

GEMINI STARTUP FORUM 2026

The intelligence layer for production-line X-ray CT

Physics-informed AI for fast, trustworthy 3D quality
decisions.

Zhihua Liang · Founder

scanline.cn





Manufacturing inspection still trades depth for speed.

Internal defects demand 3D evidence, but production decisions happen at takt time.

MANUAL / DESTRUCTIVE

Slow feedback

Operator variability and sampled evidence leave most production unseen.

OFFLINE INDUSTRIAL CT

Rich, but late

Full 3D evidence often arrives after the process can still be corrected.

FAST 2D X-RAY

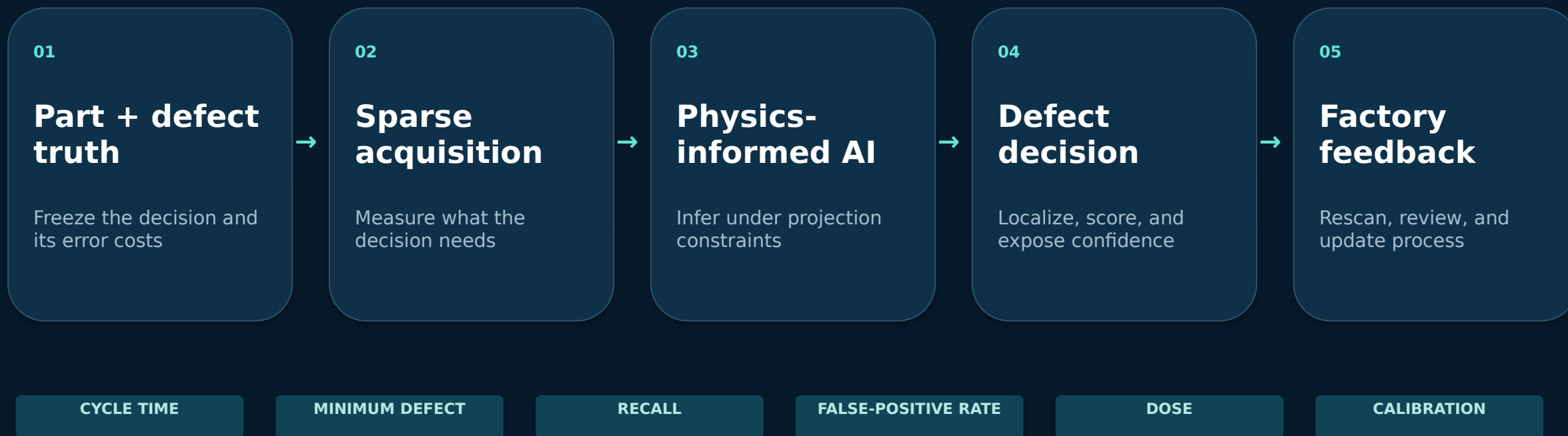
Fast, but ambiguous

Occlusion and depth mixing can hide or mislocalize internal defects.

OUR THESIS Co-design acquisition, reconstruction, and the quality decision—then optimize the whole loop for the defect that must be caught.

From X-ray projections to an auditable action.

AI connects sparse measurements, physical consistency, defect evidence, uncertainty, and factory feedback.

