How do I set up the requirements?

How do I set up the requirements for an automated internal control system in my food store chain/municipality?

It is not every day that you buy a system for this. It is not that easy to understand how to set up requirements and how they should work. That is why we have produced this document to help you navigate this quagmire.

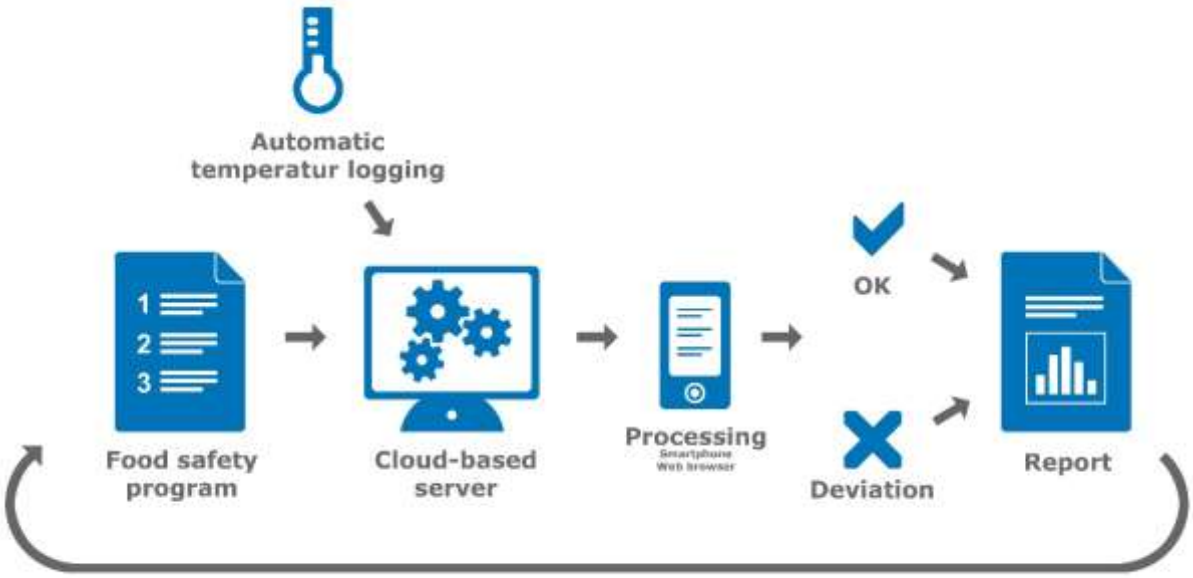
Why?

Above all else, an automated internal control system for county councils/municipalities/food store chains should facilitate the management of internal controls. This applies both to the staff in the kitchen who manage the system and for those who administer it.

There are often well-established procedures with which staff are familiar, and as far as possible these should be retained. For the staff, the difference may be that instead of, for example, signing for the job using a pen, they press a Sign button fitted to the wall. Making wholesale changes to working methods benefits few people, and there is no great need to do so.

How does it work?

Below is a description of how a system works, in overall schematic terms.



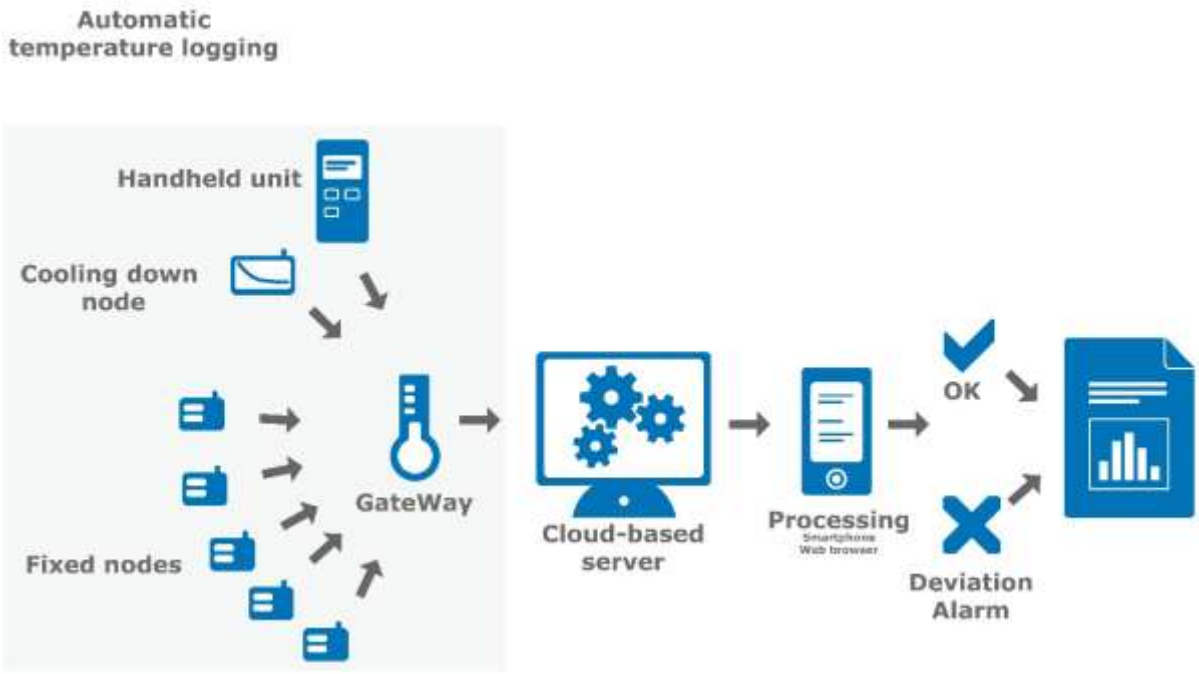
1. **Internal control plan**
   The internal control plan is your HACCP documentation. You enter the control points and document into the system.

