

Operation Xray

AI assistance for
venue bag screening

A second view for the human
responsible for the decision



Venue bag screening

Every bag still needs a human judgment

Concerts and sporting events are the first use case. We target sites that already operate cabinet X-ray scanners.

Initial buyer

Venue security director or contracted screening operator

Discovery questions

Where do reviews slow down?

Which alerts earn trust?

What does a useful audit show?

A second view for the operator

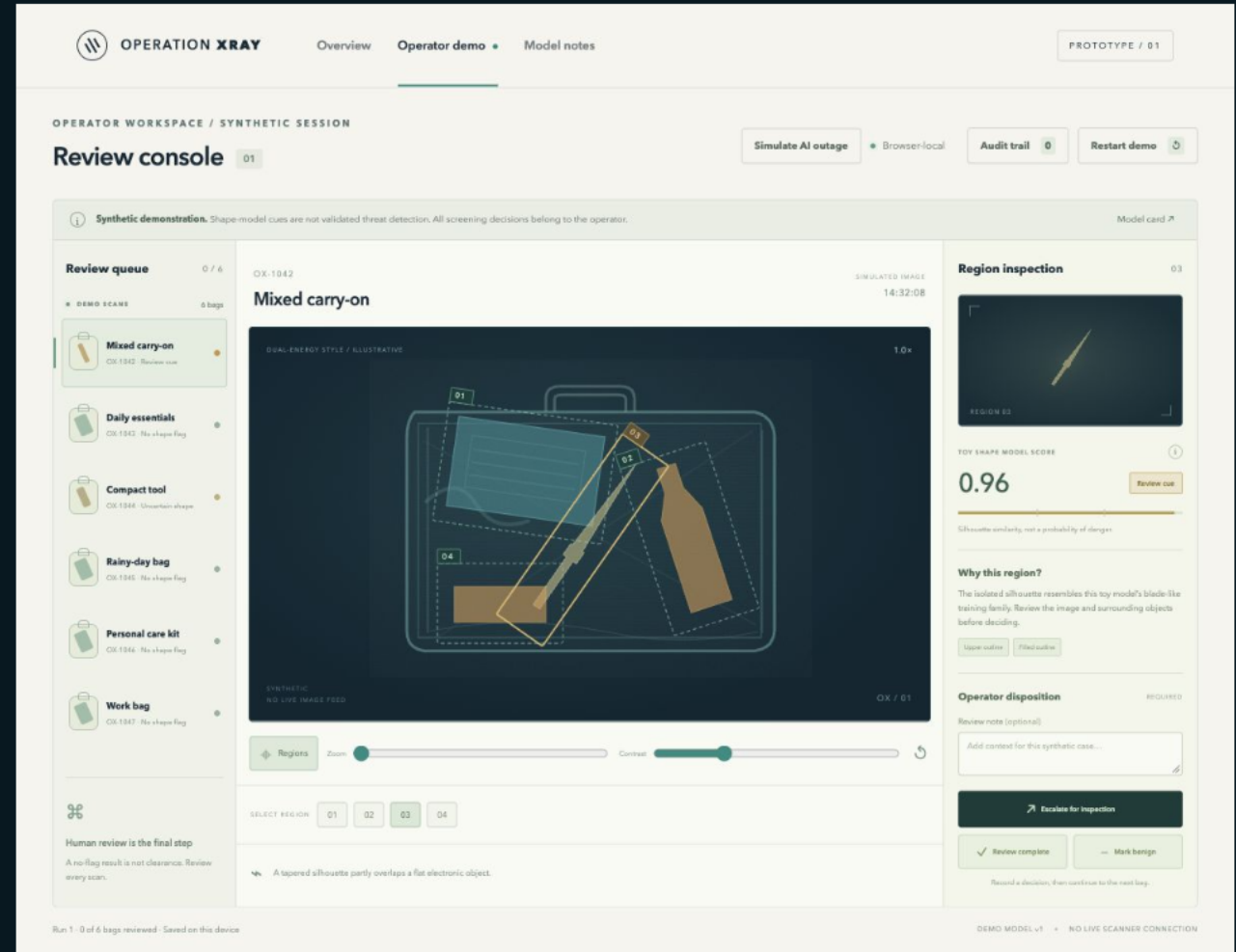
Inspect

Review the original image and suggested region.

