



SHARPER CUTS, SMARTER CAPTURE

Learn how Mind uses Canon cameras and SDK integration to generate consistent images that help manufacturers reduce rework.

Canon



Mind Technology builds imaging-driven software and hardware for industrial cutting environments, helping manufacturers analyse materials, recognise defects and guide cutting with speed and accuracy. They work with over 300 clients all over the world, including shoemakers, apparel manufacturers, upholstery producers and luxury car brands – the shoes on your feet right now may well have been assembled using Mind's products.

When they were developing their MindCUT solution back in 2003, Mind was on the hunt for cameras that could deliver consistent, high-resolution capture in real-world conditions – plus the ability to control cameras reliably at scale through a stable Software Development Kit (SDK) layer.

After exhaustive testing, they found that Canon provided the results they needed. Canon cameras, paired with the Canon SDK, became the backbone of the MindCUT system, supporting long production lifecycles and giving Mind confidence that installations can evolve without having to rebuild workflows.

Company Name: Mind
Industry: Technology
Founded: 1997
Location: Portugal
Use case: Fabric analysis and industrial cutting
Website: www.mindtech.pt

“
**INDUSTRIAL ENVIRONMENTS
AREN'T CONTROLLED. LIGHTS
CHANGE. THE SUN MOVES.
WE STILL NEED A STABLE
IMAGE.**
”

– **Bruno Mendes,**
Founder and CTO, Mind

THE CHALLENGE

As Mind were building their MindCUT solution, they needed an imaging partner that could deliver:

- Consistent image and colour reproduction across changing environments
- Speed of acquisition and reliable tethering for production workflows
- Control of multiple cameras inside integrated systems (rather than manual camera use)
- Stable supply and long-term continuity, so global deployments stay maintainable over time



Analysing cutting patterns created by MindCUT

“**THINK OF IT LIKE THIS:
CANON IS THE EYES, AND
MIND IS THE BRAIN.**”

– **Bruno Mendes,**
Founder and CTO, Mind

In their testing of different cameras, they found that colour profiles changed dramatically image-to-image and cameras responded badly to moiré¹ patterns, meaning there was no consistency. And without consistency, there could be no automation.

If the Mind team couldn't solve this, the promise of the workflow wouldn't deliver. Without automating pattern recognition, cutting parts for a shirt could take up to 16 minutes, whereas with this solution, that would become four minutes. Mind needed to find the partner that would help them deliver that four-fold increase in efficiency.



Mind uses the Canon EOS R5 and Canon EOS R8 to capture the details their clients need

¹ Moiré is a false pattern or colour effect caused when fine fabric detail interferes with the camera sensor, like the distracting shimmer often seen on TV presenters' jackets.

THE SOLUTION

Canon cameras, integrated through the Canon SDK, became the foundation for Mind's capture layer, combining dependable imaging with the level of control needed for industrial workflows.

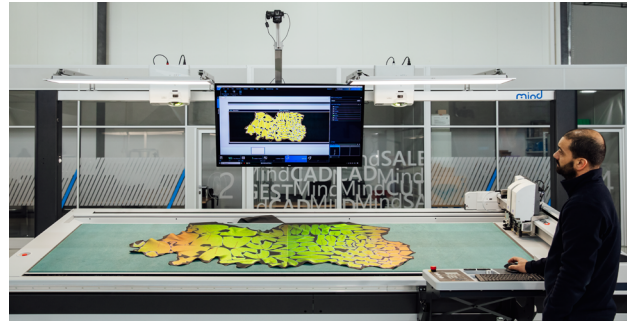
Mounted above cutting tables, Canon cameras capture high-resolution images. Those images feed directly into Mind's software, helping it identify patterns, interpret markings and guide cutting paths with precision. Plus, the operator doesn't need to understand cameras as they're integrated seamlessly into the workflow. "They're hidden," says Mendes, "the operator doesn't think they're using a camera – they press a button and the image appears."

MindCUT's software then analyses that image to detect flaws in the material and digitally arrange the pieces to be cut in a way that minimises wastage (known as nesting). The automatic cutting machine then cuts the parts on the table before a projector highlights which parts the operator should pick up. All of this means 2-6% less wastage for manufacturers – and in the leather market, where a 1% difference in wastage can mean hundreds of thousands of euros, this is no small feat.

