

Data driven. Advancing a sustainable future.

More data has been created in the last

2 years
than ever before in human history

Data center construction is on the rise

43%
up from 2016-2017

Data centers consume as much

energy

as **7 million** homes



Data centers have a **carbon footprint** larger than the airline industry

Approximately **38%** of each data center's energy usage is for **air cooling electronics**



What if you could **reduce** that energy consumption

by up to



While:

Increasing power density

From **4-40** kW/rack



Up to **250** kW/rack



Reducing design complexity and maintenance



Minimizing water use

Shrinking the physical footprint by 10x

Up to **10** kW/m²



Up to **100** kW/m²



From the lab to the data center.

Immersion cooling on an industrial scale.

- 2012** • First commercial-scale installation of a data center immersion cooling system using 3M™ Novec™ Engineered Fluids
- May:** • 3M Data Center Cooling Process wins Uptime Institute GEIT Award
- October:** • Allied Control's 500kW two-phase immersion cooled data center opens in Hong Kong, achieving a PUE of 1.02
- February:** • 3M wins bronze Edison Award for immersion cooling
- April:** • 3M, Intel and SGI debut a supercomputer using two-phase immersion cooling
- November:** • PEZY Computing and ExaScaler Inc. rank second on the Green500 list with a supercomputer using 3M immersion cooling
- 2015** • PEZY Computing earns all three top rankings on the Green500 list for projects using 3M fluids
- 2016** • The BitFury Group opens a 40MW immersion cooled data center with a PUE of 1.02
- 2017** • 3M, Orange Silicon Valley, the U.S. Naval Research Laboratory, and Allied Control demonstrated new high-density, high-efficiency GPU computing technology at SuperComputing 2017
- 2018** • 3M joins the Open Compute Project to collaborate on the challenge of creating a more sustainable data center

Cooling

without compromise.