InnovateFPGA

Issue 4: October 2021

FLEXbits

The Monthly Newsletter of the InnovateFPGA Design Contest

We invite you to develop solutions that will have a real-world impact based on Intel's Edge-centric FPGAs.

Enter the Design Contest today!

Team projects will focus on the sustainability theme and deliver benefits to environmental issues such as water conservation, optimizing energy usage, limiting waste, and making intelligent use of the planet's resources.

260 teams have registered for the contest! It's not too late – enter today to win cash prizes and develop a solution for an SGP project!

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In this issue

Digi-Key Partners with InnovateFPGA to Deliver FPGA Cloud Connectivity Kits

By Bill Carrick

Digi-Key Electronics, one of the world's largest full-service distributors of electronics components to engineers, has been a partner to Terasic since 2008, an Intel partner since 2001, and a supporter of the InnovateFPGA contest since 2018. In this 15th year of the contest, Intel and Terasic have partnered with Microsoft to develop a complete Azure certified FPGA-based cloud to edge solution. In October, Digi-Key will be sending each contest team the FPGA Cloud Connectivity Kit at no charge to aid in the development of their projects.

Digi-Key is excited about this year's timely and vital contest theme, *"Connecting the Edge for a Sustainable Future"*. Sustainability is an important imperative for humanity to address unprecedented environmental, social, and economic challenges today, and to preserve resources and habitat for future generations.

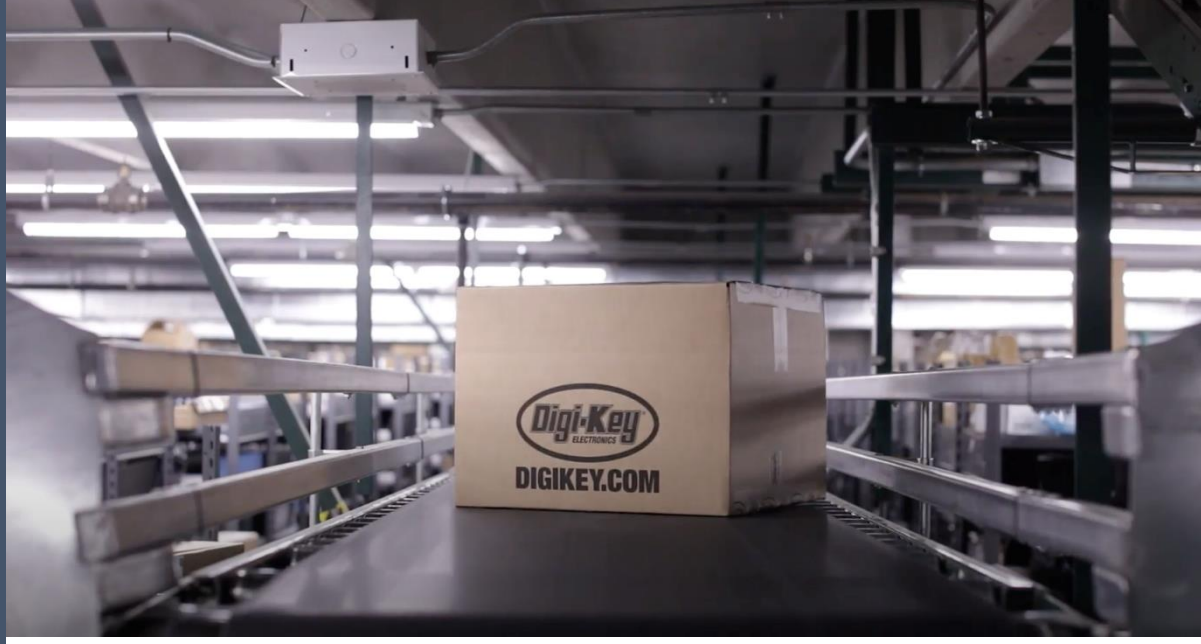
It is also an important imperative for industry and commerce. Sustainability strategies are increasingly making businesses more competitive. Whether to meet regulatory requirements, reduce resource consumption, or improve operational efficiencies, enterprises are now taking action to combat climate change, employ clean energy, and prioritize sustainable economic growth.

