Melexis
Microelectronic Integrated Systems

Internship Catalogue

2016-2017

www.melexis.com

MELEXIS PROVIDES DIVERSE INTERNSHIP POSSIBILITIES

CONTENT

WELCOME TO MELEXIS

Welcome aboard the flagship Melexis, counting about 950 crewmembers over more than 10 different countries. Yet, we still consider ourselves a small company expanding globally in an amazing world full of opportunities.

Melexis is a **thriving high tech organization** operating internationally in the booming automotive, industrial and consumer products business. Over 10 years Melexis has achieved an average annual growth rate of around 10%, giving us confidence in our sustained future growth path.

MELEXIS VALUES

Our customer's challenges become our challenges. Our core values help us to achieve this mission day after day. That is exactly why we are continuously looking for motivated crewmembers who want to join our team and, together, engineer the sustainable future. Melexis offers much more than a competitive compensation. Melexis is about more than work alone and more than Melexis alone.

- Enjoyment
- Leadership
- Customer Orientation
- Profitability
- Respect

MELEXIS INTERNSHIP AND JOB OPPORTUNITIES

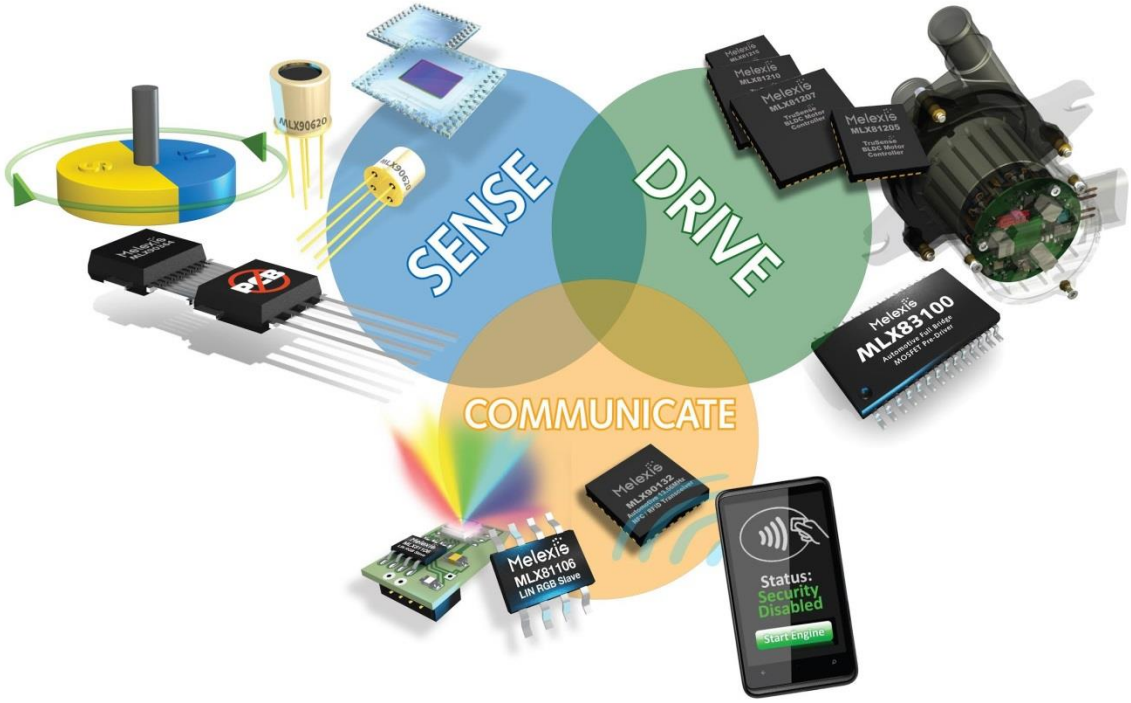
To keep up with the high standards we offer our customers, we're always looking for passionate, talented people.

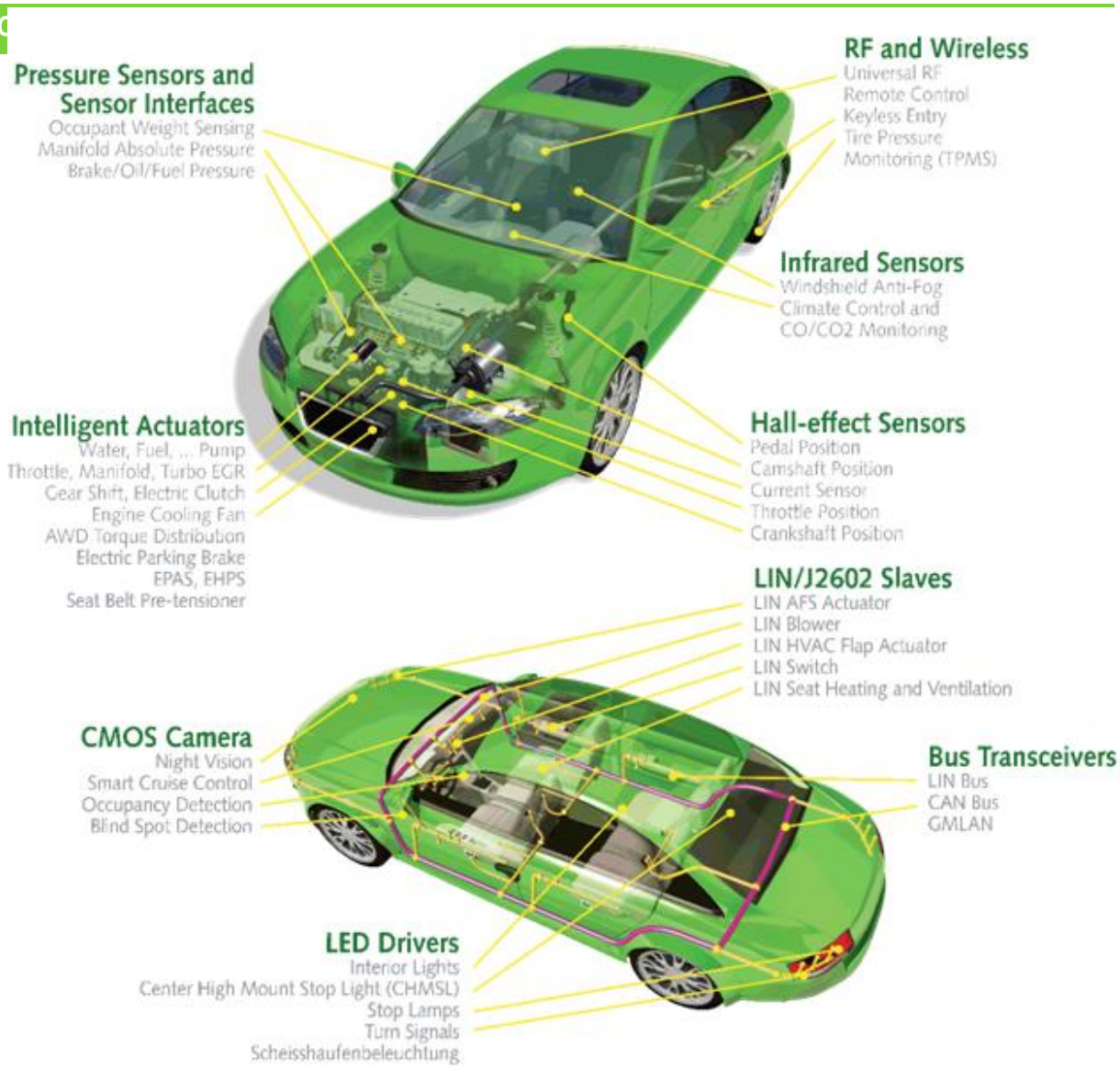
Melexis wants to put you directly into a position with real responsibilities such as: design, application, product, process, quality or test engineering. You will be assigned to project teams working on leading edge IC development for the automotive, sensor and wireless markets.

