StoneSight
ADVISORY SERVICES

WHY THIS TECHNOLOGY WAVE IS DIFFERENT

AI, capital and the challenge of execution



AN EXECUTIVE PERSPECTIVE / JOE MARROQUÍN

The scale is real. Value still has to be earned.

$500B

GLOBAL DATA-CENTER INVESTMENT IN 2024

Includes workloads beyond AI. IEA estimate. [1]

The scale of the AI opportunity is visible in the infrastructure being built to support it. The International Energy Agency estimates global data-center investment at approximately $500 billion in 2024. That figure includes workloads beyond AI, but illustrates the magnitude of the expansion. [1]

The investment thesis extends far beyond software assistants. It anticipates capabilities that could influence scientific discovery, product development, engineering, service delivery, and knowledge work across the economy.

AI could become **cognitive infrastructure**: a widely available capability for interpreting, analyzing, and generating information.

The scale of investment establishes neither the timing of returns nor who will capture them. Infrastructure can expand faster than demand. Capabilities can improve faster than organizations can adopt them.

Investors can recognize a profound technological shift and still misjudge its economics. For boards and executives, the question is specific: **Where could AI materially change the economics of our business?**

At StoneSight, we begin with that question. It connects technological possibility to leadership decisions about growth, investment, execution, and risk.

Infrastructure → Business capability → Economic value

[1] International Energy Agency, Energy and AI — Executive summary.

Capital moves first. Value takes longer.

01

INSTALLATION

Capital builds capacity. Expectations accelerate.

02

TURNING POINT

Financial stress and institutional change.

03

DEPLOYMENT

Businesses reorganize. Productive adoption spreads.

PEREZ'S FRAMEWORK / A CONCEPTUAL LENS, NOT A TIMETABLE

Carlota Perez's framework offers a useful lens for this moment. Building on traditions that include Kondratiev's long waves, she describes technological revolutions through periods of **installation** and **deployment**, separated by a turbulent turning point. [2]

During installation, capital finances infrastructure and entrepreneurs pursue new markets. Expectations can run ahead of the underlying economics. During deployment, businesses reorganize around the technology as productive applications spread.

The practical lesson: **a technology can fulfill its promise while individual investments fail.**

AI's infrastructure expansion can be interpreted through this lens. That interpretation does not establish AI as a separate technological revolution or predict when its returns will arrive.

For enterprise leaders, conviction about AI's significance must be tested against the evidence for a particular business case: customer demand, full costs, adoption, and execution.

At StoneSight, we connect technological possibility to the conditions required for value: a clear economic objective, accountable leadership, an executable operating model, and disciplined investment decisions.

A technology can fulfill its promise while individual investments fail.

[2] Carlota Perez, Research project: technological revolutions and financial capital.

Technology creates possibilities.

Leadership creates value.



Improve today's business. Change tomorrow's economics.

INCREMENTAL

Improve existing work.
Measure capacity, cost and quality.

TRANSFORMATIVE

Change how the business competes.
Measure revenue, margin and value.

Incremental AI improves how existing work gets done. It can accelerate documentation, summarize information, support software development, and assist routine service activities. The business remains recognizable; its processes become faster, more consistent, or less costly.

These gains matter. Repeated across a large operation, modest improvements can produce substantial value. But **time saved becomes economic value only when it is converted** into additional capacity, better service, reduced expense, or another measurable outcome.

A use case describes an application. A business case explains why it matters economically.

Transformative AI changes what the business can offer or how it competes. It may enable a new service, change product-development economics, support a different pricing model, or fundamentally redesign delivery.

Its business case reaches beyond task productivity to revenue, margins, customer value, and competitive position. The categories can overlap: a series of efficiency gains may eventually enable a different operating model.

At StoneSight, we distinguish between improving current performance and changing future economics. **Both paths need a business case** with an explicit source of value and measures of success.

Both paths need a business case.

A useful application becomes investable when its economics are clear.

Match risk discipline to business consequences.

With incremental AI, exposure often begins in everyday workflows. Sensitive information may enter unsuitable tools. Incorrect outputs may be accepted without review. A faster process may multiply errors, while fragmented adoption increases costs and dependencies.

The financial risk is practical: organizations may count hours saved without accounting for verification, integration, licensing, or the work needed to realize those savings.

The response is operational discipline: approved tools, appropriate data handling, evaluation against a baseline, and human review proportionate to the consequences of error.

Transformative AI adds strategic exposure. A company may commit capital to uncertain demand, redesign operations around unreliable capabilities, or depend on a provider it cannot readily replace. A new offering may weaken existing revenue before its economics are proven.

Leadership needs staged investment, customer evidence, operational readiness, and criteria for expanding, changing, or stopping. It must also weigh the cost of delay if competitors change customer expectations.

At StoneSight, we connect risk to business consequences and the ability to recover. **Incremental does not automatically mean low risk.**

WORKFLOW CONTROLS

Data handling. Evaluation.
Review proportionate to consequence.

INVESTMENT DISCIPLINE

Customer evidence. Readiness.
Criteria to scale, revise or stop.

Incremental does not automatically mean low risk.

Turn possibility into performance.

01	02	03	04	05
VALUE	**OWNERSHIP**	**EVIDENCE**	**EXPOSURE**	**DECISION**
What outcome?	Who is accountable?	What proves it?	What could go wrong?	When do we change course?

Begin with the business. Identify where growth is constrained, margins are under pressure, customers encounter friction, or competitors could change the basis of competition. Then determine where AI offers a credible mechanism for improvement or transformation.

Before significant resources are committed, define the intended value, the executive owner, the evidence required, and the acceptable exposure. Decide in advance what results will cause the organization to scale, revise, or stop.

Governance gives those questions authority. It directs capital and management attention toward opportunities that justify them, while creating the discipline to change course.

THE STONESIGHT PERSPECTIVE

At StoneSight, we provide independent, CISO-led cybersecurity and AI risk advisory for boards, executives, and investors. We examine whether priorities, spending, and controls address the risks that matter to the business.

Our perspective draws on Joe Marroquín's and Grant Shih's experience working with boards, executive teams, investors, government organizations, and enterprises through successive waves of technological change.

We connect leadership's intended risk appetite to operational reality: clear ownership, evidence that controls work, and the ability to act when assumptions fail.

Clarity before consequence.



STONESIGHT

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Move forward. With perspective.

Connect AI ambition to business value, accountable decisions and informed risk.

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