Digital technology could play a key role in scaling up local solutions led by civil society and local communities to address the climate crisis and biodiversity loss in developing countries. This collaboration between the GEF Small Grants Programme (SGP), Intel and Microsoft is an excellent opportunity to design and apply innovative and scalable digital solutions to real world problems, and help local communities to improve and expand their initiatives, ranging from climate smart agriculture to wildlife management.

– Yoko Watanabe, Global Manager, GEF Small Grants Programme

Watch this ADI video to see how a large variety of ADI daughtercards can be plugged into the FPGA Cloud Connectivity Kit.

https://www.youtube.com/watch?v=ft-SWOKmxNs



FPGA Cloud Connectivity Kits Shipping to Teams Now!

This year's InnovateFPGA Contest teams will do important work. Innovation is central to advancements in sustainability in all areas of energy, infrastructure, water, materials, manufacturing, climate and meteorology, agriculture and food systems, resource consumption and waste, transportation and logistics, sanitation, and public health. Technology at the edge is especially critical because where smart devices meet the cloud. It is global collaboration, cloud applications, data processing, and AI that are accelerating these advances. The Azure certified FPGA Cloud Connectivity Kit makes it easy to develop intelligent, highly scalable IoT products that can collect, analyze, and react to data at the edge.

Digi-Key is also proud to support the contest theme as it aligns with Digi-Key's corporate responsibility and sustainability commitments. Digi-Key aims to be a positive corporate steward of resources in their facilities, in their local communities, and around the world, with the intent to make a positive impact. Digi-Key's Environmental Management System is certified to ISO 14001.

An example of Digi-Key's commitment to continuously improve is showcased in the new product distribution center located in Thief River Falls, Minnesota. Throughout the design process, Digi-Key worked to identify the most efficient and sustainable practices to ensure that the facility adhered to the highest and best health and environmental practices possible. Some of the practices are simple, such as lining the roof with a white membrane to reflect heat, while others are complex, such as exploring opportunities to install renewable energy sources.

Digi-Key's New Distribution Center in Thief River Falls, Minnesota, USA

New building construction is not Digi-Key's only opportunity to improve for sustainability. Digi-Key has implemented extensive retrofit projects at their existing facility, such as an ionized air purification system, sensor-activated LED lights, high-efficiency water heaters, and more. Digi-Key employees also participate in environmental volunteer opportunities through the Digi-Key Cares program, adopting sections of local highways and the local river for cleanups. Donating their time twice each year to clean the miles of banks and ditches of these areas has eliminated more than 135 kilograms of litter annually.

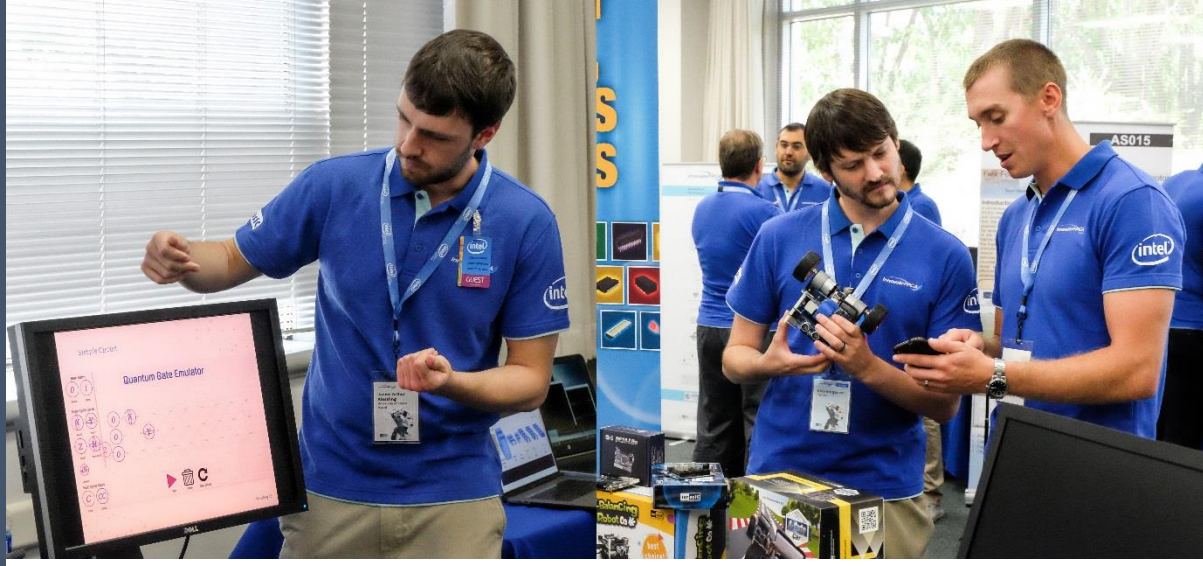
Minimizing the companies environmental footprint is one of the many ways Digi-Key serves the global community. As one of the largest distributors of electronics components, Digi-Key is constantly developing new and innovative solutions to reduce the use of resources, while maintaining the high level of service and product selection which customers rely upon.

