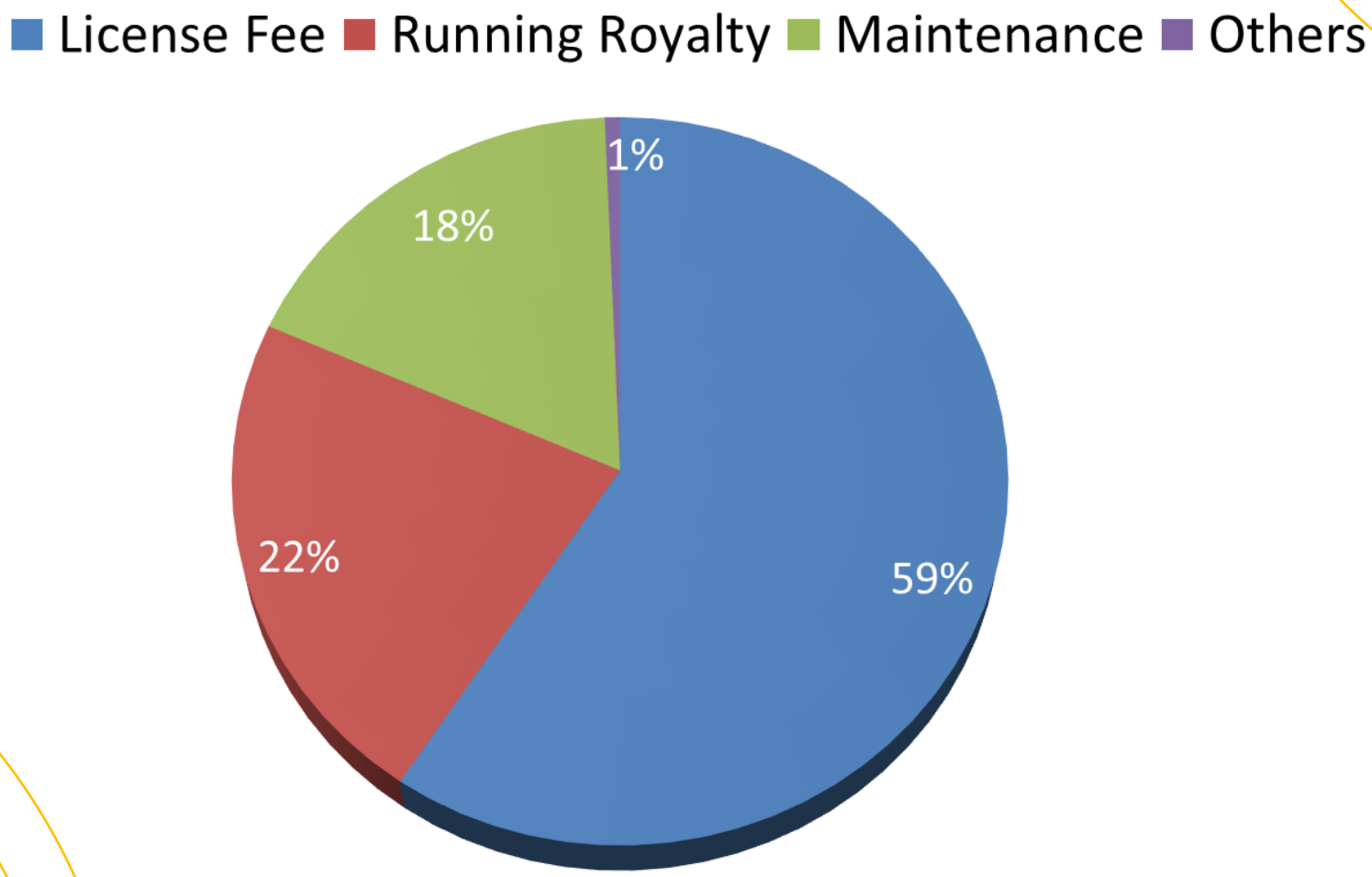


# 1Q23 Top 10 Royalty Contributors Analysis by Application

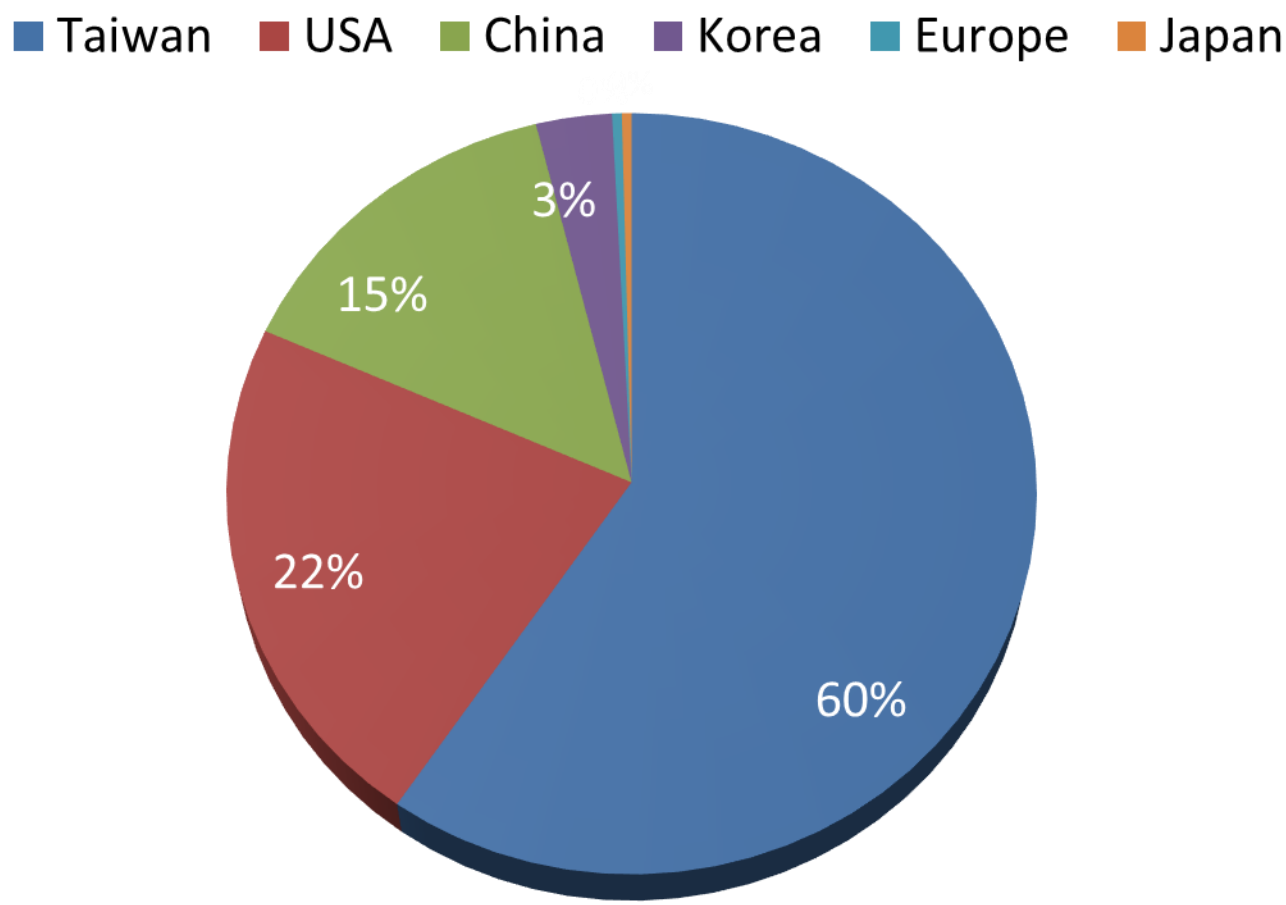
