Healthcare Leadership & AI Strategy

What's Your AI Why?

Defining the Business Outcome Before the Technology

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~~What's Your AI Why?~~

- How do I create more value?
- Who is receiving value?
- Who is giving value?
- How do I create systems of equitable value exchange?

High Reliability Organization

HROs achieve extraordinary safety in inherently dangerous, high-stakes environments by treating errors as predictable and manageable before they become catastrophic.

Origins

Concept developed by researchers at UC Berkeley in the 1980s (LaPorte, Rochlin & Roberts)

Definition

Few organizations regularly performed complex, inherently dangerous tasks under extremely stressful conditions with high quality and reliability

Error Management

Managed errors so well because they were predictable AND expected

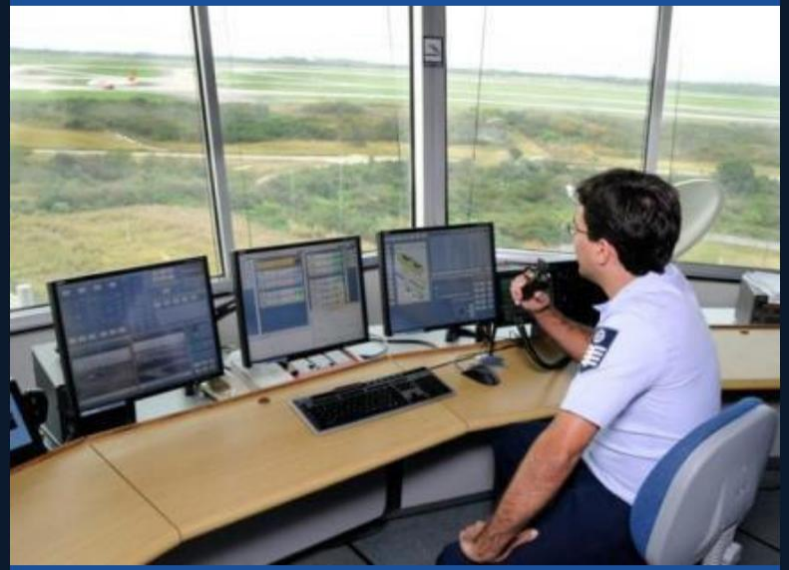
Consequence

Could not afford to "fail" because consequences would be catastrophic

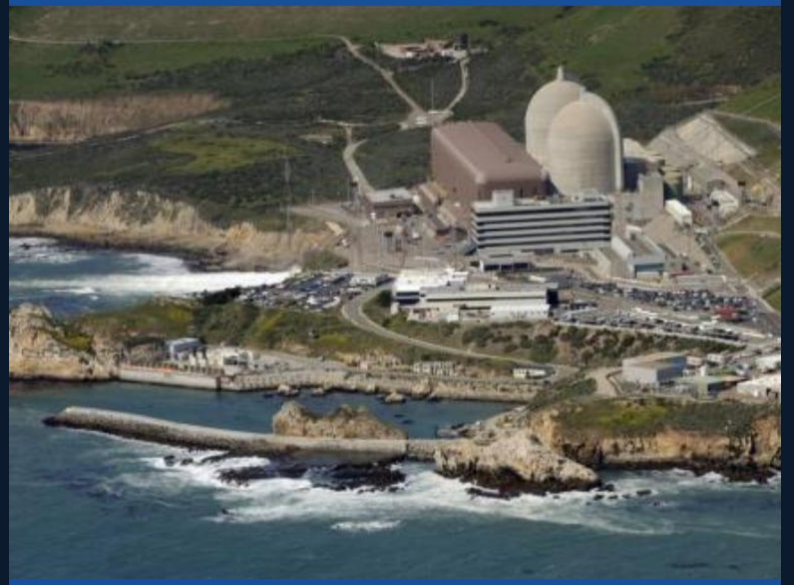
Original Study Group

The original HRO research focused on three industries that operate at the highest levels of consequence and complexity.

