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**Data Center Innovations**

**We are Running out of Air**

**אין לנו מספיק אוויר**

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As the demand for computing is growing rapidly, new processors with a large number of cores and high-power are introduced to cope with the growing demand. These new processors cannot be cooled by air anymore and the market is looking for ways to reduce power consumption and to meet the heat dissipation demand.

Direct on chip liquid cooling is becoming a standard in datacenters globally, with several technology offerings including single phase and two phase cold plates and immersion based solutions.

Direct on chip dielectric liquid cooling technology for servers is overcoming most of the hurdles for large scale implementation, it is completely safe to the servers and is the most efficient cooling solution for datacenters available today. The dielectric liquid cooling solution provides better energy efficiency while posing no risk to computing equipment, as opposed to water-based solutions.

The thermal energy is efficiently being removed through a boiling process and the generation of vapor, which is then transported to the condenser, where the thermal energy is removed from the vapor and the rack via a flow of air or facility water.

In this talk I will review the market main data-center cooling technologies available today and will explain in more details the dielectric cold plate technology which is based on a pool-boiling wick-based evaporator, which efficiently and evenly, moves large amounts of heat from the millions of transistors in the processors and provides an on-demand responses.



Nearly 20 years of experience developing companies, new technologies, algorithms and products for security and remote video. Received a number of international patents and was the founder of OzVision and FST Biometrics. Served as VP R&D of ZutaCore for three years prior to his current position as EVP Product. Holds a B.Sc. in electrical engineering.