(NT$ thousands)



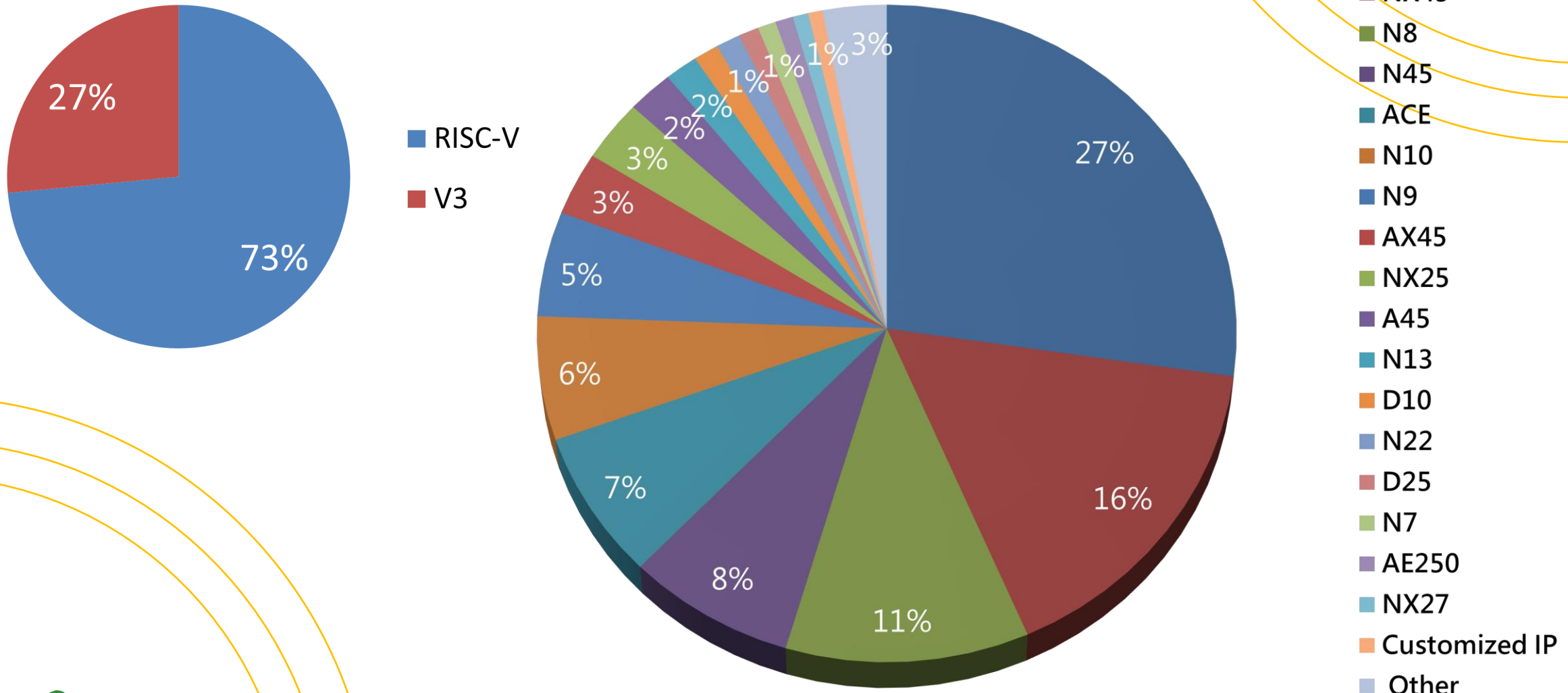
# 1Q23 Revenue Analysis by Payment Model



