

Unexpected variables that umake or break ROI with AI cameras

Our learnings from deploying >1,000 AI vision systems in the last year

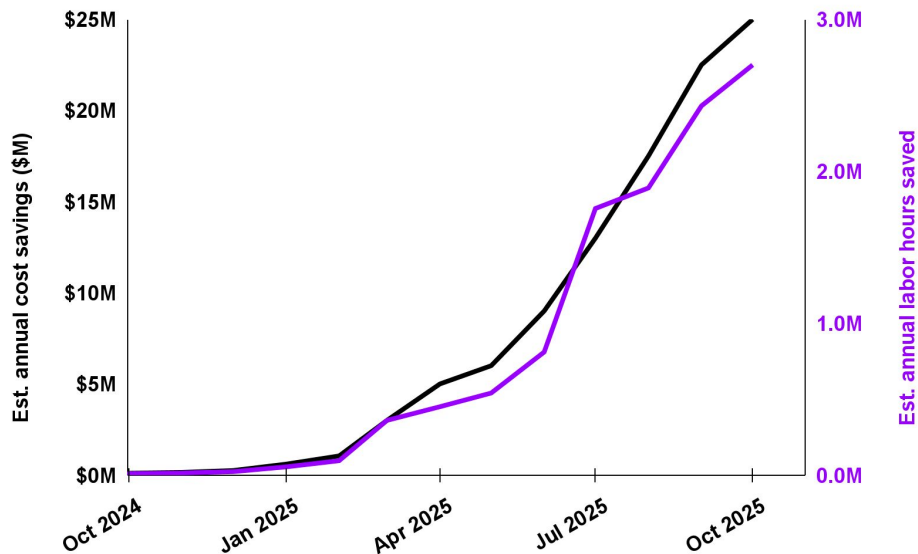
About Overview AI



Chris Van Dyke
Co-Founder & CEO



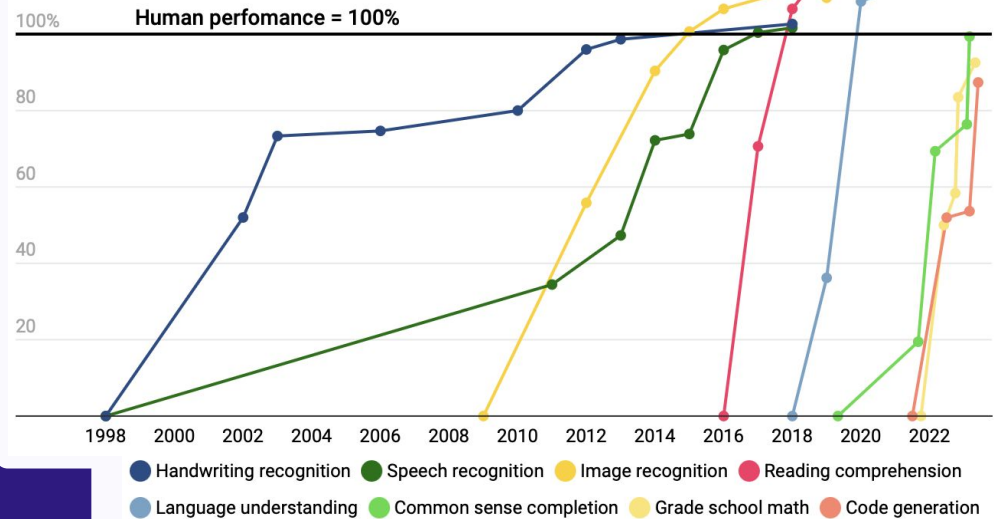
>\$25M in annual cost & 1M in
labor-hour savings deploying >1k
cameras in 12 months



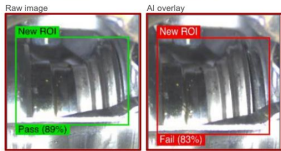
AI performance has increased dramatically in the last few years

- Models ingesting exponentially more data
- AI outperforming humans
- Systems generalized well
- Fine-tuning enables tailored use

