



**JFIX  
Tech Expo  
21-2**

**March 3<sup>rd</sup>, 2021.**



# WHO IS TMGcore

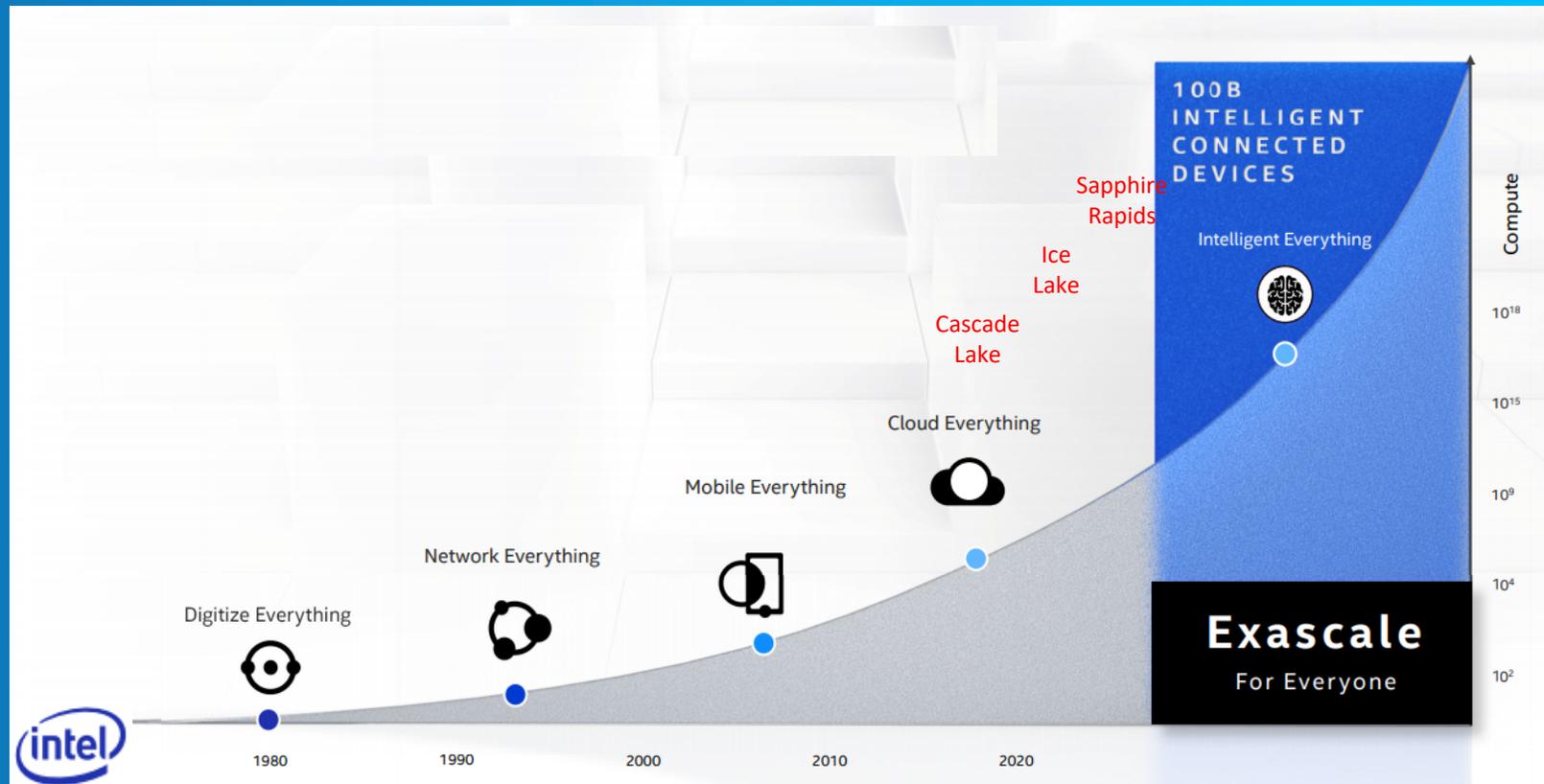
Established 2017

## 2 Phase Liquid Immersion Cooling Technology Development Company



TMGcore is a High-Performance Computing (HPC) 2PLIC Platform Development Company. Specifically, TMGcore has developed the World's most advanced, fully Commercial Two-Phase Liquid Immersion Cooled (2PLIC) HPC Datacenter Platform.

