

2026 EDITION

Beyond Compliance

Transforming retail execution with in-store scene understanding and AI

Compliance tells you whether the plan was followed. Scene understanding tells you what is actually happening on the shelf: yours and everyone else's.



Neurolabs

NEUROLABS.AI

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01

What is in-store scene understanding?

In-store scene understanding (ISSU) gives CPG brands a read on the whole shelf, not just their own products. Their range, their competitors' range, the promotional material around both.

It replaces planogram compliance, which only ever looks inward. Compliance answers whether your own plan was followed. It cannot tell you what the category did that week or why your volume moved.

Share of shelf

How much space you hold and how much your competitors hold, in the stores that matter most.

POSM and POS displays

Point of sale materials. Which displays and marketing actually went up, where and whether they are correct.

How ISSU works

ISSU combines SKU data and POS display data into one view of the scene.

You see your own execution and your competitors' in the same pass and share of shelf measured rather than estimated.

WHY IT MATTERS COMMERCIALLY

Moving from planogram compliance to ISSU gives you a view of execution beyond your own plan. You stop reporting on what you intended and start acting on what happened.

High visibility of your own range is no longer enough, it was never the whole picture.

WHAT COMMERCIAL TEAMS ASK FOR

Teams want the category, not the corner of it they own. They want competitor activity in the same dataset, at the same cadence, so trade and pricing decisions hold up in a meeting.

Compliance data alone cannot carry that argument. You need the whole board, not your own pieces.



Shelf, cooler and secondary display, recognised in one pass.



Compliance is foundational, but it's just the first step. Strategic decisions – where to allocate marketing dollars, how to position products, when to launch new products – require a more sophisticated understanding of the market.

Ireland based CPG

Catalogue, POSM and share of shelf

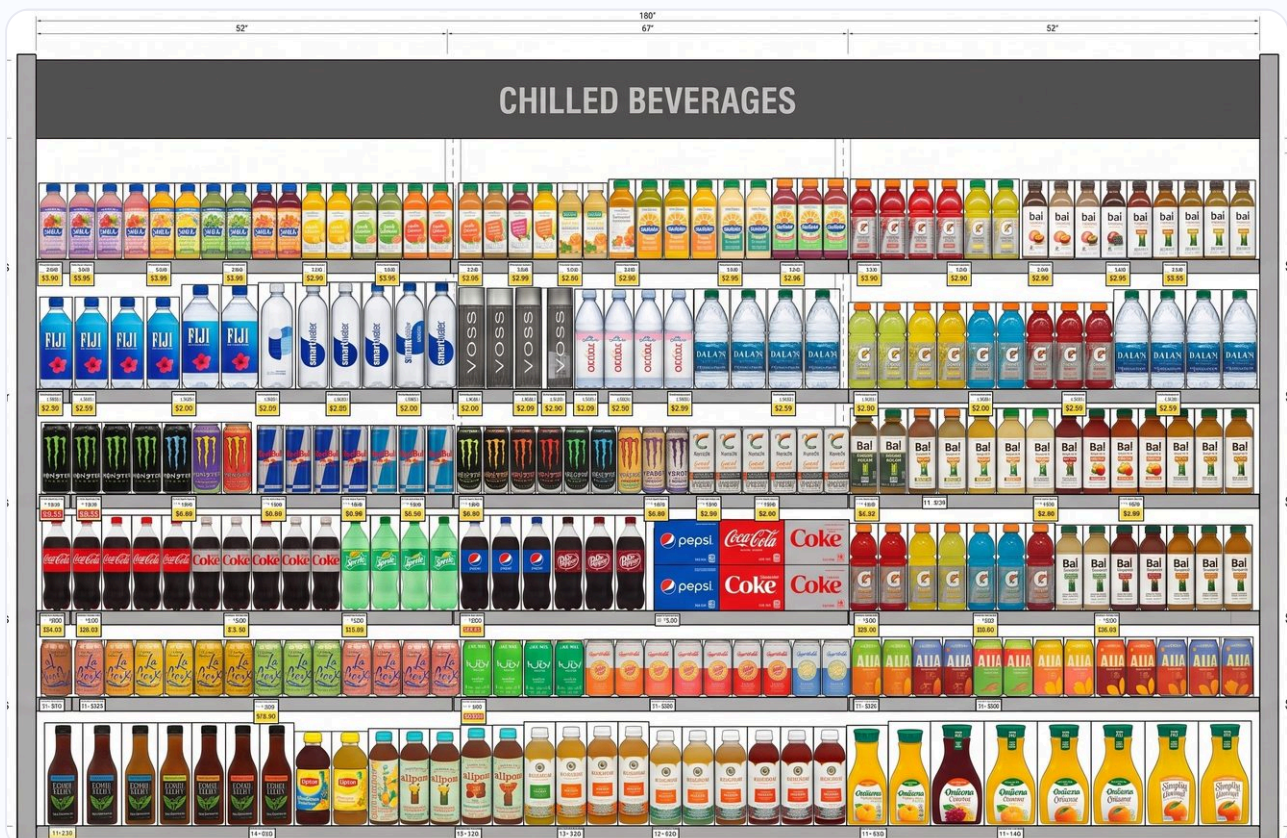
Planogram compliance

Still the foundation. It just isn't the ceiling.

