

Building on the Science Legacy of COVID-19 in Scotland

Annex 4

The Glasgow Lighthouse Laboratory and NHS Regional Laboratories Infrastructure

The Glasgow Lighthouse Laboratory has a daily sample processing capacity of 98,000 (based on 80% efficiency). To facilitate this, the laboratory is equipped with 12 Hamilton Microlab STAR Liquid Handling System with 12 span heads in the automated part of the laboratory and supported by a manual route with a number of Class II Microbiological Safety Cabinets. The laboratory is also equipped with 44 Kingfisher Flex instruments and 88 Applied Biosystems™ 7500 Fast Real-Time PCR Instruments (information correct as of January 2022). Positive samples are “cherry picked” and collated to form positive plates using the 3 Hamilton Microlab STARlet Liquid Handling Systems in preparation for genotyping and sequencing.

Alongside this, three Scottish NHS regional hubs, (North, East and West) have been equipped with instrumentation to collectively support the testing of 22,000 samples daily. The North and East hubs utilise Hamilton Microlab STAR Liquid Handling System (8 and 9 systems respectively), with Kingfisher Flex instruments (6 and 8), with Applied Biosystems™ 7500 Fast Dx Real-Time PCR Instrument (12 and 20), alongside 1 Cepheid GeneXpert in both North and East regional hubs for confirmatory testing. The West of Scotland regional hub uses the Thermo Fisher Amplitude System (4 systems) and Beckman Automate 2550 Automated sample De-capper/Re-Capper/Archiver (1), supported by 1 Cepheid GeneXpert - 4 module and 1 Altona AltoStar System for confirmatory testing.