CENGN

[LABSCUBED]

COMPANY OVERVIEW

LabsCubed believes in the power of materials to change our world. LabsCubed reimagines mechanical polymer testing to increase efficiency, consistency, and accuracy in R&D and quality labs. To enable manufacturers to create new and innovative materials faster, LabsCubed created the CubeOne, a rubber tensile and tear testing (IoT) robot designed from the ground up to seamlessly combine fully automated hardware, standard testing, and advanced software systems.

LOCATION: KITCHENER, ON

TECHNOLOGY

IoT

Internet of Things

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THE COSTLY AND COMPLICATED PROCESS OF MATERIAL DEVELOPMENT

For decades, a bottleneck in the advanced materials and manufacturing sector existed for material testing equipment. Formulating advanced materials is a laborious, expensive, and time-consuming process. The process involves mixing compounds and testing their physical properties to develop better materials that require significant labor, cost, and time. In addition, human error during testing and in data analysis can hinder and prolong the development cycle due to a lesser data consistency than automated methods.

ADDRESSING A HALF CENTURY-LONG BOTTLENECK WITH AUTOMATION

LabsCubed aims to automate and connect laboratory equipment in the polymer industry to address material testing bottlenecks. Their flagship product, the CubeOne, combines fully automated hardware and intelligent software. The CubeOne autonomously tests samples, collects data, analyses it, and optionally uploads results to the cloud, where users can access it from multiple devices. The outcome is a faster development process due to significantly reduced labor, increased accuracy, and repeatability that fosters efficient coordination among teams, stakeholders, and customers.

OPTIMIZATION OF PLATFORM FOR HIGH-VOLUME OPERATION

With CENGN's infrastructure, LabsCubed identified system bottlenecks for different types of tests based on Project API, Compound API, Sample API, Users API, and Organization API. Despite the low and consistent response time, LabsCubed identified bottlenecks at higher volumes when user requests surpassed 2000 requests/ second. This discovery will help them improve their platform further to move forward with new partnerships.

> "The biggest gains with CENGN were a confirmation of existing design limitations, which provide a clear roadmap for where further development needs to be conducted as the platform grows."
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> **Nam Nguyen**
> Developer, LabsCubed