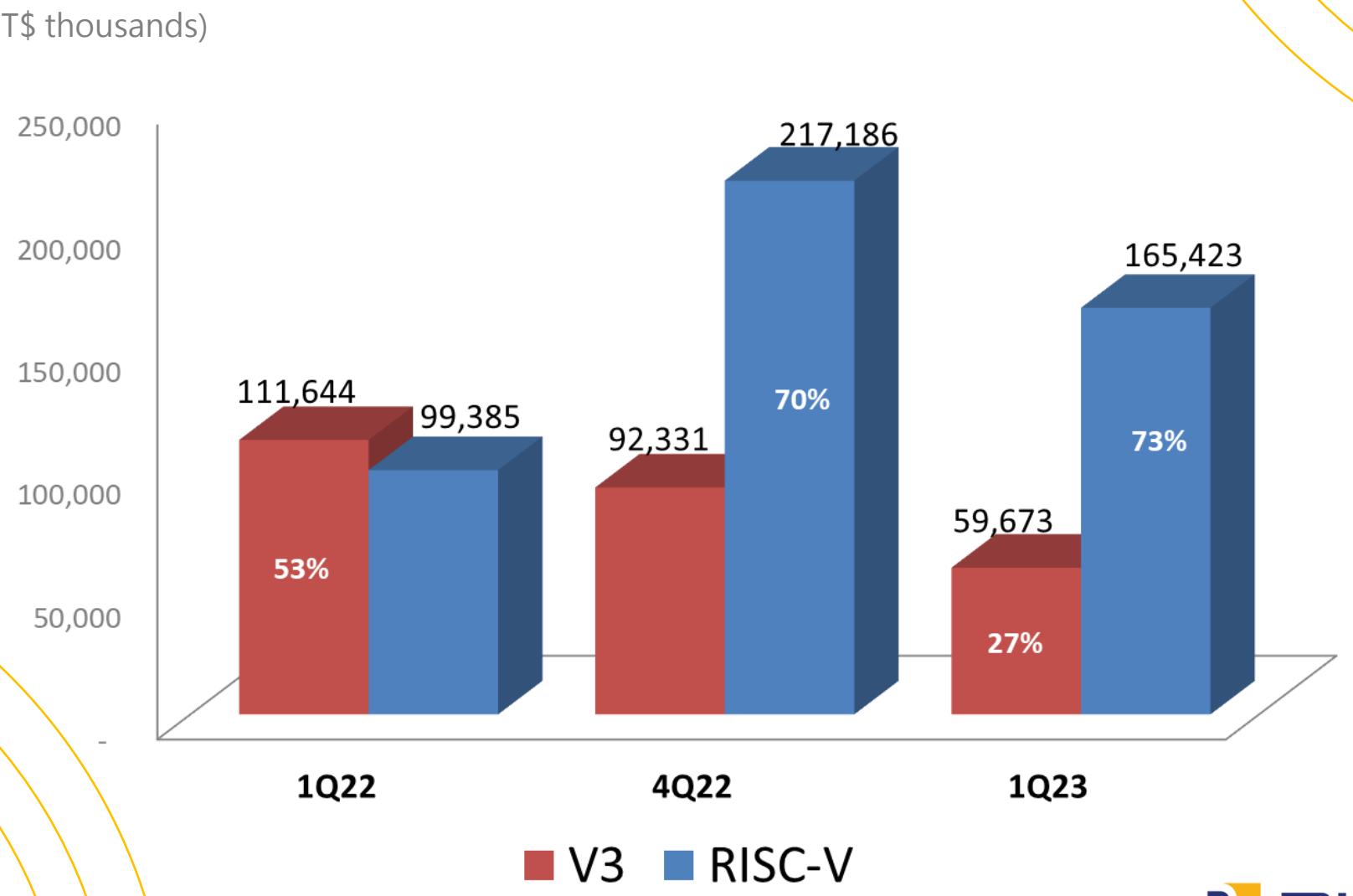
# 1Q23 Revenue Analysis by Region



# 1Q23 Revenue Analysis by Product



# 1Q23 Revenue Analysis - RISC-V



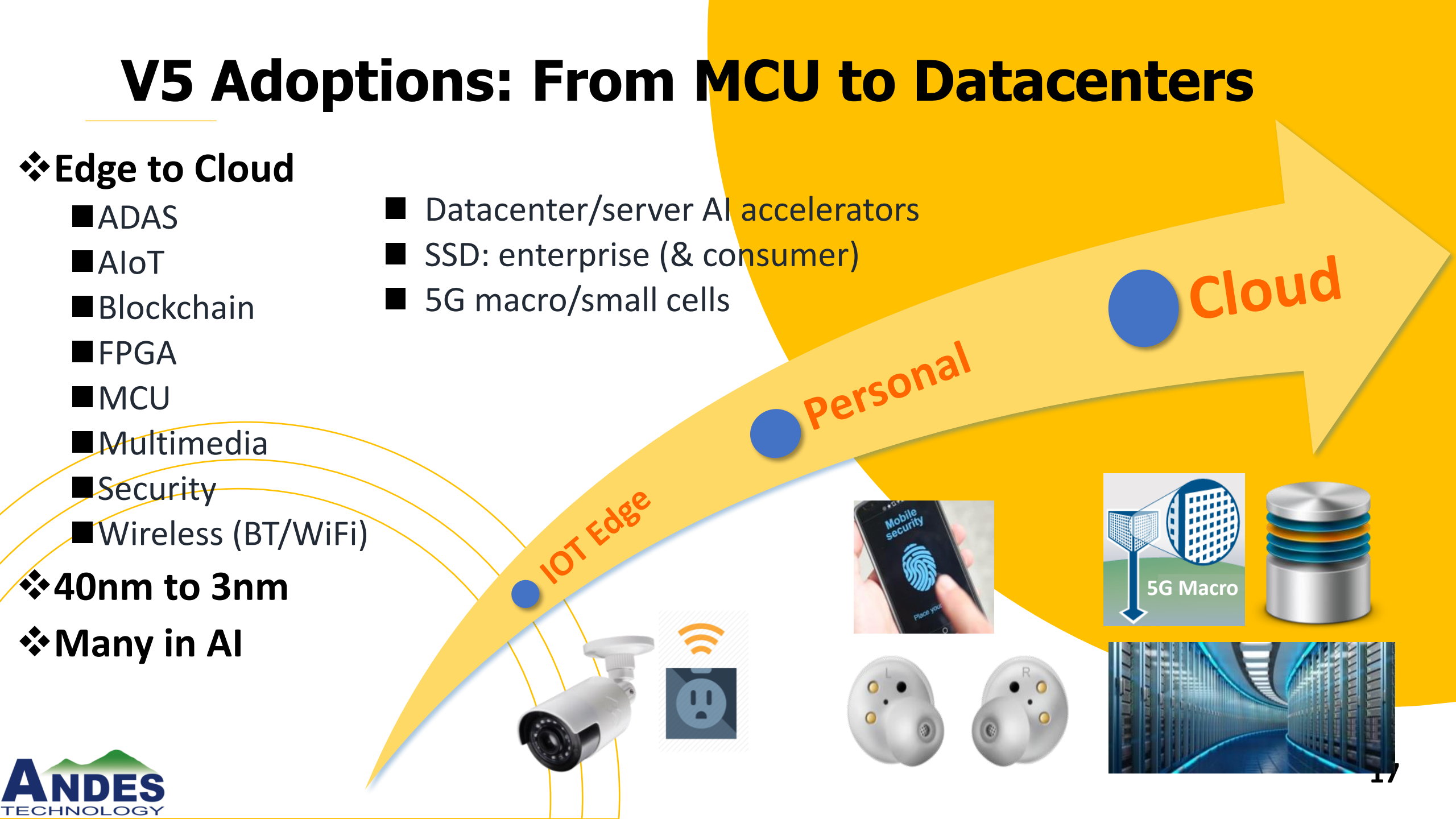
# Product Applications

http://www.andestech.com

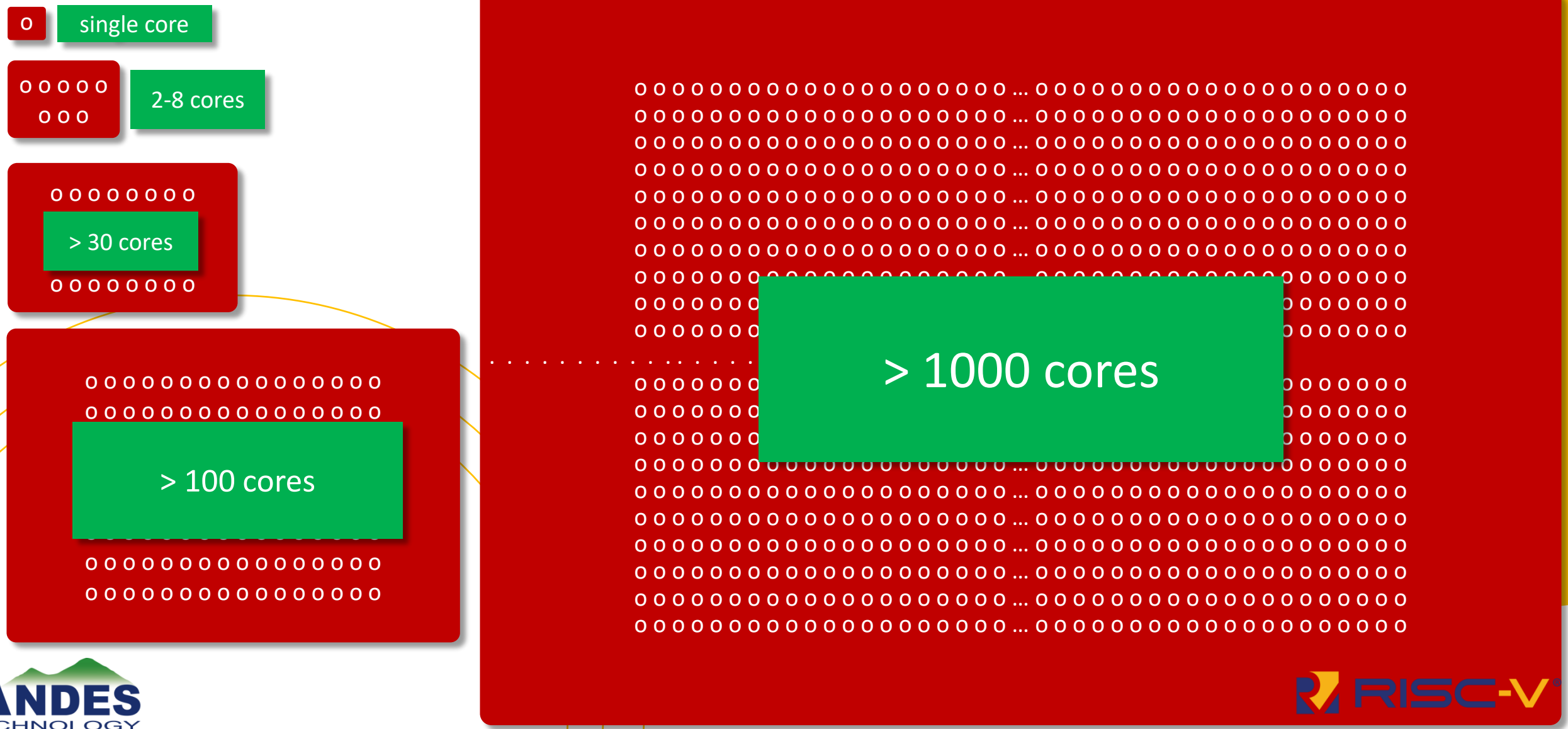
# V5 Adoptions: From MCU to Datacenters

- **Edge to Cloud**
  - ADAS
  - AIoT
  - Blockchain
  - FPGA
  - MCU
  - Multimedia
  - Security
  - Wireless (BT/WiFi)
- **40nm to 3nm**
- **Many in AI**

- Datacenter/server AI accelerators
- SSD: enterprise (& consumer)
- 5G macro/small cells