For Mind, the Canon SDK also plays a critical role: it enables deeper integration and supports continuity across camera generations, meaning installations can evolve without forcing customers to rebuild their workflow.

“FOR US, THE SDK WAS THE PRIME FACTOR — WE NEED DEEP, RELIABLE CONTROL OF THE CAMERA INSIDE OUR WORKFLOW.”

– Bruno Mendes,
Founder and CTO, Mind

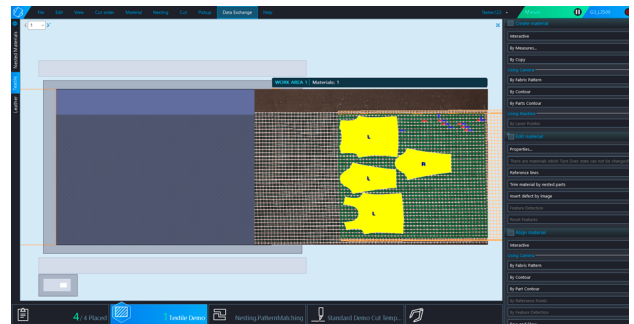


Mapping flaws and projecting guidance areas onto a piece of leather

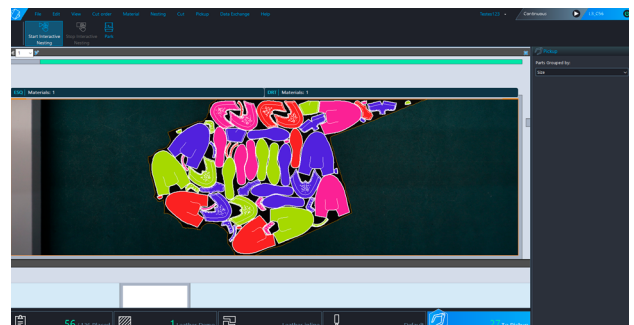
Many customers are still actively using DSLR-based installations such as the Canon EOS 6D and the Canon EOS 5DS. Whilst Mind sees this as proof of long-term reliability, they're encouraging and supporting their customers as they transition towards mirrorless setups by educating them on what upgraded camera systems can achieve.

To show customers what's possible, Mind demonstrates their solutions in a dedicated showroom environment, including optimised camera/lens setups for different materials:

Textiles: Canon EOS R5 + RF 24mm F1.4L VCM
Leather: Canon EOS R8 + RF 16mm F2.8 STM



The software uses the image to suggest cutting patterns



These suggestions drastically reduce wastage of material

THE RESULTS

Canon's imaging consistency helps Mind customers standardise capture as a dependable first step, supporting repeatable workflows and reducing both inspection time and the need for manual intervention. That capture is crucial for MindCUT's ability to save customers hundreds of thousands of euros in wastage and increase their efficiency by up to four times.

Plus, the Canon SDK supports long-term deployments by helping Mind maintain continuity across camera generations — including customers still running DSLR installations today, with a clear route towards mirrorless. This means multi-year lifecycle stability for customers and improved consistency across global deployments.

Building on that long-term stability, Canon Portugal has helped deepen the partnership by connecting Mind directly with Canon Europe's engineering teams to support ongoing optimisation. When Mind identified image quality challenges on complex fabrics and opportunities to enhance usability through the SDK, Canon facilitated hands-on collaboration, including live workflow reviews at Mind's showroom.

This led to advancements such as using the EOS R5's IBIS multi-shot function to combine nine frames into a higher-resolution file, which significantly improved image detail for demanding materials. With direct feedback shared into Canon Inc., the partnership continues to evolve, helping Mind refine its solution while maintaining cutting-edge performance for industrial customers.



Founder and CTO Bruno Mendes in the Mind HQ showroom



THE CANON SOLUTION

- Canon EOS R5 / EOS R5 Mark II
- Canon EOS R8
- Canon RF 24mm F1.4L VCM
- Canon RF 16mm F2.8 STM
- Canon EOS Digital Software Development Kit (EDSDK)



Discover how Canon's solutions can transform your business. Schedule a consultation today.

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