We will help develop your technical and business skills for your further personal and professional growth. For more information we invite you take a look at our website: www.melexis.com

A GLANCE AT MELEXIS PRODUCTS

Looking only at our efforts in the automotive industry, we marvel at the innovations we are able to work on every single day. We proudly cooperate on the creation of the cars of the future. Our small chips are making a large difference. Since millions of people globally use cars on a daily basis, we are motivated by the importance of making cars safer, cleaner and more comfortable. Our ICs have been able to save lives and reduce the automotive ecological footprint. Our employees acknowledge they have an impact in their current positions. Together with our employees and our clients we are engineering the sustainable future.





"Melexis supplies on average 7 ICs per car worldwide"

WHICH CARS DRIVE MELEXIS PRODUCTS

WE ENGINEER THE SUSTAINABLE FUTURE

APPLICATIONS ENGINEER

APPLICATIONS ENGINEER

PROJECT DESCRIPTION

Melexis specializes in developing robust sensorless actuators IC's for automotive applications like water-oil-fuel pumps, engine cooling fans and hvac blowers. The brushless 3-phase motors should be controlled without sensors, via electronics that measure motor current and motor voltage (self-sensing solution).

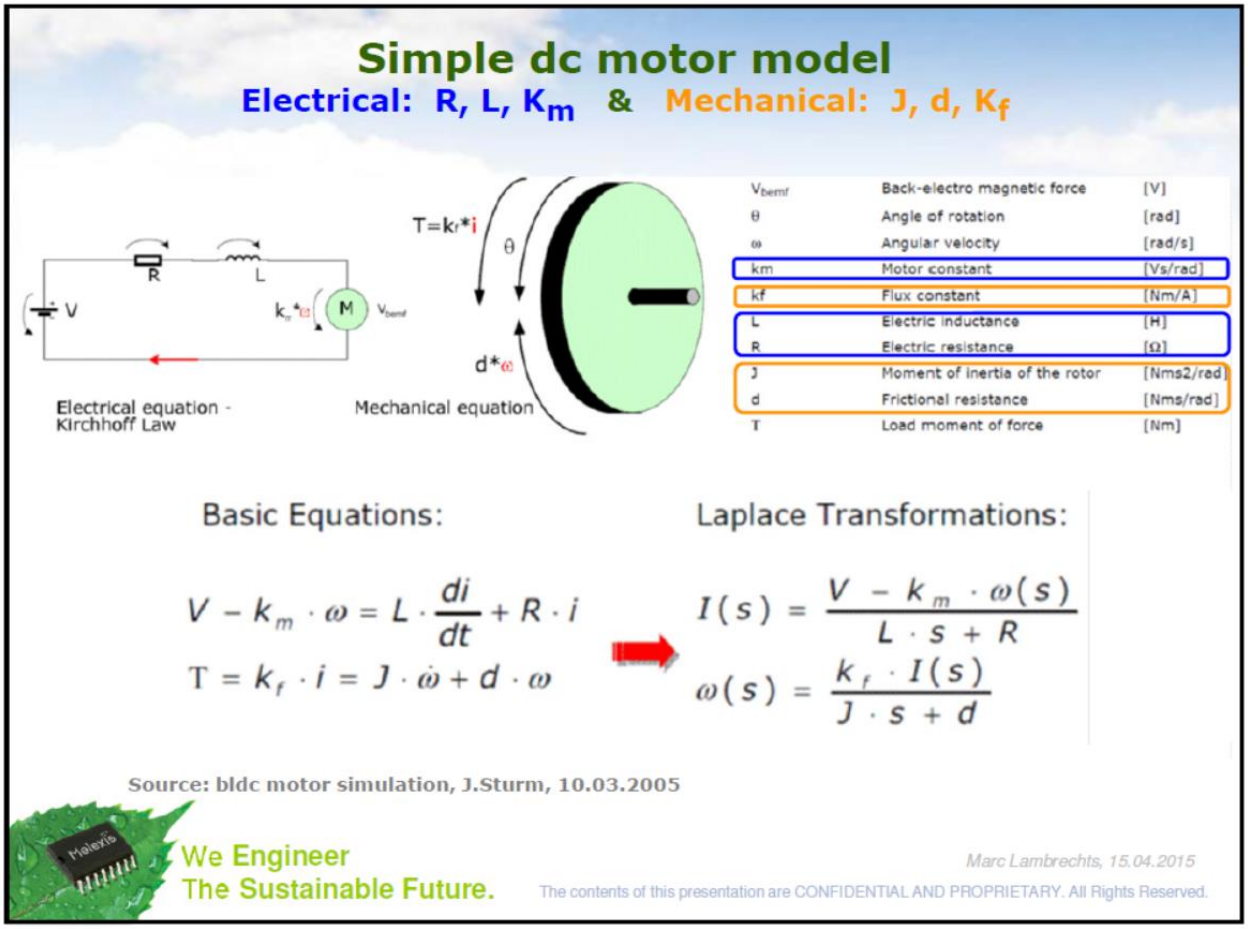


Fig 1: electro-mechanical model for a motor system

PROJECT GOALS

Iterative development of a realistic electro-mechanical system model for existing hvac blowers, in combination with sensorless control loop, using real measurements to fit the model and predict the behavior of the fan for various control algorithms. Purpose is to accelerate future designs with efficient and robust control algorithms for self-sensing fans & pumps.

