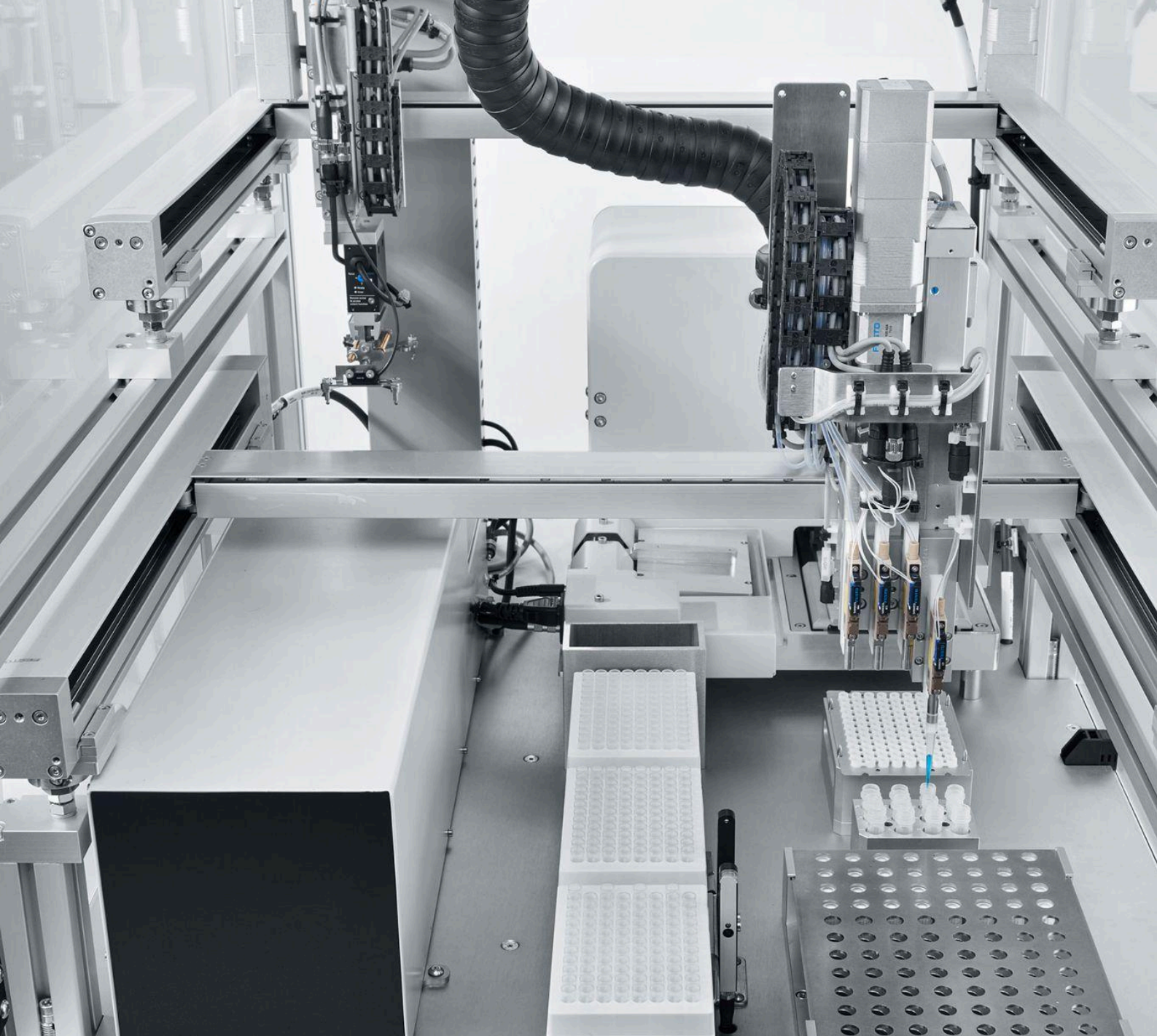




NGX 124 • MULTIPLEX qPCR

# Open Mobile Automated Molecular Diagnostic Testing

Using Multiplex qPCR

UKCA • CE IVDR • ISO 13485

[WWW.FASTMDX.COM](http://WWW.FASTMDX.COM)

NGX 124

  
Fast MDx®

## CHAPTER 01 — THE PLATFORM

# Automation For Every qPCR Workflow

A mobile 4-channel qPCR molecular diagnostic test platform that combines low cost with automated liquid handling, in low to high throughput and with the freedom to run your LDTs and the assays you run manually on the open NGX 124 platform.

