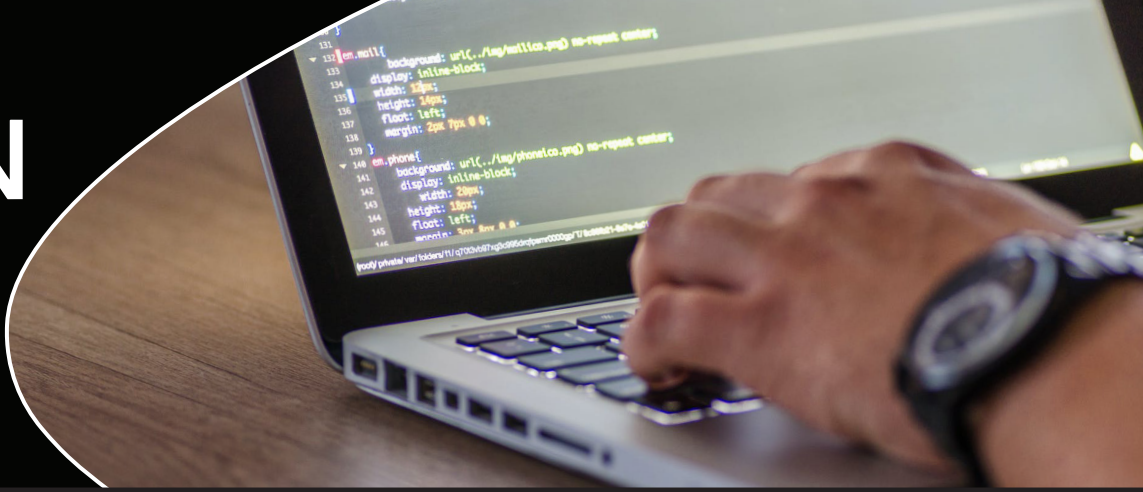# CENGN

DISTRIBUTIVE INNOVATION HIGHLIGHT

Distributive

COMPANY OVERVIEW

Distributive has built a computing platform that lets developers write code once that will truly run anywhere, from servers in a datacentre to desktops in a bank and any IoT device. This allows organizations to do more computing in-house, while also creating a global marketplace that lets owners of underutilized infrastructure monetize and sell it on-demand.

LOCATION: KINGSTON, ON

TECHNOLOGY

Data Centre & Cloud

Dr. Daniel Desjardins, CEO
dan@kingsds.network
https://kingsds.network/

Rick Penwarden, Marketing Manager
rick.penwarden@cengn.ca
cengn.ca/projects

A SELLER'S MARKET FOR COMPUTING

There is a severe shortage of affordable computational resources in Canada. From AI to Blockchain, even rapid advances in supercomputing and the cloud cannot keep up with demand. This supply-demand mismatch has caused the relative cost of computing to skyrocket, which even the public cloud cannot fully alleviate. At the same time, there is no shortage of idle infrastructure. CPUs and GPUs in desktops and similar hardware are underutilized most of the time, and even datacentres often waste 30% or more of their capacity. If one platform could efficiently seek out, monetize, and deploy this wasted compute, there would be billions in economic benefits.

A GLOBAL, CROSS-PLATFORM MARKETPLACE

The Distributed Computer is an advanced computing platform that powers demanding applications with aggregated, underutilized CPUs and GPUs. These create virtual 'pools' of compute that can be kept private or rented to external developers, researchers, and companies on-demand. This architecture is like a global 'smart grid' of computing resources where anyone can buy and/or sell compute, significantly reducing cost by increasing the supply and transparency of these resources. It is also the only framework that lets the same code run anywhere with the same tooling, which saves significant effort and swings the balance of power back toward the user. Instead of users writing their code for a specific provider and potentially becoming locked-in, they can now use their own idle hardware such as fleets of desktops or choose third party providers in an open marketplace.

UTILIZING CENGN'S MULTISITE TESTBED

CENGN was ideal to simulate the commercial grade infrastructure and different types of virtualization that many use cases of the Distributed Computer will rely on. Through several compute-bound tests on CENGN's infrastructure, Distributive was able to understand many of the problems in its technology and develop improvements to enhance the user experience. Distributive was CENGN's first project to utilize three of its major data centres at once which accurately simulated the complexity of real-world deployments, and the company looks forward to future tests within this unequalled environment.

> "CENGN provided invaluable metrics and insights into our platform's performance at scale. It made the Distributed Computer a more mature and effective tool for enabling Canadian innovation."
>
> **Dr. Daniel Desjardins, CEO**