CASE STUDY

Kylowave Universal Energy Conversion System™

K-ECS University Case Study

The University of Ottawa

School of Electrical Engineering and Computer Science
Undergraduate Engineering Laboratories
Ottawa, Ontario

The Need

In early 2012, Kylowave worked with Professor Habash and Mr. Montcalm to help them with their curriculum delivery in the laboratory. The University, while under budget constraints, was gearing to provide a world class education to its students. Enhancements to both the Power Electronics and Control Systems laboratories were required. Additionally, the University had tasked Professor Habash to create a new Renewable Energy program. They needed a cost-effective, multi-functional solution with a very small footprint.
We worked with the University with our Beta version and obtained feedback over the course of several months. The result was a product that was designed with the student in mind, with major considerations for laboratory administrators.

About the University of Ottawa

The School of Electrical Engineering and Computer Science (EECS) is the University of Ottawa's centre for research and teaching in all areas related to energy, Mechatronics, computing, computers and communications. The program offers four major degree programs with over 775 undergraduate students. Over 400 students pursue graduate programs in Computer Science and Electrical and Computer Engineering. Advanced research is carried out in over 15 research areas and is supported by significant grants and contracts. The school of EECS is located in Ottawa, one of Canada's prominent high-tech areas. EECS has important relationships with many local corporations.

People

Dr. Riadh Habash

Dr. Habash is the McLaughlin Research Chair: Energy and Health and a Member of IEEE COMAR. He is a Biomed Expert in the field of the impact of microwaves on the human body. His research interests include: Power Engineering, Renewable Energy Systems, Electric Energy and Health, Mechatronics Education and Pedagogies. Professor Habash teaches undergraduate and graduate students and worked closely with Kylowave to validate and trial the Kylowave Universal Energy Conversion System K-ECS.

Mr. Roger Montcalm

Roger Montcalm, Lab Manager for Operations and Facilities, is responsible for organizing and coordinating the activities of the Computer and Electronic Instrumentation Services Unit of the School of EECE. He has designed the undergraduate and graduate laboratory facilities which include equipment and instrumentation, security and laboratory space. Roger also plans and manages laboratory resources to address the needs in all four of the School's programs. He also supervises, instructs and evaluates several technical employees who are responsible for a variety of laboratories.

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Testimonial

At first we chose to work with Kylowave because of their innovative product. There is no other product like K-ECS on the market and we found it to be multipurpose and very versatile. As we worked with Kylowave as their lead customer, it became apparent that the team was extremely dedicated to ensuring that we were successful and satisfied. And they succeeded. They worked with us to obtain feedback on their beta version and implemented features that we thought were necessary to strengthen the learning experience to our students. Specifically, to increase students' hands on experience with industry grade applications in order to prepare them for the job market. It was an excellent opportunity for myself, our technical staff and students to participate in the test and evaluation of this important product.

Today, we are using K-ECS and its associated experiments in our Control Systems AND Power Electronics courses. We are planning to use it in the near future in Electronics and Renewable Energy Teaching as well. We are very excited about the pivotal role that K-ECS will play as the core of our anticipated Smart Grid and Renewable Energy Teaching Platform. This project is currently under development.

We have found the K-ECS and the Kylowave team to be excellent and would recommend both to any university or college that may be considering buying new equipment for their labs.

Dr.Riadh Habash
School of Electrical Engineering and Computer Science.
The University of Ottawa

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About Us

Our team of distinguished professionals with diverse multidisciplinary work experience has pioneered the development of automatic code generation software tools to implement complex controllers and algorithms into FPGA devices.

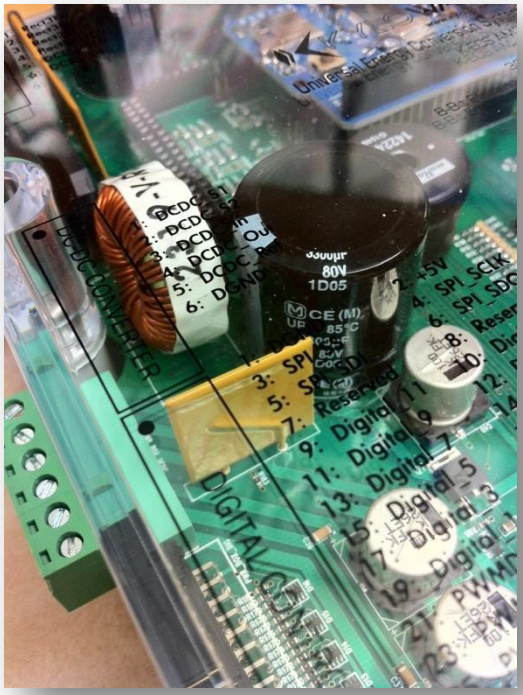
We provide control, simulation and verification under the same platform. Our proprietary IPs and models combined with our proprietary high-order unconditionally stable discretization technology enables commercial automatic synthesis tools to efficiently use the FPGA internal resources and achieve more than one order of magnitude improvement in the simulation time step and control loop time (compared to uP-based solutions).

Kylowave Inc. is one of the top tier companies in the LTW2009 Business Competition and a finalist in the Exploriem Startup Awards. It has been awarded three Technology Grants from Canada NRC/IRAP and NSERC.

The Kylowave Universal Energy Conversion System, K-ECS, is a key part of this simulation and verification platform. K-ECS is also a standalone product that services the educational and industrial markets.

Contact Us:

Kylowave Inc
(613) 454-1437
www.kylowave.com



"I highly recommend K-ECS and the Kylowave team for their skills, knowledge and reliability."

Mr. Roger Montcalm
Lab Manager, Operations and Facilities