The NGX 124 is designed to fit into the way laboratories already work. It can be added to an existing service as extra capacity or be used to build new testing points where none exists.

Whichever route you choose, the same high-quality automated workflow applies. Every route starts from the same principle: reduce manual steps, keep results traceable and give your team a platform that grows with demand rather than limiting it.

01

**ZERO CAPITAL**

The NGX 124 is lent **Free of Charge** on a one-year contract, with the laboratory paying only a small charge per test with low minimum test requirements.

02

**CENTRAL LABORATORY**

Deploy in a central pathology laboratory for routine diagnostics.

03

**SATELLITE TESTING**

Brings the same high-quality connected testing closer to patients, shortening sample-to-results down to as little as 1 to 2 hours.

04

**PANDEMIC RESPONSE**

Instant switch from routine testing to high-throughput pandemic testing.



“ I am really proud to have established Fast MDx as a Social Enterprise, with a mission to make high-quality, automated molecular diagnostics affordable and accessible to more people in more settings around the world. ”

**Richard Lewis**

FOUNDER & CEO, FAST MDX

## CHAPTER 02 — KEY PERFORMANCE

# High throughput, from a footprint small enough for established laboratories

The NGX 124 combines automated liquid handling with a four-channel qPCR platform, delivering high throughput from a footprint small enough for established laboratories.

Consistent automated runs help laboratories maintain predictable turnaround times, even when sample volumes rise or fall across the week.



AUTOMATED LIQUID HANDLING, NGX 124

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## 1,000

Tests per 8-hour shift

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## 3,000

Tests in 24 hours

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## 0.7 m<sup>2</sup>

Very small footprint

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## 4

Channel qPCR

### FREES UP SKILLED STAFF

One entry-level technician can run up to 1,000 tests per shift, freeing between three and five Biomedical Scientists to run more complex testing.

### CONNECTED

Fully connectable into LIMS.

CHAPTER 03 — OPEN ARCHITECTURE

# Compact Design with Open Architecture

Laboratories are not locked into a single supplier's reagents. The platform adapts to the assays you already trust and to the ones you plan to introduce, so your choices stay with you as your testing needs change.

Because the platform is not tied to one supplier, laboratories can compare methods, bring in new assays as they are validated, and retire those that no longer meet their needs.

### No limit to the assay menu

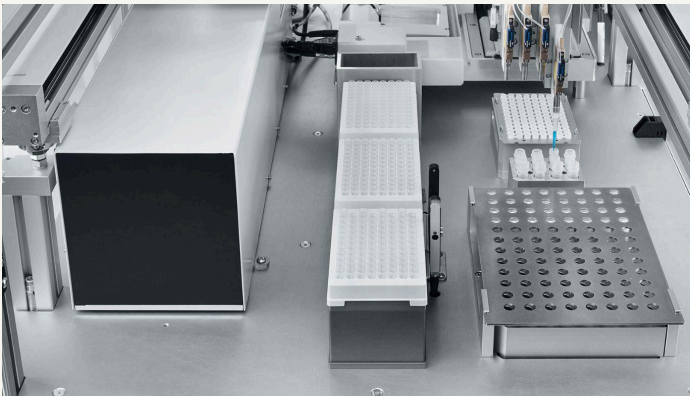
Works with compatible qPCR chemistries, including LDTs, RUO and regulatory-approved assays. No single-supplier lock-in.

### Compact and mobile

Low, medium or high throughput in only 0.7 m<sup>2</sup>. Can be used in established labs, satellite facilities, or near-patient environments.

### Pandemic Preparedness

Can run three shifts for up to 3,000 tests in 24 hours, supporting seasonal peaks and unexpected demand.



OPEN DECK, COMPATIBLE qPCR CHEMISTRIES



#### DIMENSIONS

|           |                    |
|-----------|--------------------|
| Height    | 1.65 m             |
| Width     | 700 mm             |
| Depth     | 1 m                |
| Footprint | 0.7 m <sup>2</sup> |

## CHAPTER 04 — WORKFLOW

# Less Handling & Smarter Staffing

**R**outine qPCR work is repetitive and often leads to mishandling error. Automating liquid handling lets laboratories redirect skilled staff towards validation, interpretation and complex investigations. Over time, this shift can improve job satisfaction and career development for staff and improve staff retention, while the laboratory keeps a consistent, auditable process for every run.