We champion ISSU and planogram compliance sits underneath it. Reading a competitor's scene is worth nothing if the answers to these questions are wrong:

- 01 What is my SKU-level product availability?
- 02 Do I have the right number of facings?
- 03 Are my products in the right place, at the right price?

Internal and external information is far more valuable considered together than apart.



A full-category planogram. Indicative only.

Share of shelf

Share of shelf moves sales. In many accounts it is also contractual: a set amount of space or display and payment that depends on holding it. The better your share of shelf performs, the more profitable the store is for you.

Measured across the category rather than your own range, it also shows what competitors are doing to grow theirs. Four levers come up again and again.

Trade promotions

Discounts and slotting allowances offered to retailers in exchange for more space.

New and innovative products

Launches that pull shoppers in and give the retailer a reason to reallocate space.

Marketing and advertising

Demand built outside the store, which makes more space inside it worth granting.

Negotiation

Where no contract exists, the rep has to prove more space means more sales for the retailer.

Every one of those conversations improves with accurate data. The more precise the evidence, the better the deal a sales representative can negotiate, and nothing is harder to argue with than image-level proof of the shelf on the day.

POSM and POS displays

Understanding the scene sharpens POSM campaigns. Today most brands plan them on internal data alone with no read on the market around the display.

Take a campaign, in a top-four grocer, built mostly on end caps, that returns a poor ROI. ISSU would have flagged the problem before the spend.

It might have shown that in those stores, interactive displays at the entrance perform best and that competitors already knew it.

The pattern repeats across the industry. Most brands are still working in the dark on what happens in-store.

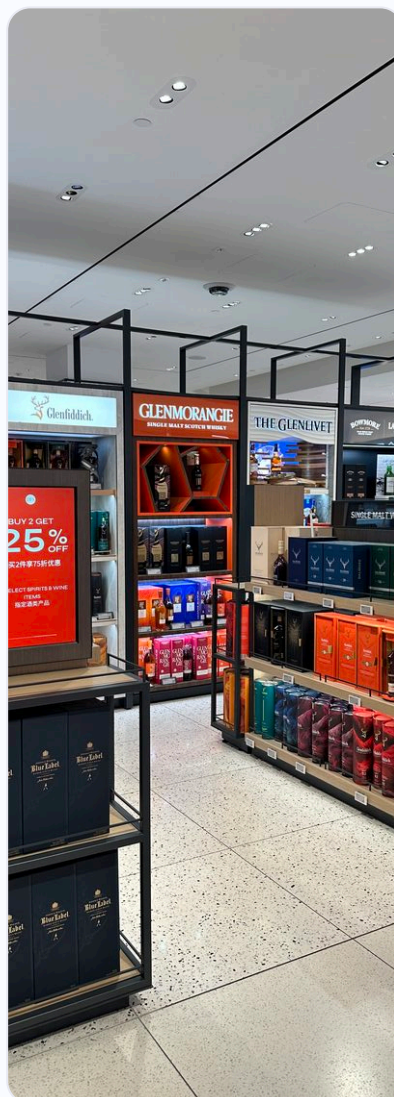


Image recognition and scene understanding

Image recognition was expected to give CPG teams a fuller picture. It has fallen short because it mostly runs in isolation: planogram compliance here, POSM there, little joining the two.

Even inside those narrow use cases, one problem keeps surfacing. SKU and POSM catalogue management is hard to do well and everything downstream depends on it.

Image recognition is a component of ISSU, not a substitute for it. ISSU is what lets you see the whole store at once, whenever you want to. It needs recognition that is reliable and scales.

