

## Analyze and understand the current energy situation... ...in order to get more out of the foreseen modifications

Is your company planning to expand or alter a production unit? How will this affect your energy demand? How much extra energy capacity will you need?

Imec needed the answers to these questions when it decided to expand its clean room. The company contacted Laborelec to analyze the design of the new laboratory building. The Laborelec energy experts went above and beyond this assignment by first assessing the current on-site energy context, in order to identify potential improvement opportunities. This step ensured an optimal evaluation of the proposed capacity expansion.

Imec performs world-leading research in nanoelectronics and nanotechnology. Its staff of more than 1,900 people includes over 500 industrial residents and guest researchers. Imec's research is applied in better healthcare, smart electronics, sustainable energy, and safer transport.

### DETAILED STUDY OF THE ENERGY CONSUMPTION

In order to cope with its growing activities, Imec decided to expand its clean room. The company asked a dedicated international engineering company to create a design for the larger room. This design revealed that the required energy capacity needed to increase by 100,000 GJ. Consequently, Imec was legally obligated to carry out an energy study. 'We wanted the expansion plans to be evaluated by an independent energy expert, recognized by the authorities. We had already had several positive experiences with Laborelec. A couple of years ago, they evaluated the energy efficiency of our entire site,' states Kevin De Winne, Team Leader Engineering Controls at Imec.

### IDENTIFYING OPPORTUNITIES FOR IMPROVEMENT

Laborelec not only closely examined the engineering company's proposal; its investigation went further than that. 'The Laborelec experts evaluated the entire site's energy context. If the current installations still have room for improvement in terms of energy efficiency, then we should focus on addressing this issue first. Such improvements will significantly influence the magnitude of the eventual capacity expansion,' explains De Winne.

#### IDENTIFYING POINTS FOR IMPROVEMENT

- > Does your installation need replacement?
- > Is your equipment working flawless, in all circumstances?
- > Are you using 100% of your production capacity?

With the advice of an independent expert, you can considerably lower both your expenses and the environmental impact of your installations.



Laborelec guides you in every phase of the project towards an efficient solution: from the identification of the possibilities for improvement, to the selection of the best possible solution, to support during the implementation of a new installation or the adaptation of existing processes or equipment.



*'Are there still opportunities to save energy? The Laborelec energy experts helped us answer that question by conducting an energy study and identifying points for improvement.'*  
Kevin De Winne, Team Leader Engineering Controls at Imec.

## COLLABORATION ADDS VALUE

Laborelec and Imec worked closely together during the energy study. 'The analysis of the equipment's energy performance was done by our team, because most of the equipment are prototypes. Thanks to our building management system, we already had a lot of data concerning the site's general energy consumption. We did not, however, have detailed information on the various consumption flows. We normally distribute the consumption flows based on theoretical assumptions,' states De Winne. 'Laborelec therefore organized a measurement campaign, spanning several weeks, and succeeded in mapping out a detailed energy balance of the entire site.'

## PRACTICAL ADVICE FOR QUICK ENERGY SAVINGS

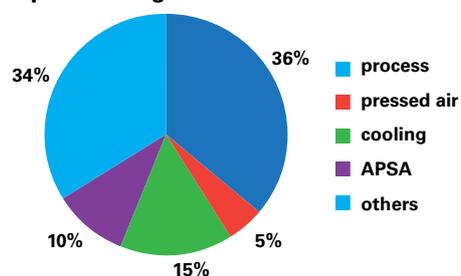
The energy study revealed various possibilities for improvement. Some energy bottlenecks could be resolved with only minor adaptations. 'The office building's energy consumption after working hours still showed room for improvement. Once Laborelec's measuring campaign was finished, our teams joined forces to optimize the situation,' explains De Winne. 'The energy study bore fruit quickly. Based on Laborelec's professional advice, Imec is able to attain maximum energy efficiency.'

## ENERGY STUDY LAYS THE FOUNDATION FOR A DETAILED SECOND PHASE

In addition to several quick wins, Laborelec also identified opportunities for improvement that required further study. 'The report contains advice concerning various improvement scenarios—covering everything from the estimated energy gains to approximations of the return on investment. We can therefore immediately see the potential effects of each scenario. Using this report, we can select the points for improvement that we want to analyze in more detail in the second phase of the study,' concludes De Winne.



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Laborelec organized a measurement campaign over several weeks. This enabled them to map out a detailed energy balance for each energy flow.



### FIVE REASONS FOR YOU TO CHOOSE LABORELEC:

- > One-stop shopping for your energy related services
- > 50 years of experience
- > Increased profitability of your installations
- > Independent and confidential advice
- > Recognized and certified laboratory

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