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## Less manual handling

Automated liquid handling reduces repetitive transfers and mix-up or transcription risks.

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## Service resilience

Supplements existing infrastructure or deploys across multiple satellite sites for cover and turnaround.

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## Smarter use of staff

Trained technicians run routine operation while scientists focus on validation and interpretation.

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## Clinical connectivity

LIMS integration supports electronic ordering, result transfer and full traceability of testing and results.



## CHAPTER 05 — NEAR POINT OF CARE

# Near Point of Care Testing

Add testing capacity in hospitals, clinics and other suitable settings, with governance provided by the relevant laboratory service. Near-patient deployment keeps the laboratory in control. The supporting laboratory service sets governance, quality standards and reporting routes, so results remain fully traceable.

Local teams benefit from clear operating procedures, straightforward training and a shared link back to the laboratory, so patients get reliable testing close to where they are seen.

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## Faster access to results

Less sample transport will shorten the time from sampling-to-result.

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## A mobile response

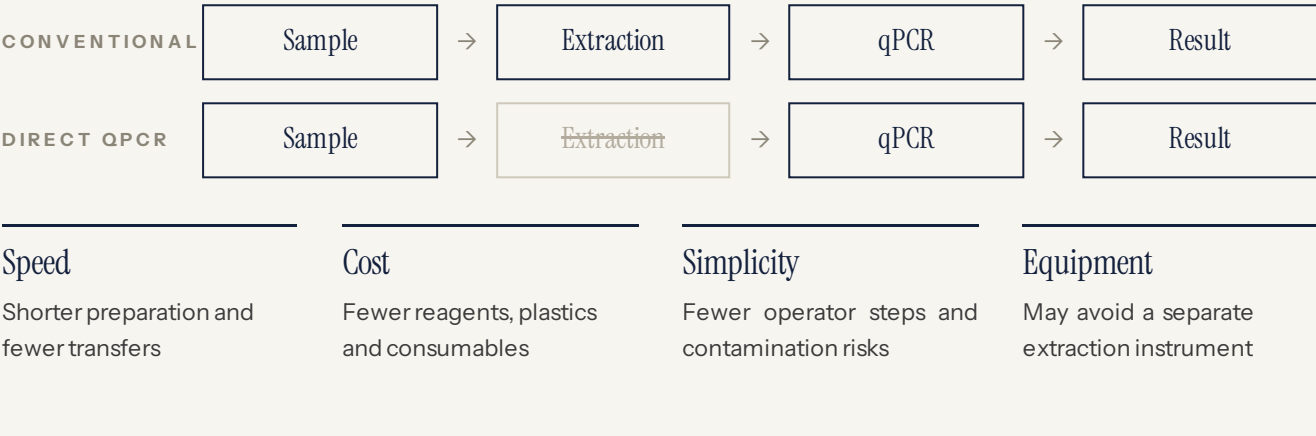
Move the platform to wherever diagnostic demand changes.

CHAPTER 06 — DIRECT QPCR

# Skip the Extraction Step

Direct qPCR master mixes amplify nucleic acid from suitably prepared specimens without a separate extraction workflow. Removing a processing stage can simplify validation and reduce hands-on time. Each specimen type and assay should still be checked before it enters routine use.

Laboratories can start with a focused set of validated specimen types, widen the scope as evidence builds, and keep records that show how each decision was reached.



CHAPTER 07 — FOR ASSAY MANUFACTURERS

# An Open Route to Automation

Offer automation without designing, manufacturing or servicing a proprietary instrument. Keep your own branded chemistry and customer relationships.

Compatible assays run on the platform alongside your existing reagent range, so you can migrate methods gradually rather than in one change. Your customers keep the workflows they know, while you gain a clear path to automation that supports long-term growth in reagent volumes and new product lines.

- 01 Keep existing customers
- 02 Grow reagent volumes
- 03 Improve manufacturing economics
- 04 Competing chemistries

**Focus your capital**  
Spend on assay performance, menu development and regulatory work rather than instrument engineering.

