

Environmental Monitoring

Using SampleManager LIMS to manage Environmental Monitoring programs

Laboratories that manage EM programs as part of their work must ensure strict protocols to properly perform the required sampling, analysis, reporting and resultant actions. A laboratory information management system (LIMS) used to support Environmental Monitoring may be required to handle lab- or field-based sampling locations as well as personnel testing, media management and cleanroom environments.

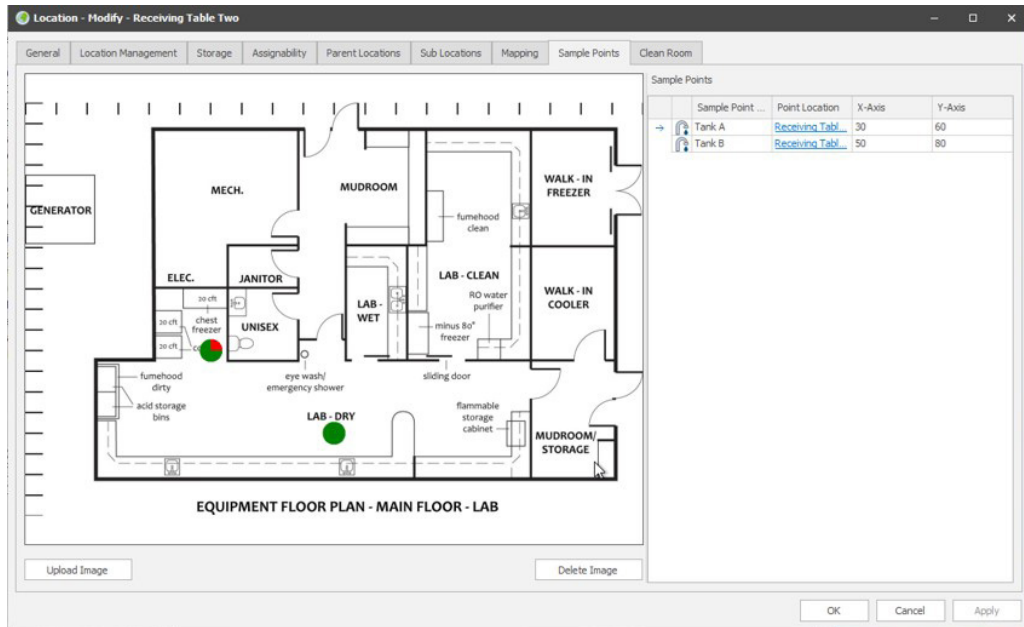
Key benefits:

- Manage both regular and unscheduled sampling of lab- or field-based locations and personnel points
- Configure sampling plans according to location, frequency, type of sample and method to be used
- Record and track all data including sample time and date, sampler ID, equipment used, shipment, condition on receipt, and any preparation for testing
- Manage cleanroom environments according to ISO standards
- Flexible management of microbial samples, including a pre-configured microbiology library
- Dashboards and room/map/personnel views display contamination levels against set limits
- Corrective actions are managed to ensure appropriate action in the event of contamination

Location monitoring

Air, water or surface analysis can be managed within SampleManager LIMS. Multiple sample points and samples assigned for testing from those points can be configured at defined frequencies. Specific sampling locations can be defined using geolocations, which can be used to accurately guide the sampler. Notes can be made against the sample record to log any issues obtaining the sample or important details about the sample itself. Sampling locations can be barcoded to ease the collection process and avoid errors.

Floorplans or map-based sampling points provide an instant graphical view of contamination levels. The points on the map are colored dependent on the results collected at that point – the user can also select the time frame they wish to view results from a specific location. The location map updates to reflect the results as different sampling points are selected.



Configurable floorplans provide a graphical overview of current sampling point conditions

Personnel monitoring

Gowned personnel can be included in an EM program in much the same way as locations are managed. Sampling points such as front of hand, back of hand, chest and face are set up in a group with the individual as a parent

location. Should contaminant levels breach set limits on any individual sampling point, the person can be alerted immediately and corrective action taken.

