

A REMOTELY PILOTED AIRCRAFT CONTROLLED BY SKILLIGENT SOFTWARE COMPLETES ITS INITIAL FLIGHT TESTING PROGRAM

By Skilligent, Inc (<http://www.skilligent.com>)
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A remotely piloted vehicle (RPV) controlled by Skilligent software completes its initial flight testing program.

Skilligent, Inc and Siam UAV Industries Co., Ltd. today announced that an intensive program of flight testing has confirmed robustness, stability and high performance of a flight control system designed by Siam UAV Industries and based on Skilligent Fault-Tolerant Control Framework and Skilligent Operator Control Unit (OCU) software.



“Maturity, stability and reliability are mandatory requirements for avionics systems such as our RPV flight control product”, says Peter Srivaree-Ratana, President of Siam UAV Industries. “We are very pleased with performance of the Skilligent software which provides a reliable foundation for our products. Unlike other robotic software packages, the Skilligent software was designed from the ground up with the goal of achieving the shortest reaction time, lowest latency and maximum stability needed for demanding robotic control applications. In addition, Skilligent Fault-Tolerant Control Framework software provides us with a straightforward path to building a redundant autopilot system once we’ve tested our basic control technology in the currently non-redundant configuration. We chose the Skilligent products to shorten our time-to-market”.

“Skilligent Operator Control Unit (OCU) software implements a well-designed low-latency protocol optimized for real-time remote control applications”, says Kollayuth Borpit, Siam UAV’s aeronautics engineer. “Our remotely piloted vehicle is equipped with a single long-range half-duplex radio modem used for receiving commands from a ground control station as well as for transmitting telemetry information. The modem has limited bandwidth and introduces some latency. We chose the Skilligent software because it was capable of carefully utilizing the available bandwidth without adding much latency overhead. In fact, it turned out that the combined latency at short ranges was approaching the latency of traditional RC hobby radios. This made the Skilligent software a clear winner in our selection process.”

“Skilligent Fault-Tolerant Control Framework software comes with a real-time database optimized for online data recording. We use the database feature as a flight data recorder with 20 ms resolution. The database provides a simple way to upload the flight data into external programs such as Matlab or SimuLink. The collected data allow us to build precise models of aircraft response to commands given under various flight conditions. This feature is important as we are designing innovative autopilot systems”, continues Kollayuth Borpit.

“Skilligent team puts much effort in making sure that the “worse-case time of reaction” of the software framework is kept under tight control”, says Mikhail Mintchenkov, Skilligent Principal Scientist. “The “worse-case time of reaction” is a key parameter of any real-time control system. It is a challenging task to build a generic realtime control software framework like the Skilligent’s one, while making sure it can run on a variety of COTS hardware including the low-power x86 systems used by Siam UAV Industries. I am glad that our product helped the engineers at Siam UAV Industries take their robotic aircraft off the ground in such a short period of time”.

Video:

http://www.youtube.com/watch?v=3Q_eym1cv9Y

About Skilligent, Inc

Skilligent develops and markets a trainable robotic control system for multi-task service robots. The company employs a team of talented engineers and researchers with backgrounds in control systems design, industrial automation, computer vision and embodied cognition.

<http://www.skilligent.com>

<http://skilligent.com/products/documents/docs/Trifold-Fault-Tolerance-Brochure.pdf>

About Siam UAV Industries, Co Ltd

Siam UAV Industries Co., Ltd. is a privately-owned company working on innovative UAV and RPV solutions. The company’s focus is on designing adaptive UAV autopilots integrated with powerful video processing systems and ground control systems.

<http://www.siamuav.com>