Aircraft Carriers



Air Traffic Controllers



Nuclear Power Plants

Aircraft Carriers

Remarkable safety under conditions of extreme physical complexity, noise, speed, and constant danger — a model for high-stakes operational excellence.

Extreme Conditions

Operate under the most extreme conditions

Compressed Runway

Take JFK airport, shrink it to one short runway, one ramp, one gate

Simultaneous Ops

Planes take off and land simultaneously at twice the rate — rock the runway, clean it down, and repeat at 75 mph

Safety Record

Less than 1 accident / 100,000 flight hours

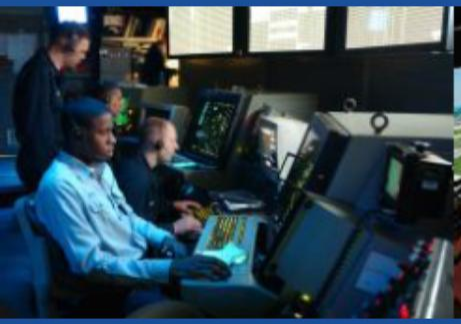
USS Carl Vinson

- Adm. (R) Thomas A. Mercer invited the Berkeley team to study his crew
- Only the 3rd nuclear powered aircraft carrier
- Crew members understood that errors would occur but could act quickly to solve problems before they became significant

Despite a nearly **100% turnover of crew and officers every 40 months** — exceptional reliability was maintained

Carrier Flight Deck Operations

Naval Aviation — Aerial Perspective



Air-Traffic Control

The US air traffic control system manages an extraordinary volume of lives daily with near-perfect safety through assertive decision-making and flawless communication.

- Busiest airspace in the world
- **45,000+** flights every day
- **2.5 million** passengers per day — 1 billion people per year, in all weather conditions
- **15,000** US air traffic controllers (133 lives/day/controller, or 67,000 lives/year/controller)
- Extremely organized, assertive, firm decision-making (Minnesota Multiphasic Personality Inventory)
- Excellent communication — no room for misinterpretation
- 30 arrivals/per hour/runway, with departures in between

Nuclear Power Plants

Nuclear plants achieve reliability through redundant systems, rigorous training simulations, and a deliberate resistance to oversimplification.

Incredibly Complex

Very sophisticated energy system requiring precision and expertise at every level of operation

Human Failure Prevention

Equipment designed specifically to prevent and catch human errors before they escalate

Redundant Safety Provisions

Multiple redundant safety systems in place to control damage and contain risk

Resist Oversimplification

Use training simulations and walk-throughs instead of relying solely on written plans

3 major reactor accidents
in the entire history of civil nuclear plants

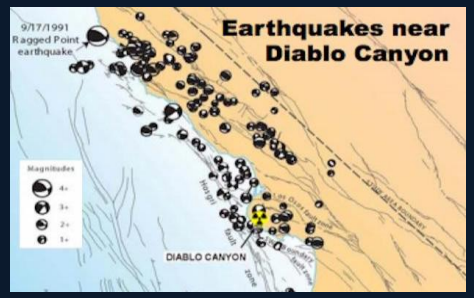
Diablo Canyon Power Plant

Electricity-generating nuclear power plant in San Luis Obispo County, CA — the **only operational nuclear plant in California**

Supplied electricity to **2.2 million people**

Redundant seismic monitoring — safety system **shuts down the plant** upon any significant ground motion (earthquake)

Designed to withstand a **7.6 magnitude earthquake**



Located **less than 1 mile** from the Shoreline fault line and **less than 3 miles** from the San Andreas fault

5 Unique Characteristics of HROs

High Reliability Organizations share five defining characteristics that transform risk management from reactive to deeply embedded.

