

THE FUTURE IN 5 PERSPECTIVES

Futurist Jim Carroll



65%

OF CHILDREN WILL
WORK IN A JOB THAT
DOES NOT YET EXIST



50%

OF WHAT'S LEARNED IN THE
FIRST YEAR OF COLLEGE IS
OBSOLETE BY GRADUATION





**INSTANT
OBSOLESCENCE**

18 MONTH

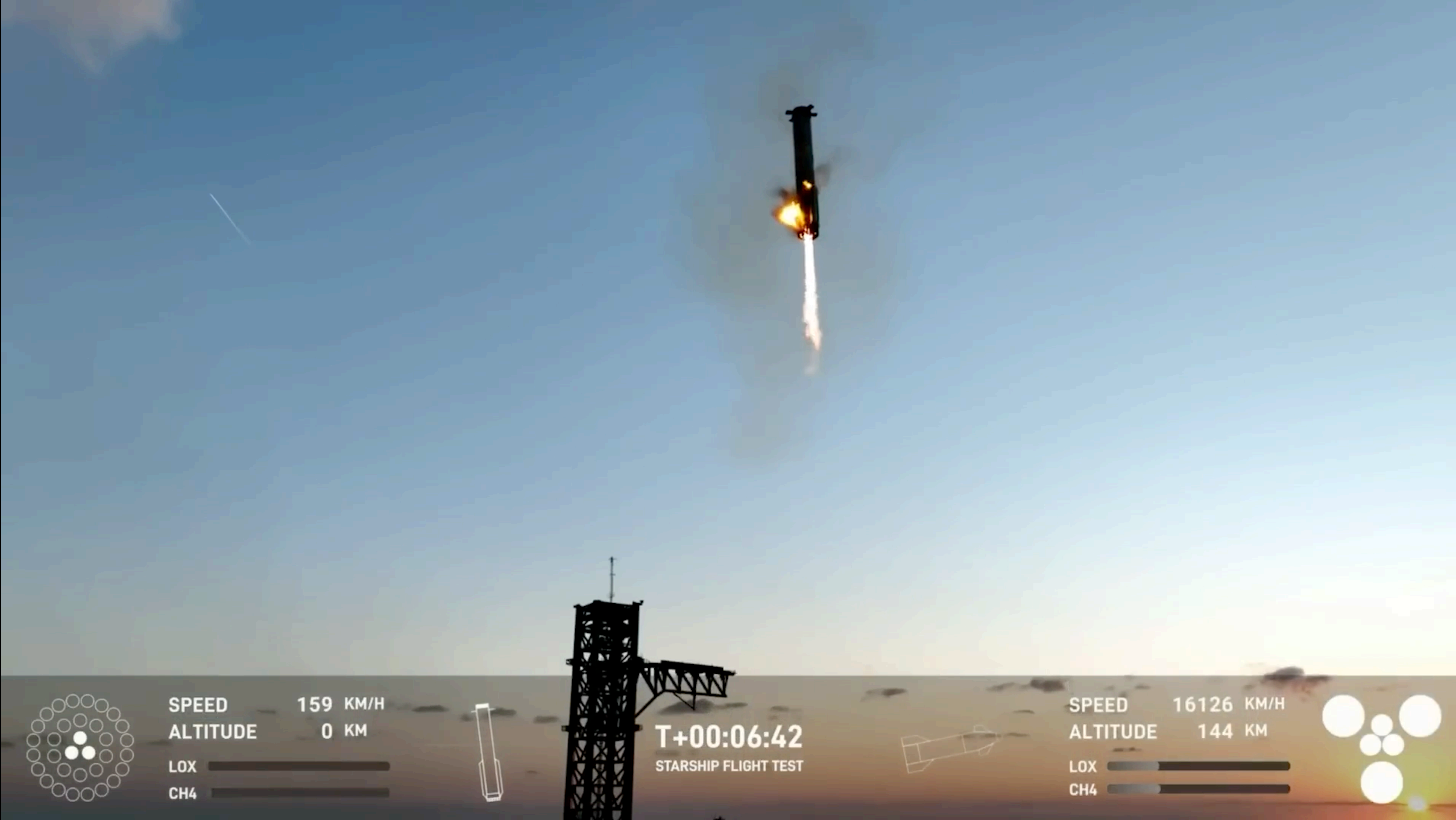
**LIFESPAN FOR MOST
TECHNOLOGIES**

VELOCITY



**“THE FUTURE BELONGS TO
THOSE WHO ARE FAST!”**

SpaceX Starship Launch 5



SPACEX

“

**WE WILL ALWAYS OVERESTIMATE THE
CHANGE THAT WILL OCCUR IN THE NEXT TWO
YEARS AND UNDERESTIMATE THE CHANGE
THAT WILL OCCUR IN THE NEXT TEN.**

BILL GATES

”