From prototype to production, Digi-Key fuels innovation and sustainability all over the world and has been the leading provider to engineers and innovators since 1972. Today, Digi-Key offers the FPGA Cloud Connectivity Kit, all Analog Devices cards that enable the platform to ingest and aggregate data from an almost limitless number of sensors, and more than 11.5 million products, with over 2.6 million in stock and available for immediate shipment, from more than 1,500 quality name-brand manufacturers. Digi-Key is proud to support the contest and is excited to see the teams' designs from all over the world solve real challenges faced by humanity and our planet!

Terasic is dedicated in providing engineers of the future the opportunities to share their visions and innovations and demonstrate their FPGA development skills on an international stage.

Continued from the success we had with previous InnovateAsia design contests, where we see many innovative inventions, there should be no doubt that we will see more brilliant works from 2021 InnovateFPGA Design Contest.

- Sean Peng, CEO of



Professional Support

Contest organizer Terasic will answer questions and provide technical support for contestants / developers. Stay tuned for more 'how to' details in upcoming newsletters. Go to URL to submit questions:

https://www.innovatefpga.com/portal/support.html

Key Dates

Proposal Selection: Oct. 15, 2021

The InnovateFPGA Judging Committee will select qualified teams based on the submitted technical proposals. These teams will receive an Intel FPGA Cloud Connectivity Kit, and will be eligible to receive up to three ADI daughter cards to develop the proposed project, turning them into real designs.

SGP-related projects: Judging will start from Nov. 1 to Nov. 3, 2021. Shipment of hardware will start on Nov. 4.

Shipping: FPGA Cloud Connectivity Kits have now been shipped to all teams that submitted complete project definitions by Oct. 15. There will be an additional shipment of kits to teams that provided complete project definitions by Nov. 4.

Develop Designs: Oct. 16, 2021 – Feb. 28, 2022

Thanks to all the teams who submitted complete project definitions! The InnovateFPGA team is really excited to see what each team will do with the contest platform. We believe this is the most complete contest platform we have ever delivered thanks to our partners Intel, Microsoft, and Analog Devices.

Terasic, Intel, Microsoft, Analog Devices have developed a complete set of technical resources, getting started documents & videos for the contest platforms. Contestants can utlize the resource available on InnovateFPGA Support Page during the development.

FPGA Cloud Connectivity Kit:

- Terasic Getting Started Resources for FPGA Cloud Connectivity Kit
- Intel Developer Zone Resources for DE10-Nano
- Intel Developer Zone Getting Started Articles for FPGA Cloud Connectivity Kit

Microsoft Azure IoT:

- Watch a video from Microsoft showing how to get started with Azure IoT
- GitHub Resources for Azure IoT and the FPGA Cloud Connectivity Kit

Analog Devices Plug-in Boards:

- EngineerZone support for questions related to ADI Plug-in Boards
- Overview and Reference Materials of ADI Boards for InnovateFPGA Contest