

# Groundbreaking device improves laser accuracy in surgeries

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A Queen's physicist and a PhD student have developed a groundbreaking device that controls the depth of a laser cut, laying groundwork to provide pinpoint accuracy during surgeries. This new laser control technology is valuable in all surgeries where cutting too deeply could lead to serious complications.

"The issue of depth control has always been a problem in [laser surgery](#)," says professor James Fraser. "There are many surgical procedures where we would like to use lasers but we can't because they are too difficult to control. Our technology may enable new laser surgeries that weren't possible before."

The development of the control technology has led Dr. Fraser and [doctoral student](#) Paul Webster to explore industrial applications. Currently, they are building an advanced laser processing station which opens up myriad opportunities.

"In addition to the surgical application, depth control can significantly improve laser welding," says Mr. Webster. "Improvements to our [advanced manufacturing](#) capabilities ultimately lead to cheaper and more fuel efficient aircraft, cars and ships."

A laser equipped with the new direct sensor could be used to inspect parts as they are welded, cutting down on waste and improving safety. Once the new laser processing station is completed, testing will begin with members of Ontario's automotive manufacturing industry.

Provided by Queen's University

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