# What Problem Do We Address?



“We are generating data at a faster rate than our ability to analyze, understand, transmit, secure and reconstruct in real-time” - Intel

# Hyperscalers Are Adapting

 Microsoft Azure

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## Real tech ready to power the future of AI

As AI heats up, Microsoft will cool your workloads with liquid immersion.



### Cooling AI chips with immersion

Within two years, most cloud AI compute will need to process on advanced chips that run too hot to be cooled by conventional air circulation techniques. Immersing the AI chips on server blades in low-boil dielectric fluid improves latencies and throughput while providing better overall performance.

### More powerful chips

The most advanced microchips today have six times more processing power than standard chips.

# Rethinking The Delivery of Compute

**EdgeBox**  
16 SF

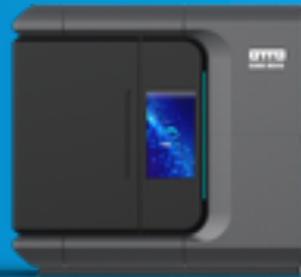
**EdgeBox  
Dual  
Tank**  
34 SF

**OTTO  
60 O.T.E**  
25 SF

**OTTO Edge  
60XS**  
35 SF  
7L x 5W x 9H

**OTTO  
120M**  
60 SF  
12L x 5W x 9H

**OTTO Hyper  
600L**  
160 SF  
20 L x 8W x 10H



4.5 kW – 60 kW  
Based on compute  
deployed

Usable IT  
Load:  
60 kW

Usable IT Load:  
60 kW  
1,710 watts/SF  
1.028 PUE

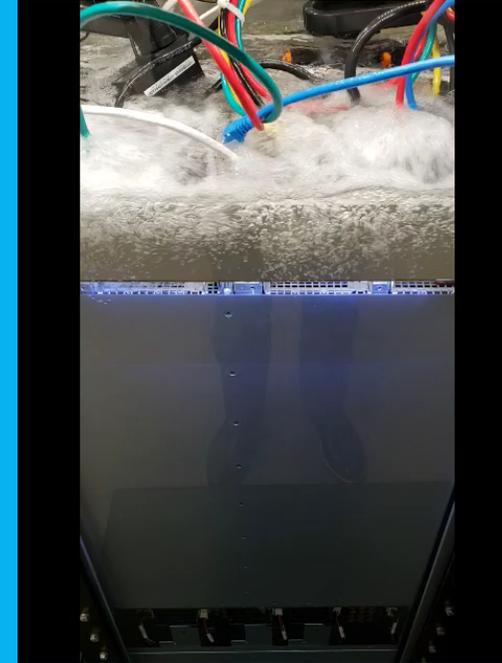
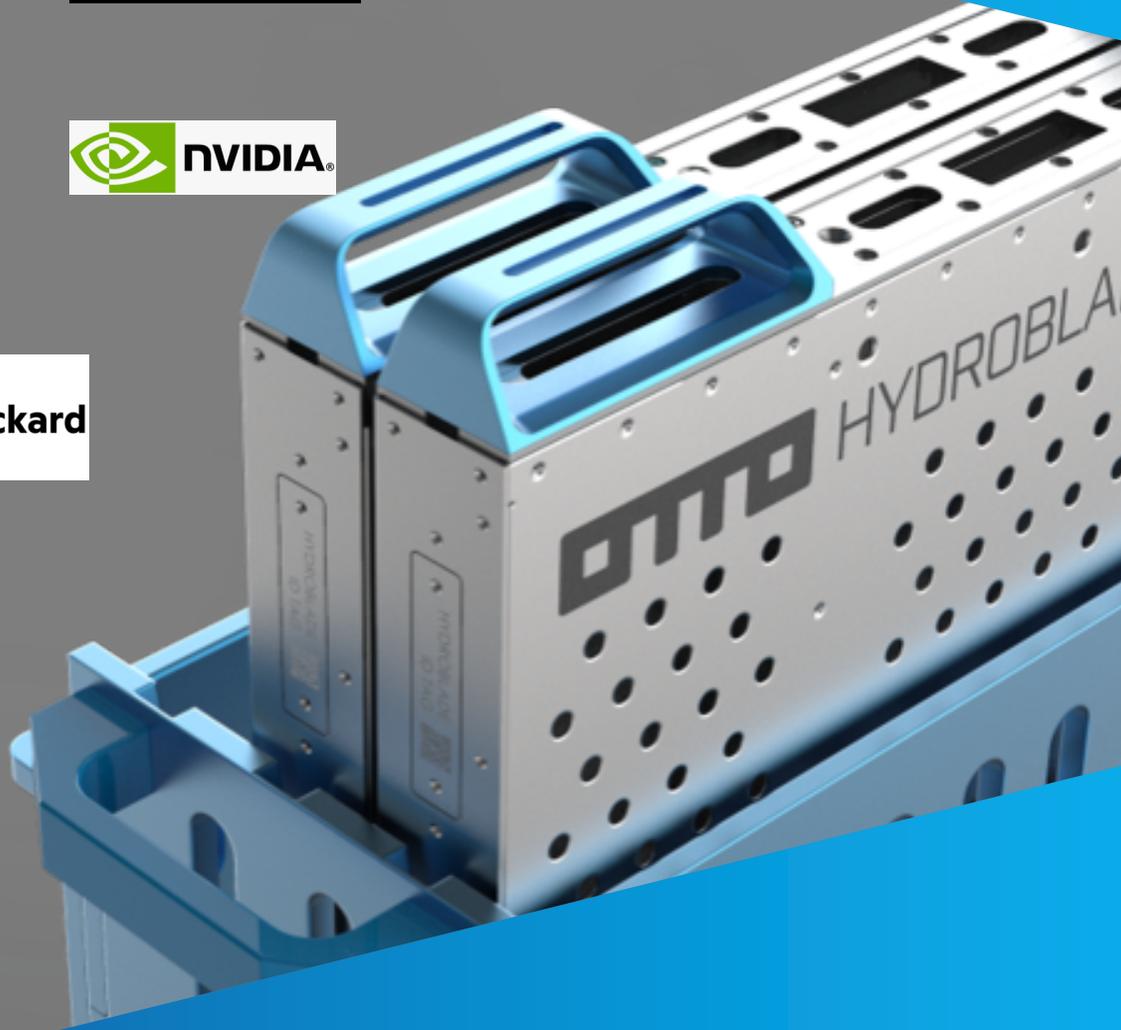
Usable IT Load:  
120 kW  
2,000 watts/Sf  
1.028 PUE