Fig.2 HVAC Blower fan used in the airco system of the car

REQUIREMENTS

- 2nd year Master Civil Engineer in electronics
- strong conceptual thinking to understand mechatronics system
- affinity with mechanical systems and electrical motors is a plus
- fluent in English

DURATION

12 weeks

SITE

Tessenderlo

ADDITONAL STUDENT INFORMATION

Student contribution to the project

Selecting modeling tool; Creating model with available motor system knowhow from Melexis application engineers, iterative fitting with real system behaviour, simplify model to the essence; adding and improving control algorithm, verifying model behavior versus real motor behavior; making summary report for application engineers how to use the model.

Competencies & skills the student could develop

Learning and managing the complexity of innovative mechatronics systems, allowing for future architecting & engineering of such systems.

TEST ENGINEER

IC CONTINUITY TEST: AUTO GENERATION TOOL

PROJECT DESCRIPTION

An important part of every test solution for checking integrated circuits in our manufacturing facilities is the continuity test.

Continuity test checks the connection between DUT (Device Under Test) and the handler (Machine that automatically handles the parts). Actually it is checking if every pin of the DUT has a good electrical connection to the ATE (Automated Test Equipment).

As every project in Melexis needs this test, there has been a tool developed to generate this automatically for the specific settings of a project. There is a good experience with the first generation tool but there are gaps identified. Some additional tests need to be added and also a basic characterization functionality to plot the behavior on the pins.

The existing tool has been written in perl. For the 2nd gen there is freedom of choice. An idea is to create a web based interface.

PROJECT GOALS

- Create software specification for the 2nd generation tool
- Selection of the most appropriate development environment
- Selection of the type of interface
- Creation and validation of the tool

REQUIREMENTS

- Students electronic engineering, option ICT (ing. level)
- Knowledge of software development (C/C++, python, …)

DURATION

3 to 6 months (depending on defined output)

SITE

Tessenderlo

ADDITONAL STUDENT INFORMATION

Student Contribution to the project:

- Gather information to setup the specification and appropriate environment.
- Develop user friendly software.

Competencies the student could develop:

During the internship the student will learn how to work project based. How to plan and estimate tasks related to the project. Improve experience on collecting and setting requirements (communication towards the end users).

The student will have the opportunity to work with experienced engineers and increase insights on how to develop and validate software.

AUTOMOTIC CONTACT RESISTANCE VALIDATION SYSTEM

PROJECT DESCRIPTION

An important part of every test solution for checking integrated circuits in our manufacturing facilities is to investigate the influence of contact resistance on the measurement system.

The measurement systems created by Melexis engineers test the integrated circuits on wafers in the clean room and again after packaging in final test. In both environments there is an amount of contact resistance generated on each pin. This resistance fluctuates from 0.1 Ohm up till 15 Ohm or higher. This resistance can induce a measurement error depending on the measurements performed on the pins. In order to ensure high quality of the system, a series resistance is added on the pins to check the behavior and impact.

An automated tool is needed to reduce the time spend on this investigation. A dedicated PCB has to be developed containing a switch matrix to connect resistors in series pin by pin, drivers to drive the relays and a microcontroller to control the signals with a USB connection to our tester. The PCB has to be developed with built in self check to be sure a resistance is connected. A driver also has to be developed to handle the communication between the PCB and tester. Finally, some software needs to be created to process the data in order to have a fast validation completed.

PROJECT GOALS

- PCB to be mounted between a handler board and a socket board with USB connection to the tester (USB to serial build in the PCB)
- Dedicated driver for XTA/XTD tester (C/C++)
- Software to process the measurement data and generate report

REQUIREMENTS

- Students electronic engineering, option ICT (ing. level)
- PCB design (Altium)
- Knowledge of software development (C/C++)

DURATION

3 to 6 months (depending on defined output)

SITE

Tessenderlo

ADDITONAL STUDENT INFORMATION

Student Contribution to the project:

- Gather information to setup the specification and appropriate environment.
- Develop user friendly software.

Competencies the student could develop:

During the internship the student will learn how to work project based. How to plan and estimate tasks related to the project. Improve experience on collecting and setting requirements (communication towards the end users).
The student will have the opportunity to work with experienced engineers and increase insights on how to develop and validate software.

SENOR TEST OPTIMIZATION

PROJECT DESCRIPTION

Melexis offers a wide range of integrated sensors for automotive applications.
100% of the ICs manufactured are tested over their operating range prior delivery in order to ensure the product performance.

Sensors are tested by measuring their response to a known external stimulus (e.g. magnetic field)
The goal of the project is to optimize an existing test solution by simulating, implementing and benchmarking alternative methods in order to achieve the highest accuracy with the shortest measurement time.

The student will study the sensors characteristics and their impact on the final product performance, develop models, and implement software to run on automated test equipment.
With the support of experienced engineers, the student has an opportunity to work on a high tech industrial project, from the concept to the implementation for mass-production.

PROJECT GOALS

- Feasibility study: estimate the accuracy and test-time of different methods via modeling and simulation (Matlab, Python, Excel, …)
- Implementation in C/C++ and experimentation in the engineering lab
- Validation in Manufacturing

REQUIREMENTS

- Student in electronic engineering
- Software development knowledge
- Knowledge of micro-controllers is a plus
- Organizational and communication skills
- Team work oriented, self-motivated

