



DataNet – Protects blood banks quality and integrity

“round the clock monitoring and alarm systems ...” Laboratory Technician

Application: Research Laboratory

Organization: Taiwanese Government Monitored Umbilical Cord Blood Lab

Background:

Umbilical cord blood banking requires full monitoring of the blood processing, storage inside specially designed bags and placement inside cryogenically sealed containers.

About the Customer:

The government funded laboratory stores cord blood and carries out stem cell research for the treatment of genetic diseases, blood malignancies and immune deficiencies.



Key Customer Challenges:

- To secure continued funding and satisfy Ministry of Health regulations, the lab must produce printed daily reports on the status of the laboratory's deep cold refrigerators and room conditions, indicating one sample per minute.
- Critical to long-term research is the life-span of the banked blood, extended by low-temperature storage. Research integrity requires these storage conditions are maintained and validated.
- A series of barriers to transmission exist within the lab, including refrigerator units.

DataNet Implementation:

Temperature and humidity are monitored with five DNL920 humidity and temperature loggers, one DNL910 temperature logger, one Receiver and an external PT100 temperature sensor. Additionally, thermocouple temperature sensors, with a range as low as -80° C, are used to monitor the laboratory's refrigerators. The GSM modem feature sends SMS alert messages when necessary to the manager on call. Data is transmitted to the PC, from which daily reports are printed and submitted to the Taiwanese Health Ministry. As an additional safety procedure for night emergencies, two of the loggers have an emergency On/Off switch which can change the resistance, crossing the alarm state threshold.

Measurable Results:



- **Recurring report delivery** – data is transferred into report format in both Excel and PDF and delivered at regular intervals to a selected distribution list.
- **Minimizing error** – four alarm levels, SMS and email alerts, together with emergency night procedures all protect the banked blood's quality and integrity.
- **A strong and flexible system** – leveraging the SRR short range repeater mode which overcomes RF transmission hurdles in the network.

Customer's Last Word:

"The DataNet system provides the round the clock monitoring and alarm systems required by such perishable and high value materials."

Laboratory technician