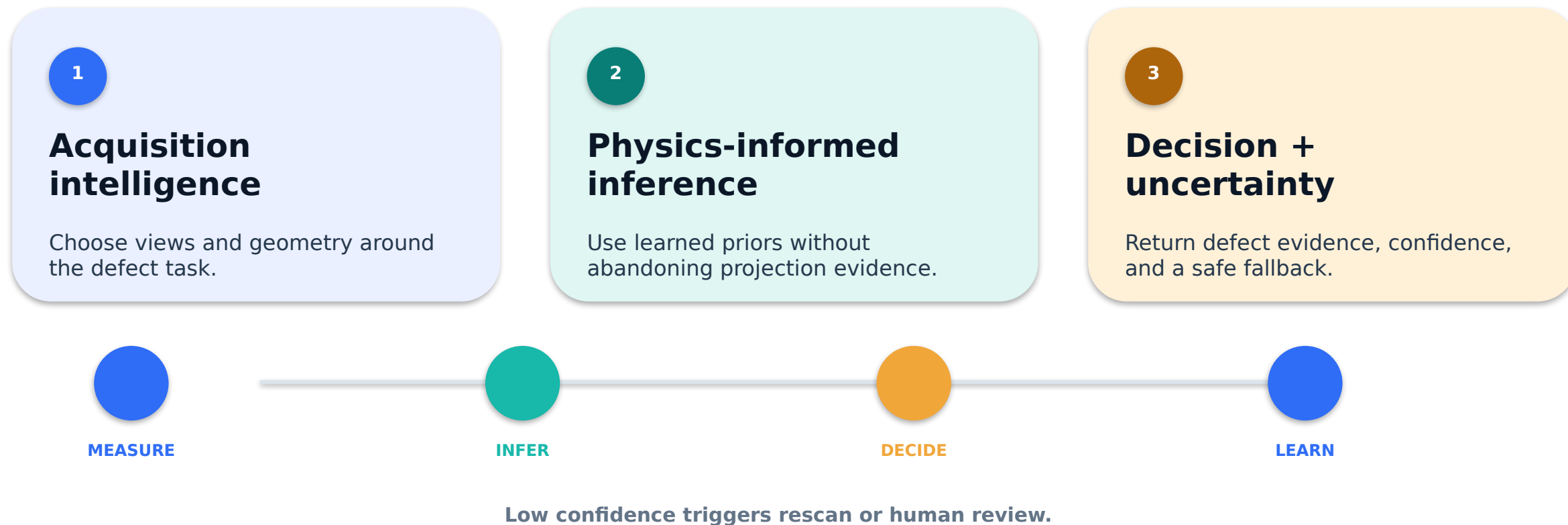


Joint acceptance—not image quality alone



The product is a decision system—not a prettier reconstruction.

Three synchronized AI layers compress time while keeping the result testable.



We know what it takes to move CT from the lab to the line.

Prior operating experience is evidence. ScanLine's product and IP path are new work.

ESTABLISHED

Zhihua previously led AI back-end, reconstruction, and system integration for the DeltaRAY X100 inline CT platform.

SCANLINE · IN PROGRESS

Independent acquisition design, code, datasets, product architecture, and IP route.

The pictured product and associated IP belong to DeltaRAY.



Prior DeltaRAY inline deployment

Founder's prior work · not a ScanLine product

The ambition stays bold because the open bridge is explicit.

We separate what is established, what is being built, and what must be measured next.

ESTABLISHED

Inline CT system experience

- AI back-end and reconstruction
- System integration and line-side deployment
- Understanding of industrial acceptance

IN PROGRESS

Independent ScanLine stack

- Acquisition and architecture design
- Physics-informed reconstruction + decision
- Data, validation, and clean IP contracts

OPEN BRIDGE

Production-speed acceptance

- 2-5 s target for a defined workpiece
- Defect sensitivity at required recall / FPR
- Dose, drift, and uncertainty performance

TARGET · Full 3D quality decisions at production speed for a qualified inspection task



One part. One defect. One line.

A narrow wedge makes the hardest claim falsifiable—and creates a repeatable deployment template if it wins.

1 PART

stable geometry

1 DEFECT

qualified truth

1 LINE

real takt time

DAYS 0-30

FREEZE

Part, defect taxonomy, truth method, dense baseline, and joint acceptance metrics.

DAYS 31-60

BUILD

Sparse/dense pairs, physics-informed pipeline, and calibrated uncertainty.