Usable IT Load:  
600 kW  
3,750 watts/Sf  
1.028 PUE

Non-Robotic Options

Fully Robotic – Lights Out – Hot swapping Capability During Production

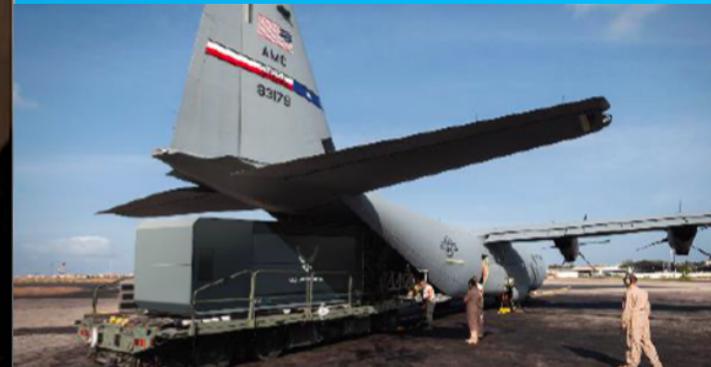
# Partnering for Innovation



# Forward Operating Base of the Future



- Massive increase in high performance computing
- >90% reduction in size
- 50% reduction in capital expenditures (CapEx)
- 80% reduction in operating expenditures (OpEx)
- Low Power/Water Requirement
- Autonomous
- Resilient and Self-Healing
- Agnostic to compute function:
  - AI/ML
  - Data Analytics
  - Bulk Data Storage
  - Autonomous Base/Power Management





# Call To Action:



- Onsite Event Support & Engagement
- Open to support DEMO / POC efforts
- Identification of Specific Use Cases for High Performance Compute