THE BLOCKER

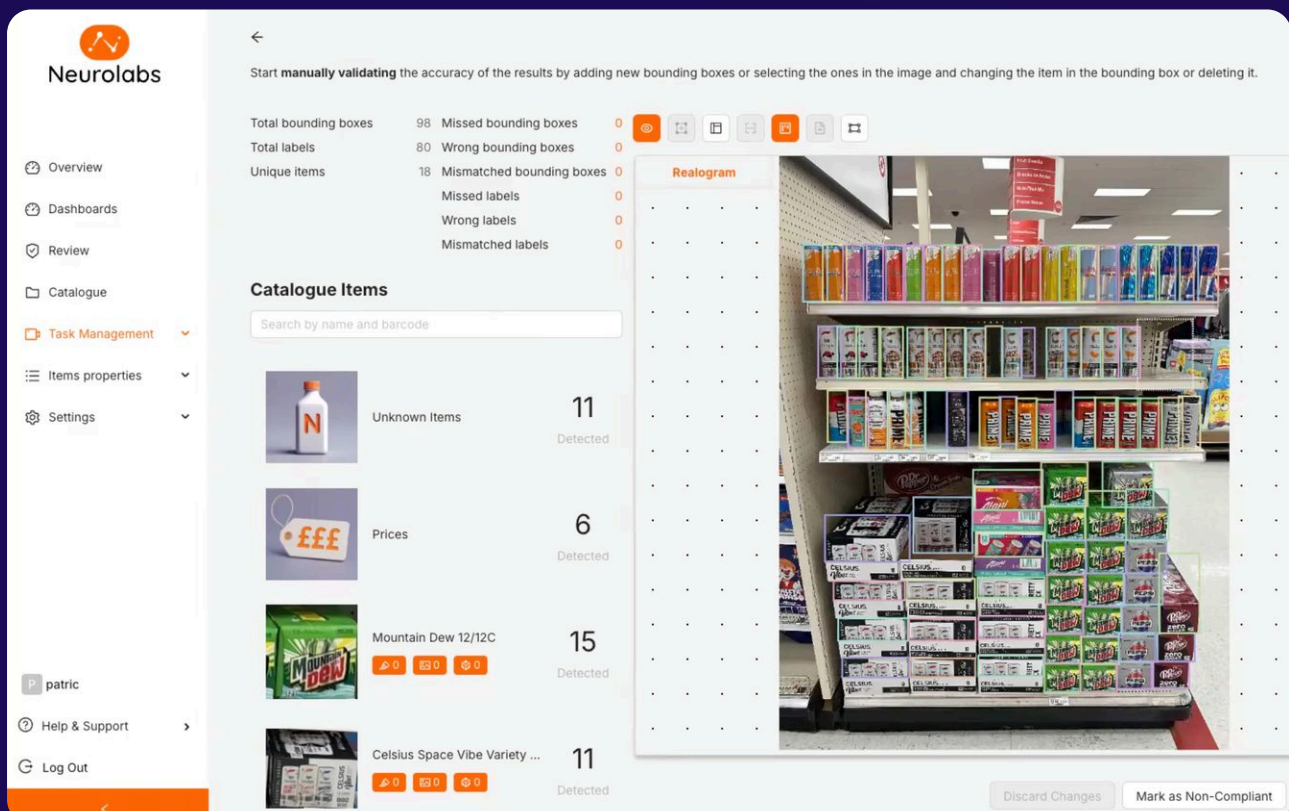
Catalogue management. Without a well-maintained catalogue, the whole process breaks down.

02

The current state of catalogue management

Image recognition is only as good as the catalogue behind it. It needs current SKUs and current POSM materials to be accurate in a real store.

Without effective catalogue management there is no usable recognition and without recognition there is no retail execution programme. That is why the state of catalogue management is a commercial problem, not a technical footnote.