Resolve

Record a human decision.
Keep the reason in the audit.

The copilot never
automatically clears a bag



Retrofit architecture

01 Approved image feed

One scanner model with documented export access

02 Edge analysis

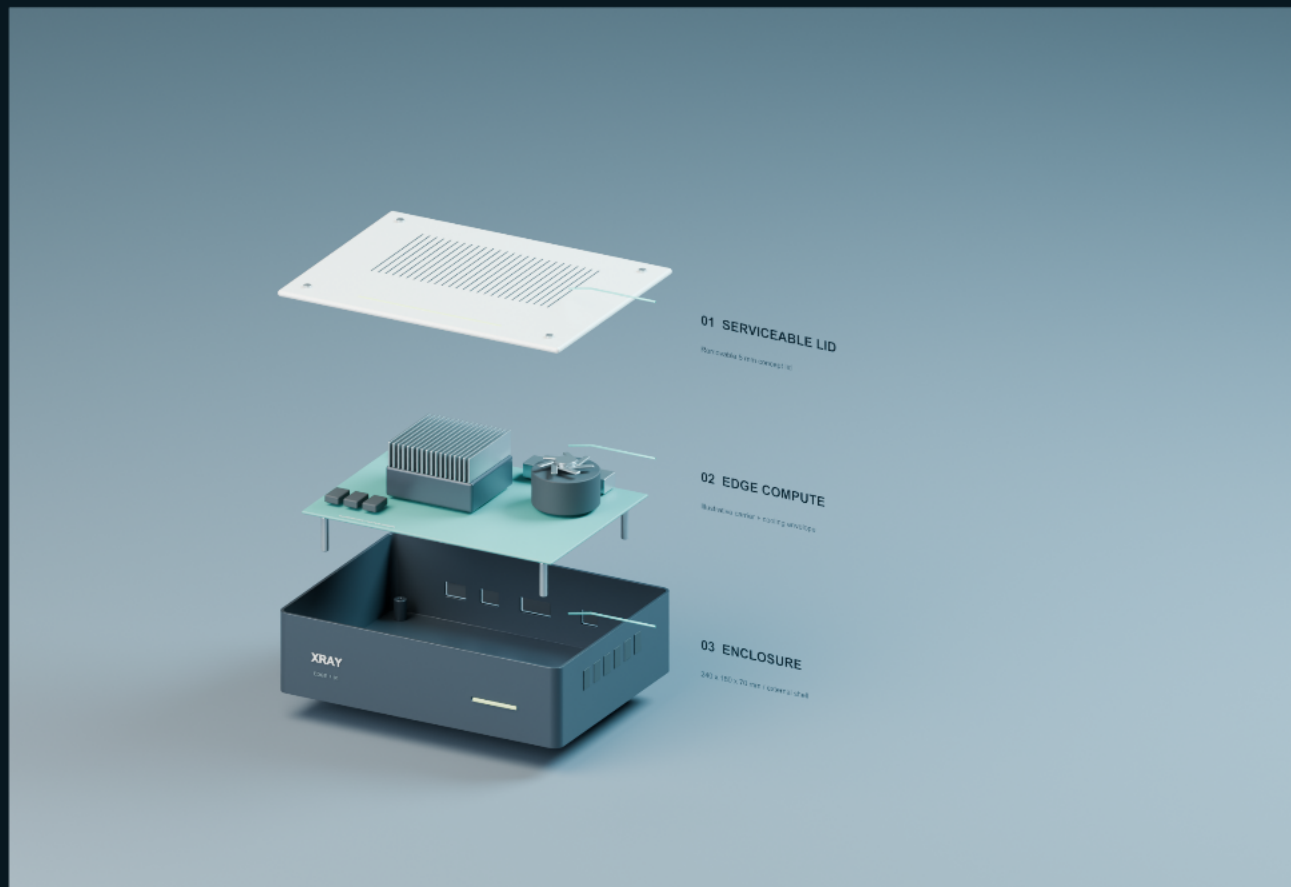
Versioned inference and explicit unavailable states

