About AnSem, a Cyient Company

AnSem is Europe's leading fabless analog ASIC design service company, designing and delivering state-of-the-art analog, RF, and mixed-signal integrated circuits to customers worldwide. Founded in 1998 and based in Leuven, Belgium, AnSem is an ARM- and TSMC-approved design partner that specializes in the development of advanced integrated circuits for wired and wireless data transmission, sensor data acquisition, ultra-low-power, and high-voltage applications. AnSem is ISO 9001 and ISO-14045-2010 certified and a proven and trustworthy development partner for ambitious and visionary customers reaching for leadership in global markets.

To find out more, please visit the AnSem website at www.ansem.com.

Contact Us

Cyient K.K.
Sho-Building 8F, 5-14-5, Minamiarakawa
Chuo-ku, Tokyo, Japan 105-0027
T: +81 03 3527 9825 | F: +81 03 3527 9835

North America Headquarters
Cyient, Inc.
95 East River Drive
5th Floor
East Hartford, CT 06108
USA
T: +1 860 528 5430 | F: +1 860 528 5873

Asia Pacific Headquarters
Cyient Europe Ltd.
Apea, Fortbury Road,
Reading, RG1 1AX
UK
T: +44 118 3043720

AnSem has been a leading European independent wireless design center. We cover all aspects of a total solution for wireless systems across a wide frequency range.

Wired data transmission

communication systems are developed for high-speed optical back-end and broadband home networking and industrial buses. AnSem has a large collection of Serdes cores, as well as analog front ends for home access and home networking.

Low-power design

in handheld and battery operated systems for consumer applications is well known, but can also be applied in industrial sensors and medical implants. AnSem has been pioneering low-power IC and system design combined with expertise in other domains.

High-voltage circuit designs are useful for low-power applications in medical, industrial and automotive products. AnSem’s deep knowledge of the high-voltage or BCD transistors and processes, combined with special design techniques for low-power circuits, can provide optimal solutions.

Data acquisition design solutions are always tailored to the specific requirements of each ASIC. AnSem’s broad library of building blocks is the ideal starting point to bring the highest performance and fastest development time to customers' ASIC solutions for sensors and MEMS.

Arrays of MEMS switches

• Pipelined ADC
• Delta-sigma and cyclic ADC
• Correlation based ADC
• Wheatstone bridge interface for strain gauge sensing
• High-precision (1.5) driven and signal conditioning for multiple types of sensors and MEMS

MEMS drivers

• IC architecture design
• DSP-based and hardwired PHY modem
• MI inductive links for short-range
• Ultra-low-power wake-up receivers

From 40 KHz for Ultrasonic over all ISM
• MIPI PHY interfaces
• High-precision (V, T) drivers and signal conditioning

High-voltage

• Analog front-ends
• Power management building blocks: ODCD converters, SMPS, Capacitorless LDOs

Wireless data transmission

• Full radio concept, architecture and IC circuit design
• IP blocks for wireless modules
• In-house SW tools for system and IC architecture design
• State-of-the-art validation lab
• From 40 KHz for Ultrasonic over all ISM
• 200 MHz radio operating from a battery

Bus and cable drivers

• Ultra-low-power deserialisers (serdes)

Low-power building blocks for the

• Full radio concept, architecture and time to custom ASIC solutions
• mechatronics, robotic and medical implants. AnSem has been a Cyient Semiconductor, Inc., a Cyient company.

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North America Headquarters
Cyient, Inc.
99 East River Drive
5th Floor
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USA
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Europe, Middle East, and Africa Headquarters
Cyient Europe Ltd.
Apex, Forbury Road,
Reading, RG1 1AX
UK
T: +44 118 9043720

Asia Pacific Headquarters
Cyient Limited
Level 1, 350 Collins Street
Melbourne, Victoria, 3000
Australia
T: +61 3 8605 4815 | F: +61 3 8601 1180

Global Headquarters
Cyient Limited
Pilot No. 11
Software Units Layout
Infocity, Madhapur
Hyderabad - 500081
India
T: +91 40 6764 1000 | F: +91 40 2311 0552
With more than 20 years of hands-on experience, AnSem, a Cyient company, manages the complete product life cycle, from design requirements to high-volume production for clients across the world!

AnSem offers advanced IC design services to (fabless) semiconductor companies and OEMs. AnSem collaborates with the customer’s IC design groups on IC definition, design, layout and prototype evaluation.

AnSem works closely with customers, tailoring the specific ASIC requirements to the detailed system needs. The chip architecture and circuit topologies are studied and defined, and testability, reliability and qualification requirements are discussed. Then, a final ASIC specification is agreed upon with the customer.

AnSem’s team of expert engineers executes the design, circuit simulations and layout with the latest EDA tools. Our large analog IP library of proven building block designs, supplemented by the IP libraries of our silicon and IP partners, form the basis for a fast development timeline, meeting customer’s time-to-market requirements.

AnSem takes responsibility for manufacturing of the prototypes, coordinating all activities with silicon and packaging suppliers. The GDS II database is submitted to the foundry. Silicon manufacturing can be done through multi-project wafers or with a multi-layer mask. The prototypes are included in the final production package.

The prototypes are extensively tested and validated in AnSem’s fully equipped, in-house evaluation laboratory. A test setup is developed, and the electrical parameters are verified against the specification over the full voltage and temperature range. The customer validates the prototypes in the application.

AnSem takes responsibility for the industrialization process. The prototype design is made ready for volume manufacturing. The production wafer and final test programs are developed on the selected ATE machine. The required reliability and qualification tests are performed, and the product is released for manufacturing.

AnSem provides full supply chain management services during the entire lifetime of the ASIC and manages the inventory and delivery. We take in orders from customers, manage the ASIC supply chain with our subcontractors (foundry test and packaging), continuously monitor the yield and product quality, and finally ship to the customer.

ASIC Advantages

- Smaller PCB footprint
- Lower power consumption
- Increased system performance
- Lower system cost
- Higher reliability
- System know-how protection

ASIC Markets

- Consumer
- Communications
- Automotive
- Industrial
- Aerospace
- Healthcare

Advanced IC Design

AnSem offers affordable, full turnkey ASIC solutions to system OEMs for small and medium production volumes. AnSem remains involved during the complete product life cycle, serving as a true one-stop-shop for its customers.
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Advanced IC Design for Semiconductor Companies

Turnkey ASIC Solutions for OEM Companies

- Definition Phase
- Development Phase
- Prototype Manufacturing
- Prototype Evaluation
- Industrialization
- ASIC Supply

ASIC Advantages

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Advanced IC Design & Turnkey ASIC Solutions

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Experts in Analog, RF and Mixed-Signal IC Design

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Cyient K.K.
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T: +81 03 3527 9825 / F: +81 03 3527 9835

North America Headquarters
Cyient, Inc.
950 River Drive
5th Floor
East Hartford, CT 06108
USA
T: +1 860 528 5430 / F: +1 860 528 5873

Asia Pacific Headquarters
Cyient Europe Ltd.
Apa, Fortbury Road.
Reading, RG1 1AX
UK
T: +44 118 3043720

Europe, Middle East, and Africa Headquarters
Cyient Europe Ltd.
Hoevenlaan 9
B-3001 Heverlee Belgium
T: +32 16 38 65 00 / F: +32 16 38 65 65
M: business@ansem.com

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Data acquisition

PM India office

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Outdoor, indoor and 3G, 4G and 5G module

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