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ANDES in Sight

ANDES TECHNOLOGY Newsletter

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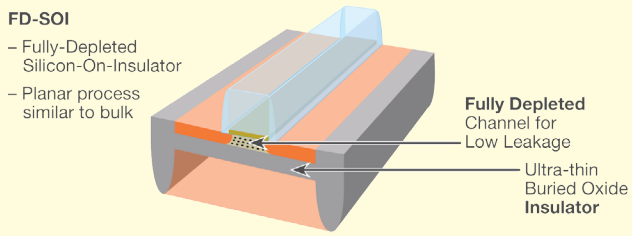
Andes 32-bit CPU IP Cores Joined GLOBALFOUNDRIES 22FDX®

Andes Technology Corporation (TWSE:6533) and GLOBALFOUNDRIES (GF) jointly announced that Andes' 32-bit CPU IP cores joined GF's 22nm FD-SOI (22FDX®) platform. GF's 22FDX platform offers the optimum combination of performance, power consumption and cost for IoT, mainstream mobile, RF connectivity and networking applications. GF's 22FDX is a natural CPU IP solution for Andes Technology, with its focus on **small and efficient processors**.

"Our 32-bit power-efficient small-footprint cores have been wildly successful for deeply-embedded applications, especially in the growing global market. We are excited to be part of GF's FDXcelerator Program with AndesCore™ on GF's 22FDX process. Our newest products, **N25 32bit and NX25 64bit RISC-V based cores** coupled with a mature toolchain, will provide even more value to customers in these advanced nodes by providing both high speed and power efficiency," said Charlie Su, CTO and VP of Engineering of Andes Technology.

"IoT designs demand the lowest power consumption as well as the lowest possible cost. The combination of GF's 22FDX process and Andes' low power architecture and small footprint will deliver the power, performance, area (PPA) advantage to our IoT customers. We are also excited about Andes newest RISC-V CPU IP. Customer demand is pushing this Open Architecture solution and GF is pleased to support Andes' customer solutions for the IoT and RF Connectivity markets," said Jai Durgam, Vice President, Customer Design Enablement of GLOBALFOUNDRIES.



Target Applications and Platform Solutions

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Andes Technology and M31 Technology Collaboration

As a result of this collaboration, M31 provides further low-power IP solutions in 40nm process technology. These IPs include "Low Power Cell Library" and "Green Memory Compiler" for **Andes N705 CPU** at the physical implementation level:

- Low Power Cell Library, which includes the Standard Cell Library, the unique Low Power Optimization Kit, and the Power Management Kit (PMK).
- Green Memory Compiler, with "dual-rail memory operation" to help customers with "Dynamic Voltage Frequency Scaling (DVFS); with "Power Gating Technology" to handle the "Static Leakage Power Consumption" in different operating modes.

Andes Technology and M31 Technology Collaborated on Optimal Power Efficiency CPU for IoT SoC Market

Andes Technology Corporation, the leading Asia-based supplier of small, low-power, high performance 32/64-bit embedded CPU cores, and M31 Technology, a professional silicon intellectual property (IP) provider, jointly announced that **AndesCore™ N705 CPU** has adopted M31's low-power silicon IPs and Power Management Kit (PMK) to provide a very low power consumption CPU solution for SoC design in IoT and related low power applications.

The AndesCore™ N705 is a 32-bit low-power small-gate-count CPU IP core, a member of AndesCore™ processor families from Andes Technology. Designed with the AndeStar™ V3m architecture and a 2-stage pipeline, N705's dynamic power consumption is less than 60% and its power efficiency is more than 40%. It also supports features like PowerBrake and FlashFetch™ for additional power management and performance improvement.

"AndesCore™ N705 is well suited for SoC designs on IoT, biomedical, wearable and intelligent home appliances because its architecture was specifically designed to deliver high performance at very low power consumption." said Dr. Charlie Su, Andes Technology CTO and Senior Vice President of R&D. "With M31's low-power IP solution and Power Management Kit, it is able to reduce static power consumption by 50% from Clock-Gating mode to State Retention mode, and to reduce additional 75% from State Retention mode to Power-gating mode".

