Invariant Dynamics

AEROSPACE

Software and systems for the operations that make flight possible.

LOUISIANA / GULF COAST / BEYOND

Core capabilities

Ground infrastructure and reliability. Cloud, Kubernetes, and edge architecture; telemetry pipelines; deployment workflows; investigation and recovery.

Test and inspection evidence. Connect approved instrument observations, configuration, inspection, and maintenance context into a reviewable record.

Distributed sensing. Camera, sensor, and geospatial data integration; edge inference; source coverage, freshness, and buffering.

Scientific software integration. Typed service interfaces, system representations, reproducible scenarios, and bounded AI evaluation.

Software foundations

HSP: approved signal collection, typed envelopes, local buffering, and outbound transport.

DKM: typed event transport, distributed topology, and contextual observations.

MIG: model/service interoperability, streaming interfaces, metrics, and audit output.

InvariantComputer, TypedWorld, WorldSet, Horizon: workstation, system-context, and analytical foundations with project-specific integration and validation.

The family includes implemented components, prototypes, and continuing development. Aerospace suitability is evaluated for the intended task.

Founder experience

Zachary C. Nickens brings cloud/SRE and engineering leadership, defense geospatial systems, distributed messaging, Kubernetes operations, and computer-vision infrastructure.

Founder experience is distinct from company aerospace past performance. No aerospace customer relationship or certification is claimed.

Engagement model

Assess: define the workflow, sources, baseline, and delivery boundary.

Pilot: evaluate one useful result on approved data against explicit acceptance criteria.

Integrate: deliver the agreed implementation, operating documentation, deployment, and support.

Business contact

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Invariant Dynamics Aerospace is the aerospace practice of Invariant Dynamics LLC. Software platforms are developed within the Resonance Systems family.

Initial work focuses on software, integration, and human decision support. Licensed professional engineering, stamped designs, or certified flight/safety-control authority require a separately qualified team and engagement.