**Reach more laboratories**  
Migrate compatible manual or semi-automated methods to an automated workflow.

CHAPTER 08 — QUALITY & COMPLIANCE

# Regulatory Approvals & Quality Management System

Quality is built into the platform's design and governance. Responsibility for each reported result remains with the performing laboratory. Clear documentation, traceable records and regular review help every site maintain confidence in its results over time.

Regular internal checks, external quality assessment where it applies, and open communication with clinical colleagues all help keep results reliable and useful for patient care.

## UKCA

MARKED

### Standardised processing

Laboratories remain responsible for sample acceptance, internal QC, EQA where applicable, staff competency and reporting.

## CE IVDR

MARKED

### Results that fit your systems

LIMS connectivity moves requests and results through the clinical pathway.

## ISO 13485

QUALITY MANAGEMENT SYSTEM

### Anonymised surveillance

Aggregated, anonymised results could help track disease patterns and hotspots. Such applications require their own validation and governance.

CHAPTER 09 — SOCIAL ENTERPRISE

# Platform Built for Access

Fast MDx is a registered social enterprise.

The NGX 124 molecular diagnostic test platform is supplied with no upfront capital cost, you simply pay a small fee per test, with a low minimum test requirement.

Our aim is to make high-quality automated molecular diagnostics affordable and accessible to more people in more settings around the world.

Every deployment is planned around the needs of the local laboratory and the patients it serves, with support from our team at each stage of the process.

## Zero

Upfront capital cost

## Per test

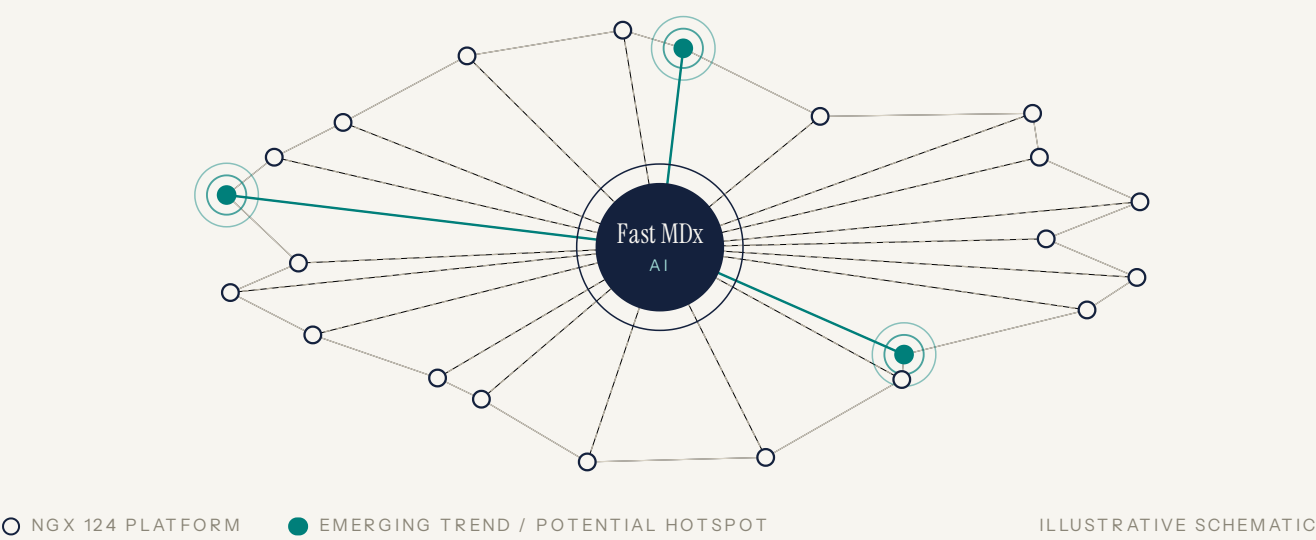
Small fee per test

## Low

Minimum test requirement

# AI-Enabled Population Health Intelligence

The NGX 124 has been designed not only to generate molecular diagnostic results rapidly and at scale, but also to help healthcare systems extract greater value from the information those results create.



## EARLY WARNING FOR EPIDEMIC AND PANDEMIC PREPAREDNESS

Fast MDx has developed patent-pending AI analytical tools capable of monitoring anonymised and appropriately governed test-result data generated across NGX 124 platforms. By analysing changes in positivity rates, geographical distribution and testing patterns over time, the system can identify emerging epidemiological trends and potential disease hotspots.

