



Principles Quality Manager - explained

How it works in practice

On a day to day basis, users on the factory floor or out in the field will carry out user defined audit tasks using wireless enabled rugged mobile computing devices. These devices constantly communicate with the Principles Quality Manager software across the wireless network. Integration with existing databases allow entries such as ingredient lists to be imported from legacy databases. The software issues audit tasks, collects data and constantly monitors for non conformances at critical control points of the process. If non conformances are detected, predefined advanced checks are delivered to the user with the subsequent answers being analysed using definable workflow rules. Subject to the responses, users can be instructed on immediate remedial actions and if necessary, predefined contacts can be automatically e-mailed or sent an SMS text. All data is stored on a server allowing for on demand reporting, trending or analysis.

Tasks, checks and advanced checks explained

One of the systems unique benefits is that customers can easily create their own scheduled tasks comprising checks and advanced checks to create a workflow. These tasks are issued across the wireless network to an individual user or a group of users. If the task is sent to a group, the first person to accept the task will remove it from the queue thus avoiding duplication.

Task can be used for:

- ✓ Location task
- ✓ 1e Supplier audit
- ✓ 1e Location audit
- ✓ Product task
- ✓ Shelf life tasks
- ✓ Raw material task
- ✓ Packaging task
- ✓ Fixed item task

Checks and advanced checks within these tasks can include:

- ✓ Questions - Y/N
- ✓ Questions - true/false
- ✓ Questions – numbers
- ✓ Questions – set characters
- ✓ Request for photograph
- ✓ Request for temperature reading
- ✓ Signature
- ✓ Authorisation code
- ✓ Product use by date
- ✓ Question – Text
- ✓ Text instruction
- ✓ Image instruction
- ✓ Combo list
- ✓ Currency
- ✓ Product recipe
- ✓ Box and label check
- ✓ Packaging check
- ✓ Ingredient weight check
- ✓ Instruction
- ✓ Sampling
- ✓ Yes/No/Don't know
- ✓ True/False/Don't know
- ✓ Photo verification
- ✓ Average weight
- ✓ Date
- ✓ Product weight
- ✓ Percentage check

Examples of tasks that can be carried out:

1. QUIDS checks
2. Monitoring of Critical Control Points
3. Glass Audits
4. All product testing
5. Supplier Audits
6. Calibration checks to National Standards
7. Label production
8. Label verification
9. Abort task
10. Day of the week
11. Jewellery checks
12. Use by date verification
13. Recipe validation
14. Product barcode crosscheck

From the beginning

1.

When the Principles Quality Manager is first installed, it is effectively a blank canvass. It is a tool awaiting the input of:

- a. Locations**
- b. Sub Locations**
- c. If required, suppliers**
 - i. supplier a**
 - ii. supplier b, etc.**

2.

Once the locations are created, define the departments by business function.

- a. Quality Control**
- b. Health and Safety**
- c. Engineering**
- d. Training**

3.

Next import the items, either manually or by importing from an existing database.

These may include:

- a. Fixed items, ie. production line, washer, preparation table, etc.**
(These fixed items would be physically identified by bar code or RFID labels)
- b. Moveable items such as:**
 - i. Raw materials, which will be split into batches and uniquely identified**
 - ii. Products – identified by barcode / RFID / Production Run**
 - iii. Packaging**

4.

Once the above has been completed the next job is to set up the tasks.

The best way to think of a task is something that replaces a physical piece of paper.

Tasks can be created for any of the fixed or moveable items listed above or as follows.

- a. Fixed items**
- b. Moveable items such as batches of raw materials, finished products, packaging, etc.**
- c. Specific jobs such as:**
 - i. Glass audit**
 - ii. Jewellery check, etc**

5.

Tasks will then require 'checks' and 'advanced checks' to be created within them. Checks will be created and acceptable response parameters defined. If a response falls outside the parameters, advanced checks can be created to request actions or responses. Up to three levels can be created, ie check 1, advanced check 1.1 then advanced check 1.1.1, etc. Complex tasks and function need to be broken into the same principles as a HACCP process flow. This will highlight the control points necessary to set up the PDA tasks in Principle Quality Manager.

For example

Taking frozen chicken into production

- ✓ Check product code (against existing production database)
- ✓ Check used by date (against existing production database)
- ✓ Check GI (Goods inwards) code (against existing production database)
- ✓ Remove from freezer
- ✓ De-box material
- ✓ Transfer to production
- ✓ Place in defrosting trays
- ✓ Label product
- ✓ Test product
- ✓ Transfer to production line
- ✓ Pack product

An example of workflow checks would be:

a. Task 1 – QC Check Chicken Breasts

Scheduled for every morning at 10.00am or whenever CHICKEN SALAD is produced – Scan item identifier before task begins.

b. Check 1 – What is the shape? – square, round or rectangular

c. Check 2 – What is the average size? – 40mm to 50mm | 51mm to 60mm

d. Check 3 – What is the temperature of the chicken? (Use temperature probe)

Answer - If below 3 degrees, save input, go to Check 4

Answer – If above 3 degrees, go to Advanced Check 3.1

i. Advanced Check 3.1 – Check all bags in batch for temperature – Done?

ii. Advanced Check 3.2 – Put 'REJECT' labels on all bags above 4 degrees – Done?

iii. Advanced Check 3.3 – Put 'ON HOLD' labels on all bags between 3 degrees and 4 degrees – Done?

Warning will be sent to QC Manager and Production Manager via E Mail

Defined Parameters will advise action: ie stop production line, etc.

e. Check 4

Additional information

Inbuilt high resolution camera

The Hornet-I has a built-in 5 megapixel camera allowing accurate data capture on task.
There's nothing better than being able to see a picture.

Inbuilt barcode reader / RFID reader

The Hornet-I has a built-in barcode and RFID reader.
Fast accurate identification of items and locations.

Temperature Probes

PT100 Class A Platinum Resistance temperature probes for air, insertion or immersion give accuracy up to +/- 0.01 degrees C* and are easily added to the Hornet-I as plug-in modules. (at 0 degrees C).
Removes possibilities of error as temperatures directly read for barcode/RFID item.

Wireless LAN / Bluetooth

Allows the devices to connect to the wireless network and to other devices such as scales, etc.
Fast and reliable.

GPRS Support

The Hornet-I can be fitted with an optional GPRS module allowing remote users or suppliers to use the system anywhere that GPRS coverage is available.
Customers can issue their raw material suppliers with a Hornet-I to extend the quality control / process management system right up the chain to the field where the produce is grown.

Multi Language Support

Tasks can be issued in multiple languages.
This avoids misunderstandings and dramatically reduces training required.

Web Reporting

The next version of Principle Quality Manager will include web reporting via a secure extranet; suppliers and customers will be able to login and view information regarding their products.
Unrivalled visibility for supermarkets and growers alike.

Advanced Reporting

Traceability, supplier analysis and defect analysis tools are all built in to the software to allow more advanced reporting and trend analysis.
Advanced tools to further enhance reporting.



**APPLIED
PRINCIPLES**

Accountability, Traceability & Stability

Head Office 6 Enterprise Way, Vale Park, Evesham, Worcestershire, WR11 1GS
Tel 0845 223 5512 **Fax** 0845 223 5532 **Website** www.appliedprinciples.eu **Email** info@appliedprinciples.eu