Select a Period

StartDate: 13.01.2021 15:57

EndDate: 04.02.2021 00:00

Sample Points

- Samplepointname
- Back of Hand
- Face
- Palm of Hand

Location Image

Samples

IDNumeric	IDText	Status	LoginDate	DateAuthorised	Action	Alert
309	SM-22-JAN-2021...	Authorised	22.01.2021 11:02	22.01.2021 11:12	Yes	No
310	SM-22-JAN-2021...	Authorised	22.01.2021 11:02	22.01.2021 11:12	Yes	No

Data visualization displays any contaminated personnel sampling points

Cleanroom setup and management

SampleManager LIMS provides preconfigured setup and management of cleanrooms, with the following features:

- Standards can be defined according to ISO requirements, with limits for specific analyses entered against sampling points to enable alerts or actions should results go out of the limits
- Microbial limits are calculated based on percentage and any resultant follow-up actions can be based upon the clean room grade
- Secure mobile access enables designated analysts to log samples in cleanroom environments via a sterile tablet
- Dashboards and floorplans can be configured to display any alert or action limit violations
- Set status of cleanroom to 'in use' or 'at rest' to enable/disable monitoring

Drive process integrity by using the Laboratory Execution System (LES) in SampleManager LIMS to ensure adherence to SOPs.

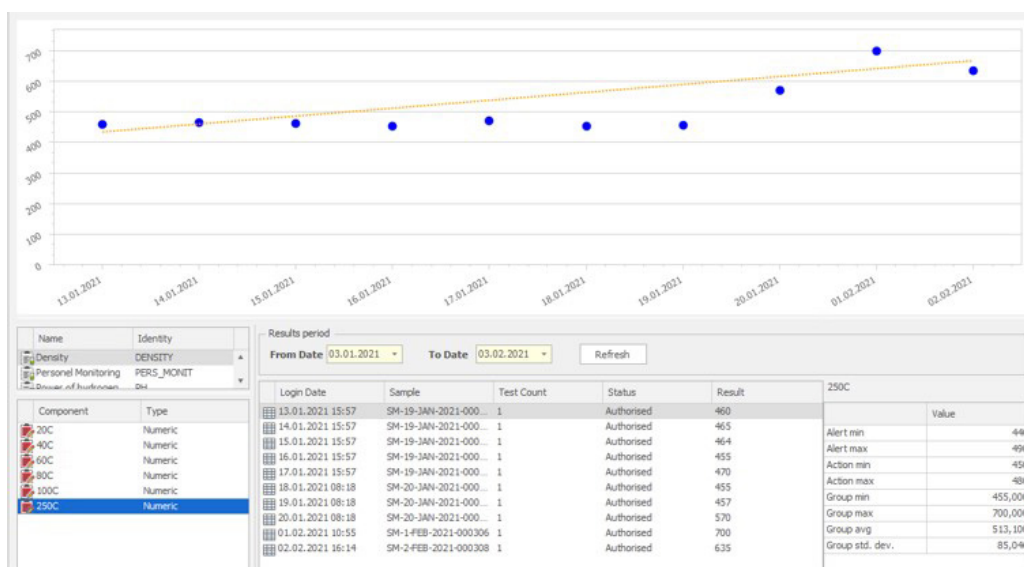
Media management

SampleManager LIMS provides support for the creation and management of ingredients, prepared media, and media containers, as well as supplier management, stock batches and validation analysis. A preconfigured microbiology library and incubation support eases the process of recording and managing microorganisms:

- Automated name generation based on Genotype, Environment, and Microbiome interactions
- Taxonomy and morphology information enable grouping
- Incubation location grouping and alerts for parameters such as temperature, humidity, CO₂, and incubation time
- Record pictures, safety information and incubation data for automatically generated analyses
- Dashboards display count by sample point type, date/time range or location

Trend analysis

Environmental monitoring results should be reviewed alongside historical data to detect a trend. Trend charts show results over time – enabling calculation of linear regression, average, or standard deviation.



Analyze Environmental Monitoring data by sampling point over time to identify trends