"Together, the Power Management modes, the Dynamic Voltage and Frequency Scaling (DVFS), the Low Power Cell Libraries and Memories, and N705's power efficient architecture make possible this impressive advancement for ultra-low power processor implementation," he said. "As the requirements for the standby time and the operating time are ever-increasing in each new generation of battery-powered devices, we will continue cooperating on the low power technologies to provide comprehensive solutions for the industry."

Willis Shih, RD VP of M31 Technology, stated, "M31 is very glad to cooperate again with Andes Technology. M31's low-power silicon IPs and Power Management Kit (PMK) provide a total solution for SoC design whether on dynamic power comsumption or on static power comsumption. These low power consumption features are particularly applicable for the IoT and wearable products market; helping enhancing customer competency and to satisfying the overall design requirements on IoT applications, such as low power consumption, low cost, and power management goals."

"In the future, M31 will continue its IP development and validation in advanced process technologies to provide distinctive silicon IP to the worldwide chip design community. These IP solutions will satisfy customer SoC design on various low voltage supply and low power consumption , in order to help customers grasp market opportunities through short design cycles, low manufacturing cost, and high product competitiveness."

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Importance of IoT in the Individual Everyday Life

IoT applies digital technology to the invidual's everyday life; the applications and products are already numerous, including Smart Home, Car Networking, Smart Health Care, Smart City, and much more. The applications in this market are diverse, involves the consumer market and offers great potential. Because of its diversity, providing the best solutions that allow companies to develop distinctive products is a major requirement for suppliers such as Andes. Another requisite is enabling customers to go into production quickly and ahead of their competitors.

Andes leverages its application experience in wireless communication and embedded control systems to develop CPU IP that satisfies the SoC's demand for low power and high performance. Andes' products have been widely adopted by IoT devices by being able to meet the diverse requirements of IoT equipment. Andes' software tool service and Knect.me, an ecosystem built for IoT applications, have received recognition from customers and experts, and eventually led to Andes' accolade of "Top 25 IoT Solution Providers of 2017."

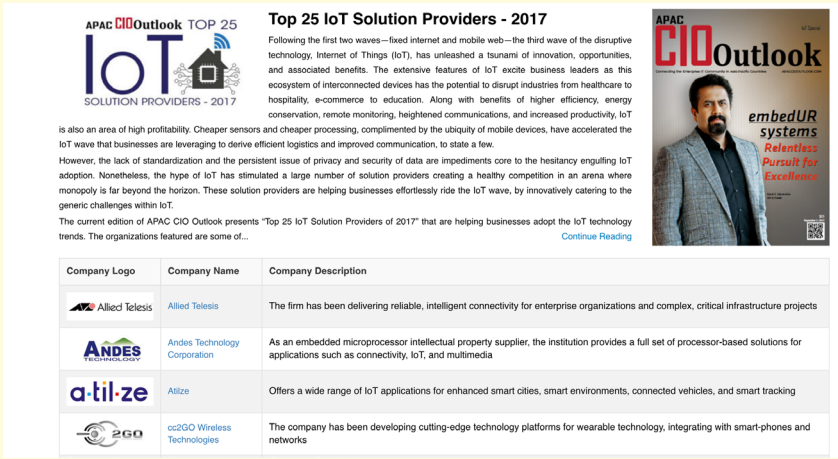
Evaluate Andes IP Cores

Andes has over 130 licensees and in 2016 Andes-embedded products shipped in more than 430 million devices around the globe from licensees in Taiwan, Japan, Korea, China, Europe, and USA. The company is expanding into the Americas.

If you have an SOC design in need of a low power, low memory footprint CPU with full toolchain and peripheral support, contact us to arrange a free evaluation. Let us help with your next design. E-mail us at **info@andestech.com**. Andes Technology USA Corporation 2375 Zanker Road, Suite 210, San Jose California 95131

APAC CIOoutlook Magazine Awards Andes Technology Corporation "Top 25 IoT Solution Providers of 2017"

Andes Technology Corporation (TWSE: 6533), the only publicly-traded CPU IP company in Asia, which independently develops small, low-power, high performance embedded CPU cores, was awarded the **"Top 25 IoT Solution Providers of 2017"** by APAC CIOoutlook Magazine.



