Infineon Romania Timeline

2005  Founding of Infineon Technologies Romania SCS, as a subsidiary of Infineon Austria AG in the capital Bucharest on April 1, 2005.

2006  January 18, 2006, inauguration ceremony of Infineon development center in Bucharest in the presence of Top political figures, Mr. Calin Popescu Tariceanu – Prime Minister, Mr. Sebastian Vlădescu – Minister of Finance and Mr. Zolt Nagy – Minister of Communications and Information Technology.

2010  Summer 2010 marks the five years anniversary of IFRO* as an established R&D center of excellence for the INFINEON group. In the past 5 years, the center has grown to more than 200 personnel over a 3500 sq m space in North Bucharest, Pipera area. Infineon Technologies Romania has strongly expanded its competence in recent years thanks to its talented engineers and is increasingly assuming research and development responsibilities for the global Infineon group.

2011  IFRO continues to grow. To this, an extra 700 sq m were acquired to accommodate for the expected growth in 2011.

Through Infineon’s outstanding position in its domain, both regionally and internationally, IFRO is driving the local semiconductor industry in Romania via activities such as the initiation of the first automotive cluster between the industry and the institutes, collaborations with academic, bodies as well as active involvement in innovative projects under the Romanian government R&D funding program.

* Throughout this brochure, IFRO is used as acronym for ‘Infineon Technologies Romania SCS’.
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Overview

Infineon Technologies AG

Infineon Technologies, Germany’s largest semiconductor manufacturer, and a leader in the semiconductor industry is a globally operating company focusing on three central challenges facing modern society: Energy Efficiency, Mobility and Security.

Infineon offers semiconductors and system solutions for automotive and industrial electronics, chip card and security applications as well as applications in communications. Infineon’s products stand out for their reliability, their quality excellence and their innovative and leading-edge technology in analog and mixed signal, RF and power as well as embedded control. Infineon has 27,315* employees worldwide and more than 21 R&D locations. With a global presence, Infineon operates through its subsidiaries in the USA from Milpitas, California, in the Asia-Pacific region from Singapore, and in Japan from Tokyo. In the 2010 fiscal year (ending September 2010), the company reported sales of 3.295** billion Euro.

*Including Wireless as discontinued operations; as of December 31, 2010.
**Figures according to IFRS with Wireline and Wireless as discontinued operations; as of September 30, 2010.

Infineon Technologies Austria AG

Headquartered in Villach, Infineon Technologies Austria belongs to the Infineon Technologies Group. Microchips for applications in mobility, industrial and security sectors are developed and produced on its premises. Together with its subsidiaries in Romania (R&D Bucharest Center) and Malaysia (Kulim production site), Infineon Austria has around 2500 employees from some 40 nations contributing to its success at its locations in Villach, Graz, Linz, Klagenfurt, and Vienna. The Infineon Austria Group (including its subsidiaries in Kulim and Bucharest) made 1,3 billion Euro in sales by end of fiscal year 2010 (end of September).
About Us

Infineon Technologies Romania SCS was founded on April 2005 as a subsidiary of Infineon Technologies Austria AG, and as part of the Infineon alliance formed by Graz and Villach (Austria), Munich (Germany) and Padova (Italy). The Bucharest Research and Development center develops power semiconductors with analog and digital functions (power mixed signals), sensors integrated with wireless technology and embedded control for automotive/industrial applications.

Our Mission at IFRO

- To represent Infineon in Romania as a global semiconductor company offering the highest quality standards and services in its field.
- To pioneer high-quality, innovative products with faster, more flexible and leaner R&D execution to become the preferred development site throughout Infineon.
- To strengthen the core competencies of the Bucharest development center to become one of the highest caliber in the region.
- To reinforce innovation and instate it in our company and work life as a culture we adhere to.
- To promote IFRO as an active contributor to the Romanian community and its well-being.
Focus on Innovation

To future proof Infineon against tough times, maintain sustainable growth and stay ahead in the market, especially in nowadays’ globally competitive environment, innovation has become sheer necessity. To this, Infineon needs the inputs and ideas of each and every individual.

An innovation platform is created when experts communicate their ideas and share their experiences in an open forum. To this, IFRO’s presence in, and active contribution to conferences such as the Annual Semiconductor Conference, CAS, held in Sinaia is a worthy practice. In addition, the IFRO internal R&D colloquia give a podium for engineers of different divisions to exchange ideas and allows for cross-divisional collaboration. Such round tables inspire novel ideas and improvements, driving IFRO forward as a High Performance Company.