01

Preoccupation with Failure

Treat every near-miss and anomaly as a signal — not an exception

02

Reluctance to Simplify Interpretations

Resist easy answers; look deeper into complexity

03

Sensitivity to Operations

Maintain situational awareness of frontline conditions at all times

04

Commitment to Resilience

Detect, contain, and recover from errors quickly and effectively

05

Deference to Expertise

Decision authority shifts to whoever holds the most relevant knowledge

Healthcare Should Be Designed as an HRO

But...

The case for healthcare as an HRO is urgent — the data reveals a system failing patients at scale through preventable adverse events and diagnostic errors.

23.6%

Adult hospital admissions involving an adverse event

1 in 20

US adults experiencing an outpatient diagnostic error annually

1.5M+

ED visits annually because of adverse drug events

40%

Malpractice cases involving communication failures

Sources: US Dept. of HHS

Healthcare Should Be Designed as an HRO

But...

$265.6B

per year
Administrative complexity

$102B–$166B

per year
Waste in inefficient / ineffective delivery

$27B–$78B

per year
Fragmented workflows

125M hrs

per year
US physicians documenting outside office hours

75%

health-system executives prioritize digital/analytics but lack resources

The financial burden of healthcare's broken systems is measured in hundreds of billions of dollars and hundreds of millions of hours — wasted annually.

Sources: JAMA, PubMed cited datasets

Healthcare's Compounding Broken Micro-Systems

Healthcare's problem is not simply underinvestment — it is the gap between investment and realized value, compounded across every broken micro-system.

Administrative Complexity
Unnecessary rules, billing, and reporting burden

Operational Inefficiency
Redundant work, rework, unnecessary handoffs, waiting

Technology Underutilization
Capabilities purchased but not adopted

Technology-Induced Work
Technology actually adds steps, clicks, and workarounds

Value-Realization Failure
Investment implemented but benefits don't materialize

> *"Healthcare's problem isn't simply underinvestment; it's the gap between investment and realized value"*

Returning to the Core Question

~~What's Your AI Why?~~

- How do I create more value?
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The Value Exchange

Every interaction in healthcare — clinical or administrative — is a value exchange, and value is always defined by the customer receiving it.

Stakeholders in the Exchange

- **Colleague**
- **Patient**
- **Provider**
- **Payer**
- **Vendor**

Exchanges Happen at Every Level

Value exchanges occur in every interaction — across individual micro-systems and entire macro-systems within healthcare.

Every Exchange Has a Customer

Each interaction involves a recipient of value — identifying who that customer is shapes every design and operational decision.

Value Is Defined by the Customer

Not by the system delivering it — the customer's experience of benefit is the only valid measure of whether value was created.

Ask before every AI decision: Who is the customer? What value do they need? How will we know we delivered it?

If we want to create **more value for the customer**
[increase revenue generation, market expansion, speed to launch]
our biggest challenge is **understanding the systems** where
value is being exchanged

The CLARITY Leadership Model

A practical leadership sequence for defining the AI Why before selecting any technology — moving from strategic clarity through to value realization.

C | CLARITY

Center the Outcome

Define the system and business result with enough precision to fund, test, and govern — before any technology decision is made.

Outcome Statement Template

For *[population]* **, improve** *[outcome]* **by changing** *[driver]* **, measured from** *[baseline]* **to** *[target]* **.**

- Why this problem?
- Why AI?
- Why this outcome?
- Why these people?
- Why now?

"AI is one possible intervention. It is not the aim."

L | CLARITY

Listen to the Work

The documented workflow is rarely the lived workflow — AI must be designed around how work actually happens, not how it is assumed to happen.

What leaders think happens

Assumed workflow

- **Request**
- ↓ submitted and received
- **Review**
- ↓ evaluated against criteria
- **Approve**
- ↓ decision issued
- **Complete**

What really happens

Lived reality

- **Workaround** — process bypassed informally
- **Handoff** — ownership unclear at each step
- **Duplicate entry** — data re-entered across systems
- **Rework** — errors corrected after the fact

What AI must fit into

Design requirements

- **Constraints** — system limits and boundaries
- **Exceptions** — edge cases that break the model
- **Trust** — user confidence in AI recommendations
- **Handoffs** — human-AI transition points
- **Local expertise** — frontline knowledge

AI designed around assumed workflows will fail. Listening to the actual work is a prerequisite to designing for it.

