# CYIENT

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## **CUSTOM TURNKEY ASIC SOLUTIONS** FOR THE HEALTHCARE MARKET

ANSIEN 1991

Leveraging 20+ years of experience in analog, digital, RF, mixed-signal IC design, and ASIC supply to meet the unique demands of the medical industry

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## INNOVATION ON CHIP

The healthcare and medical electronics space demands cutting-edge innovation and high-quality products to maintain a competitive edge. Developing successful medical systems for complex applications takes deep domain expertise and a rigorous, proven approach to quality.

Cyient brings a breadth and depth of experience to take on the most challenging projects in implants, diagnostics, imaging, sequencing, lab on chip, and medical patches. Our proven capabilities allow us to deliver complete projects on time and without cost overruns—from proof of concept design, ASIC design, lab validation, and industrialization to highvolume production and supply.

Our expertise in the healthcare sector and custom turnkey ASICs allow us to provide solutions that:



Enables superior technical performance



Ensures product differentiation



Reduces bill of materials



Establishes a secure and reliable supply



Protects your IP Delivers quality standards in compliance with ISO13485:2016



Offers products with FDA and CE-marked certification

### **Healthcare ASIC Success Stories**



Battery-less wireless sensor ASIC to diagnose glaucoma





Wireless people location and alarm system for hospitals and care centers

The partnership strengthened our own ASIC capabilities. Delivering working silicon requires close collaboration and team work. We succeeded despite the geographical separation.

- Manager Enabling Technologies & Tech Development, Cochlear



A power management system for cochlear hearing implants

Going beyond the state-of-the art in low-power, low-voltage RF circuit design requires a very skilled and openminded development team. Intense collaboration, skill, and engagement between our teams were instrumental in achieving the desired results.

- Head of R&D Department, PHONAK

## From prototype to high-volume production and supply

We shorten the time between the arrival of engineering silicon prototypes and initiating lab validation to as little as a few hours by using our own wire bonder for quick assembly of prototypes.

Additionally, two production test platforms enable our teams to develop and release production software quickly, further reducing the processing time from prototyping to production. By enabling robust collaboration between ASIC design and production test teams, we can optimize the turnaround time for analog models. This is a significant value add over pure IC design or production supply chain companies and has helped us produce successful ASICs for more than two decades.

After the ASICs are developed to the desired MSL level, they are once again placed in the tray or on tape and reel for shipment to the customer.

This process enables us to rapidly execute the industrialization phase, launch ASIC production, and ship medium volumes of the product. For processing high volumes, the production test is transferred to an OSAT, streamlining logistics by ensuring that assembly and testing are done at the same facility.





Production tester -National Instruments STS



Laser Marker



Tape and Reel Machine



Production testers (2x) -Advantest V93000



Inductive wireless power transfer



Wireless communication for voice and data transfer



MEMS and sensor signal conditioning for patient monitoring



High voltage, low power drivers for electrical stimulation



Embedded power management and battery chargers



Ultra-thin (wafer level) and MCM packaging solutions

## **ASIC solution development framework**



### The Cyient Advantage

- Analog, digital, RF, and mixed-signal ASIC solutions backed by 20+ years of experience
- 600+ proven IPs in the database
- ARM approved design partner
- TSMC design center alliance partner
- ISO9001, ISO13485 certified
- In-house industrialization (prototype, assembly, ATE platforms, tape and reel)

- High-volume production experience
- Tight-quality assurance system
- Proven, high-quality supply chain partners (foundries and OSAT)
- Proven first-time functional design record
- 300+ ASIC tapeouts experience

### About Cyient

Cyient (Estd: 1991, NSE: CYIENT) is a global engineering and technology solutions company. As a Design, Build, and Maintain partner for leading organizations worldwide, we take solution ownership across the value chain to help customers focus on their core, innovate, and stay ahead of the curve. We leverage digital technologies, advanced analytics capabilities, and our domain knowledge and technical expertise, to solve complex business problems.

We partner with customers to operate as part of their extended team in ways that best suit their organization's culture and requirements. Our industry focus includes aerospace and defense, healthcare, telecommunications, rail transportation, semiconductor, geospatial, industrial, and energy.

For more information, please visit www.cyient.com

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