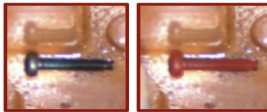
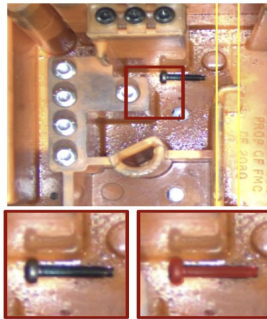
AI is good enough to replace humans for most visual tasks



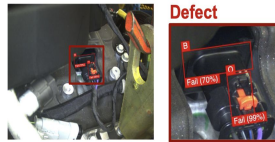
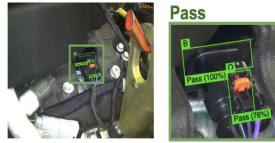
These improvements unlock new use cases that are now easy to solve



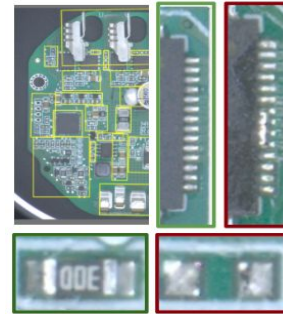
Reflective,
shiny parts



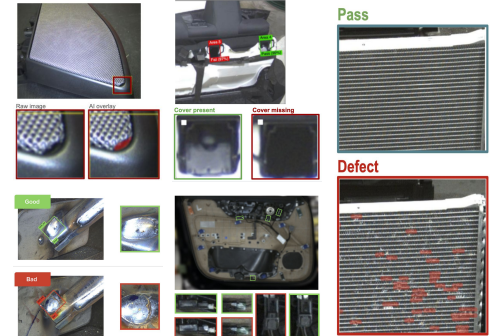
Foreign
objects



Soft-seated
connectors



Multi-class
defects



And many,
many more....

Before

Rule-based inspections

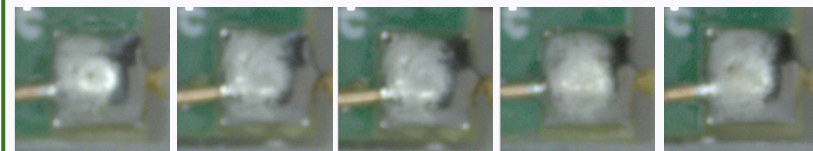
```
0 response = requests.get(url)
1 # checking response.status_code (if you get 502, try rerunning the code)
2 if response.status_code != 200:
3     print(f"Status: {response.status_code} - Try rerunning the code!")
4 else:
5     print(f"Status: {response.status_code}\n")
6
7 # using BeautifulSoup to parse the response object
8 soup = BeautifulSoup(response.content, "html.parser")
9
10 # finding Post images in the soup
11 images = soup.find_all("img", attrs={"alt": "Post image"})
12
13 # downloading images
14 for image in images:
15     # image.attrs["src"]
16     # image.attrs["alt"]
17     # image.attrs["data-srcset"]
18     # image.attrs["data-lazy-srcset"]
19     # image.attrs["data-lazy-src"]
20     # image.attrs["data-lazy-srcset"]
21     # image.attrs["data-lazy-srcset"]
22     # image.attrs["data-lazy-srcset"]
```

- Code individual rules
- Adjust by trial/error
- Fails in variable conditions

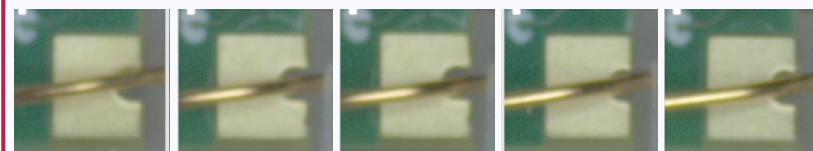
After

Learn by example

GOOD SAMPLES



DEFECTIVE SAMPLES



- Train with a handful of images
- Highlight and label good/bad parts
- Robust to variability

The technology is ready.