# Andes RISC-V Cores Adopted in SoC



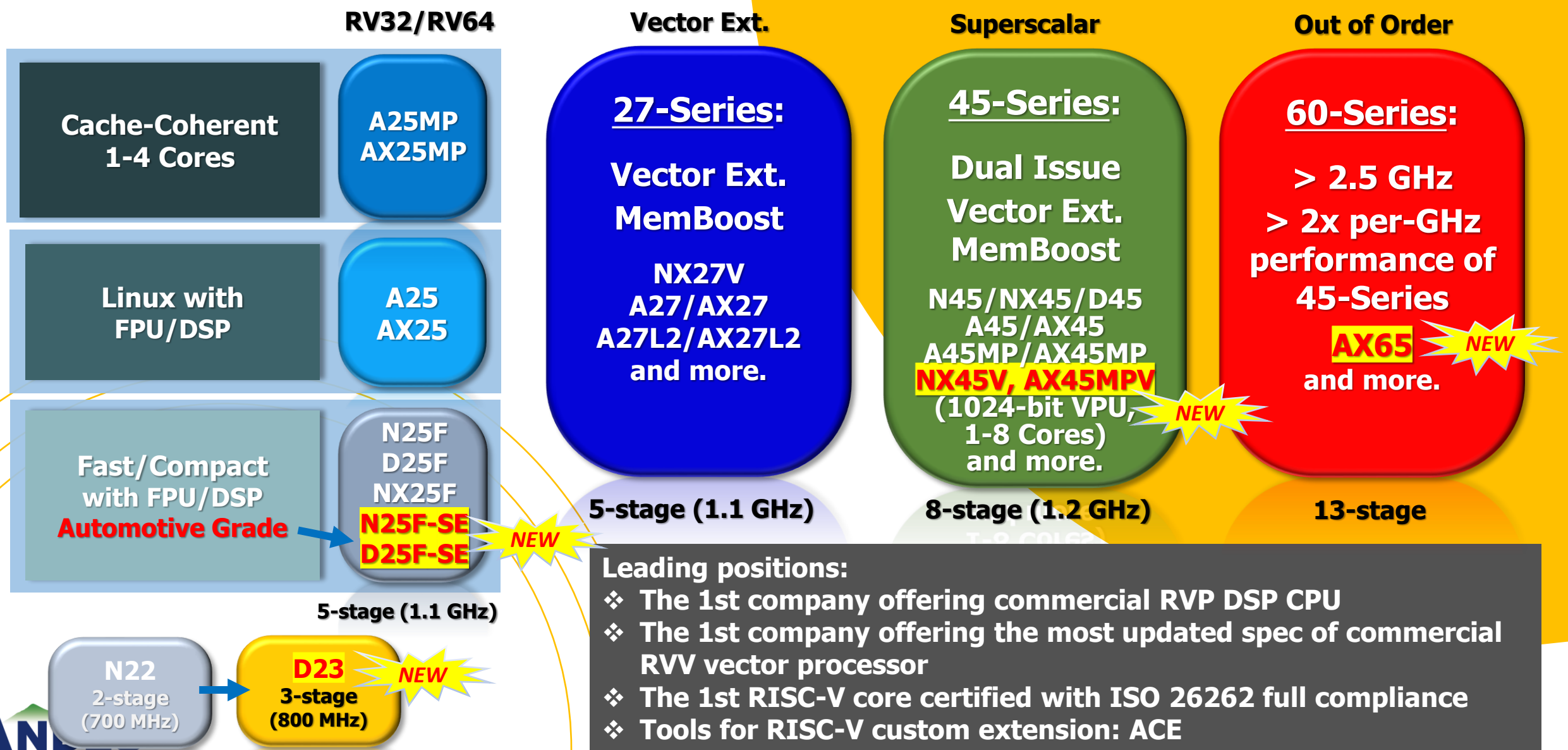

ANDES TECHNOLOGY

RISC-V

# New Products and Ecosystems

http://www.andestech.com

# Andes RISC-V Product Roadmap

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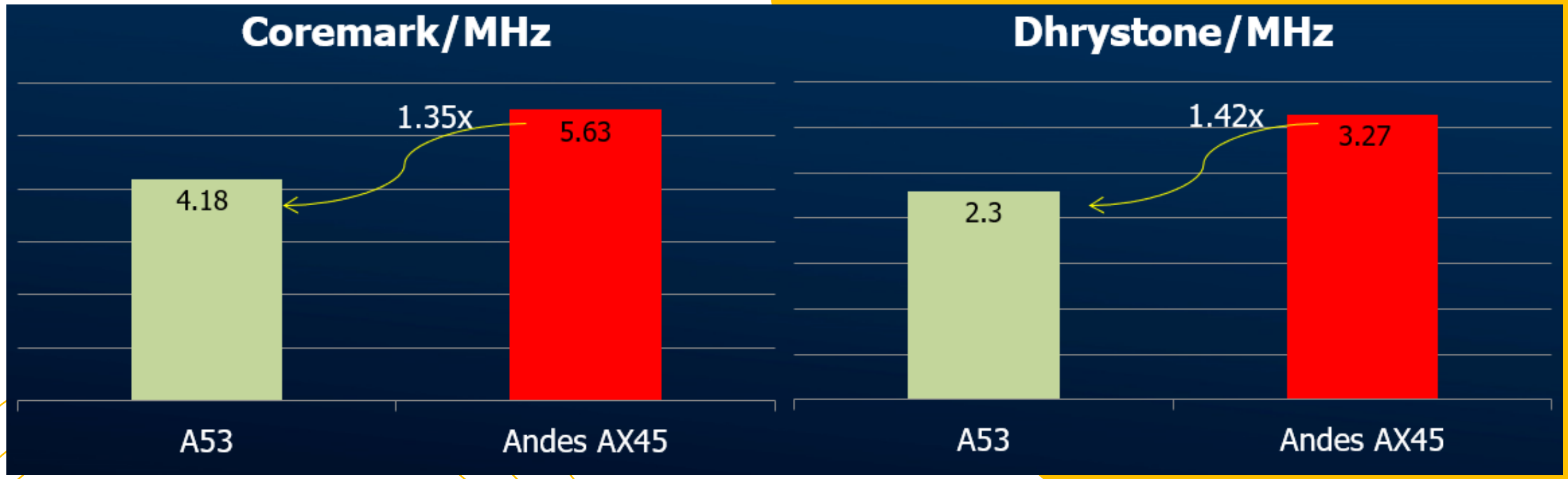
# AX45 Can Do More (vs. 64bit A-series)




- **A53**
  - 8-stage In-Order Dual Issue
  - **Widely adopted by industries in many applications**

- **AX45**
  - 8-stage In-Order Dual Issue
  - **Performance is better!**
    - **Coremark/MHz: 1.35x**
    - **Dhrystone/MHz: 1.42x**

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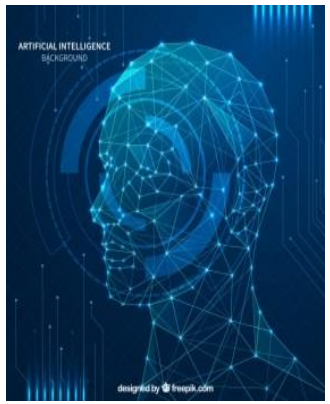
# Target Applications for 27, 45, 60-Series

- AI/Deep Learning
- AR/VR
- 5G




- Networking


- Storage

- Video Surveillance

- ADAS

- V2X (Vehicle to Everything)