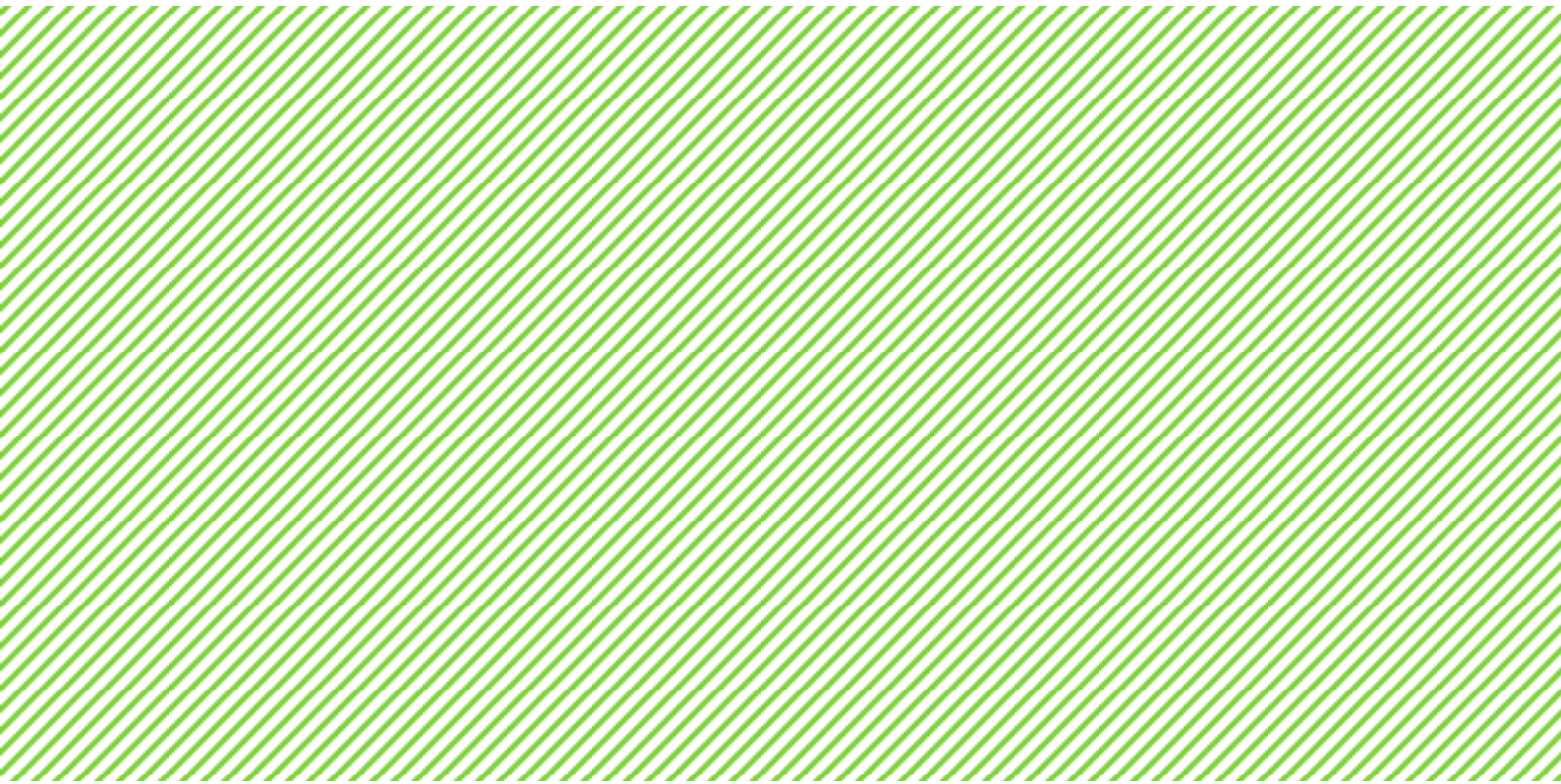
DURATION

3 to 6 months (depending on defined output)

SITE

Ieper

ANALOG DESIGN ENGINEER



ANALOG IN DIGITAL

PROJECT DESCRIPTION

To handle the increased complexity and requirements of the current generation of electronic circuits, there is a strong drive towards ever decreasing technology nodes. Analog circuit, different from digital circuits, does not scale well to lower technology nodes. This means that the expected area and cost decrease, is not always present in lower technology nodes.

One way to take maximal advantage of the scaling is to implement analog functionality in digital blocks, while taking maximal advantage of the strengths of this digital implementation to increase performance.

PROJECT GOALS

Design, simulation and implementation of a novel implementation of a temperature sensor/bandgap for a new generation of Low Voltage and low current consumption products.
Literature study of possible “Analog in Digital” related techniques, like for example “Dynamic Element Matching”.

Start from architectural study, through Concept/Analog Design and Mixed-Signal Simulation, to end up at an actual Design & Layout Implementation, coached by an experienced Analog Designer.

REQUIREMENTS

- Bachelor in Electronic Engineering
- Knowledge of Analog Electronics
- Good knowledge of English

DURATION

6-10 weeks or longer

SITE

Ieper or Tessenderlo

DESIGN OF A LOW POWER SUPPLY SYSTEM

PROJECT DESCRIPTION

All electronics require a voltage to operate and consume current when doing so. The stability of this supply voltage has a significant impact on the accuracy and the robustness of the electronic circuits being supplied by it.

For battery powered applications, the power consumption of the electronics is critical as it determines the battery operated life time. To improve life time, there is a strong drive to lower regulated voltages and lower current consumption. The goal of this project would be to investigate and implement a low power supply system, consisting of different blocks. Depending on the time, the scope can be limited to a signal regulator or be as wide as bandgap, regulator and power on reset (POR) implementation.

PROJECT GOALS

Design, simulation and implementation of a supply system for a new generation of Low Voltage and low current consumption products.
Start from architectural study, through Concept/Analog Design and Mixed-Signal Simulation, to end up at an actual Design & Layout Implementation, coached by an experienced Analog Designer.

REQUIREMENTS

- Bachelor in Electronic Engineering
- Knowledge of Analog Electronics
- Good knowledge of English

DURATION

6-10 weeks or longer

SITE

Ieper or Tessenderlo

ADDITONIAL STUDENT INFORMATION

Student Contribution to the project:

- Architectural study (papers, reverse engineering, system study,…)
- Real hands-on design (and layout) implementation
- Full Mixed-Signal simulation and validation

Competencies the student could develop:

- Hands-on analog design experience
- Experience with the full design process, from concept to final TO

DESIGN OF A LOW POWER RAIL-TO-RAIL BUFFER

PROJECT DESCRIPTION

Although sensors require a considerable amplification of the sensing element signal, the testability of some internal nodes is crucial for characterization purposes and final test. For this testability, it is important to bring out these internal nodes on one or more test pins of the package. The internal nodes are typically higher impedant and hence have low driving capabilities, so they need to be buffered before bringing them outside. The difficulty lies in the fact that the internal nodes can have any voltage, so the buffer should be a rail-to-rail operational, class AB type amplifier. With unity gain, stability is critical.

Another important design constraint is the offset and offset drift: for accurate measurements, it is important to minimize these effects. Systematic offsets should be minimized through proper layout, but the random offset is governed by the matching and, through Lakshmikumar's findings, the size – amongst others – of the input transistors. Proper scaling will have to be done to cover this aspect as well.

PROJECT GOALS

Design, simulation and implementation of a rail-to-rail testbuffer for a new generation of Low Voltage and low current consumption products.