This could provide public-health authorities and healthcare providers with an earlier warning of outbreaks, allowing resources, testing capacity and clinical services to be deployed before conventional surveillance systems might otherwise identify a developing problem. At regional, national or international scale, networks of NGX 124 platforms could therefore contribute to a distributed early-warning system for epidemic and pandemic preparedness.

### MONITORS

Changes in positivity rates

### MONITORS

Geographical distribution

### MONITORS

Testing patterns over time

CHAPTER 11 — PREDICTING FUTURE HEALTHCARE DEMAND

# Predicting Future Healthcare Demand

The same analytical approach can also be applied to screening programmes for genetic, infectious or other markers associated with an increased predisposition to disease.

By identifying geographical areas or populations in which a higher-than-expected proportion of patients demonstrate relevant risk markers, healthcare organisations could gain valuable insight into where future clinical demand is likely to arise.

This information could support longer-term service planning, helping healthcare providers determine where specialist facilities should be located, what clinical expertise may be required and how many clinicians or treatment resources may be needed.



PLANNING QUESTIONS THIS COULD HELP ANSWER

## Where

specialist facilities should be located

## What

clinical expertise may be required

## How many

clinicians or treatment resources may be needed

EARLIER INTERVENTION

Where clinically appropriate, identifying increased disease risk earlier may also create opportunities for enhanced surveillance, preventative intervention or prophylactic treatment before symptomatic disease develops, potentially improving outcomes while reducing the future burden on healthcare systems.

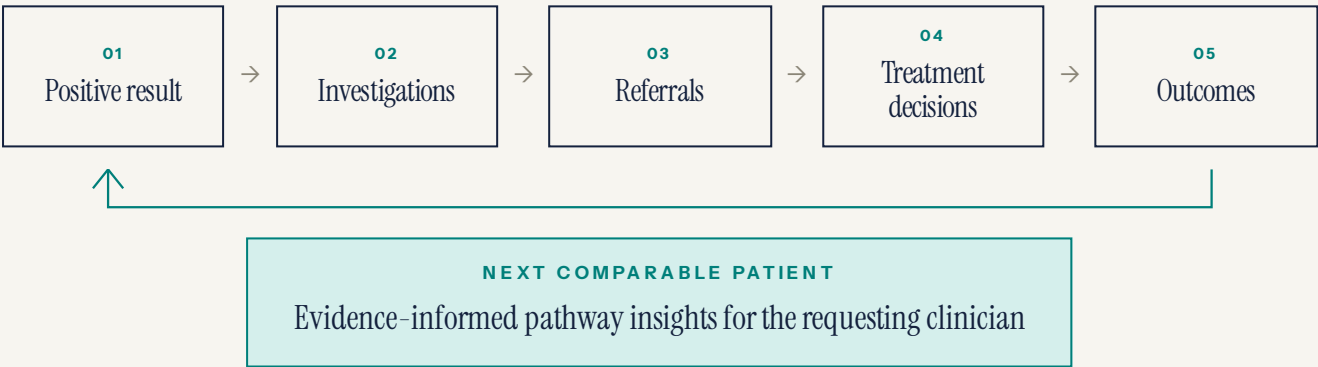
# Learning from Electronic Patient Records

A further patent-pending application of Fast MDx AI is designed to analyse appropriately authorised and de-identified electronic patient records and electronic medical records to understand what happened after patients received a positive diagnostic result.

The system can examine subsequent clinical pathways, including investigations, referrals, treatment decisions and outcomes, to identify patterns associated with effective patient management.

When another patient subsequently tests positive for the same condition, the system could provide the requesting clinician with relevant, evidence-informed pathway insights derived from comparable patients and local clinical experience.

CLINICAL PATHWAYS EXAMINED



SUPPORTING, NOT REPLACING, CLINICAL JUDGEMENT

Rather than replacing clinical judgement, the objective is to place useful real-world information in front of clinicians at the point when it is most valuable — helping them understand how similar patients have previously been managed and supporting faster, more informed clinical decision-making.

## FROM RESULTS TO INTELLIGENCE

Taken together, these technologies have the potential to transform molecular diagnostics from a series of individual test results into a continuously learning source of population-health intelligence, healthcare planning insight and clinical decision support.

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## 01

### Population-health intelligence

Earlier warning of outbreaks and emerging disease hotspots across networks of NGX 124 platforms.

