

User Requirements	Priority
Easy functionality for management of account / users.	Must have
Be able for super users to add/ remove users without having to go through system admin.	Should have
The system should allow flexibility on the number of accounts needed. It requires a level of scalability for changes in groups numbers etc.	Must have
If system not scalable, then it should accept generic group accounts.	Should have
System must send SMS and/ or personal emails.	Must have
The system should default to BACS when out of hours.	Must have
Permissions: There should be a hierarchical management of access to the system based on permissions/ role. As a minimum: System Admin, super user and standard user.	Should have
Should be easy to locate and review data from a networked computer easily.	Must have
Real time temperature/ humidity mapping: Temperature range from -150C to +100C Humidity from 0-100	Must have
Units should display temperature/ humidity for local observation. System should 'alarm' when out of specification.	Must have
Easy to troubleshoot simple issues such as change of batteries and system reset.	Must have
Wireless units- battery powered units.	Must have
Multiple probes attached to one device.	Could have

Interactive dashboard, mobile app, and SMS/email/phone notifications.	Should have
Enable users to adjust temperature thresholds to prevent excessive notifications while automatically increasing or decreasing the temperature threshold one degree at a time.	Should have
Intuitive software that requires very little support/ training by admin.	Should have
Data is presented unambiguously in both tabular and graphical form, minimising any Human Factors or interpretation errors.	Must have
Remove need for additional gateways due to coverage limitations: Main connection/ aggregation points/ gateways.	Should have
Flexible system that allows moving units when changing what is being monitored.	Must have
Able to store data for a minimum of 5 years.	Must have
Data should be downloadable as when required.	Must have
Be able to download data in different format. As a minimum by temperature ranges and by time period (hours, day, weeks, months).	Must have
Units/ probes to be able to be individually calibrated or against a reference.	Must have
The monitoring units should be resistant to dust and splashes.	Should have
Transmitters able to work in the different facilities built we have.	Must have
Easy to obtain number of transmitters and to add to gateways or system.	Must have
Its use is not only for the monitoring but also need to meet compliance aspects (Home Office, NaCTSO, Accreditation, GLP/ GMP).	Must have

Needs to have LAN/Wi-Fi/Zigbee connection options.	Must have
High Availability Service.	Must have
Encryption, data in transit.	Should have
Multifactor authentication should be available.	Should have
Telemetry monitoring frequency/refresh rate to be 1 minute maximum.	Must have
Capability to incorporate Additional I/O for extra alarm/plant monitoring. I/O both Digital & Analogue. Example, freezer door switch.	Could have
System capability to integrate into industrial IoT. Integrate the system alarms into the site alarm management system (Thing Worx industrial IoT).	Should have
System capability to set up alarms into different alarm categories/groups. 4 groups minimum - to be specified by EMS/BACS at a later date.	Must have
Audit trail capability. To see who/when set points/process operating parameters have been altered.	Must have
Maintenance/out of specification capability. User ability to remove units from service to prevent nuisance alarms through to BACS when maintenance work is being carried out.	Must have
Time period specific for out of specification function to prevent unit not being reinstated/forgotten about.	Must have
System server requirement: System has to have server resilience/back up (can be integrated into HAS) inline with the Institute IT infrastructure.	Must have
Transmitter connectivity: Transmitter has multifunction connectivity & battery back if wireless.	Should have
Chamber heat mapping: Sensors to give graphical heat properties of the monitored area as a 3D representation.	Could have

Minimum of 15 years lifecycle support from OEM.	Should have
Ability to query historical data.	Should have