

# Development of commercial scale rapid microbial detection system



PathoGenetix

**Product development partner for commercial  
scale rapid microbial detection system.**

## Expertise and domain knowledge

- Diagnostic instrument design
- Complex electro-mechanical product development
- Electro-optical design
- Voice of Customer studies
- Systems engineering
- Prototype builds





### Our client asked:

PathoGenetix selected Sagentia Innovation as their product development partner to take their current laboratory prototype using their proprietary Genome Sequence Scanning (GSS) technology and help turn it into a technically and commercially successful platform.

The GSS technology combines automated sample preparation and single molecule detection, making it possible to detect and characterise microbes from complex biological samples in as little as three hours. Specifically, the technology extracts genomic barcodes from microbial DNA as it flows through a microfluidic chip at 150 million base pairs per second. A universal reagent set decorates the DNA enabling specific pathogens to be identified by comparing their unique DNA 'barcode' with PathoGenetix's own library of templates. With this approach, it is possible to identify thousands of different microbial strains through a single test, days faster and at far lower cost than current techniques.

### The project story:

We were involved across the product development lifecycle:

- Concept validation and VoC analysis across worldwide sites to help the client define their go-to-market strategy
- Development of the system architecture
- Delivery of all electro-mechanical and electro-optical aspects that enable the GSS technology to be taken to market
- Delivery of alpha prototypes

### Contact us

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### Results: deliverables and outcomes

- We combined two initial bread board systems into an intuitive and usable system with a smaller footprint, as well as a lower per unit cost base
- The system has the potential to identify the specific pathogen causing a foodborne illness outbreak – a critical step in defining the extent of the outbreak, determining the food involved, finding the source of the contamination and defining the scope of a product recall

**“Sagentia Innovation has been a great product development partner. Working with them has allowed us to get to market faster with concept to delivery of the new RESOLUTION™ System in 18 months.”**

**Ann Merrifield, CEO, PathoGenetix**