# Contact Information:

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TMGcore LLC

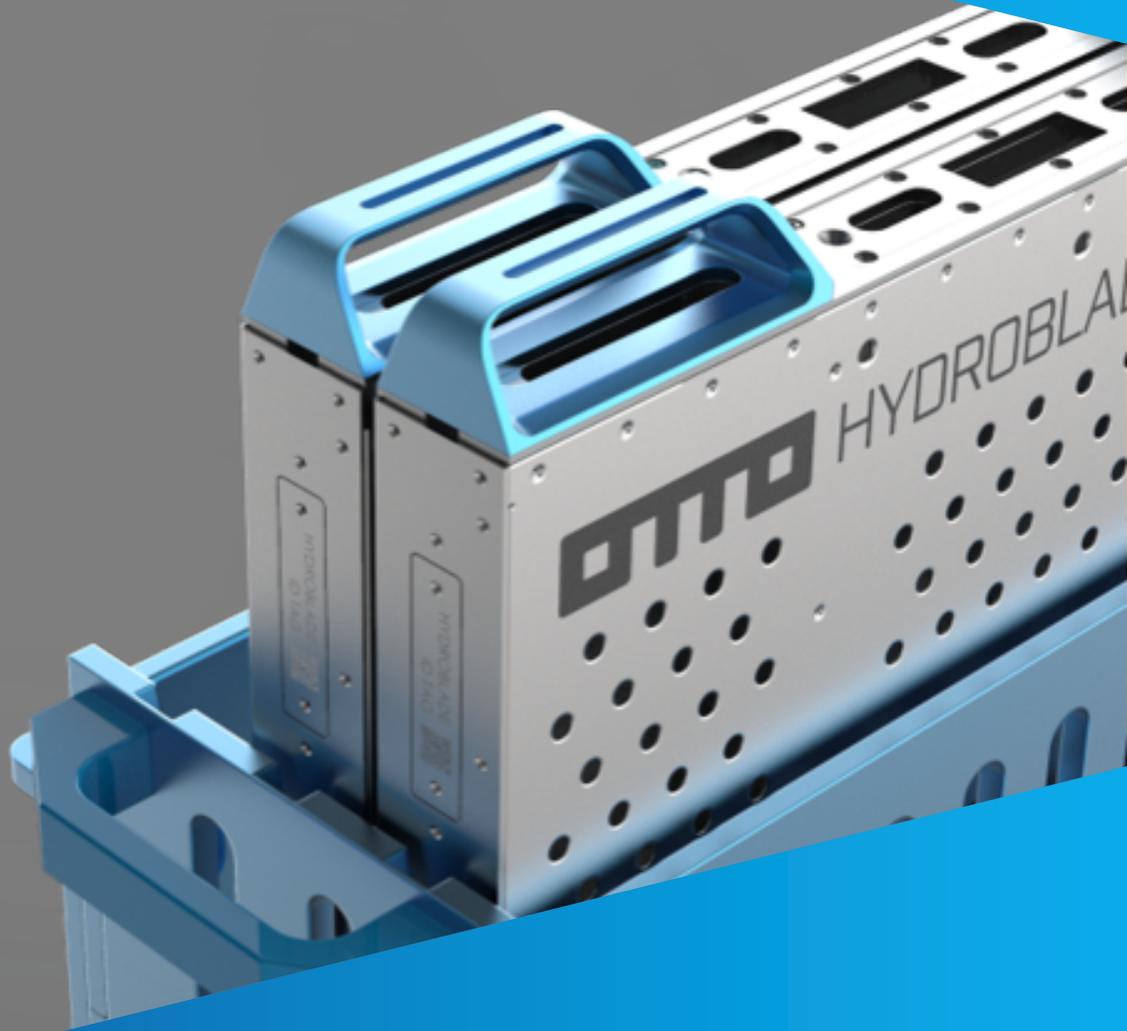
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Appendix:

# Two Phase Liquid Cooling Efficiencies

 **↑ 4000 X**  
More Efficient Than Air

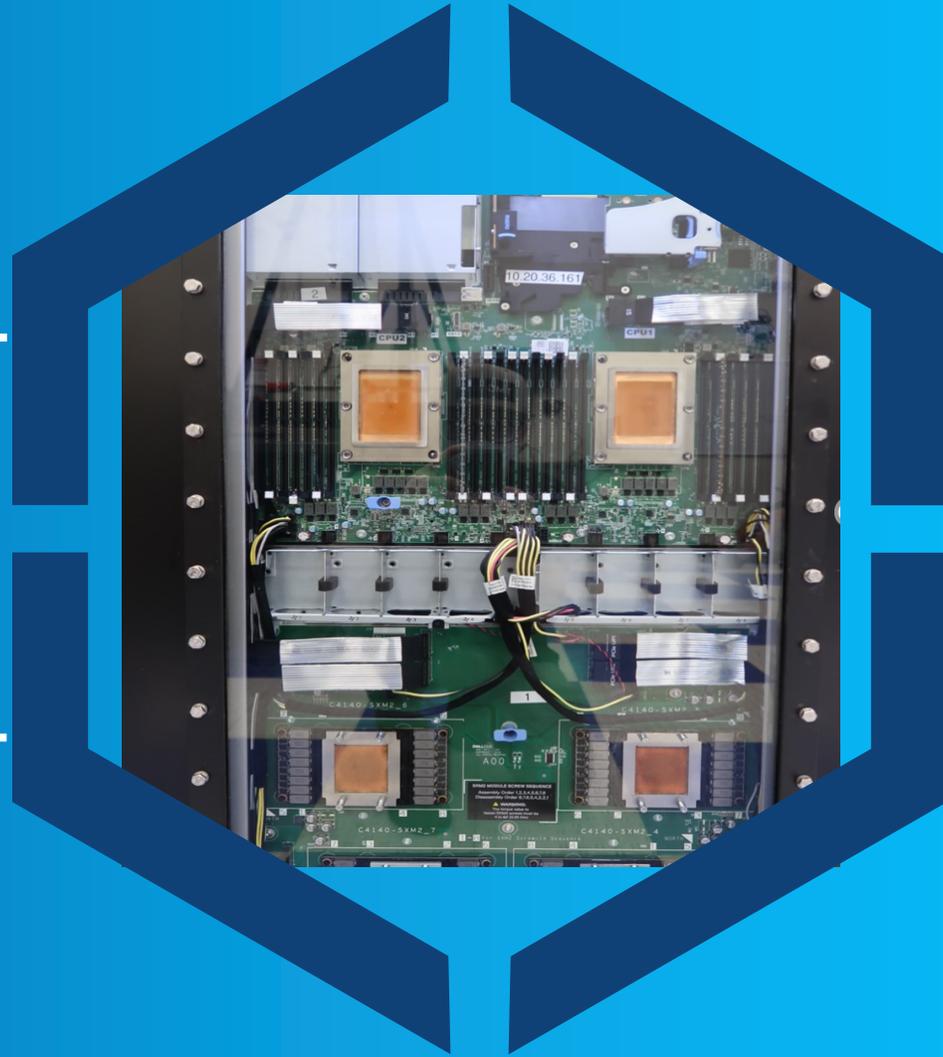
**↓ 90% - 96%**   
Reduction In SqFt.

**\$ ↓ 54%**  
Reduction In Capex

**↓ 77%**   
Reduction In Water

**\$ ↓ 60% - 80%**  
Reduction In Opex

**PUE: 1.028**   
97.2% Of Energy Used  
For Compute



# OTTO IN ACTION

## OIL & GAS



Efficiency is king, and inefficiency is deadly. Imagine being able to detect and produce more oil, in less time, with a smaller footprint. OTTO enables companies to increase operational efficiency by more than 30% and process data with ZERO LATENCY all while saving money utilizing a superior data colution. OTTO works whether you're onshore, offshore or upstream.

## HEALTHCARE



The Healthcare industry is a vital component to a thriving population. When time can be a matter of life or death, data processing speed is paramount. Imagine being able to create curative medicines in less time AND getting your product to market faster. Whether you're involved in patient care, virtual medicine or pharmaceuticals, we can help you optimize your data processing.

## GOVERNMENT



When you're dealing with national defense, intelligence and disaster relief - having the fastest access to information and data processing can literally save lives. OTTO enables access to real-time data acquisition and distribution for the intelligence and defense sectors. Imagine having a dedicated data center, the size of a walk-in closet, onsite at any remote location that sensitive intelligence is needed

## FINANCIAL



Imagine trading with zero latency. Imagine having an OTTO that would enable the ability to spot trends faster, have AI-assisted investment advice, as well as, connect to a network of distrubuted data centers which enable edge computing and redundancy. Processing speed and cyber security are paramount in the banking and financial sectors. with OTTO, it's all possible.

## EDUCATION



Education is a fundamental building block of life. As the data demands at colleges and universities intensifies, the speed and accessibility of that information becaomes even more crucial. Educational environments are not designed to house a traditional air-cooled data center, and using a remote solution substantially slows the processing and increases the costs. What if you could tream your courses globally with zero latency. Imagine personalized learning in realtime, with limitless research possibilitites.

## GAMING



With millions of people taking part in eSports, competitive gaming and virtual technology, there's an endless need for data. When your entire experience or the level of your work is tied to your data processing speed, a little latency is a big deal. Imagine cloud gaming with zero latency. Whether you're gaming, competing in eSports or rending visual effects, we can help improve your users' experience.