GUIDE

Keeping an image of every unit or batch: image archives for traceability

What an inspection station can keep, where to keep it, for how long, and how it helps when a complaint or recall arrives.

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Discuss traceability on your line

// SHORT ANSWER

A vision station can keep the images it takes: rejects only, or every unit, together with the result, codes read, time, line and recipe. Images live in the smart camera for a short time, on the station PC or controller, or on a network server for the long term. How much to keep and for how long is your decision, set by your records policy, customers and the rules for your product. With batch codes and time stamps stored alongside, the archive shows what left the line when a complaint or recall arrives.

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Key points

- A station can keep the images it takes, together with the result, any code it read, the time, the line and the recipe.
- Keeping only reject images is light; keeping every image answers more questions but needs storage that is planned.
- What to keep, where and for how long are your decisions, set by your records policy, your customers and the law that applies to your product.
- An image shows what the camera saw at that point on the line. It cannot show what happened to the product afterwards.
- If people can appear in the images, treat them as personal information: aim the camera at the product and keep only what you need.

What a station can store

Every inspection starts with an image. Whether that image is thrown away after the decision or kept, and what is kept with it, is a design choice made with you. An image on its own is of little use months later; it becomes evidence when it carries the data that says what it is.

ITEM	WHAT IS STORED	WHAT IT ANSWERS

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Reject images	The image of each failed unit, with the check that failed and the reason.	Why a unit was rejected; whether rejects were real defects.
Pass images	Images of units that passed: all of them, a sample, or the last ones before a stop.	What a good unit looked like when it left the line.
Codes read	The content of a barcode, 2D code or printed date and batch code read by the station.	Which batch or unit an image belongs to.
Time stamp	Date and time of each inspection, from a synchronised clock.	When a unit passed; matching to other records.
Line and station	Which line, station and camera took the image.	Where in the plant the evidence comes from.
Recipe and limits	The recipe in use and the version of its limits.	Which product was set, and which limits applied.
Counts	Inspected, passed and rejected per batch or shift, per check.	How many units were checked in the batch.

Every unit or every batch

A unit-level archive links each image to one unit. That is possible when each unit carries a unique code that the station reads, such as a serialised 2D code, so the code becomes the name of the image. Without a unique code, images are linked to the batch and the time: you can find the images of the batch and the minutes around a given time, but not prove which image shows a particular pack.

A batch-level archive is usually enough to answer “was this batch coded and labelled correctly?”. It needs the batch number in the record, read from the pack by OCR or a code reader, or passed to the station from the PLC or MES at the batch change. See OCR/OCV inspection of date and batch codes.

Where the images are kept

- **In the smart camera.** HIKROBOT’s smart camera selection guide lists image saving in the camera from the SC3000X upward (HIKROBOT Smart Product Catalog 2025 Q4). Space in a camera is limited, so it suits recent images on the line, not an archive.
- **On the station PC or vision controller.** A multi-view station runs on a PC or controller with its own disk, which can keep reject images and results, and all images for a limited period.

- **On a network folder or server.** Images and result files are copied from the station to storage your IT team runs and backs up. The SC3000X product row, for example, lists FTP among its protocols (HIKROBOT SC3000X product page); on a PC station the copy is part of the station application.
- **In a database, MES or quality system.** Results, codes and counts go into a system you can search, with a link to each image on the server. That system is built and run by its owner, not by the vision supplier. The **guide to vision data for OEE and MES** covers sending results to other systems.

Most archives combine two or three of these: recent images close to the line, the long-term archive on a server. See **what a station includes** for who supplies the network and servers.

Storage options and what they answer

Where the images are kept decides which questions they can still answer later.

STORAGE OPTION	WHAT IT USUALLY HOLDS	WHAT IT ANSWERS	LIMITS
In the smart camera	Recent images, often rejects, for checking on the line.	What the station saw in the last hours of running.	Limited space; oldest im overwritten; lost if the ca replaced.

STORAGE OPTION	WHAT IT USUALLY HOLDS	WHAT IT ANSWERS	LIMITS
Station PC or vision controller disk	Reject images and results; all images for a limited period.	Recent complaints; reject reviews; tuning.	One copy on one disk u backed up; full disk mus handled.
Network folder or server	Images and result files copied from the station.	Complaints and recalls over the retention period.	Needs network, storage backup from your IT tea
Database, MES or quality system	Results, codes, counts and a link to each image.	Searches by batch, code, time or line; reports.	Built by whoever owns t system; images usually the server.
Exported batch record	A file per batch with counts and selected images.	Evidence for a customer or an audit.	Only what was exported format.

How much to keep, and for how long

Storage and retention are your decisions, not settings the supplier chooses. Three questions set them:

- **What must the archive answer?** Reject reviews need days or weeks. Customer complaints need the period in which a complaint can still arrive. A recall needs the life of the product in the market.
- **What do the rules and your customers require?** For food, R638 requires processing and distribution records to be kept for at least six months after the product's shelf life, together with a traceability system and a recall procedure (R638, regulation 10). Retailer and brand-owner contracts may ask for more.
- **Which images are worth keeping?** Every reject image is cheap and useful. Every pass image of every unit multiplies storage; a sample of good images per batch, or the images around each reject, often answers the same questions.

Write the decision down: what is kept, where, for how long, who may see it and who deletes it. Then size the storage for that period with your IT team. A station should keep inspecting when storage fills, so the proposal states what happens then: overwrite the oldest images, raise an alarm, or both.

How images answer complaints and recalls

When a customer reports a missing date code, a wrong label or a loose cap, the first question is whether the fault left your line or happened later. With an archive you search by the batch code and date on the returned pack, open the images of that batch and time window, and see what the station saw.