DAYS 61-90

DECIDE

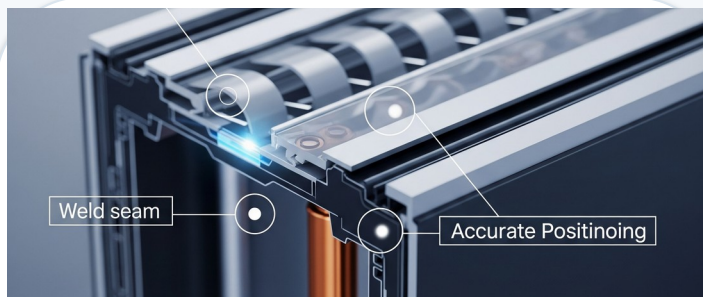
Blind comparison: deploy, repair the observable, or stop that wedge.

SUCCESS = faster cycle time at the same qualified defect threshold—not a nicer-looking image.



Start where hidden defects are costly and truth is obtainable.

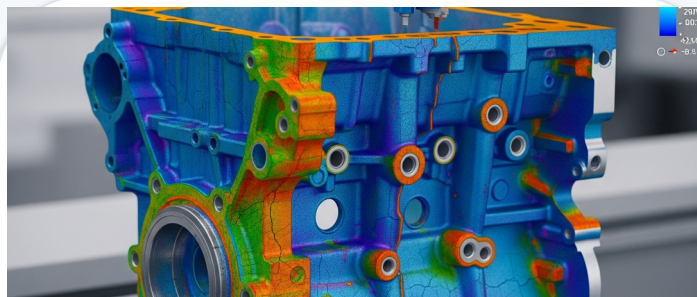
Candidate sectors—not customer or deployment claims. The first wedge will be selected by evidence access and economics.



Battery cells

Internal alignment, folds, contamination, and structural anomalies.

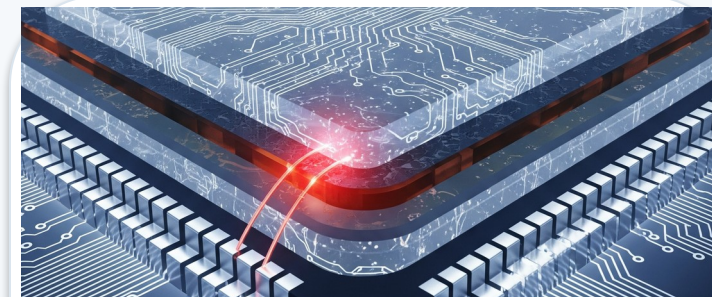
HIGH VALUE · DEMANDING CYCLE TIME



Castings + welds

Porosity, cracks, inclusions, and internal joining defects.

CLEAR DEFECT ECONOMICS · STRONG CT
FIT



Electronics

Hidden interconnect, packaging, and assembly anomalies.

