3M Science. Applied to Life.™

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**

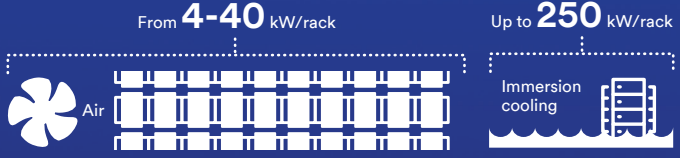
by up to

95%

?

While:

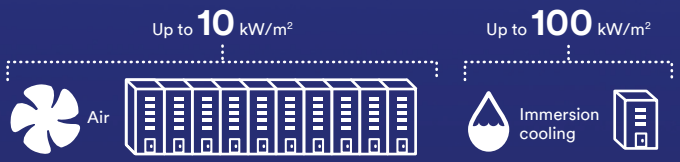
Increasing power density



Reducing design complexity and maintenance

Minimizing water use

Shrinking the physical footprint by 10x



Cooling without compromise.

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

2013 **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

2014 **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

Learn more: 3m.com/data-driven