03 Operator console

Original image, suggested region, human disposition

04 Audit record

Scan ID, model version, decision, and reason



What the prototype proves



Available today

- Editable 3D concept
- Interactive operator workflow
- Toy inference on synthetic artwork
- Exportable decision audit

Evidence still required

- Licensed scans and an OEM interface
- Independent detection evaluation
- Buyer demand and pilot economics

Competition and our hypothesis

Provider	Existing capability	Implication for our plan
Smiths Detection iCMORE	AI prohibited-item recognition. Upgrades to Smiths systems.	Retrofit AI already exists. A generic overlay is insufficient.
Rapiscan Systems and AS&E	Operator assistance in ORION. InSight ML in cargo / vehicles.	Incumbents own integration and service relationships.
Operation Xray Proposed	Venue policy and human review workflow across approved integrations.	Differentiation requires buyer evidence and OEM access.

Validation question

Will venues pay for an integrated review and audit workflow beyond their OEM software?

Business model to test

\$900

per active lane / month

Recurring copilot subscription.
Edge kit and installation priced
separately.

100 active lanes = \$1.08m ARR

Monthly per lane	Scenario
Revenue	\$900
Recurring variable cost	\$180
Contribution before fixed costs	\$720
Modeled recurring gross margin	80%

Unknown: OEM fees, support burden,
CAC, sales cycle, renewals, and churn

Data access comes before deployment

A usable dataset needs permission and ground truth

OEM + venue agreement

Image export access. Training and pilot rights.
Retention, security, and incident procedures.

Independent annotation

Qualified screeners adjudicate labels.

External holdout

Keep unseen bags, sessions, sites, and scanners for evaluation.

Human + copilot study

Measure sensitivity by class, false alerts, review time, automation bias, and outages.

18-month validation plan

Period	Work	Evidence required to advance
Months 0-3	Buyer discovery OEM feasibility	Signed data rights and a credible integration path for one scanner
Months 4-6	Data collection Lab integration	Representative labeled scans and an independent evaluation plan
Months 7-12	Holdout study Supervised shadow pilots	Detection and human-factor evidence against pre-registered partner criteria
Months 13-18	Paid pilot decision Delivery economics	Independent report and customer decision with verified costs, or a stop / pivot

Next-round evidence: independently evaluated results and a paid customer decision.

Proposed pre-seed round

\$1.5m

18 months to validate

One approved scanner integration.
Independent detection evaluation.
A paid customer decision.

No custom scanner manufacture
in this proposed budget

Use of funds	Amount
Engineering and domain team	\$600k
Data, annotation, OEM lab	\$270k
Venue pilots and field work	\$180k
Evaluation, security, legal	\$150k
Product infrastructure	\$150k
Contingency	\$150k
Total	\$1,500k

Airport and clinical expansion

Airport bag screening

A later aviation product

Needs application-specific testing, approved integration, and an acquisition pathway.

TSA demonstration access does not establish procurement or approval.

MRI findings assistance

A separate clinical product

MRI uses magnetic fields and radiofrequency energy. It does not use ionizing X-rays.

Needs clinical partners, modality data, validation, and a regulatory pathway.

The next evidence

Before an investment decision

Who will own the OEM and security relationships?
Can we license real scans for training and pilots?
Will buyers pay beyond their incumbent software?
Can independent trials show a useful human benefit?

Current evidence boundary

Concept CAD and synthetic workflow only.
Customers, performance, approvals, and revenue remain unverified.

Primary sources

Smiths iCMORE

Smiths upgrade compatibility

Rapiscan ML / deep learning

FDA cabinet X-ray guidance

TSA innovation demonstrations

FDA MRI modality

FDA clinical software criteria