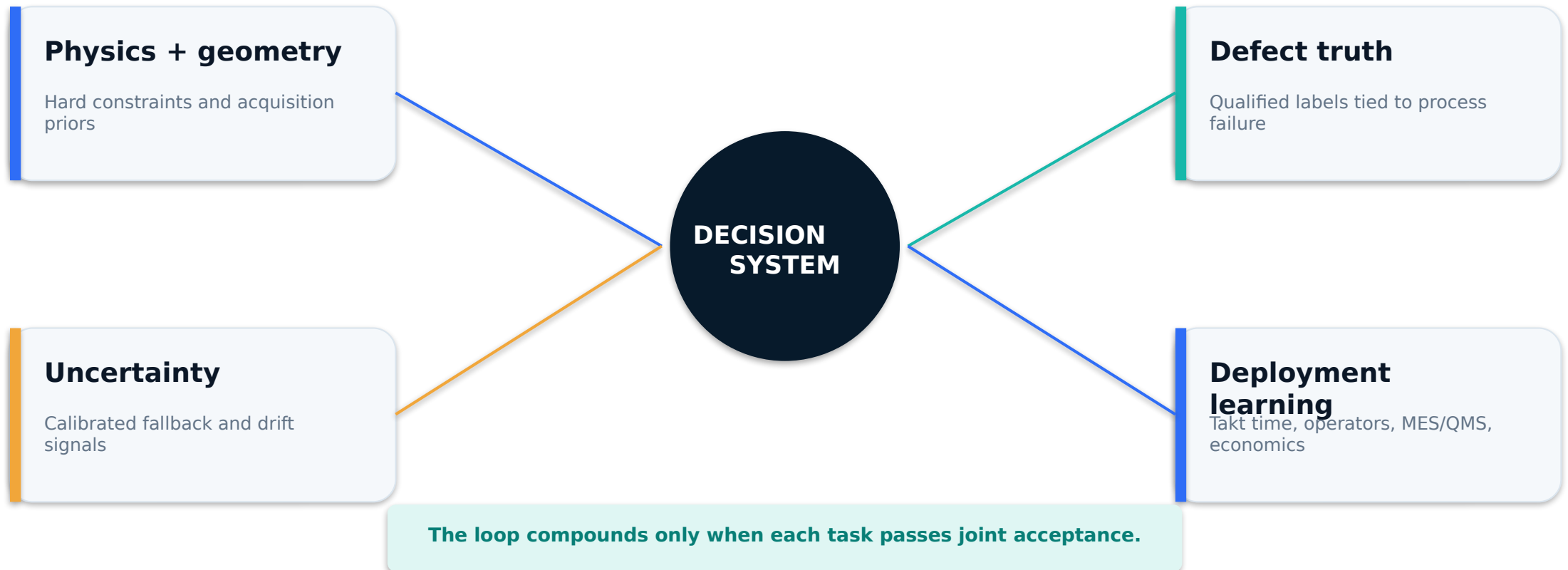
SMALL FEATURES · HIGH DENSITY

Selection gate data access × qualified truth × takt-time gap × economic value × design-partner commitment



Every qualified inspection task improves the intelligence layer.

The defensible asset is the coupled system of physics, defect truth, uncertainty, and deployment learning.





Sell the inspection outcome through two delivery routes.

The integrated route maximizes performance; the software route broadens compatibility and reduces hardware dependence.

CHAMPION ROUTE

Integrated inline CT system

- System sale or lease
- Recurring software, model, and service layer
- Co-designed for the highest-value inspection task

INDEPENDENT ALTERNATIVE

AI layer for compatible CT

- Reconstruction + defect decision software
- Per-line or annual subscription
- Integration and validation services

Shared core: task-specific models • uncertainty • workflow • evidence contracts



We want to turn one inspection model into a learning factory system.

Google can help us design the scalable, multimodal, and governed layer around real-time line-side inference.

GEMINI

Multimodal quality copilot

Reason across CT volumes, projections, defect evidence, process logs, and engineering documents.

VERTEX AI

Reproducible 3D model lifecycle

Evaluate scalable training, experiment tracking, model evaluation, and governance.

HYBRID CLOUD

Fleet learning with data boundaries

Keep time-critical inference near the line while aggregating permitted evidence for improvement.

Forum outcome we want: a technically credible Google architecture + mentors who can pressure-test industrial AI deployment.



CT systems experience meets medical imaging AI.

A compact technical team spanning inline CT architecture, reconstruction, computer vision, and image analysis.



Zhihua Liang

Founder · CT Systems & AI

Previously led AI back-end, reconstruction, and system integration for the DeltaRAY X100 inline CT platform.

INLINE CT · RECONSTRUCTION · SYSTEM INTEGRATION



Dr. Juan Liu

Core Team · AI Medical Imaging

PhD researcher contributing image analysis, model development, experimental design, and medical imaging perspective.

MEDICAL IMAGING · COMPUTER VISION · EXPERIMENTS

Current operating model: founders/core team first, specialist partners added around the selected pilot.



Turn the open bridge into measured evidence.

We are looking for:



DESIGN PARTNER

one part · one defect · one line



GOOGLE MENTORS

industrial AI architecture · validation · go-to-market



COMPUTE + PLATFORM

3D model development · multimodal knowledge ·
hybrid operations

See every part. Decide before it leaves the line.

90-DAY SUCCESS TEST

Faster cycle time
at the same qualified
defect threshold

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