



## Medical

### OUR PRODUCT DEVELOPMENT SERVICES:



Brainstorming and  
Concept Generation



Feasibility Studies and  
System Architecture



Detailed Product Design



Prototyping



Design for Manufacturing (DFM)



Verification Testing



Manufacturing Assembly  
and Test Equipment



Sustaining Engineering

# IMPROVE SPEED AND PRECISION OF A FLOW CYTOMETER

## CLIENT

Global life sciences testing and analysis  
products manufacturer

## OBJECTIVES

- Provide platform for system capable of high collection rates without compromising data.
- Provide intuitive user interaction and unparalleled ease of use in flow cytometry.
- Minimize footprint and cost to deliver the full benefits of a break through in flow cytometry systems.
- Launch within 12 months.

## APPROACH

- Provided system capabilities of high collection rates without compromising data.
- Provided intuitive user interaction and unparalleled ease of use in flow cytometry.
- Minimized footprint and cost to deliver the full benefits of a break-through in-flow cytometry systems

## RESULTS

- Achieved a 3x footprint reduction.
- Achieved 10x faster sample throughput rates than competing cytometers.
- Completed development through pilot production in 12 months.
- Design received excellent customer reviews.
- Completed design detects events.

# INNOVATIVE ENGINEERING

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Relying on our strong systems engineering skills, our team quickly developed technical requirements for a leading-edge cytometer launched as a strategy for innovation.

The team tapped into our organization's broad engineering expertise to ensure the right expertise was available at every phase of the project.

## REINVENTED FLOW CYTOMETRY

Our end product was precise, fast, and simple. It enabled technicians to control sample concentrations, flow rates, the number of photons detected, the length of the experiment, and more — measured over a range of medical tests.

Further, the cytometer ensures high precision and sensitivity regardless of the rate of throughput. Even dilute samples can be acquired quickly without compromising data. Cell loss is minimized and sample preparation is simplified.

And because of that precision, the cytometer detects events faster than competing cytometers, achieving sample throughput at rates more than 10 times faster. Thanks to our thorough documentation for manufacturing and technical requirements, we were able to seamlessly hand off the design to the pilot production team.

## ABOUT ALTEN TECHNOLOGY

ALTEN Technology is an engineering consulting company that provides innovative solutions for engineering, technology, and product development projects across the product life cycle. For decades, ALTEN Technology has been helping clients develop products that are changing the world, whether by shaping the future of space exploration, saving lives with medical devices that set new standards of care, or creating the fully autonomous electric taxi of tomorrow. We provide support across industries including aerospace, defense, medtech and life sciences, unmanned systems and robotics, automotive OEM and tier 1 suppliers, commercial vehicles, electric vehicles, energy and environment, rail and more.

## ALTEN TECHNOLOGY