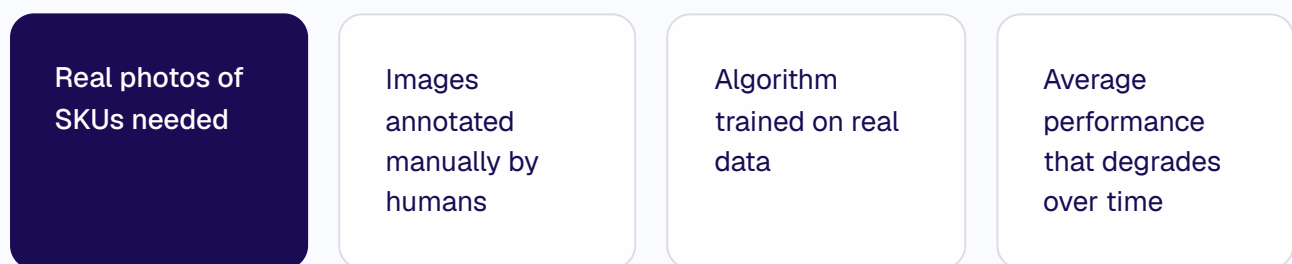


Onboarding

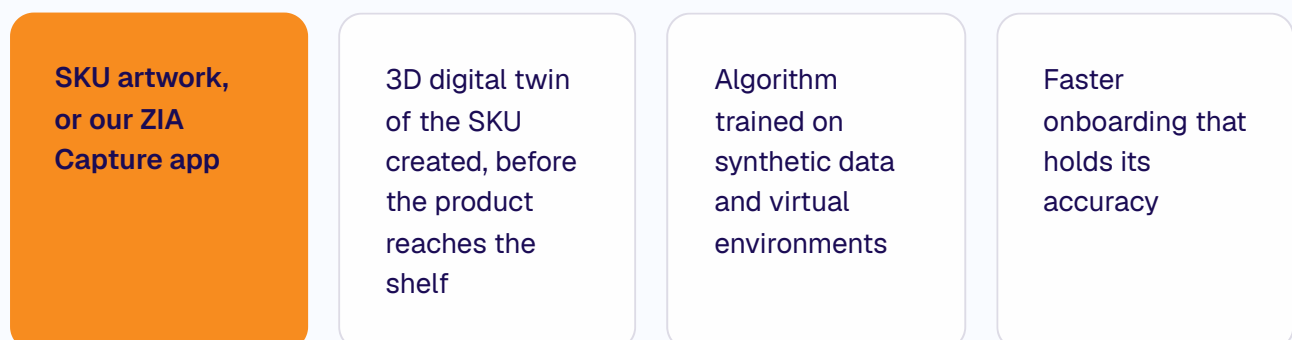
Catalogue management starts with onboarding SKUs and POSM. Today that step is an expensive struggle: a third party booked for bespoke photography, weeks of collecting real images, several people in the loop and the error rate that comes with them.

It does not scale: the more items, the longer it runs and the more staff it needs. Nor does it ever finish: the range changes, new SKUs and new POP materials arrive and the work starts again.

The old approach Reliance on real data



The new approach Synthetic data generation



Where catalogue management breaks down

IR vendors

Some recognition vendors take on onboarding and catalogue maintenance themselves. They do not have the time or the people to travel stores, regions and continents to do it, and they rarely have access to the field reps who do the work on the ground.

Giving the field reps a process is cheaper and faster. They are in the stores every day.

Online data sources

35–45%

of products in UK stores have any online presence at all.¹

Public SKU libraries claim 95% coverage. Our own research puts it at 60% at best.¹ These databases lean on point-of-sale data, and POS never flags a packaging change, because the barcode does not change with it.

E-commerce imagery is thin as well: a front and a rear shot on a plain background. Fine for a shopper, not enough to train recognition that has to work under harsh lighting, partial occlusion and damaged packaging.

Information discrepancy

Web-based methods depend on something you do not control: whether the information out there is correct. Third-party SKU images are often substandard: distracting graphics, busy backgrounds, low resolution.

Multinational operations add translation. Machine translation is not accurate enough for product labelling, and wrong annotations follow. Insufficient information is what stops vendors building recognition that holds up.

¹ Data and insights gathered by Neurolabs.



Frankly, the glaring issue we face is data accessibility. It's astounding that in this age, there's no public database of SKUs or available libraries. The chasm between the master data catalogue and on-the-ground reality in stores is a two-way street and it's huge!

USA based CPG

What catalogue management should be

USE THE ASSETS YOU ALREADY HAVE

Building a 3D model of a SKU in minutes takes the pressure off. Real product photography, unreliable online imagery is no longer needed, and field reps get on with the job faster.

It also means a 3D replica can exist before the product does, which removes a blocker from every launch. Synthetic recognition is what makes that possible. It needs neither real data nor real images. It is one area where we lead the industry.

The same process covers POSM. A PDF of the promotional artwork is enough to onboard it.

DEMOCRATISED CATALOGUE MANAGEMENT

Onboarding a SKU should be simple. Anyone holding the SKU or the POSM should be able to add it in minutes from a phone.

And the people tracking catalogue changes should be the people who benefit from the recognition: the field reps. Whether they work for the brand, a field marketing agency or a crowd force does not matter. They are the ones who see and touch the catalogue daily.



Real photo (real data) and 3D model (synthetic data).

How ZIA Capture makes it easier

ZIA Capture is our onboarding technology. It brings the time and the cost of onboarding SKUs and POSM down to something a field team can absorb.

Universal artwork

Upload the artwork file or use our app to build an accurate 3D model in minutes and have it onboarded within hours. You can onboard a competitor's catalogue the same way, which is where the competitor insight comes from.