**Deployment speed is
the bottleneck to high
ROI.**

Hitting ROI targets & scaling AI deployments means solving a new set of challenges

1-5 Camera Pilots



Safe, test environments



Slow, careful progress leading to long timelines



Few stakeholders involved (small pod of plant engineers)

100+ Camera Roll-outs



Conditions vary within and across plants



High pressure to scale impact within & across plants quickly



100+ stakeholders from VPs to operators with different needs

Deployment Challenges



Physical Install

Mounting wiring,
connecting



Integration – PLC, data systems

Communicate with nearby
computers, log all the data you'd like



Final 1–5% of accuracy

Corner cases and any other
low frequency defects



Defining Success

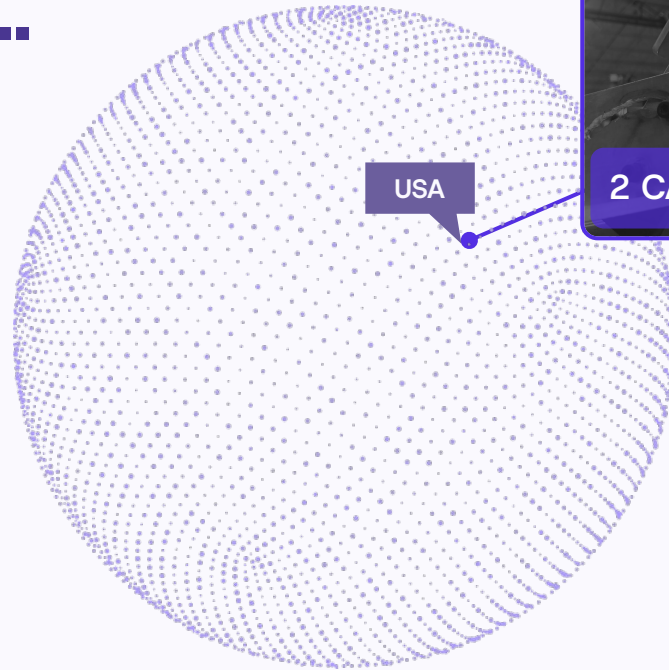
Building confidence the system
really is ready to go

Starting with a pilot...

Oct–Nov

Dec–Jan

Feb–Now



WHAT WORKED WELL:

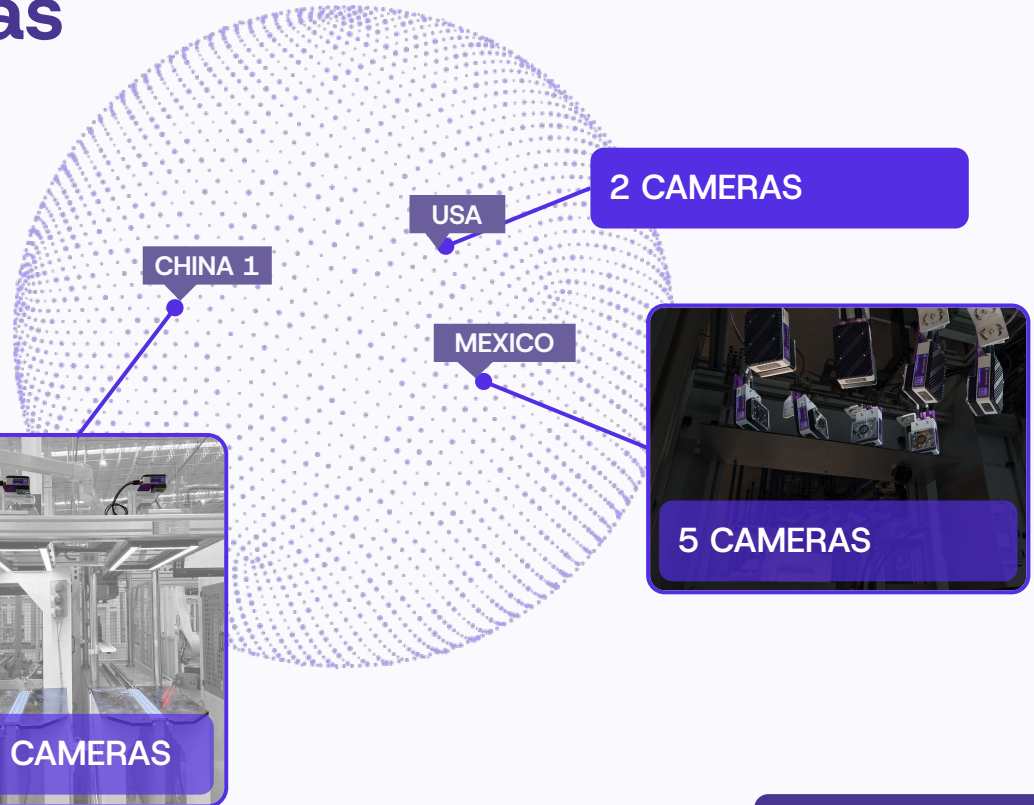
- Clear success criteria
- Controlled pilots mimic production environment