A | CLARITY

Architect the Operating Model

Your AI environment needs capabilities that outlast any single vendor decision — architecture is how CLARITY becomes executable.

Outcome Portfolio & Prioritization

Human Oversight & Escalation

Evaluation & Observability

Orchestration & Model Routing

Tools, Connectors & Knowledge Access

Security, Sandbox, Ownership & Governance

"Architecture is how CLARITY becomes executable."

R | CLARITY

Responsibly Enable

The Old Governance Posture

- Review after interest — governance arrives too late, when adoption has already begun
- Policy before workflow — rules written without understanding how work actually happens
- Risk as a gate — governance used to slow or block rather than enable safe adoption
- Unclear ownership — no one knows who is responsible when something goes wrong

The CLARITY Posture

- Clear intake — structured process for submitting and evaluating AI use cases from the start
- Risk-tiered review — level of scrutiny matches the consequence of the use case, not the other way around
- Human oversight — meaningful escalation paths are defined before deployment, not after
- Monitoring and escalation — ongoing observability with clear accountability for what happens next

> *Responsible enablement creates confidence: people know what they may try, what must be reviewed, and who owns what happens next.*

I | CLARITY

Invest in Capability

Education

- Shared vocabulary
- Role-based training
- Manager readiness

Adoption

- Workflow fit
- Communication
- Feedback channels

Technical Fluency

- Evaluation basics
- Limits and failure modes
- Responsible use

Operating Capacity

- Product ownership
- Analytics support
- Change resources

"Technology advantage disappears. Organizational capability compounds."

T | CLARITY

Translate Value

Technology Enablement

Promised Value

- Model can summarize
- Users are interested
- Pilot looks promising
- Usage is increasing