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## 02

### Healthcare planning insight

Understanding where future clinical demand is likely to arise, to support longer-term service planning.

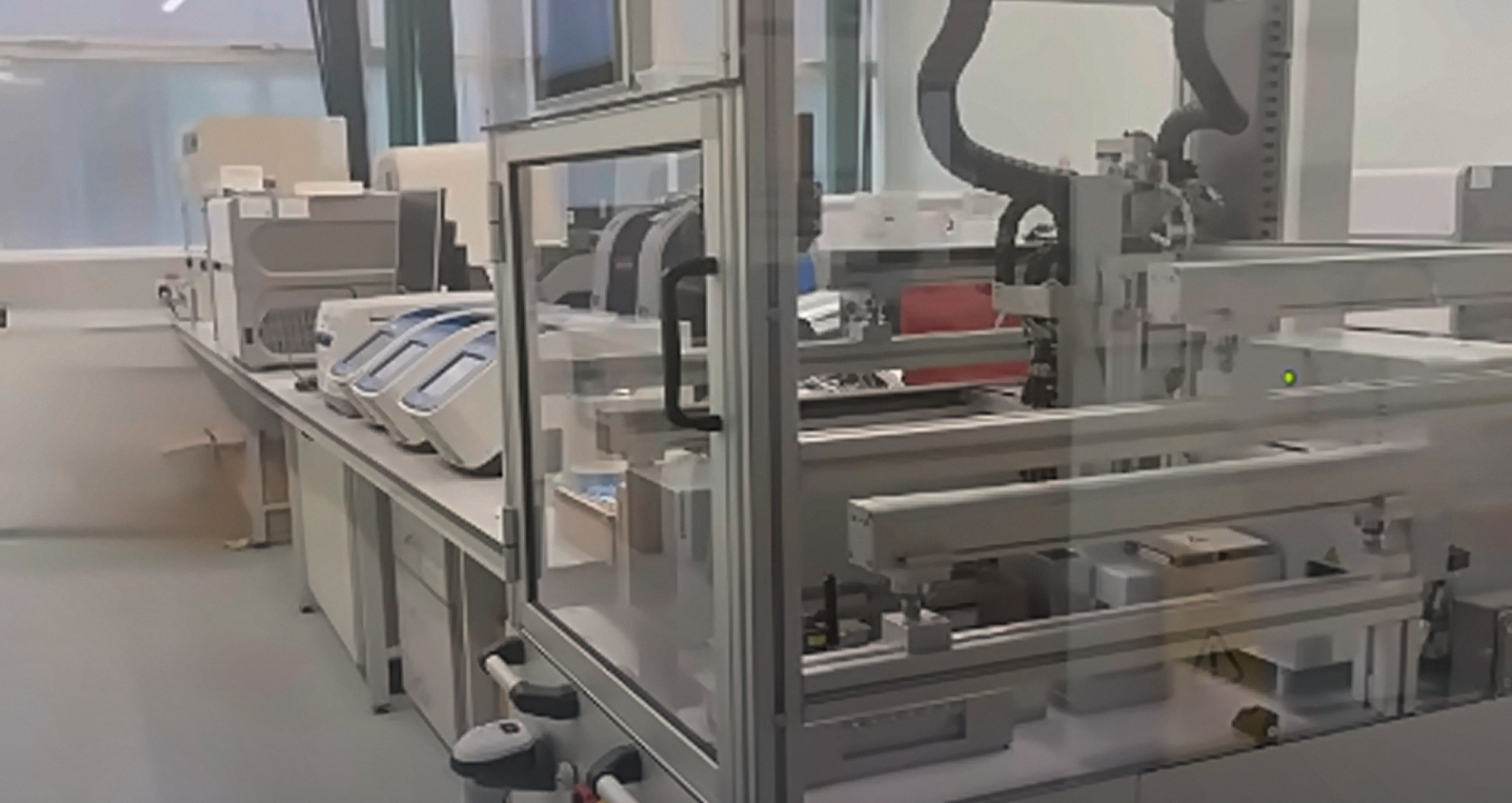
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## 03

### Clinical decision support

Evidence-informed pathway insights derived from comparable patients and local clinical experience.





NGX 124 being tested by Public Health Wales



Making high-quality automated molecular diagnostics affordable and accessible to more people in more settings around the world.

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