Partnerships in Research and Development

Infineon’s success is fortified by the strong collaboration with industry and research institutes both nationally, and internationally. Through partnerships with both the private and public sectors, universities and research establishments, Infineon is creating a new model of achieving successful business growth in Romania.
In that regard, Infineon Technologies Romania in partnership with other top industry players and the National Research and Development Institute for Micro-technology (IMT), Polytechnic University of Bucharest and Technical University “Gheorghe Asachi” in Iasi, has laid, on October, 2010, the cornerstone of the first automotive electronics cluster between the industry and the institutes in Romania. Such formed clusters are of special significance, creating a medium for communication and a platform for cooperation, thus boosting competitiveness both locally and regionally.

Another event in which IFRO seeks to foster communication and collaboration is in the 43rd European Solid-State Device Research Conference (ESSDERC) and the 39th European Solid-State Circuits Conference (ESSCIRC) to be held in Bucharest, Romania, in 2013. The ESSDERC and ESSCIRC conferences are an annual combined event held across Europe and provide a forum for the presentation and discussion of recent advances in solid-state devices and circuits. Dr. Michael Neuhaeuser (VP and GM of IFRO), in the person of the consortium constituting Infineon Romania, Polytechnic University of Bucharest and University of Iaşi, had submitted the proposal in 2009. The consortium are also the organizers and hosts of this event.

Business Excellence

Infineon is known worldwide for its products’ and service quality. To maintain its position as supplier of choice in its domain, all infineon centers are responsible of achieving set quality targets. Infineon Romania is committed to the continuous improvement of its processes and methods in order to achieve competitive quality performance and business excellence. On December 2010, Infineon Romania has been successfully re-accredited (first certification was granted in 2007) the ISO/TS16949 certification by DNV (Det Norske Veritas). TS16949 applies to the design/development and production of automotive-related products.
R&D Funding

To drive our company forward and maintain competitive advantage through sustained R&D activity and innovation, IFRO is actively involved in European funding programs and so far, was granted by the Romanian government four co-funded projects in the R&D domain amounting to 4.8M Euro:

- SENTEC, in the field of temperature sensors, in collaboration with Politechnic University of Bucharest,
- ARGOS, in the field of integrated pressure sensors,
- MOTORBRAIN, in collaboration with IMT (National Romanian Institute of Microtechnologies), under the ENIAC-Joint Undertaking program, for the development of the next generation e-car and
- TESTEX, for developing the R&D infrastructure of the enterprise, thus creating more jobs pertaining to the latter field in Romania

Development Center in Bucharest

At the Infineon center in Bucharest, more than 200 experts contribute to the development of semiconductor-based products from concept phase to volume production in the areas of mobility, energy efficiency and security, with focus on:

- Innovative power semiconductors and intelligent sensor solutions used in automotive applications, e.g. powertrain, safety, car interior / comfort electronics and multimedia/ telematics.
- Secure microcontrollers and modules for chip card and other security applications, e.g. communications, payment, identification and entertainment.
- Software tools for the automation and optimization of design methodologies, supporting a zero-defect culture and reducing project development cycle-time.
Technology and methodology

The mission of the Technology and Methodology (TM) group is to provide end-to-end automated solutions in line with product development requirements and continuous improvement of existing methods and processes. The TM group contributes to IFRO success by being an integral part of product development which allows for smooth design system applicability, rapid and pragmatic design system issue solving, and optimization of methodologies and flows in the right direction towards zero defect culture and shortest time to market.

The tools developed at IFRO are characterized by portability, flexibility and high reuse rate, and allow better design modeling and verification coverage plus the automation and support of design processes. Among our developed tools are:

- **HV-ERC**, the High Voltage Electrical Rule Checker: Checks technology dependent rules and is used for pre-silicon design layout verification.
- **AMS Behavioral Modeling**: Builds high performance VHDL-AMS models used by external customers throughout development concept and validation phases.
- **ElticLite**, the Electro-Thermal Simulator: An advanced electronic circuit simulator coupling the effects of electrical and thermal behaviors, offering optimum speed / precision tradeoff and minimizing development time.
- **PCell development**: which allows for parametricizing cell layout to match different technology libraries.
Infineon Automotive - Standard, Body, Sensing

Infineon Technologies is a leading player and pioneer in automotive electronics. The enduring success in this field is due to a clear strategic focus on automotive applications and standards, the understanding and insights that have emerged from almost 40 years of dedicated experience and the ability to continually innovate this market with a broad portfolio of outstanding quality. Infineon sensors, microcontrollers and power semiconductors help automotive manufacturers achieve their increasingly challenging safety, affordability and efficiency targets while simultaneously helping create more sustainable mobility choices by lowering emissions and fuel consumption.