Start from architectural study, through Concept/Analog Design and Mixed-Signal Simulation, to end up at an actual Design & Layout Implementation, coached by an experienced Analog Designer

REQUIREMENTS

- Bachelor in Electronic Engineering
- Knowledge of Analog Electronics
- Good knowledge of English

DURATION

6-10 weeks or longer

SITE

Ieper or Tessenderlo

ADDITONAL STUDENT INFORMATION

Student Contribution to the project:

- Architectural study (papers, reverse engineering, system study,…)
- Real hands-on design (and layout) implementation
- Full Mixed-Signal simulation and validation

Competencies the student could develop:

- Hands-on analog design experience
- Experience with the full design process, from concept to final TO

DESIGN OF A LOW POWER RC OSCILLATOR

PROJECT DESCRIPTION

The heartbeat of every chip comes from the oscillator. Good stability of this heartbeat is mandatory for proper functionality, which is linked to process variations and temperature. The latter introduces a spec on the relative frequency drift, but the absolute frequency is of utmost importance as well. The design should support trimming functionality to cope with this requirement. The trimming of the oscillator is done in final test, and the frequency drift is verified over temperature for 100% of the parts. In order to guarantee a good yield, 6-sigma design is required.

PROJECT GOALS

Design, simulation and implementation of an RC oscillator for a new generation of Low Voltage and low current consumption products.
Start from architectural study, through Concept/Analog Design and Mixed-Signal Simulation, to end up at an actual Design & Layout Implementation, coached by an experienced Analog Designer.

REQUIREMENTS

- Bachelor in Electronic Engineering
- Knowledge of Analog Electronics
- Good knowledge of English

DURATION

6-10 weeks or longer

SITE

Ieper or Tessenderlo

ADDITONAL STUDENT INFORMATION

Student Contribution to the project:

- Architectural study (papers, reverse engineering, system study,…)
- Real hands-on design (and layout) implementation
- Full Mixed-Signal simulation and validation

Competencies the student could develop:

- Hands-on analog design experience
- Experience with the full design process, from concept to final TO

CHARACTERIZATION ENGINEER

AUTOMATED PXI POWER SUPPLY CALIBRATION

PROJECT DESCRIPTION

At characterization, we use National Instruments' PXI hardware for doing automated measurements. These measurements need to be very accurate and therefore the critical components like Digital Multimeters and Sourcemeters are calibrated yearly by the manufacturer or by certified labs.

There are also Programmable Power Supplies (PPS) in our PXI's with a significant lower accuracy. In principle we could calibrate them with the much more accurate and already calibrated Digital Multimeters.

This project would consist of developing the hardware (PCB, cables) and LabVIEW software to calibrate these PPS cards automatically. We would then be able to calibrate the cards ourselves, ensuring a stable accuracy without the need of shipping the cards to the manufacturer each year, saving time and cost.

PROJECT GOALS

- Investigate the procedure on calibrating the cards and to store the calibration data inside the PPS cards
- Develop a PCB that connects to the PXI and makes the connections between the cards in order to do the calibration
- Develop the LabVIEW software to fully automate the calibration procedure, including a user friendly graphical user interface and a print out of the calibration report
- Create a user manual

REQUIREMENTS

- Bachelor or Master industrial engineering (electronics, automation)
- Experience in LabVIEW is a plus
- Experience in PCB design is a plus
- Good level of English

DURATION

3 to 6 months, based on time that can be spend by the student

SITE

Tessenderlo

ADDITONAL STUDENT INFORMATION

Competencies the student could develop: (Gained skills and knowledge)

- PCB design, both schematics and layout
- PXI
- LabVIEW
- Measurement techniques
- Calibration procedure

AUTOMOTIC THERMOSTREAM CALIBRATION

PROJECT DESCRIPTION

At characterization, we use “Froilabo thermostreamers”. These thermostreamers apply temperatures in a very fast and quite accurate way to our DUT’s (Device Under Test). The way we calibrate these thermostreamers nowadays is not the most efficient way. It’s time consuming and possibly not the most accurate way.

Therefore we see a possibility to improve the calibration method. Internal components of the streamers that have to be adjusted manually could be replaced by programmable components (e.g. to PT100/thermocouple to 0-10V converters…).

This way the calibration can be executed in software with minimal effort of the operator.
The existing hardware setup should be validated to see if the temperature measurements are stable and reliable. If not, a small setup must be built. For example, the position of the temperature sensor in the air flow and the insulation of the volume around the sensor are important.

Besides this automated procedure, good documentation is a must. It should contain the calibration procedure, a step by step guide and a decent calibration report (automatically generated).

For certain setups that are connected to these streamers (e.g. pressure chambers), the calibration procedure will be different. So discussion with the responsible persons of those setups is necessary to acquire the correct information. The project may end with different calibration procedures for different setups.

PROJECT GOALS

- Analyse what convertors are available on the market and which ones enable you to develop a calibration procedure. (e.g. accuracy, way of programming are important)
- Develop calibration procedures
- Develop a program in LabVIEW that controls all hardware (thermostreamer, temperature sensor, converters) in order to reach a fully automated calibration tool and outputs calibration reports (measurement before/after, accuracy boundaries, user info,…)
- Develop a measurement setup (sensor placement), if the existing one can be improved (high probability)
- Write a user manual

REQUIREMENTS

- Bachelor or Master industrial engineering (electronics, automation)
- Experience in LabVIEW is a plus
- Good level of English