2. **Automatic temperature monitoring***
   Automatic temperature collection takes place as a separate process and posts the temperature values to the cloud-based server via the Internet or GSM.

3. **Cloud-based server**
   Generates jobs and manages temperatures using associated threshold values. This is the logic of the system.

4. **Management**
   This is where you work on the jobs, acknowledge the temperature alarm, set threshold values, etc. This must be accessible from the web browser, smartphone or tablet.

5. **Report**
   Reports are exactly that – reports that show the activity in the system during the selected date range.



1. **Temperature collection**
   Temperature collection is done by the hardware located at the operational unit. It usually consists of a fixed node, which is either hard-wired or wireless. The method that works best depends on the physical layout of the premises in which the refrigerators and freezers are located. If necessary, there should also be the option of a cooling node to document the cooling process and a handheld unit. The handheld unit may be required for checks on receipt and recording the temperature of, for example, a buffet.

2. **Cloud-based server**
   This is where all the temperature data are collected and where it is determined which temperatures will generate alarms and deviations.

3. **Management**
   This is the actual interface where you work, and it should be accessible via normal devices with an Internet connection such as a PC or smartphone. Alarms are reset and deviations signed for in the management interface. Alarm thresholds and other variables such as calibration values are also set here.

Before your imminent purchase, there are seven areas you should consider...

Function

Are there any functions that you require from the system – for example, temperature collection, document management, control points, etc.? There must be options to Create New – Edit – Delete control points via Administration as required. Similarly, if new operations are added it must be possible to integrate these easily into the municipality's/county council's basic template for internal control.

Temperatures in refrigerators and freezers must be logged automatically, and a handheld unit for goods receipt, buffets, etc., is also a good idea. Cooling processes, which can be difficult to document manually, should also be logged automatically.

Use

Is the user interface suitable for your staff?
An intuitive interface – one that is easy to use and minimises the need for training – is preferable. It should be easy for staff that perform control points and work tasks to access them, and it should be possible for new staff to easily acquaint themselves with internal controls. One way is, for example, to use screens and displays in the operation's kitchen. This reminds the staff of the tasks that need to be performed.

It should be possible for temporary and new staff to start using the system immediately. An example of an intuitive interface would be, for example, to remove all irrelevant information and simply focus on what is necessary for the person who will be carrying out the work.

Another example of an intuitive interface is to follow the de facto industry standard for touch apps, which the user will recognise even if they have not worked using the app in question.

Reports

There must, of course, be monitoring in the form of reports. This applies to both individual operations and central internal control administration. Event logs, deviation reports and temperature reports are three common report types used for auditing. Your organisation may also require further reports in addition to these.

Introduction

- How will implementation of the system take place?
- Is there a need for any staff training?
- What type of unit will the operational units use in their work?

Upgrading

What happens when new statutory requirements are introduced?
Is continuing development included in the cost of the system, or is it something for which I will need to pay? Or do I simply buy a new version of the system?

Cost of ownership

- What does the actual system and its hardware cost?
- Are there any monthly costs?
- If the system is not web-based, what are the costs involved in buying servers and – even more importantly – what are the costs of running the server in a stable environment?

For example, in-house hosting of the server – where the server is physically located on your premises or in your IT department – imposes a number of requirements, for example monitoring 24/7, external access for the system supplier, maintenance, a backup solution, etc.

A smarter option is to have the automated internal control system as a web service. Web services generally come with backup and maintenance included, and updates are installed automatically for the users. The system is accessible from any device with an Internet connection. This includes PCs, tablets, smartphones or other devices that can use web browsers. For maximum possible reliability, the system should be run by a professional web host with 24/7 monitoring.

Service & support

What are the costs of service and support, and what kind of normal servicing interval should I expect? Are there various support agreements, and if so, what do they cost?

Summary

To summarise the requirements for an automated internal control system:

- Adaptable in terms of how they wish to perform their internal controls – for example, easy to add, remove or edit control points for the specific operation

- Easy for staff to use
- Easy for management to administer
- Intuitive interfaces
- Web solution
- Use automatic temperature logging
- Scalable – can be used by many operations
- Good monitoring options

About the author

Carl Strömberg has an IT background and long experience of web-based services. He has worked on digital internal control since 2005, as a project manager, product owner and developer.

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