Kingdom of the Netherlands

Companies Information Form

1. Company information

Company Name	Imec the Netherlands
Address	High Tech Campus 31, 5656 KN Eindhoven
Number of employee	150
Business field	Semiconductor
Home page	www.imec.nl
Company Introduction (English)	**World Innovation Leader** The Netherlands ranks third on the Global Innovation Index (2017) and is home to some of the most sophisticated companies in e.g. semiconductor, agriculture and civil engineering. Imec the Netherlands is strategically based on the High Tech Campus in Eindhoven, the world's smartest km2 at the heart of the Brainport region. Here, a world-class team of about 100 researchers, engineers and scientists works to develop tomorrow's technology and continues to attract masterminds from all over the world. Imec the Netherlands has the mission to bring technology to the highest possible technology readiness levels (TRL). We collaborate with renowned partners such as national and international research centres, universities, SME's and industrial partners. **Translating ideas into research** Central to our DNA is an open innovation model that transforms ideas into user-ready technologies in the fields of connected healthcare, thin-film electronics and IoT. In our research and development, we bring together users and businesses to create applications that live up to the highest standards. This enables us to make leaps forward in developing solutions that have an impact on society and industry. In our industrial R&D partnerships we make sure to work years ahead of what's on the market. That way we offer our customers profitable and competitive value. The heart of our expertise is in connected healthcare, IoT sensor solutions and flexible electronics and our solutions include: • Hardware • Secure Data Processing • Data Analytics • Algorithms • Networks

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2. Job opportunities information

Interested Major	☐ Mechanical engineering, ☒ computer science, ☒ electrical engineering, ☒ chemistry, ☐ industrial engineering, ☐ material science, ☒ bio science, ☐ energy, ☒ (others: biomedical engineering)
Possible Job1	**Analog & RF IC Designer** **The position** As a (Senior) Analog &RF IC Designer at imec Eindhoven you will architect and implement ultra-low power transceiver SoCs. The IoT team develops innovative solutions for massive, heterogeneous sensor networks. We connect billions of devices within high-speed networks. Doing so, we have built various ultra low power radio IC's like Wifi 11.ah, Bluetooth-LE, and also an UWB 6-10 GHz radio tuned towards precise localization (~6 cm). We deliver our designs to customers, patent the different inventions and publish our results in renounced conferences and papers (ISSCC, RFIC, DATE, JSSC, etc). Currently we start to make our solutions smarter by adding neuromorphic circuits and use radio circuits for radar like solutions. By joining our international team you will collaborate with like-minded people who like to change the way we work and live. Here, your ideas matter. Your responsibilities • Architect and implement ultra-low power transceiver SoCs including innovative methods and circuits. • Take the lead in the design of multi-disciplinary aspects like the implementation of mixed-signal system loops such as AGC and CFO and other calibration loops. • Design state-of-the-art innovative circuits as part of an ultra-low power wireless system. • Together with the team, create new ideas and/or new technical methods based on your solid technical experience. • Contribute to the vision for the evolution of ULP transceivers over the next years. • Take the lead in the interaction with external partners and towards new prospects as part of the technical support. • Coach the (junior members of the) Internet of Things NL team in order to grow the talent, the quality of the work and the innovation. Your profile • Master's degree Or PhD degree in Electronic Engineering. • Experience in RF and Analog IC Design (ideally to include for wireless products). • Experience of working in multi-disciplinary design teams. • Solid understanding of transistors, circuits, architectures and control loops, knowledge on signal integrity. • Excellent knowledge of transceiver architectures and state-of-the-art in low power transceiver or radar design. • Experience of coaching junior designers and talents to impact the team's way-of-working. • Brings in technical experience but also new methods with significant impact on the projects and the teams.

	• Able to define and implement next generation, best-in-class transceivers, based on your new ideas and your experience. • Relevant experience: TSMC 40/28nm CMOS; Cadence IC6; EM Simulation. • Experience with transferring research results to production. • Good communication and writing skills in English. • Strong sense of responsibility for team's success.
Possible Job2	**Senior IoT Architect** **The position** As a Senior IoT Architect you will architect and design embedded (constrained) wireless sensor nodes for multiple projects. Together with your colleagues, you will advance the state-of-the-art by developing innovative demonstrators and exploiting the latest technologies. These prototypes are used in pilot studies in real-life environments. Your responsibilities • You develop embedded software for applications based on sensors, DSP and microcontroller platforms and radios that interface to PCs, smart phones and other portable devices. • Define an architecture that optimizes maintainability and ease of development. • Demonstrate the prototypes at partner meetings, conferences and symposia. • Lead and maintain a generic firmware architecture. • Implement algorithms in resource-constrained micro-controllers and DSPs. • You will lead projects and help junior team members and students. • In close collaboration with software designers, IC designers, hardware designers and application experts, you deliver results in line with the roadmap. • You remain up-to-date on leading technologies and products in the area of embedded SW. This allows you to generate innovative ideas for future research. • You advise the IC designers on how to optimize system integration of newly developed ICs at the software level or on newly developed security solutions sensor nodes. • You will be the technical liaison with our external partners and suppliers, responsible for all technical aspects and project timelines. Your profile • MSc degree in embedded software or electrical engineering or equal through experience. • Experience in low-power embedded software design and software architectures for strongly resource limited devices. • Experience in C++ embedded real time operating systems, low-power embedded HW/SW co-design. • You have collaborated with security experts, IC designers, and application experts in multidisciplinary projects (plus). • Hands on experience with low-power embedded solutions (must). • Experience with Android (plus). • Experience in leading small projects and/or coaching colleagues/students (plus). • Excellent communication skills in English.

	• You are able to think from a customer perspective. • You like to contribute to a growing internationally recognized team.
Possible Job3	**Sensor Data Fusion Researcher** **The position** Your main focus is to implement algorithms for Big-data applications for Gas&Ion sensors and the IoT-Solutions team. Applications include sensor development, smart-city and smart-building. **Your responsibilities** • Development of algorithms and solutions for IoT systems. Including applications for synchronization, sensor compensation, sensor calibration, and error correction. • Interfacing with experts on artificial intelligence, data science, deep learning algorithms. • Contribute to the vision for the evolution of IoT systems over the next years. • Contribute to the IoT system team discussions and interact with system experts, analog and digital IC designers, SW stack developers. • Interact with external partners as part of the second-line technical support. **Your profile** • M.Sc. or PhD degree in computer science or electrical engineering or equivalent through experience. • You have relevant hands-on experience in machine learning, signal processing algorithm development. • Solid understanding of statistical performance metrics, generic signal processing and machine learning tools. • You have a good understanding of state-of-the-art algorithms, particularly in the fields of time-series analysis, multivariate analysis, estimation/classification (detection) theory and neural networks. • Experience with air quality monitoring, smart-cities and smart-building systems is a plus. • You hold a proven track record in multi-disciplinary projects in software and algorithm design. • Experience in programming tools MATLAB, R, Python. Knowledge Java/JS is a preferred. Knowledge in C/C++ is a plus. • Knowledge in working with prevalent NoSql (e.g., MongoDB) and SQL DBs. • Experience with state-of-the-art cloud services e.g., Google GCP, Amazon AWS, Microsoft Azure is a plus. • Experience with transferring research results into development. • You have excellent communication skills in English (written and spoken). • You are a flexible team player, you see changes as an opportunity to learn and grow. • Quick learner, able and interested in acquiring new skills and competences. • You take responsibility for the process from specification to implementation, simulations, testing and debugging, including communication and alignment with different stakeholders.

Recruiting sites	www.holstcentre.com www.imec-nl.nl