

Client: Don Whitley Scientific
Project: Labguard Great Ormond St case study
Status: Final approval
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1 **REAL TIME MONITORING PROVIDES WIRELESS TRACEABILITY**

2 Manual monitoring of laboratory and remote equipment can be a tedious and time-
3 consuming process often neglected due to resource constraints or lack of time. As
4 staff perform once or twice daily checks to log the temperature, it is often several
5 hours or longer before a problem is discovered. If a measurement is taken at the start
6 of the day and appears to be satisfactory, there is no way of detecting, for example, a
7 'hidden' defrost cycle occurring regularly overnight with an individual freezer. This is a
8 particularly serious problem for refrigerated units, which in the microbiology laboratory
9 contain items including liquid reagents, antibiotic sensitivity disks and patient samples
10 – all at high risk of irreversible damage in the event of a cooling malfunction.

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12 **Early warning system**

13 In order to prevent such problems arising, The Department of Microbiology at Great
14 Ormond Street Hospital for Children has installed a Labguard automatic monitoring
15 system with 50 probes (supplied by Don Whitley Scientific, UK). Providing a rapid
16 high-quality investigation and advice service to allow the accurate diagnosis and
17 appropriate management of children with infection and infectious disease, the
18 department laboratory performs a wide range of routine and specialist investigations in
19 bacteriology, mycology, parasitology and virology.

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21 The Labguard system has been employed for the continuous real-time temperature
22 and carbon dioxide monitoring of the laboratory's incubators, refrigerators, freezers,
23 water baths and ovens, used during the examination of over 600,000 tests associated
24 with approximately 95,000 samples per annum.

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26 As well as eliminating the need for manual checks, the wireless system is providing
27 more accurate and reliable data to improve both productivity and performance, which
28 is permanently recorded to support quality reviews and audits. By measuring at hourly
29 as opposed to daily intervals, trends are analysed and potential problems identified
30 before they occur and cause disruption.

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32 Labguard allows the laboratory staff to program the acceptable limits for each
33 temperature-controlled unit so that it issues an immediate alarm the instant that a
34 reading falls outside the specified range. Ensuring remedial action can be taken
35 immediately, operators can choose to be warned visually, audibly and via a telephone
36 call for 'out of hours' peace of mind. The modular and upgradeable system can
37 simultaneously monitor multiple pieces of equipment transmitting data to a stand-
38 alone computer or existing network.

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40 Head MLSO Peter Watson explained: "Labguard has proved essential in the early
41 detection of failing equipment, particularly freezers. Electronic monitoring of
42 temperatures removes the need for an MLA to monitor temperatures through manual
43 methods, and we have been able to eliminate the large volume of associated
44 paperwork."

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46 **Regulatory compliance**

47 With full CPA accreditation in both microbiology and virology, the secure storage of all
48 data readings is a prerequisite for the laboratory's audit trail compliance, particularly
49 with CPA standards D and H. Standard D applies to the procurement and
50 management of equipment, data and information, reagents, calibration and quality
51 control. Standard H governs the quality management system's internal auditing,
52 external assessment and quality improvement.

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54 Labguard securely stores all data readings to provide fully traceable results and a
55 detailed audit trail compliant with FDA CFR 21 Part 11 and GLP regulations, and is
56 easily integrated into an IQ.OQ.PQ structure. The system can be calibrated in
57 accordance with UKAS requirements, and a calibration module including a reference
58 probe and operating software can be purchased to enable calibration to be performed
59 in-house with no interruption of monitoring functions.

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61 Peter Watson added: "We chose Labguard as it had the best specification at the right
62 price. The support and service we have had from Don Whitley Scientific continues to
63 be friendly, responsive and reliable".

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ENDS

66 **Editor's note:**

67 Don Whitley Scientific Limited is an independent family owned business founded by
68 Don Whitley in 1976. It has rapidly grown to be a leading supplier of innovative

69 equipment to the microbiology industry and a leading microbiology contract laboratory.
70 The company sells to both public and private sectors throughout the world from its
71 base in Shipley, West Yorkshire.

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