- IVI (In-Vehicle-Infotainment)

*Metaverse, HPC and more…*

ANDES TECHNOLOGY

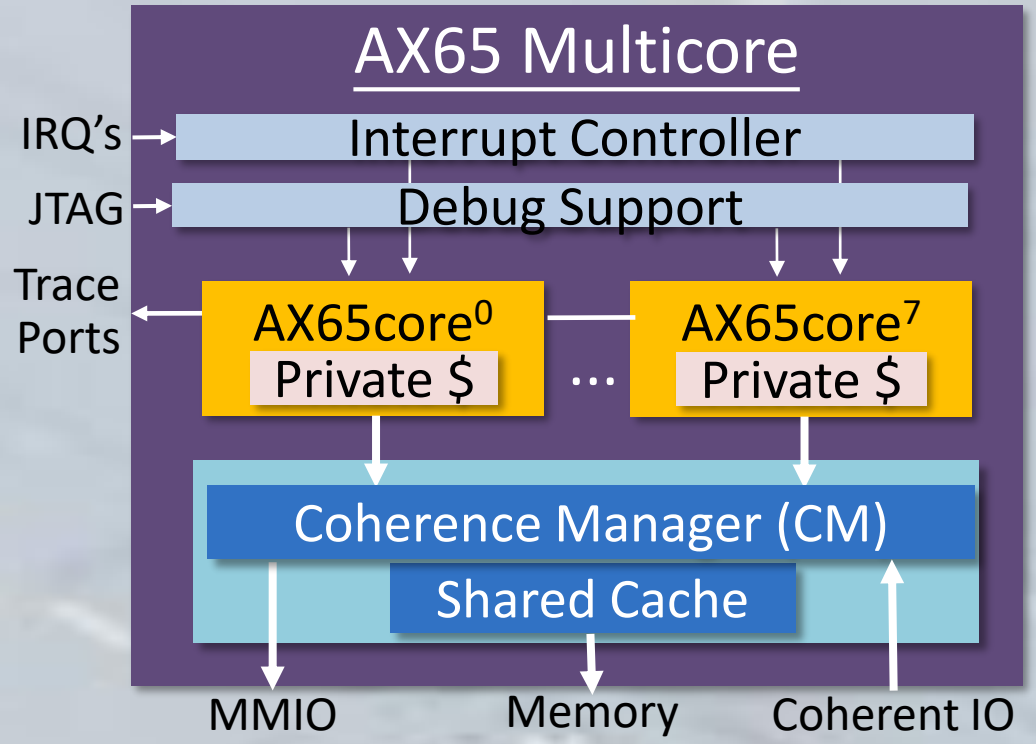
# The Andes AX60 Processor Series

- A new generation of AndesCore™
  - Advanced Performance 13-stage Out-of-Order Superscalar Multicore
  - Latest RISC-V Architecture
  - Supported by Andes Long-term Roadmap
    - AX65 as the first member of the AX60 series
    - More products based on the AX60 micro-architecture planned, including for automotive functional safety

- AndesCore™ AX65
  - Offering performance surpassing CA72
  - > 2.5 GHz, > 2x per-GHz performance of AX45MP
  - Engaging with early customers

# AndesCore AX65: 1st Member of AX60-Series

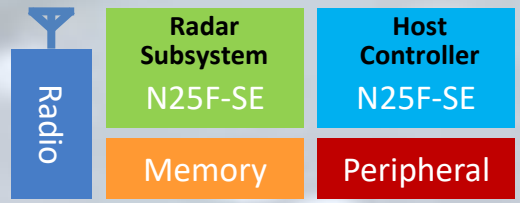
- 64-bit, RV64GCBK
- 8-core Multiprocessor
- 13-stage OoO Pipeline
- 128-entry Reorder Buffer (ROB)
- 4-wide Frontend Decoder
- 8 Execution Pipeline engines
- 2-level Branch Target Buffer (BTB)
- TAGE-L Branch Predictor
- 1024-entry 4-way L2 TLBs
- 64 KB, 4-way Private I/D Caches
- 8 MB, 16-way Shared Cache
- 256-bit AXI4, MMIO and IOCP Buses

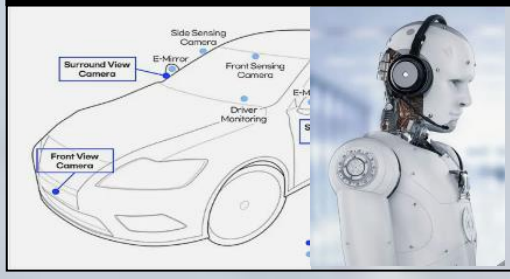
# Andes is *Driving* Innovations in Automotive