Outcome Experienced

Sustained Value

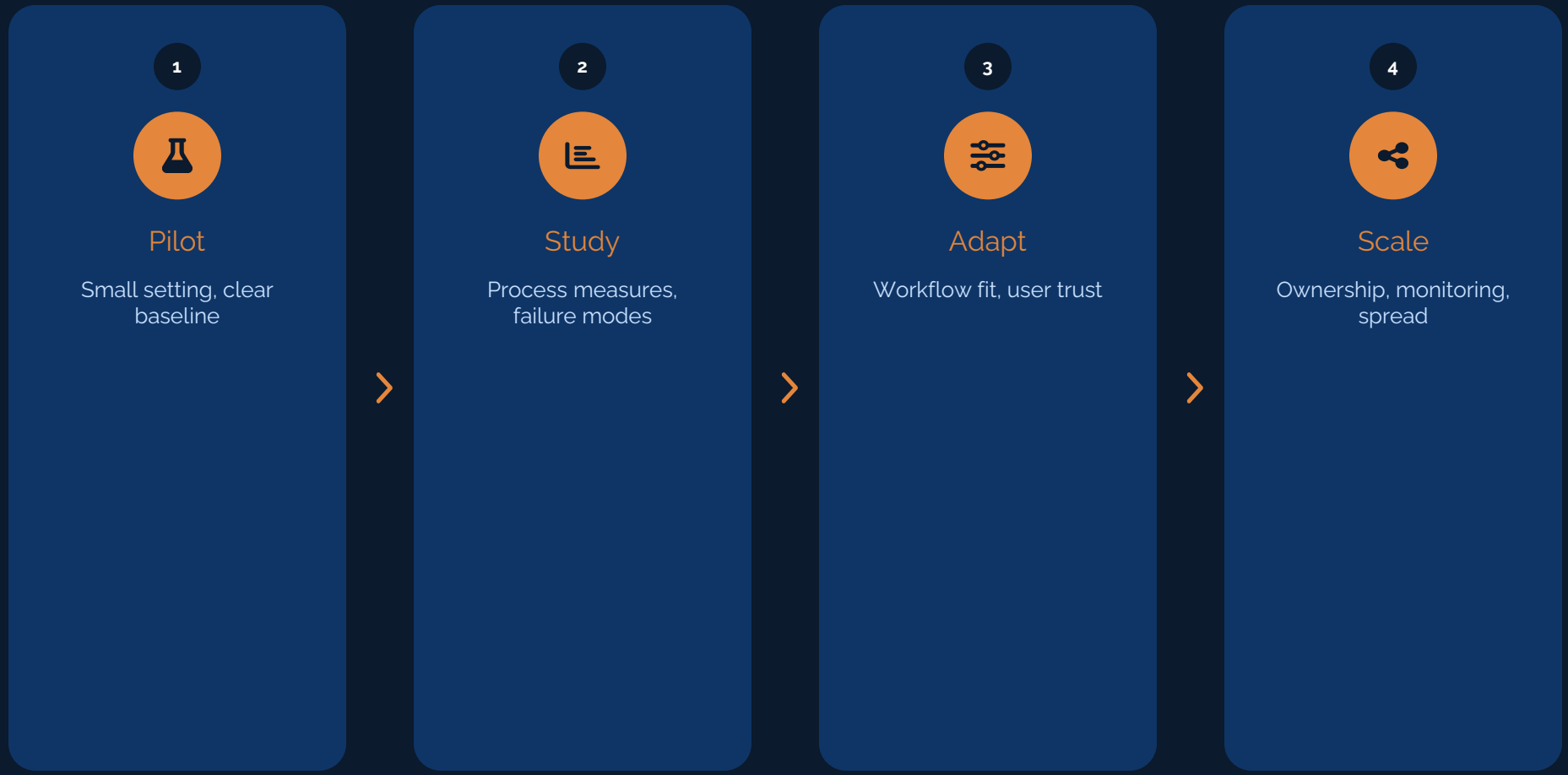
- Hours returned to the workforce
- Cycle time reduced
- Cost avoidance realized
- Quality improved
- Experience enhanced
- Risk reduced

Executives fund outcomes — users create value. Connect promised technology enablement to the outcome actually experienced by the end-user.

Y | CLARITY

Yield, Learn, and Scale

Scaling should preserve the theory while adapting to local context — and HRO discipline requires remaining alert to weak signals as AI moves into consequential work.



⚠ *HRO reference: remain alert to weak signals as AI moves into consequential work.*

AI Projects Drift When Leadership Clarity Is Missing

CLARITY is the operating discipline that keeps AI tied to purpose — without it, projects drift in five predictable ways.