APAC CIOOutlook TOP 25 IoT SOLUTION PROVIDERS - 2017

Top 25 IoT Solution Providers - 2017

Following the first two waves—fixed internet and mobile web—the third wave of the disruptive technology, Internet of Things (IoT), has unleashed a tsunami of innovation, opportunities, and associated benefits. The extensive features of IoT excite business leaders as this ecosystem of interconnected devices has the potential to disrupt industries from healthcare to hospitality, e-commerce to education. Along with benefits of higher efficiency, energy conservation, remote monitoring, heightened communications, and increased productivity, IoT is also an area of high profitability. Cheaper sensors and cheaper processing, complimented by the ubiquity of mobile devices, have accelerated the IoT wave that businesses are leveraging to derive efficient logistics and improved communication, to state a few.

However, the lack of standardization and the persistent issue of privacy and security of data are impediments core to the hesitancy engulfing IoT adoption. Nonetheless, the hype of IoT has stimulated a large number of solution providers creating a healthy competition in an arena where monopoly is far beyond the horizon. These solution providers are helping businesses effortlessly ride the IoT wave, by innovatively catering to the generic challenges within IoT.

The current edition of APAC CIO Outlook presents "Top 25 IoT Solution Providers of 2017" that are helping businesses adopt the IoT technology trends. The organizations featured are some of... Continue Reading

Company Logo	Company Name	Company Description
Allied Telesis	Allied Telesis	The firm has been delivering reliable, intelligent connectivity for enterprise organizations and complex, critical infrastructure projects
ANDES TECHNOLOGY	Andes Technology Corporation	As an embedded microprocessor intellectual property supplier, the institution provides a full set of processor-based solutions for applications such as connectivity, IoT, and multimedia
a·til·ze	Atilze	Offers a wide range of IoT applications for enhanced smart cities, smart environments, connected vehicles, and smart tracking
2GO	cc2GO Wireless Technologies	The company has been developing cutting-edge technology platforms for wearable technology, integrating with smart-phones and networks

"Top 25 IoT Solution Providers of 2017" were selected from over 1,200 IoT design services providers in the past year. APAC CIOoutlook Magazine compiled opinions, recommendation and assessment from CIOs of medium/large-sized companies in the Asia Pacific region and experts from related areas to showcase leading Asia Pacific region IoT solution providers in 2017.

"Andes Technology Corporation has devoted its resources to R&D and innovation and constantly enhancing the brand value of the company. While the IoT market has unlimited potential, to be awarded the honor of one of the best IoT solution providers in the world at this time, is recognition of our team's continuing endeavor, "stated Andes President, Frankwell Jyh-Ming Lin. "IoT has been a key focus of Andes in recent years. Because our IP features low power and high performance, particularly applicable to the development of IoT products, it has been adopted by many customers. Andes will continue to develop CPU IP that provide higher performance efficiency and that integrate related services to provide customers the greater advantage and best value."

Andes Technology Corp.

Founded in March 2005, Andes Technology Corporation with headquarters in SiSoft Research Center, Hsinchu, Taiwan is a leading Taiwan CPU intellectual property (IP) supplier, with over 120 licensees in Taiwan, Japan, Korea, China, Europe, and USA that have shipped over 2.0 billion units. Its products include the entry level N7 and E8, S8 and N8 with 2- and 3-stage pipelines and high-end N13, N15, D15, N25 and NX25 with 5-stage to 8-stage pipelines. The mid-range N9 has the highest customer shipping volume while the mid-range N10, D10, and high-end N13, N15 and D15 support Linux and floating-point coprocessor. Configurable and extensible Andes cores enable designers to create unique designs. AndeSight™ IDE enable customers to efficiently develop, debug, tune and regress their software. AndeSoft™ provides customers optimized fundamental software such as OS, drivers, standard C libraries, middleware, etc. for rapid application development. The company has sales offices throughout Asia and the U.S.

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