- **The images show the fault.** Then the question is why the station passed it, or whether it was rejected and the reject failed. Reject confirmation records answer the second part.
- **The images show a correct pack.** That is evidence that the fault did not leave your line at that check. It is not proof about damage in transport or storage.
- **The images show a run of faults.** Then the archive shows where the run starts and ends, which keeps a hold or recall to the affected batches.

In a recall, batch records decide how narrow the recall can be; the guide to product recalls in South Africa covers the rules and the causes that start on the packing line. The cost of complaints, returns and recalls is part of the cost of poor quality, and an archive is one way to shorten the investigation behind each one.

Making the archive dependable evidence

- **One clock.** Station clocks are synchronised with the plant, so image times match PLC, MES and dispatch records. HIKROBOT's SCMVS client for smart cameras includes time calibration (HIKROBOT SCMVS client).
- **Clear names.** Each image is named or indexed by line, station, time, recipe, result and code, so it can be found without the station software.
- **Read-only copies.** Archived images are not edited. Access is by role, and deletion follows the written retention rule.
- **Backups.** The server copy is backed up like other production records. A single disk in a station is not an archive.

- **Known limits.** Record which faces and which checks each station covers, so nobody reads more into an image than it shows.

People in the images: privacy

A camera aimed at product on a conveyor rarely records people. Some do: a station at a hand-packing table, an operator reaching into the field of view, a wide view of a dispatch dock. South Africa's Protection of Personal Information Act (POPIA) defines personal information as information relating to an identifiable, living, natural person, and processing includes recording and storage (POPIA, section 1). In principle, then, an archived image in which an operator can be identified falls under POPIA.

- **Aim and crop.** Set the field of view and the stored region to the product, so people are not recorded in the first place.
- **Keep only what is needed.** POPIA requires personal information to be adequate, relevant and not excessive for its purpose, and not kept longer than necessary (POPIA, sections 10 and 14). Your retention rule should cover any image that shows people.
- **Secure the archive.** POPIA requires reasonable measures to secure the integrity and confidentiality of personal information (POPIA, section 19): access control and backups serve that as well as traceability.
- **Tell staff.** Let the people who work at the station know what is recorded and why.

This is a general note, not legal advice. Your information officer decides how POPIA applies at your site; the Information Regulator oversees the Act.

// FAQ

Questions about image archives

Can a vision system save an image of every product?

Yes, if the station has the storage and the time to write each image while the line runs. Many plants keep every reject image and only a sample of good ones, because every image of every unit needs storage planned for the full retention period. The choice is made per station, in the proposal.

Where are inspection images stored?

In the smart camera for recent images, on the disk of the station PC or vision controller, or copied to a network folder or server. HIKROBOT's catalogue lists image saving in the smart camera from the SC3000X upward. Long-term archives belong on a server your IT team backs up, not on the camera.

How long should inspection images be kept?

That is your decision, set by your own records policy, your customers' requirements and the law for your product. For food, R638 requires processing and distribution records to be kept for at least six months after the product's shelf life, and many plants keep inspection records for the same period.

Can images prove a product was correct when it left the factory?

They show what the camera saw at its point on the line: a label, a code, a cap, a seal. They are strong evidence for that check and that moment. They cannot show damage, tampering or storage conditions after the product left, and they cover only what was in view.

How do we find the image for a complaint?

Through the codes and time stamps stored with it. With the batch code and date from the returned pack, you search the batch, then the time window. If each unit carries a unique code that the station reads, you can go straight to the unit.

Do inspection images fall under POPIA?

Images of products do not. If a person can be identified in an image, for example an operator reaching into the field of view, that image can be personal information under POPIA. Aim the camera at the product, keep only what you need and for as long as you need it, and secure the archive.

SOURCES

1. HIKROBOT Machine Vision Smart Product Catalog 2025 Q4: smart camera selection guide (https://www.hikrobotics.com/en2/source/vision/video/2026/1/20/Machine%20Vision%20Smart%20Product%20Catalog_2025Q4.pdf) (vendor catalogue, pp.25-26, re-verified 2026-09-25; image saving in the camera from SC3000X)
2. HIKROBOT MV-SC3013XC-16M-WBN (SC3000X) product page (https://www.hikrobotics.com/en/machinevision/productdetail/?id=6921) (vendor product data, checked 2026-10-03; communication protocols listed include FTP)
3. HIKROBOT Download Center: SCMVS client (https://www.hikrobotics.com/en/Api/Foreground/Support/v2/DownCenter?module=0&title=SCMVS) (vendor download page, re-verified 2026-09-25; includes time calibration)

4. Regulations governing general hygiene requirements for food premises (R638, 2018), regulation 10 (https://www.gov.za/sites/default/files/gcis_document/201806/41730gon638.pdf) (Government Gazette, read 2026-09-25; records kept at least six months after shelf life)
5. Protection of Personal Information Act 4 of 2013 (https://www.gov.za/sites/default/files/gcis_document/201409/3706726-11act4of2013popi.pdf) (Government Gazette, read 2026-10-03; sections 1, 10, 14 and 19)
6. Information Regulator (South Africa) (https://inforegulator.org.za/) (regulator website, checked 2026-10-03)

RELATED: Product recalls in South Africa → Cost of poor quality (COPQ) → OCR/OCV code inspection → PLC & reject integration → Vision data to OEE and MES → What a station includes → Support →

// NEXT STEP

Plan the archive with the station

Tell us what a complaint or recall would need to show, and how your batches are coded. We will propose what the station keeps and where, for your IT team to size.

Start an assessment