To dozens of cameras

Oct–Nov

Dec–Jan

Feb–Now



WHAT WORKED WELL:

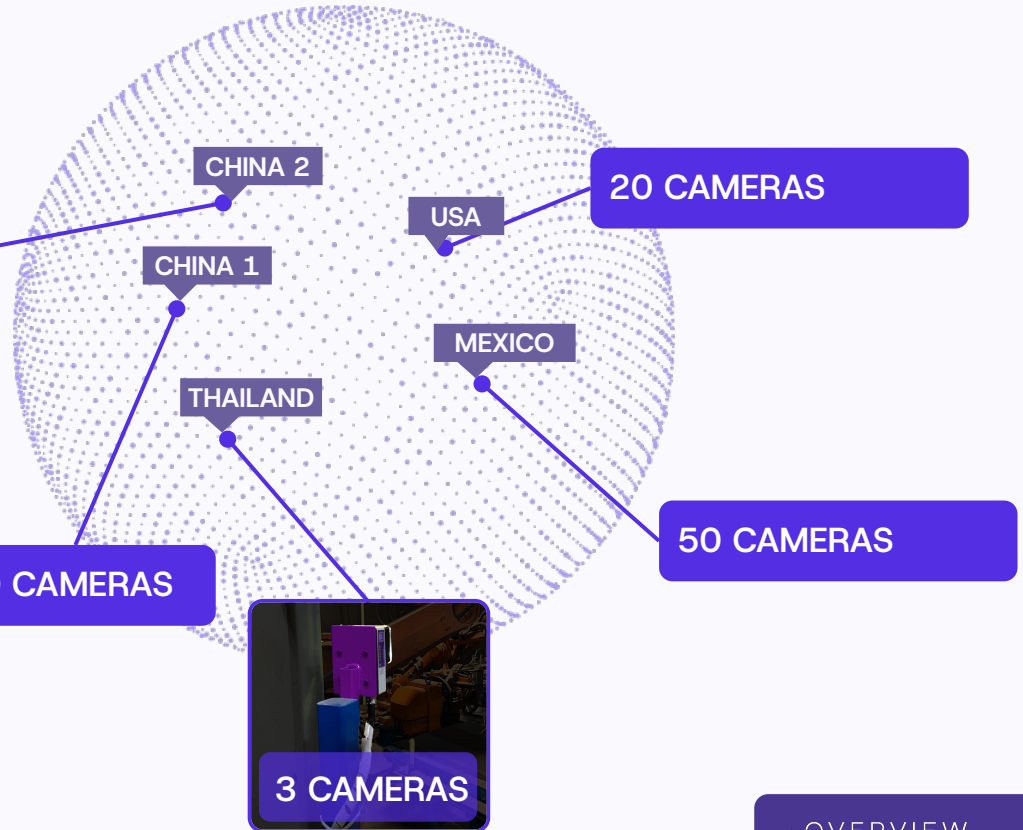
- “Copy–paste” recipes & retrain in production
- Worked across two new plants at once