Problem Drift

Use case becomes the tool, not the outcome

Workflow Drift

Designed solution misses how work actually happens

Governance Drift

Risk controls arrive after adoption begins

Value Drift

Usage is measured as if it were impact

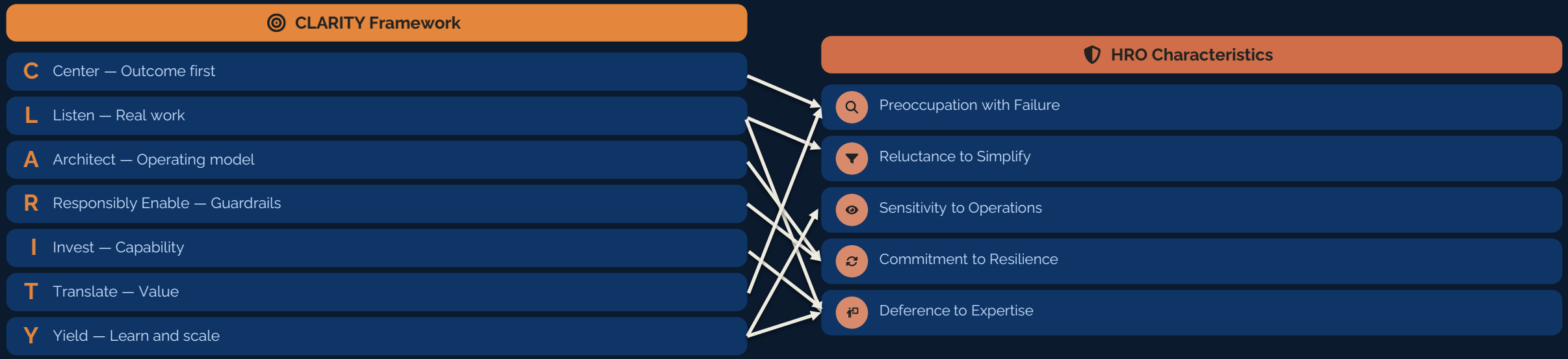
Scale Drift

Pilots multiply without an operating model

"CLARITY is the operating discipline that keeps AI tied to purpose."

CLARITY Brings Us Closer to Being an HRO

Each element of CLARITY maps directly to an HRO characteristic — making this framework the bridge between AI strategy and high-reliability operations.



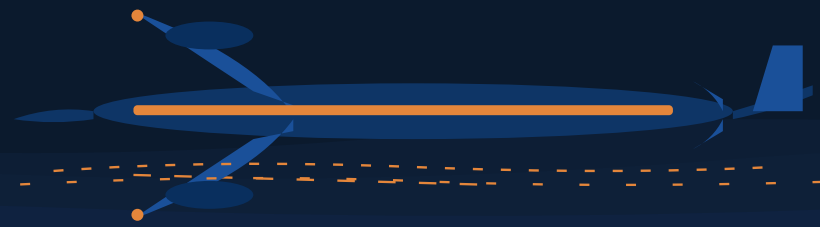
CLARITY *is the bridge between AI strategy and* **High-Reliability Operations**

High Reliability Under Pressure

US Airways Flight 1549

"Miracle on the Hudson"