Automotive Standard and Body Power

The center in Bucharest develops power semiconductors with analog and digital functions (power mixed signals) for automotive applications including solutions for car comfort and body electronics. The engineers of IFRO automotive division push towards shorter development times and innovative methods for smarter and more flexible designs while maintaining high quality standards.

Infineon is dedicated to ensure safe and reliable products with requirements conforming to the automotive environment. The IFRO standard and body power divisions design, model and verify, test and support the production of smart power ICs including:
- Voltage regulators for a broad range of applications such as lighting, engine control, power seat and airbag.
- Linear voltage regulators for microprocessor supply in infotainment and comfort applications, e.g. dashboard, car radio, navigation, window lift etc.
- High / low side power switches used in a broad range of automotive applications such as lighting, power distribution, and climate control e.g. front and rear bulbs, battery management and seat heating.
- Bridge drivers for medium load motion applications such as door module, HVAC and beam leveling.
- Voltage trackers which are especially designed for distributing heat, for generating additional voltage levels and for supplying off-board loads, e.g. sensors, while fitting to the harsh automotive environment.
- Power distribution system supporting high-current applications in start/stop vehicles.
- Integration of supply, communication, supervision and power in vehicle Energy Control Units (ECUs).
Automotive Sense and Control

Nowadays, semiconductor sensors in cars are widely deployed in almost all applications ranging from powertrain, body and convenience, to safety applications. Infineon is the leading supplier for pressure and magnetic sensors as well as wireless ICs and radar devices serving all of the above areas.

The Sense and Control division in Bucharest designs, verifies and brings into high volume production innovative semiconductor-based MEMS products, magnetic sensors, wireless control products, and sensor interface ICs:

- Linear Hall family magnetic sensors whose applications include Linear and angular position sensing e.g. Pedal and throttle position, Suspension control, Steering angle, Torque sensing, Gearstick position and many others.
- Differential Hall ICs are designed for rotational speed measurement such as ABS, camshaft/crankshaft and automatic transmission.
- RF transmitter module for Remote Keyless Entry Systems and Tire Pressure Monitoring System, a system-in-package and pressure sensor which monitors the pressure in every tire and communicates it to the central control unit of the car by means of RF-transmission.
- Digital BAP/MAP (Barometric / Manifold Absolute Pressure) sensors are developed for several automotive and industrial applications, e.g. engine management, industrial control, weather stations and altimeters.
Chip Card and Security

With more than 25 years’ experience in chip card and security ICs, Infineon offers the widest selection of security controllers, security memories and other tailored semiconductor solutions in the field of data security over a broad range of applications including personal or object ID, payment, entertainment, computing and communication.

The Chip Card and Security division in Infineon Romania plays an important role in the development of security microcontrollers for contact based chip card applications. Our know-how envelops a substantial part of the development process and focuses on digital design, firmware development, post-silicon validation, as well as engineering and FPGA based emulators.

Among the products developed in Bucharest are secure microcontrollers belonging to the SLE76 family, which is widely adopted throughout the SIM mass market. In addition, Chip card Romania division has developed the lead product of the brand-new SLE77 controller family, featuring enhanced flexibility and a certified security level (CC EAL4+ high). SLE77 was specifically designed for the payment and transportation market. Moreover, Infineon Chip card in Bucharest develops products of the SLE78 family that uses the innovative ‘Integrity Guard’ security concept, thus offering the highest security level (CC EAL5+) required by applications such as payment and government identification.
People Are Our Success

To be the employer of choice for the semiconductor business in Romania, to promote Infineon values of a high performance company and to build the foundation for innovation constitute the mission of IFRO Human Resources.

Infineon, Employer of Choice

At Infineon Romania, we offer a flexible and open work environment, recognize and reward performance, and encourage creativity and entrepreneurial thinking. We provide the opportunity to learn and grow within an international company of a dynamic and continuously growing industry.

IFRO is proactive in terms of increasing the knowledge and skills of its employees. Skill development and assessment are performed in and outside Romania, thus carrying our career development plans to international level. Another avenue for increasing and sharing knowledge are the in-house technical training sessions held by the company’s senior experts.