To 100s of cameras

Oct–Nov

Dec–Jan

Feb–Now



WHAT WORKED WELL:

- Telemetry to check yield & resolve issues
- Cross-region & plant ownership

6 principles to drive rapid deployments



Champion owner

Senior individual that has the vision and influence to understand & drive ROI



Clear ROI potential

Lab and early production tests demonstrate cost, labor, and time savings



Copy-paste & fine-tune

Ensure tools are easy to replicate and fine tune in subtly different environments



Telemetry

Monitor your fleet of tools to easily identify issues and anomalies



Cascading Buy-in

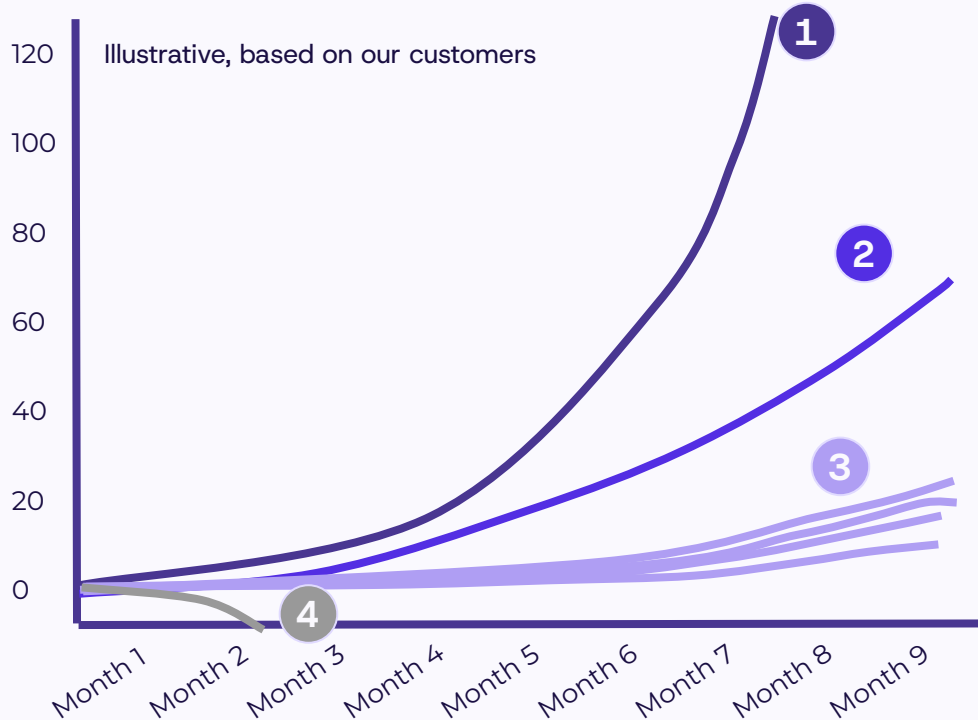
Very helpful when central team and local teamwork together and plant leaders support the efforts



An all-in vendor

No matter who your vendor is, if you are going to deploy a lot, get them onboard and playing their role

The best organizations avoid getting stuck in pilots & find ways to scale impact fast



- 1 Pilot, prove, & scale rapidly
- 2 Pilot, prove, & scale steadily
- 3 Months long pilot, slow scale
- 4 Pilot and stop

Key takeaways

- ① Getting good AI is easy now.
- ② Deploying it scalably remains hard.
- ③ Scaled deployments are hard as:
 - Production environments vary within and across plants
 - Significant pressure to drive ROI and impact
 - Multi-stakeholder involvement with competing priorities

What we found works:

- ✓ Champion owner
- ✓ Clear ROI
- ✓ Copy/paste & fine-tune
- ✓ Monitor with telemetry tools
- ✓ Clear owners & responsibilities
- ✓ A highly engaged vendor

Thank you.



Chris Van Dyke
CEO & Co-Founder