DURATION

3 to 6 months, based on time that can be spend by the student

SITE

Tessenderlo

ADDITONAL STUDENT INFORMATION

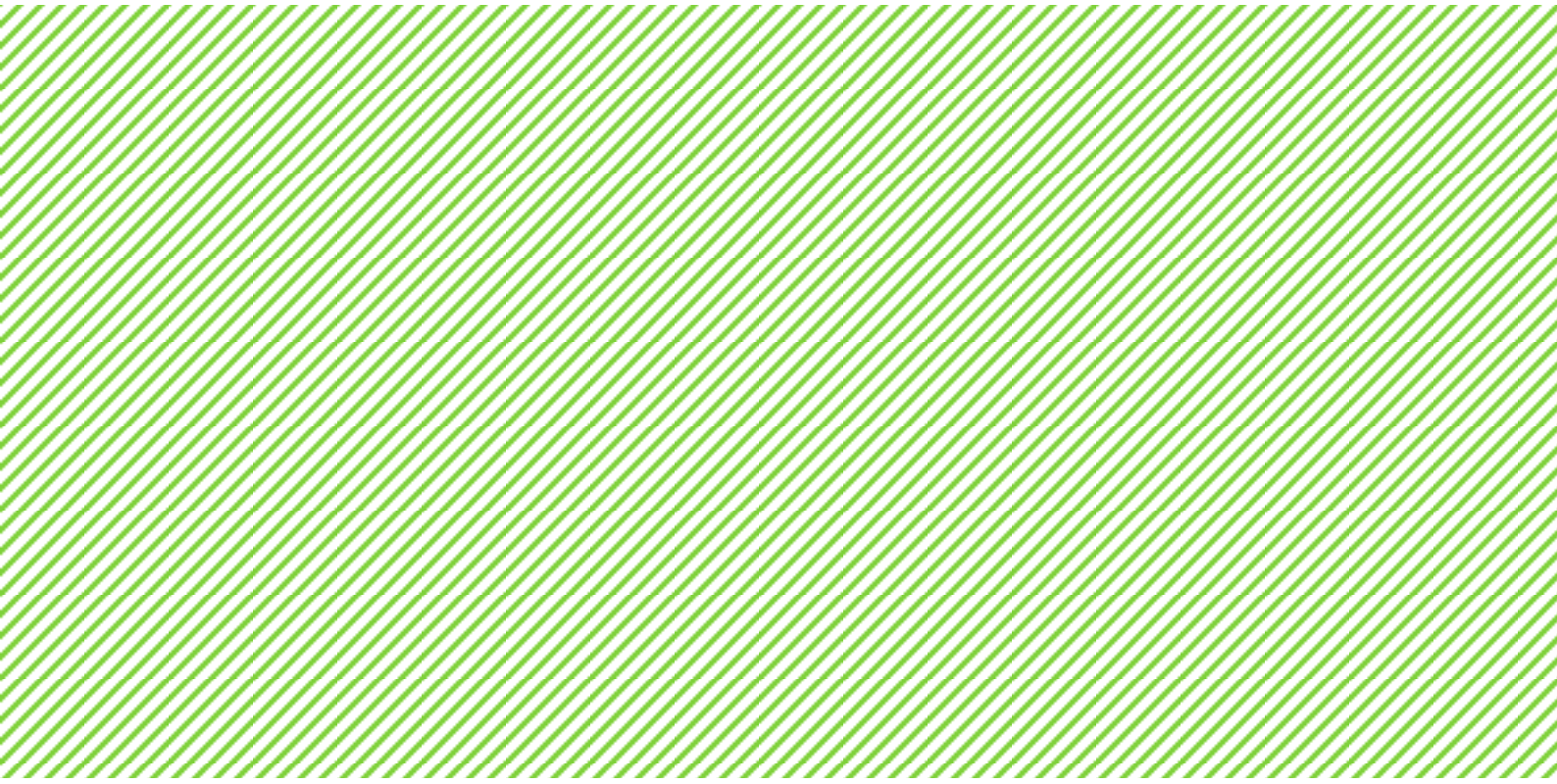
How many students could work on this project?

1-2

Competencies the student could develop: (Gained skills and knowledge)

- PCB design, both schematics and layout
- LabVIEW
- Measurement techniques
- Calibration procedures

EMC DEVELOPMENT ENGINEER



EMC DEVELOPMENT ENGINEER

DEVELOPMENT OF IC-LEVEL IMMUNITY TEST METHODS

PROJECT DESCRIPTION

All Melexis products must have their electromagnetic compatibility (EMC) performance checked before they are released on the market, in order to make sure that they are all compliant with the stringent international EMC standards as well as with the internal requirements of Melexis' customers. This project will be focused on implementing within Melexis EMC lab the newest synchronous and non-synchronous IC-level transient immunity test method (IEC62215) and an IC-level ESD immunity test method (IEC62228).

PROJECT GOALS

- To create working EMC test setups for transient and ESD IC-level immunity tests that are compliant with the international regulations, and which can be used in an optimal and automated way.
- To characterize selected MLX ICs.

REQUIREMENTS

- Master student(s) of Industrial Engineering (last year)
- Good understanding of technical documentation
- Conceptual thinking
- Fluent English
- Basic knowledge of measurement equipment
- Knowledge of test software like LabView and PCB design software like Altium is a plus

DURATION

Length of the master thesis work (can be adapted to the requirements of the thesis)

SITE

Tessenderlo

PROCESS ENGINEER

PROCESS ENGINEER

DESIGN AND CHARACTERIZATION OF EFFICIENT MAGNETIC FIELD GENERATION EQUIPMENT

PROJECT DESCRIPTION

Melexis offers a wide range of magnetic sensors for automotive applications.

100% of the ICs manufactured are tested over their operating range prior delivery in order to ensure the product performance.

The Process Engineering team is currently investigating cost effective solution to generate three dimensional and homogenous magnetic field in order to cope with future sensor development.

PROJECT GOALS

- Study of Hall and Magneto-resistive sensors to acquire enough knowledge on key product characteristics for customers and the associated challenges for automatic test equipment and methods
- Benchmark Field Generation solution
- Study coil thermal regulation
- Benchmark coil cooling system for efficient high field generation
- Design 3D magnetic field generator using simulation software

REQUIREMENTS

- Degree in electronic engineering
- Basic Knowledge of Electromagnetism
- Knowledge of Excel VBA
- Good communication skills
- Good knowledge of English
- Organizational skills, team work oriented and be self motivated

DURATION

3-6 months

SITE

Ieper

MANUFACTURING PROCESS IMPROVEMENT FOR AUTOMATED HANDLING EQUIPMENT

PROJECT DESCRIPTION

Melexis offers a wide range of magnetic sensors for automotive applications.

100% of the ICs manufactured are tested over their operating range prior delivery in order to ensure the product performance.

The Process Engineering team is currently investigating cost effective solutions to increase performances of this automated test process.

PROJECT GOALS

- Study of Hall and Magneto-resistive sensors to acquire enough knowledge on key product characteristics for customers and the associated challenges for automatic test equipment and methods
- Benchmark available options
- Develop software & hardware solution
- Analyze and improve current sub-processes
- Support Process team in its day to day work
- Coordinate the final release to production including necessary information, trainings, and risk analysis

REQUIREMENTS

- Degree in electronic engineering
- Basic Knowledge of Electromagnetism
- Knowledge of Excel VBA
- Good communication skills
- Good knowledge of English
- Organizational skills, team work oriented and be self motivated

DURATION

3- 6 months

SITE

Ieper

PROCESS OPTIMIZATION

PROJECT DESCRIPTION

Melexis offers a wide range of magnetic sensors for automotive applications. 100% of the ICs manufactured are tested over their operating range prior delivery in order to ensure the product performance. The Process Engineering team is daily investigating cost effective solutions to increase performances of this automated test process.

PROJECT GOALS

- Support Process team in its day to day work
- Analyze and improve current sub-processes
- Define and Implement improvement on existing process/equipment
- Characterize and validate process performances
- Coordinate the final release of developed process

REQUIREMENTS

- Degree in electronic engineering
- Basic knowledge of Electromagnetism
- Basic knowledge of Excel VBA
- Good communication skills
- Good knowledge of English
- Organizational skills, team work oriented and be self motivated

DURATION

Preferably 3-4 months

SITE

Ieper

PROCESS ENGINEER

MANUFACTURING PROCESS IMPROVEMENT FOR AUTOMATED HANDLING EQUIPMENT

PROJECT DESCRIPTION

Melexis offers a wide range of magnetic sensors for automotive applications. 100% of the ICs manufactured are tested over their operating range prior delivery in order to ensure the product performance. The Process Engineering and Test Engineering team are currently investigating cost effective solutions to increase performances of current test solution. The project will be handled by two students. One focusing on the test solution concept (software) the other on the equipment design (mainly hardware).