January 15, 2009



Miracle on the Hudson — US Airways Flight 1549

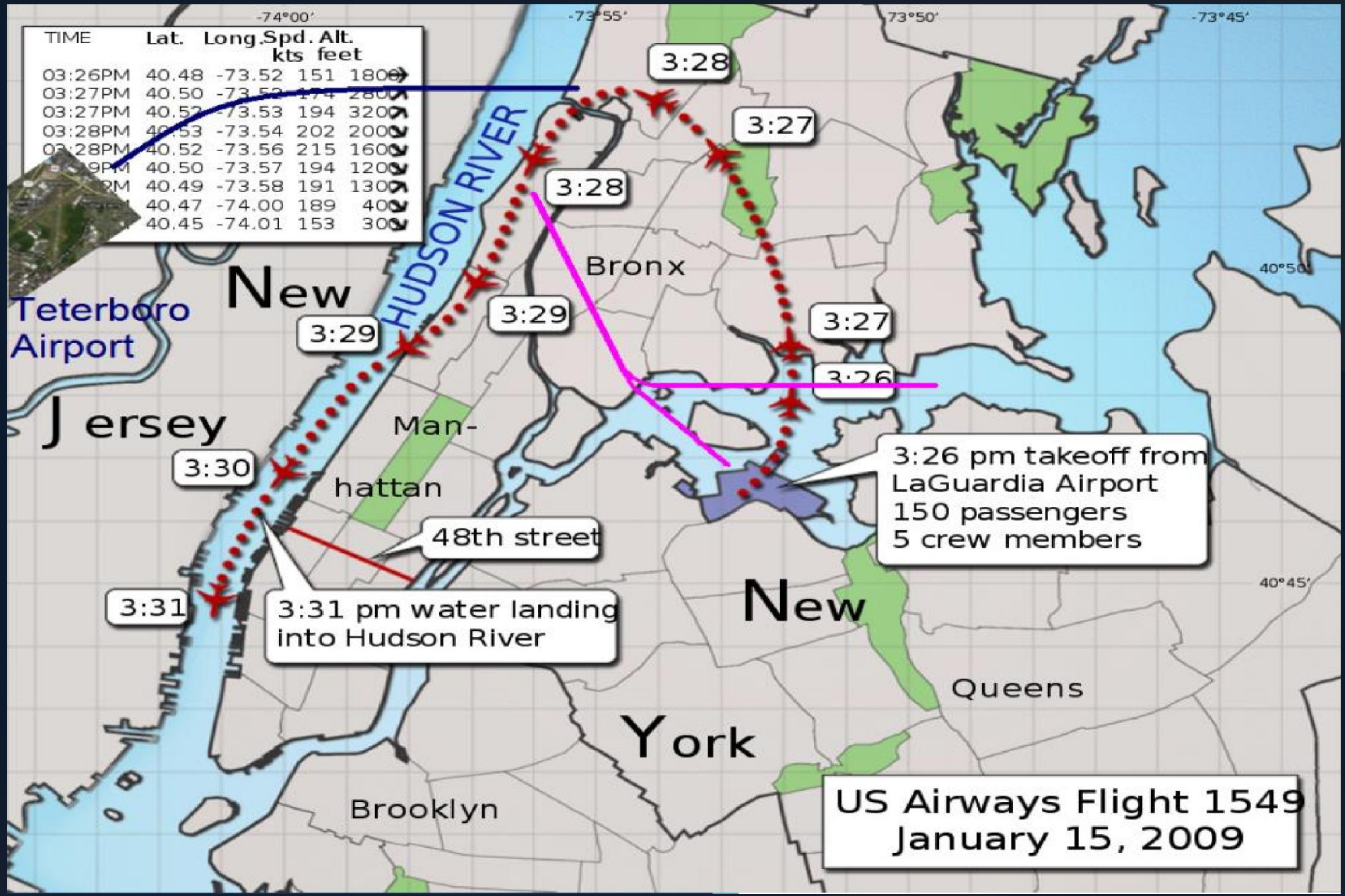
Commercial flight — 155 passengers (Airbus A-320)

Departed New York's **LaGuardia Airport** to Charlotte/Douglas International Airport, Charlotte, NC

Twin engines disabled by a flock of Canada geese approximately **3 minutes after takeoff**

Initial plan: **Return to LaGuardia** — **not an option**

Secondary plan: **Land at Teterboro Airport, NJ** — **not an option**


TIME Lat. Long. Spd. Alt.
kts feet
03:26PM 40.48 -73.52 151 1800
03:27PM 40.50 -73.53 194 3200
03:28PM 40.53 -73.54 202 2000
03:28PM 40.52 -73.56 215 1600
40.50 -73.57 194 1200
40.49 -73.58 191 1300
40.47 -74.00 189 400
40.45 -74.01 153 300
-74°00'
-73°55'
73°50'
-73°45'
40°50'
40°45'
HUDSON RIVER
Teterboro Airport
New
Jersey
Bronx
Man-
hattan
New
York
Queens
Brooklyn
3:28
3:27
3:28
3:29
3:29
3:27
3:26
3:30
3:31
48th street
3:26 pm takeoff from LaGuardia Airport
150 passengers
5 crew members
3:31 pm water landing into Hudson River
US Airways Flight 1549
January 15, 2009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US Airways Flight 1549

The Miracle

Aviation Record

"Most successful ditching in aviation history"

Injuries

5

Most severe: leg laceration
All 155 passengers survived

Impact Speed

153 kts

Approximately 175 mph
at water impact

Continued

The Miracle — The Crew

- Co-pilots: Chesley Sullenberger and Jeff Skiles
- Never flew together before
- Safely landed the plane within 4 minutes of engines being lost
- Landed on the Hudson River, next to the USS Intrepid aircraft carrier

> *Well, that wasn't as bad as I thought.*
>
> — Sully to Skiles after landing

Thank you!

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