High Performance Company

By promoting Infineon values of a high performance company we are ready to commit, innovate, partner and perform.
We are prepared to

- walk the extra mile for our commitments and satisfy our customers’ needs,
- learn and get better every day, discover and develop new opportunities,
- cooperate across boundaries, appreciate partnerships and team spirit,
- embrace constructive conflict and be accountable for our results.

The Foundation - A Culture of Innovation

Infineon recognizes its employees’ creative and innovative potential as a valuable asset for continuous success. At the HR level, we provide the fertile ground for innovation to grow. We provide our people the ideal framework for their daily, challenging tasks. We ensure ample knowhow is always provided and constantly monitor the growth and progress of each employee. By promoting our staff potential, we open the horizons for novel ideas to flourish. Most of all, we praise and reward Innovation.

Ideas and suggestions pay off for the employees and the company alike, thus the Infineon-wide ideas management program. The “YIP” (Your Idea Pays) program allows our staff to participate in the success of their ideas and motivates them to submit suggestions for improvement and drive them ahead.
Careers at IFRO

At Infineon, our engineers are a mix of talent, passion, and dedication and we work together to drive innovative solutions mastering the challenges of the semiconductor industry.

We work on leading-edge technologies and world-class products together with an international team of top experts. We embrace talent, people in search of new challenges, and highly motivated, dedicated individuals. To start a career with Infineon, it is essential to be creative and have the eagerness to work on cutting-edge technologies. It is also important to have:

- Excellent communication and interpersonal skills
- Entrepreneurial spirit
- Proactive approach
- Confident personality
- Intercultural competence
- Fluency in English

For all IFRO technical/engineering job openings, candidates are expected to hold a university degree from a technical university in electronics/ microelectronics/ telecommunications or a similarly related field.

Visit us at www.infineon.com/careers and apply for jobs online using the International Online Application.
University Partnerships at Infineon

Collaboration of educational / research institutions and businesses is a win-win formula. It triggers knowledge transfer and helps create long-term partnerships through cooperation on private and/or public projects, internship programs as well as boosting students’ future employment chances in the work market.

IFRO focuses on collaborating with technical universities and has established strong relations with three major technical universities in Romania: Polytechnic University, Bucharest, University ‘Gheorghe Asachi’, Iasi, University of Cluj-Napoca and recently, Technical University Chisinau in Moldova Republic.

Together with them, IFRO has found a platform for cooperation:

- Infineon establishes university programs which enrich curricula with subjects pertaining to its technology domain. To this effect, highly qualified Infineon experts are invited to Romania to deliver special lectures and seminars. In addition, senior engineers at IFRO give lectures in chip design in Bucharest Polytechnic and Iasi Technical Universities.
Furthermore, and in order to expand the microelectronic research and development infrastructure sections, Infineon Romania has installed equipped labs with access to students in both of the above universities.

The Infineon Development Center in Bucharest works closely with university authorities in organizing scholarships and internships for a well-founded and practical education. IFRO also sponsors master and doctoral programs in related microelectronics fields to support young talents keen on joining our field of profession.

The goal of such programs is to create competences in leading edge technologies that will see a high demand for research and development activities in the near or medium future. In providing a wider base of shared competencies, Infineon makes it possible to deal with a range of topics relevant to the Romanian society and its economy.

Winning the Young for Technology

Infineon reaches out to young talents through activities on campus grounds and beyond. The Infineon day at Universities is a quarterly event dedicated to ‘spread the word’ about high tech domains and the semiconductor industry, answer students’ questions and encourage them to pursue these domains as future careers.
For the younger enthusiasts, Infineon sets up events for students in their final school years to introduce them to high tech and state of the art technology as a highly demanded profession.

Infineon Romania also hosts competitions related to its domain. By providing entrepreneurship, finance, and seizing market opportunities, Infineon encourages innovative ideas to be turned into new products and services that create growth, quality jobs and address our modern life challenges.
ENERGY EFFICIENCY

Not only are we actively working to reduce the carbon footprint of our production activities worldwide, we are also delivering the innovations required to shape a more sustainable society as we move forward.

MOBILITY

In an increasingly mobile world, we deliver a rich and deep set of technologies and solutions that raises the bar for safety, affordability, and efficiency.

SECURITY

Growing mobility calls for more robust security solutions in communication, transport and IT applications. We have the industry’s largest portfolio of chips and interfaces to meet the most demanding security tasks.