PROJECT GOALS

- Study of Hall and Magneto-resistive sensors to acquire enough knowledge on key product characteristics for customers and the associated challenges for automatic test equipment and methods
- Feasibility study on synchronized and frequency domain measurement method
- Implementation
- Feasibility study on synchronous and high speed field generation (signal generator)
- System design and prototyping
- Validation

REQUIREMENTS

- Degree in electronic engineering (Eng, ...)
- Basic Knowledge of Electromagnetism
- Knowledge of Excel VBA
- Good communication skills
- Good knowledge of English
- Organizational skills, team work oriented and be self motivated

DURATION

3-6 months

SITE

Ieper

PRODUCT QUALITY ASSURANCE ENGINEER

PRODUCT QUALITY ASSURANCE ENGINEER

PRODUCT OPTIMIZATION

PROJECT DESCRIPTION

After the development phase of an Integrated Circuit, a close follow-up is needed to maintain the quality of its production. After product ramped up, product quality assurance department is becoming accountable for the overall yield and product quality, the observation of budget limits and production cost reduction.

PROJECT GOALS

- Improve the yield, investigate the root causes for having losses
- Improve the product flow by removing one test step (e.g. test at a given temperature)
- Improve the product test time
- Improve lot rejection rate, investigate the root causes for having lot interruptions

REQUIREMENTS

- Degree in electronic engineering (Eng…)
- Excellent knowledge of analog & digital electronics
- Good sense of problem analysis and solution finding
- Good conceptual thinking: (able to extract the right information form a group of data)
- Organization skills and be self-motivated
- Fluent in English

DURATION

6 months

SITE

Ieper

SUPPORT CUSTOMER RETURNS HANDLING PROCESS

PROJECT DESCRIPTION

Melexis Ieper is delivering Integrated Circuits mainly to the automotive market. Automotive requirements in term of Quality are very high, defective ICs have to be analyzed, root cause has to be identified and corrective actions installed.

During your internship you will support the problem solving process of customer complaints.

First you will get acquainted with our failure analysis methods, design, test methodology, test equipment and statistical tools.

PROJECT GOALS

- Drive root cause analysis of customer returns
- Perform electrical analysis to verify the problem
- Apply fault localization techniques

REQUIREMENTS

- Degree in electronic engineering (Eng…)
- Excellent knowledge of analog & digital electronics
- Good sense of problem analysis and solution finding
- Good conceptual thinking: (able to extract the right information form a group of data)
- Organization skills and be self-motivated
- Fluent in English

DURATION

4 months

SITE

Ieper

LEAN ENGINEER / TECHNICIAN

AUTOMATION OF MANUAL THERMOSTREAM SET-UPS

PROJECT DESCRIPTION

The actual sample control, performed during the final test process, consist of testing 5 (up to 80) pieces with a specific manual magnetic setup. The 4 manual set-ups are running at a very low speed (1 IC by 10minutes), with a temperature range of -40°C to +150°C. Electrical test and temperature control are made by a specific test program. Each setup needs to be prepared for each device (sample run) by the operator. The operator should sort manually each device after the test, based on test results.

The project is to replace the manual sorting made by the operator (but it should not replace the changing of the device type or the test program). We expect an automatic handling and sorting tool, able to cover 4 manual set-ups. The set-up should be improved to facilitate the change to another device type and to improve the robustness (life time).

The desired result would be:

The operator will still make the set-up change and test program selection (and initialization). The new system will sort tested parts, place a new device to be tested and start the program again to test this part.

As the components are mainly dedicated to the automotive market, specific quality requirement and documentation will be requested (as FMEA, as R&R, etc…)

PROJECT GOALS

Goal is to improve the usage rate and efficiency of the 4 manual set-ups. The expected usage improvement is 100%, with an efficiency improvement of 200%. Change over time could be improved by 50%. Tool is able to run of 24h w/o interruption, when 80 samples should be tested.

The automatic sorting allows a clear identification between non-tested parts (module), the ones that passed the test, the ones that failed because of electrical issues and the ones with contact issues.

The total budget should be recovered in 1 year production run (base on the “non-investment” of single thermostream and magnetic setup).

We should be able to interrupt the test of 80pcs for more urgent small tests (max 10 pcs), without major manipulation. Historical data and Control related to Lot/Quantity tested will be part of the traceability the tool should provide.

REQUIREMENTS

- Bachelor Degree or Degree in industrial engineering Automation, Electronics, Electromechanics or other relevant field of study)
- Experience with robotics is an advantage
- Familiar with basics of project follow-up (able to work independently)
- Fluent in English

DURATION

At least 3 months

SITE

Ieper

SUPPORT TO "FLYING" OPERATORS

PROJECT DESCRIPTION

The actual organization in production defines "Fixed" and "Flying" operator work responsibilities.

The "Fixed" operator makes sure production is running efficiently – meaning: filling all handlers with all type of tubes in a timely manner. The Fixed solves issues in his area (rows with handlers he is responsible for), organizes and follows production needs.

The "Flying" operator will support all needed changes of supply (tubes needs, data entry in ERP, etc…). Major part of the work is to change the tested lot (after the full flow) by a new "untested" lot.

The tested lots are reviewed and move to an external area (next step) – for the next process, called"Back-End".

All information related to the lot is entered in an ERP system by the Flying operator.

PROJECT GOALS

Goal is to improve the working condition of the Flying operator, allowing more support to the fixed people, and avoid being forced to add a new flying operator when adding handlers in production

What could be done?

We like to review the 7 wastes in the operator process.

The focus on this project is to remove minimum 50% of "traveling time".

The goal is to implement an automatic distribution of the lot in production.

Concretely: the goal is that lots are moved from "In" inventory to "out" inventory, automatically (w/o human intervention), based on the request of the operator.

Based on limited action/interaction, an AGV (Automatic Guided Vehicle) should be able to:

- Remove a finished lot from the handler location.
- Move the finished lot outside production (specific buffer "OUT").
- Collect at predefine location (specific buffer "IN").
- Move the untested lot to the correct handler.

