

## FOR IMMEDIATE RELEASE

### **Allied Control to Reveal 1.4 Megawatt DataTank Container Data Center with PUE 1.01 and 240kW Racks for 3M™ Novec™ Engineered Fluids**

*Allied Control shows production-ready DataTank container data center and 500kW capable single rack immersion cooling systems for Supercomputing, HPC or Bitcoin mining.*

**HONG KONG –November 18, 2014 –** [Allied Control](#), Hong Kong based high-tech start-up and 3M's Technology Partner for Novec™ Engineered Fluids reveals its 1.4MW DataTank™ container data center and for the first time shows off its 500kW capable immersion cooling racks built for high density electronics. The company also aims to establish international trial sites in 2015 to bring its products closer to the overseas market.

The firm has recently started showing off its record-breaking container units behind closed doors and is now inviting the international HPC industry to see its immersion cooling systems in action. The Hong Kong systems not only include the modular DataTank™ container data center, but also single rack installations in the company's brick and mortar Immersion-2 facility, currently powered by 240kW of Platinum certified Supermicro hardware.

Boosting a true power usage effectiveness (PUE) of <1.01 in hot and humid climates, the firm's innovative data center designs have recently won the prestigious Best Green ICT and DataCenterDynamics Awards for "Future Thinking & Design Concept" ahead of IBM, Equinix and NEC Corporation.

*"We are currently witnessing the game changing nature of passive two-phase immersion cooling and we only begin to understand the implications for HPC and Exascale computing",* said Alex Kampl, VP of Engineering at Allied Control. *"By scaling up and reengineering most of the mechanical and electrical structure, we are doing so much more than cooling efficiently. If there'd be a definition of negative PUE, this would be it".*

DataTank™ systems are prefabricated and look like ordinary 40' ISO shipping containers built to work in all kinds of climates, including hot, humid or harsh environments. Vital parts of the patent-pending design are made in Germany and the US. The containers are certified for international shipping and are seismic zone 4 and ISO 9001 compliant. The high current electrical systems are in conformity with international standards such as UL, IEC and CE. No chillers or additional cooling equipment is needed on site. With the only requirements being power and network, deployment is unusually simple.

*"With almost nothing but 3M™ Novec™ Engineered Fluid surrounding the components, our tanks could be equipped with up to 16 Intel® Xeon Phi™ Coprocessors or NVIDIA Kepler GPUs per 1U slot equivalent. In this setup, a container farm with only 10 DataTank™ containers would provide a performance similar to China's Tianhe-2, the currently fastest Supercomputer in the world",* commented Kar-Wing Lau, VP of Operations at Allied Control.

*"This has the potential to reduce the power required for cooling from the 6.4MW used by Tianhe-2's chilled water cooling system today, to just a few hundred kilowatts. Additionally, the simplified mechanical design is faster to build and costs less."*

The liquid in Allied Control's tanks circulates passively and doesn't have to be pumped. The systems operate silently and dust free and there are no moving parts. 3M™ Novec™ Engineered Fluids are non-flammable, non-toxic, environmentally friendly and clean.

In its standard configuration the closed-loop cooling units do not use evaporative water towers and as a result, the water usage effectiveness is close to zero (WUE <0.003 L/kWh). By using hot-water for cooling, heat can easily be recaptured and reused for heating office or greenhouse facilities – without increasing infrastructure costs.

Allied Control finds itself on the forefront of innovation and is already looking beyond just cooling. Working in the Chinese market with its massive scale, the company is integrating other energy-reducing technologies such as HVDC and sustainable power solutions into its products.

China has become a leader in HVDC data center deployments and accounts for 28 percent of all data center power consumed in the APAC region. Its \$5bn data center market is growing fast, a six-fold increase over the previous five years at a compound annual growth rate of more than 30 percent (compared to 11.4 percent for the US). With over 76 supercomputer sites on the Top 500 list, China is the second largest HPC user in the world.

Visit 3M's immersion cooling team at booth #758 at the SC14 Supercomputing conference in New Orleans.

#### **About Allied Control**

Allied Control is 3M's Technology Partner for Novec™ Engineered Fluids and the creator of the award-winning Immersion-2 and DataTank™ immersion cooling systems. The privately held company cools the World's hottest computers more efficiently than anyone else and is currently seeking international partners to offer commercial turnkey solutions to the HPC market.

Visit <http://www.allied-control.com>

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