

APAC CIO Outlook

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APAC CIO Outlook TOP 10
IoT
SOLUTIONS PROVIDERS - 2023

Micro Crystal

Exceptional Design, Manufacturing, and Sales Solutions

At the forefront of the microtechnology space, Microcrystal specializes in manufacturing miniature quartz crystals, real-time clock (RTC) modules, and oscillators, serving as a pivotal partner for leading companies in the wearable tech, automotive, and healthcare sectors. Building on a robust four decade legacy in watchmaking, the firm sets the standard for delivering top-quality, compact, energy-efficient, and precision-driven mass production solutions.

Microcrystal's expansive product suite encompasses reliable, intelligent, and secure devices like low-frequency 32.768 kHz surface mount devices, RTC modules, oscillators, voltage-controlled oscillators (VCXO), in compact ceramic packages. Renowned for their exceptional accuracy and energy efficiency, these devices are ideally suited for applications demanding high stability, shock resistance, and vibration tolerance.

The company's diverse product line unlocks many applications for end users and presents innovative solutions for system developers. The breakneck pace of the IoT industry offers a maze of challenges, including precision timekeeping, extended battery life, and size limitations. Microcrystal adeptly navigates these intricate obstacles, delivering energy-efficient, compact, and economical solutions for its clients.

"The compactness of our products offers a dynamic and inventive resolution to battery longevity problems and maintenance cost reduction for system developers and designers," says Nicolas Moser, Microcrystal's Technical Marketing Manager.

A forerunner in providing precision timing devices for implantable medical apparatus like pacemakers, defibrillators, and neuromodulators, Microcrystal skillfully fulfills the stringent reliability demands of such life-critical tools. Integrated sensors in wearable devices gather data and transmit it at specific intervals to a cloud-based platform, facilitating the analysis and detection of any aberrations necessitating immediate medical intervention. The comprehensive activity tracking capability enhances large-scale data collection and processing, bolstering predictive abilities for healthcare professionals, patients, insurers, and other healthcare stakeholders. Moreover, a rigorous 100-percent calibration process

guarantees accuracy, quality, and traceability at each production juncture.

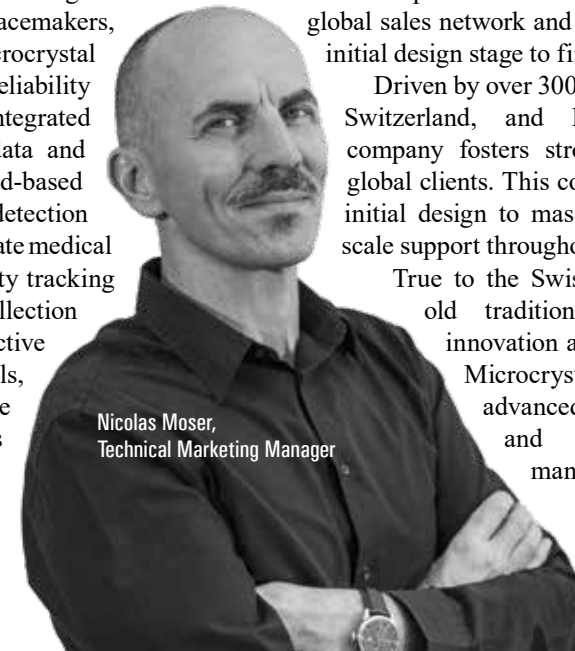
The collaboration with Swatch Group's electronic systems lends Microcrystal an advantage in consistently rolling out top-notch products. Integrating its resonators with high-performance, low-energy ICs has spawned efficient and inventive modules. This convergence of pioneering technologies empowers the company to offer precise timing solutions without compromising energy efficiency—a critical factor in applications where battery longevity is crucial. Their innovative temperature sensor merges nano-power operation with accuracy across industrial temperature ranges, all housed in a tiny package.

The compactness of our products offers a dynamic and inventive resolution to battery longevity problems and maintenance cost reduction for system developers and designers

For Microcrystal, energy efficiency is a core principle, particularly for battery-operated devices across industries like mobile phones, wireless communications, medical equipment, automotive systems, watches, and industrial machinery. In the automotive sphere, Microcrystal's offerings contribute significantly to infotainment systems, battery management systems, and electric vehicle (EV) chargers, providing accurate timekeeping functions and crucial battery status data to enhance automotive system performance. Besides providing products, the company extends comprehensive customer service through a global sales network and technical support from the initial design stage to final production.

Driven by over 300 professionals in Grenchen, Switzerland, and Bangkok, Thailand, the company fosters strong relationships with its global clients. This collaborative approach, from initial design to mass production, assures full-scale support throughout the product lifecycle.

True to the Swiss heritage of a centuries-old tradition of quality, creativity, innovation and engineering excellence, Microcrystal remains dedicated to advanced technology, reliability and sustainable, high-quality manufacturing processes. **ACO**



Nicolas Moser,
Technical Marketing Manager

Micro Crystal



The annual listing of 10 companies that are at the forefront of providing Internet of Things IoT solutions and impacting the APAC industry