On a 2nd phase we can plan to use AGV for:

- Moving the lot from the specific buffer "OUT" location to the Back-end area (lift aspect).
- Removing empty boxes from production – return those to shipping area.
- Moving WAFER lot in probing
- Collecting fails from a dedicated location (once per shift)

Part of the project is to evaluate:

- Communication method.
- Quantity of AGV needed
- Modification of the basic tools
- Budget / ROI

REQUIREMENTS

- Bachelor Degree or Degree in industrial engineering (Automation, Electronics, Electromechanics or other relevant field of study)
- Experience with robotics is an advantage
- Familiar with basics of project follow-up (able to work independently)
- Fluent in English

DURATION

At least 3 months

SITE

Ieper

MARCOM CAMPAIGN ASSISTANT

SUPPORTING GLOBALMARCOM TEAM

PROJECT DESCRIPTION

You will assist the Global Marketing & Communications team in a variety of ways. You will be involved in marketing and communications tasks related to media activations and partnerships to support our wider business and marketing goals.

This role will develop and roll out regular campaigns through different channels to promote new content or campaigns focused on promoting our internal stakeholders, including Product Managers and Human Resources (HR), across the different regions worldwide.

If you like getting creative on a daily basis, testing new marketing waters, developing your ideas and collaborating with other passionate colleagues, then this position is all for you.

PROJECT GOALS

- Day-to-day project management support of global marketing campaigns.
- Update our corporate website and keep it relevant.
- Get involved with company social activities including international trade shows and initiatives to promote STEM education.

REQUIREMENTS

- Marketing/Communications/MBA university degree with a spark and passion for technology
- Excellent communication skills and strong attention to detail
- Fluency in English
- Strong believer in a data-driven culture and the power of ongoing testing (read: positive can-do attitude)
- Eagerness to learn, listen, show willingness and add value to the team(s)

DURATION

Minimum 3 months

SITE

Tessenderlo

LEGAL ASSISTANT

LEGAL ASSISTANCE

PROJECT DESCRIPTION

Administrative legal support.
Scanning of original contracts and put them in the Legal Database.
Classifying legal contracts.

PROJECT GOALS

Administrative legal support. Get the original paper contracts scanned in into the legal database and classified to bring order in the legal classification.

REQUIREMENTS

- Strong administrative skills
- Have a fluency in Dutch and/or English
- Computer literate (Microsoft Office, Word, Excel, Powerpoint)

DURATION

Duration: /
Timing: whenever convenient. However, introduction should be given before 01 August 2016.

SITE

Tessenderlo

ADDITONAL STUDENT INFORMATION

Student Contribution to the project: (Specific tasks)

LEGAL

- Give assistance to the Legal Advisor by preparing various legal documents and follow up until completion
- Give assistance to the Legal Advisor regarding the insider trading policy
- Entering legal contracts stored on our legal intranet into Kleos (centralized database)

FINANCE

- Preparing the transcription of the conference call related to the quarterly figures
- Updating ‘market information’, information on financials of car manufacturers, competitors etc.
- Organizing the global finance meetings

INVESTOR RELATIONS

- Preparing the road show booklets
- Make travel arrangements for investor relations

Competencies the student could develop: (Gained skills and knowledge)

- Gain knowledge of the legal, finance and investor relations world
- Develop administrative & organizational skills

APPLICATION PROCESS

If you are interested in one of the previous internship topics please send your resume and cover letter in English to: Jobs_Belgium@melexis.com

As subject line: Internship 2014/15 – “Domain” – “Topic Name”

(E.g. Internship 2014/15– BU Actuators – Drill with sensorless BLDC drive)

In the body of the mail, please specify the following information:

- A proposal for the internship period
- A brief motivation of your internship choice
- What you expect from an internship at Melexis

If none of the previous proposals meet your interest, then do not hesitate to contact us.

Any questions or proposals may be directed to the email address above.

MELEXIS AS EMPLOYER

Melexis is a great place to start your career. Join us and you'll get training, support and career choices to develop your potential. We ensure to continuously improve the skills and capabilities of individuals and teams by offering tailored induction programs and career path.

Check out our opportunities at: http://www.melexis.com/Careers-Our-Jobs.aspx

- Young, dynamic and international successful company
- High technology products
- Growing business
- Global markets

- Space to help the company grow
- Space for initiative and creativity
- Respect for cultural identity
- Autonomy in the job
- Real responsibility
- Varieties in jobs

- Space to develop Career opportunities
- "It's up to you!"
- Promotion from within

- Competitive total remuneration package
- Local (and international) opportunities
- Reward for performance

THE MELEXIS CULTURE

One thing our employees really like at Melexis is the **informal working environment**. We address each other by first name, come to work in casual clothing and have an open office workspace. Our CEO, is just sitting among the other employees which shows our **open company spirit**. Within this **flatly structured organization,** we encourage **sharing our experiences** with others.

This informal, open culture creates a **collegial work environment** with room for a laugh and friendship. Our company supports social happenings for employees.

Not only do our employees acknowledge the good working ambient, they find they can align their jobs with their interests. Some of our engineers even see their job as playing with electronics while being paid for it. Melexis gives people the opportunity to find their way to the job they really like to do.

We acknowledge that our employee's life is about much more than working alone, even if they like their work and working environment. We try to keep a **healthy work-life balance**. To safeguard this balance Melexis also strives to be as flexible an employer as possible.

At Melexis we offer more than a job alone. We offer you a challenging working environment with advancement opportunity.

A QUOTE FROM A MELEXIS EMPLOYEE

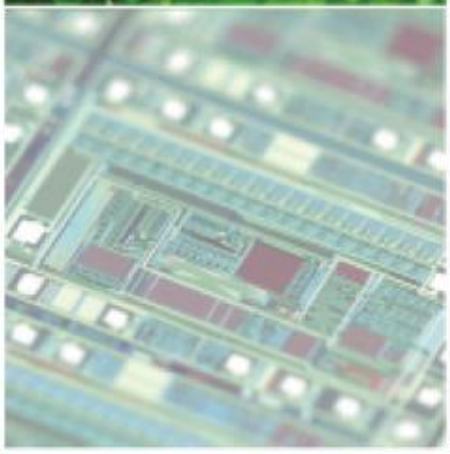
Melexis Is So Much More Than Just A Job

The best we can offer you? An enjoyable place to work. Jobs at Melexis tend to be more than just a job for several reasons. But don't just take our word for it - see what our employees have to say:

Wouter – Analog Design Engineer

"I just turned 26 two weeks ago and I am Lead Designer on a new chip. In this position people ask for your help and really listen to your input. Melexis is the kind of company where they listen to you even if you are young."

Find more quotes on our website: www.melexis.com



WE ENGINEER

THE SUSTAINABLE

FUTURE.

WE LOOK FORWARD TO MEETING YOU!