with Industry's 1st RISC-V ISO 26262 Fully Compliant Core, N25F-SE

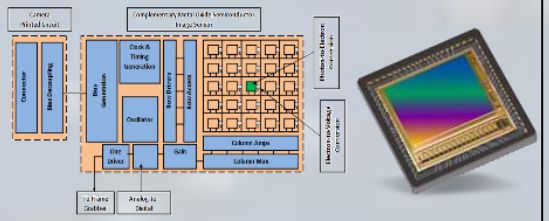
## In-Cabin Radar



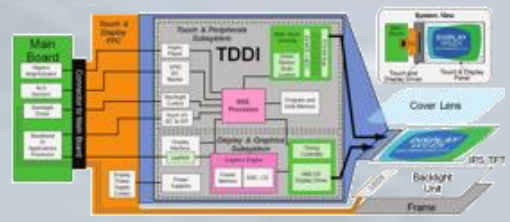

## CMOS Sensor





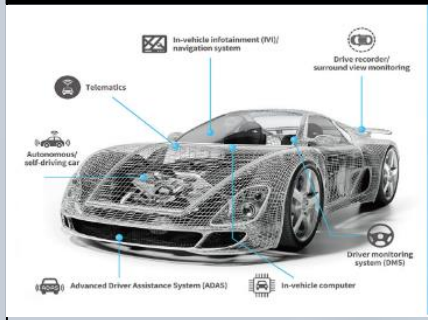



## Auto TDDI

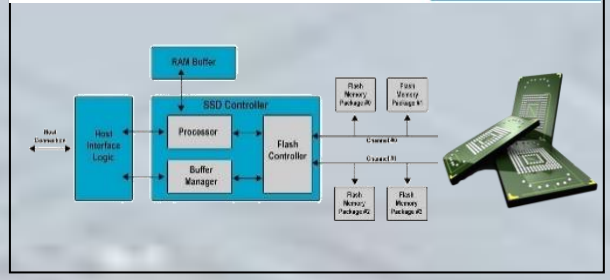



## Auto MCU

## Auto Storage







# Thank You

http://www.andestech.com

+886-3-5726533

ANDES TECHNOLOGY

RISC-V®

# N25F-SE Industry First ISO 26262 Full Compliance RISC-V Processor

SGS TÜV SAAR

CERTIFICATE NO.: FS/71/220/20/0639 PAGE 1/1

LICENCE HOLDER

*ANDES TECHNOLOGY CORPORATION*
*10F., NO. 1, SEC. 3, GONGDAO 5TH RD., EAST DIST.,*
*HSINCHU CITY*
*TAIWAN R.O.C 30069*

| Project-No/-ID | LICENSED TEST MARK | Report No. |
|---|---|---|
| P30L | SGS TÜV SAAR FUNKTIONALE SICHERHEIT GEPRÜFT / FUNCTIONAL SAFETY APPROVED | P30L0001 |

**Tested according to** ISO 26262:2018

**Certified Process** Development process for Functional Safety related components up to ASIL D
Version V1.0/202011

**Technical Data/Parameter** The audited development process complies with the ISO 26262 standard part requirements

ISO 26262-2:2018 ISO 26262-6:2018
ISO 26262-4:2018 ISO 26262-8:2018
ISO 26262-5:2018 ISO 26262-9:2018

**Specific Requirements** The certificate is created for the purpose of providing conformity of the development and support process in accordance with ISO 26262. Changes which are not covered in the Audit Report have to be reconsidered.

Certification Body for Functional Safety SGS-TÜV Saar GmbH

Munich, December 22nd, 2020

Marcus Rau

*The test mark regulation is an integral part of this certificate.*

CERTIFICATE

SGS TÜV SAAR

CERTIFICATE NO.: FS/71/220/22/0970 PAGE 1/1

LICENCE HOLDER

*ANDES TECHNOLOGY CORPORATION*
*10F., NO. 1, SEC. 3, GONGDAO 5TH RD., EAST DIST.,*
*HSINCHU CITY 300042,*
*TAIWAN, R.O.C.*

| Project-No/-ID | LICENSED TEST MARK | Report No. |
|---|---|---|
| S280 | SGS TÜV SAAR ASIL B COMPLIANT Functional Safety ISO 26262 | S2800001 |

**Tested according to** ISO 26262:2018 (Parts 2, 4 partly, 5, 8, 9)

**Certified Product(s)** CPU IP "N25F-SE"
Version: R320

**Technical Data/Parameter** The above-mentioned product has been approved in a standard configuration (see certification report for details). The identified technical and process parameters are in compliance with **ASIL B** requirements.

**Specific Requirements** The certificate is for type approval and based on a detailed functional safety assessment. Any changes to the design or processes may require repetition of some of the assessment steps in order to retain type approval.
The certificate report is an integral part of this certificate. All requirements and specifications of the current valid revision of this report shall be met.

Certification Body for Functional Safety SGS-TÜV Saar GmbH

*The validation status is documented via SGS Certification Database.*

*The test mark regulation is an integral part of this certificate.*

Munich, October 28th, 2022

Marcus Rau

SGS-TÜV Saar GmbH, Hohenzollernstr. 50, D-81379 München, Deutschland / Germany
Website: www.sgs-tuv-saar.com/fs
E-Mail: fs@sgs.com

CERTIFICATE

- ISO 26262 Certification for Development Process: ASIL-D
  - In Dec. 2020, Andes certified by SGS-TÜV Saar GmbH
- ISO-9001 QMS achieved and maintained since 2010
- ISO 26262 Edition 2018 ASIL B Compliant Certification for N25F-SE
  - ISO 26262-2,4,5,8,9
  - Covers all the sections applicable to CPU core