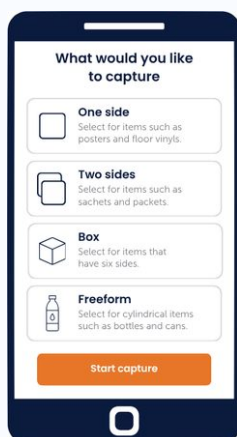
Automated barcode recognition

Barcodes upload automatically, so nobody types EAN or UPC codes by hand. Searching and reporting on products and categories gets easier as a result.

Hours, not weeks

The full catalogue onboards in hours, with a synthetic training model ready to deploy inside a day at over 96% accuracy from the start.

ONBOARDING AS EASY AS 1, 2, 3



01 Choose what you are onboarding



02 Follow a few simple steps



03 Verify and upload to the catalogue

03

From dashboards to answers

The data already exists; reaching it is the problem because it sits in spreadsheets and in dashboards nobody has time to read and value collected but never used is value lost.

+95%

recognition accuracy, so every answer rests on measured shelf data rather than an estimate. New SKUs join the catalogue in under a minute.

What brands with synthetic recognition already hold

POSM campaigns · share of shelf · out-of-stock status · product availability · compliance levels · competitor share of shelf and pricing

The question is no longer whether to use AI. It's whether anyone on your team can get a straight answer about a store while there is still time to act on it.

Every surface in the store, in one unified visibility

A category is won and lost across the whole store, not just the main fixture. Every zone is scene-classified from the same set of photos, so different KPIs and different teams can be assigned to each without running a second programme.



WARM SHELF

Share of shelf, availability, pricing and planogram compliance on the primary aisle.



COLD VAULT

Door-by-door facings and availability in chilled, where beverage volume is won.



POS DISPLAY

End caps, FSDUs and floor stacks: share of exhibition, verified with photo evidence.



RACKS & ASSETS

Branded coolers, racks and stands detected and attributed to the right location.



BACKROOM

Backroom stock detection separates an execution gap from a true supply gap.

One governed dataset covering the whole store, rather than five partial views that never reconcile.

Shelf data in your data lake, not a vendor portal

Recognition results land natively in your Databricks lakehouse through Unity Catalog and a Bronze, Silver and Gold Medallion architecture. The data is queryable from the first image, with no export step and no six-month ETL project. Shelf execution then sits alongside depletions, trade spend and supply data.

IMAGE RECOGNITION IN ISOLATION	NEUROLABS AND YOUR DATA LAKE
Data sits in a separate vendor portal	Governed data native in your lake, under Unity Catalog
Flat-file or API export, then months of ETL	Queryable from the first image
Shelf KPIs read in isolation	Joined to depletions, trade spend and supply
Periodic manual compliance audits	Continuous verification with photo evidence
Separate pipelines per market	Delta Sharing across markets, no data copies

FROM FIELD EXECUTION TO ENTERPRISE INTELLIGENCE

01

Real-time field execution

What the rep sees seconds after capture: share of shelf, availability, price and compliance.

02

Backend execution intelligence

What the market manager sees: perfect-store scores, trends and benchmarks on your own data.

03

Cross-functional next best actions

Display ROI within the season, execution gaps separated from supply failure, live pricing into RGM.

About Neurolabs

Neurolabs builds the Execution Intelligence platform for CPG. Our synthetic recognition, ZIA (Zero Image Annotations), gives commercial teams objective visibility of in-store performance in near real-time.

We work with field marketing agencies, sales force automation companies and CPG brands to improve store execution and protect revenue, on the back of the most extensive 3D asset library in the industry.

The technology plugs into the platforms you already run, and ZIA Capture puts SKU and POSM onboarding into the hands of the field, in minutes rather than weeks.

Built with CPG teams to solve everyday execution challenges. Deploy in days.

+95%

Recognition accuracy

<4 wks

Live and fully catalogued

<1 min

To add a new SKU

SOME OF THE CLIENTS THAT TRUST US FOR IMAGE RECOGNITION



START CLOSING THE EXECUTION GAP

See Everything. Miss Nothing.

The retail execution gap is measurable and for most brands, it is still largely invisible. Promotions run without verification. Displays go up incorrectly. Products disappear from shelves without triggering replenishment. Execution Intelligence changes that.

- ✓ Live in weeks, not months across the full store estate.
- ✓ Visibility into availability, pricing, promotions and display while campaigns are still live.
- ✓ Synthetic data eliminates SKU onboarding bottlenecks.
- ✓ Native integration with Databricks and commercial analytics platforms.

Visit: neurolabs.ai/demo