The background of the slide is a light gray with abstract geometric shapes. In the top left, there are several thin black lines forming rectangles and a dashed line leading to a solid blue circle. In the bottom right, there are more thin black lines forming various shapes, including a large pink rectangle and a large gray rectangle.

# **Breaking Barriers in Genomics: Earlham Institute and Automata Redefine Lab Automation**

Pioneering a New Era in Genomic Research with  
Scalable, Intelligent Automation

December 2025



The Earlham Institute and Automata have embarked on a cutting-edge partnership to drive the next wave of discovery in genomics, combining world-class research expertise with state-of-the-art lab automation.

The UK-based Institute's core mission—to decode the scale and complexity of living systems to understand, benefit from, and protect life on Earth—is being realized with greater speed and scale thanks to this strategic alliance.



## Tackling Genomics' Key Bottleneck

As sequencing technologies accelerate, a bottleneck has emerged: sample quality control (QC). Manual QC is resource-intensive, prone to error and increases both sample turnaround time and costs. Specialist time spent on repetitive QC measurements diverts valuable expertise away from high-impact research, often resulting in bottlenecks across increasingly complex pipelines.

## The Vision: Transformative Automation, Integrated Workflows

The Earlham Institute's ambition is to eliminate the QC bottleneck, achieving robust, scalable operations that unlock far greater walkaway time for scientific teams. Adopting Automata's LINQ platform, the Institute is building fully integrated, digitally connected workflows stretched across eleven instruments (including three analysers), measuring multiple parameters (volume, concentration, fragment size) for six sample types across five sequencing pipelines.

### 5x increase in throughput

High-throughput automation enables rapid scaling for national infrastructure platforms.

### 80% reduction in touchpoints

By centralising data and automating manual tasks, specialist scientists reclaim time for experimental design, troubleshooting and new protocol development.

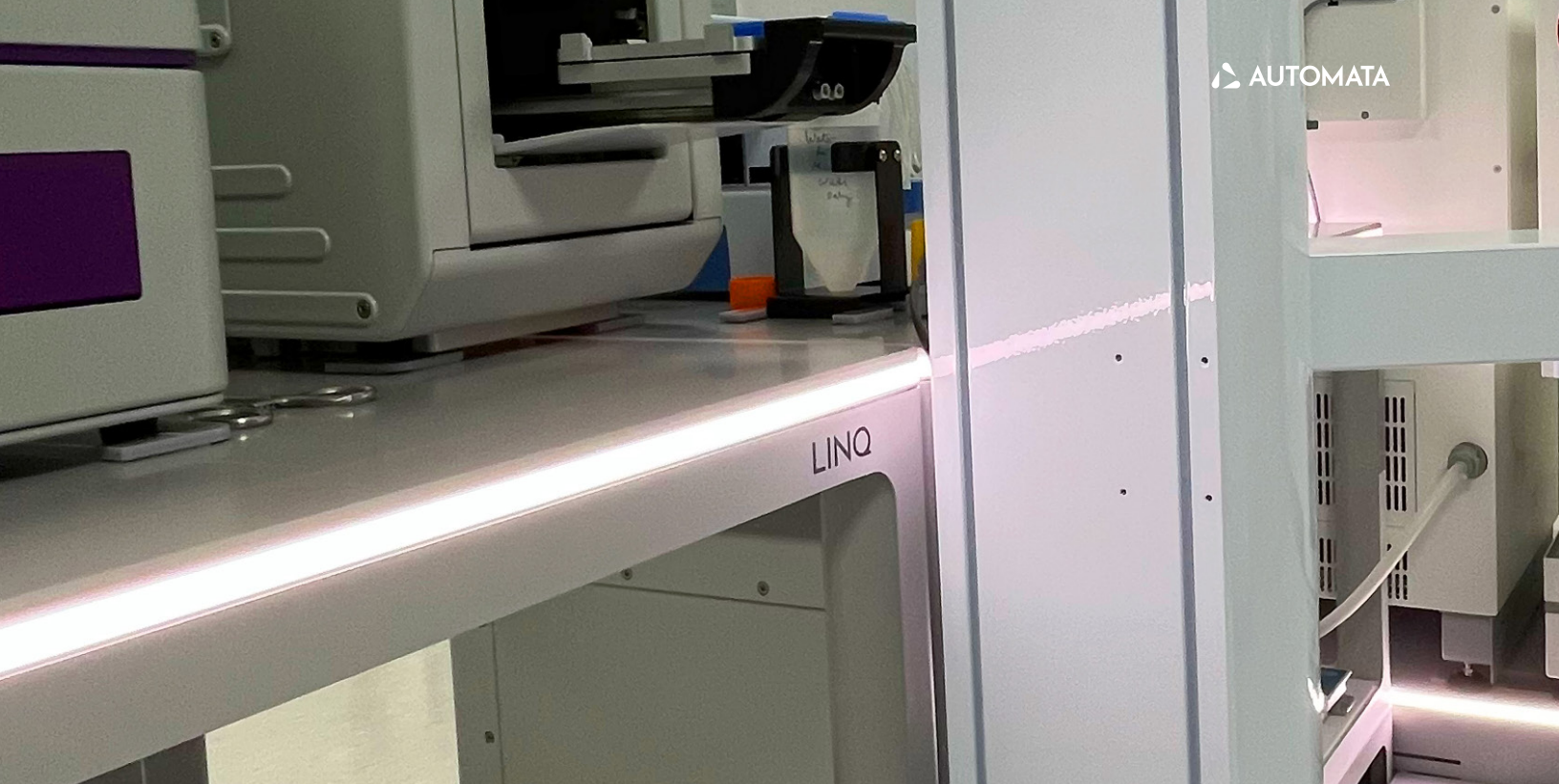
### Deep digital integration

Seamless connectivity with LIMS (Laboratory Information Management Systems) enables robust data capture and ongoing analysis, enhancing scientific rigour, reproducibility, and FAIR compliance.

## Impact at Scale: Advancing Bioscience for Society

This partnership embodies an open, collaborative ethos: driving data centralisation, reducing cost per sample and empowering researchers to innovate. In alignment with the Institute's mission, the work supports global challenges, thereby improving food systems, advancing healthcare and protecting biodiversity, while creating profound efficiencies for both people and infrastructure.





## Industry Disruption: Embracing the inevitable

*“Automata’s platform is not just automating workflows — it’s transforming how we approach scientific challenges.”*

Karim Gharbi, Head of Technical Genomics, explains why the Earlham Institute and Automata are in a unique position to disrupt the status quo in genomics:

“Automata’s platform is not just automating workflows — it’s transforming how we approach scientific challenges. The ability to integrate and centralise high-throughput, robust protocols dramatically increases our walkaway time and operational scale, while freeing scientists to focus on solving problems rather than managing logistics.

This partnership is about more than efficiency; it’s about unlocking potential for discovery that was previously out of reach due to bottlenecks and siloed data. Together, the Earlham Institute and Automata are creating a blueprint for how technical innovation can accelerate and re-shape bioscience,” Gharbi continues. “With our multidisciplinary expertise and next-generation automation, we are poised to equip the research community with the tools and infrastructure necessary to address the greatest challenges in health, food and the environment.”

The outcome is a partnership primed to help the bioscience community scale up, automate, and innovate—transforming genomics into an engine for real-world impact.

We are entering a new era of lab automation and AI which is shifting from legacy, isolated and fragmented architecture to fully connected, self-optimizing “thinking” labs that can continuously learn from every workflow. In this era, AI is set to become the coordinating brain of the laboratory, dynamically designing and adapting workflows, orchestrating robots and analytical systems and interpreting multimodal data streams in real time to deliver faster, more reliable and more personalized science. Future-facing labs are evolving into intelligent, cloud-connected ecosystems where agentic AI collaborates with human experts, thereby freeing scientists to focus on asking disruptive questions.

In summary, this partnership between Automata and the Earlham Institute is a practical step toward this vision, turning the idea of an intelligent, self-optimizing lab of the future into a working reality on the ground today.

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We are Automata — redefining what’s possible in the future of lab automation.

Born from a world-leading research lab, we’re demolishing legacy barriers and obliterating complexity to create a new, integrated era of intelligent, accessible automation.

Our platform, LINQ, is the first fully integrated, AI-ready and easy-to-use automation platform that connects every component of your lab — digitally and robotically — to deliver end-to-end workflows without compromise. Its dynamically modular smart benches and powerful cloud-based software reimagine how you design, orchestrate and monitor experiments, wherever you are.

Built on an open and interoperable architecture, Automata enables labs to move faster, scale smarter and innovate continuously — turning tomorrow’s lab into today’s reality.

Get in touch with our team of automation experts, engineers and scientists to unlock new possibilities and supercharge your lab’s discovery.