SPACE INC

\$4TN

VALUE

12K

COMPANIES

5K

INVESTORS

200

R&D HUBS &
ASSOCIATIONS

140

GOVERNMENT
ORGANISATIONS

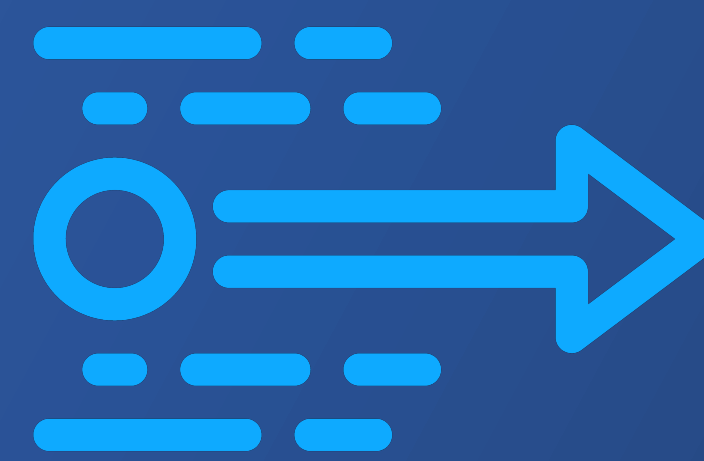
“

COMPANIES THAT DO NOT YET EXIST WILL
BUILD PRODUCTS NOT YET CONCEIVED USING
IDEAS NOT YET IN EXISTENCE WITH
METHODOLOGIES YET TO BE DEFINED

”



MEGATRENDS TO 2035



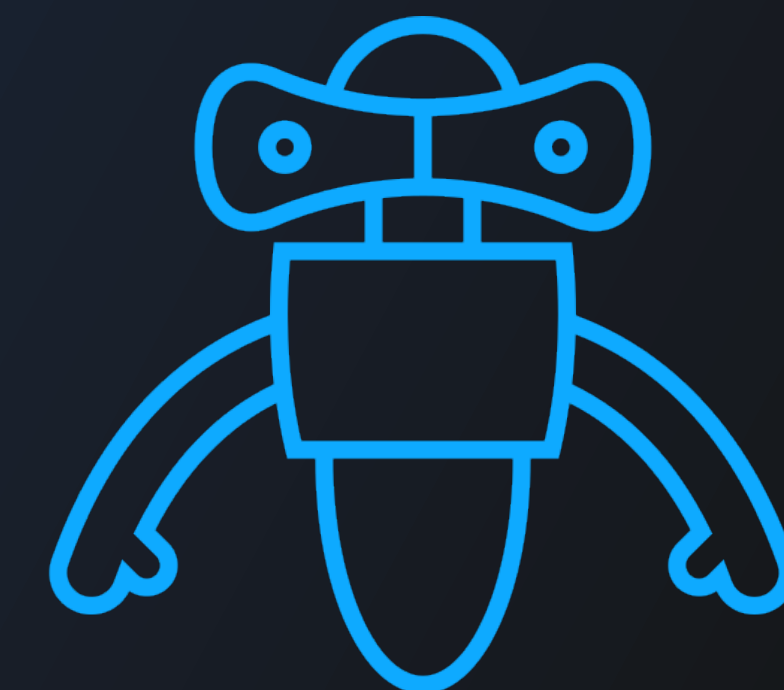
**The Era of
Acceleration**



Gen-Connect



Megacities



Smart machines



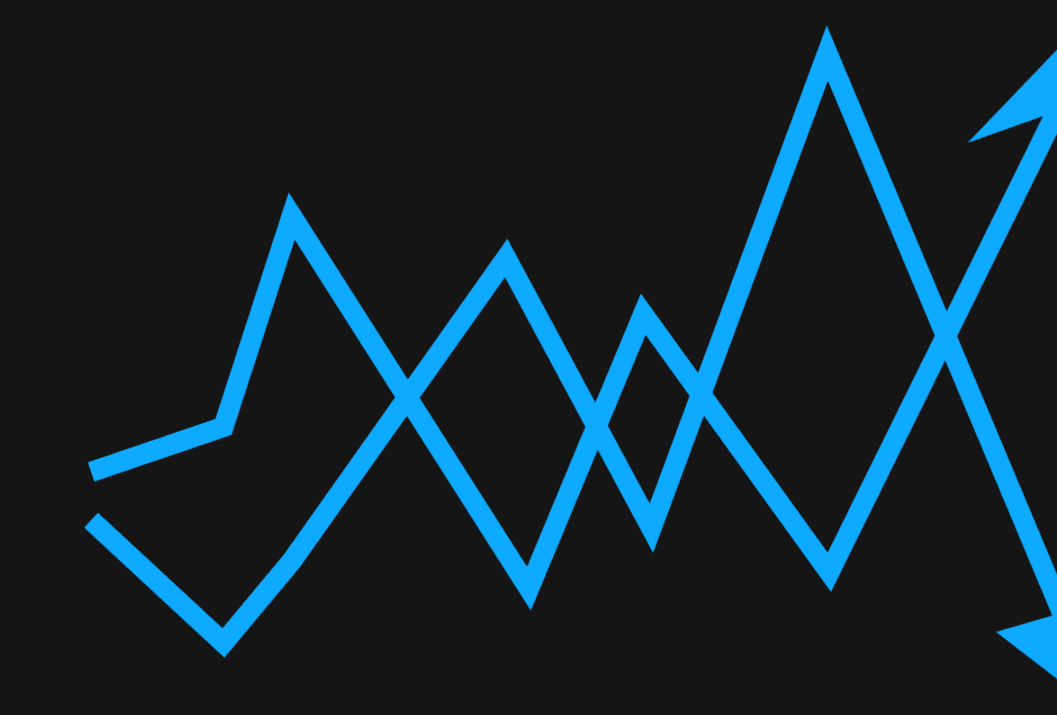
**Accelerated
science**



**Knowledge
exponentiation**



**Life expectancy
mismatch**



**Relentless
volatility**

FUTURE FOR FIVE PERSPECTIVES



Economy



Technology



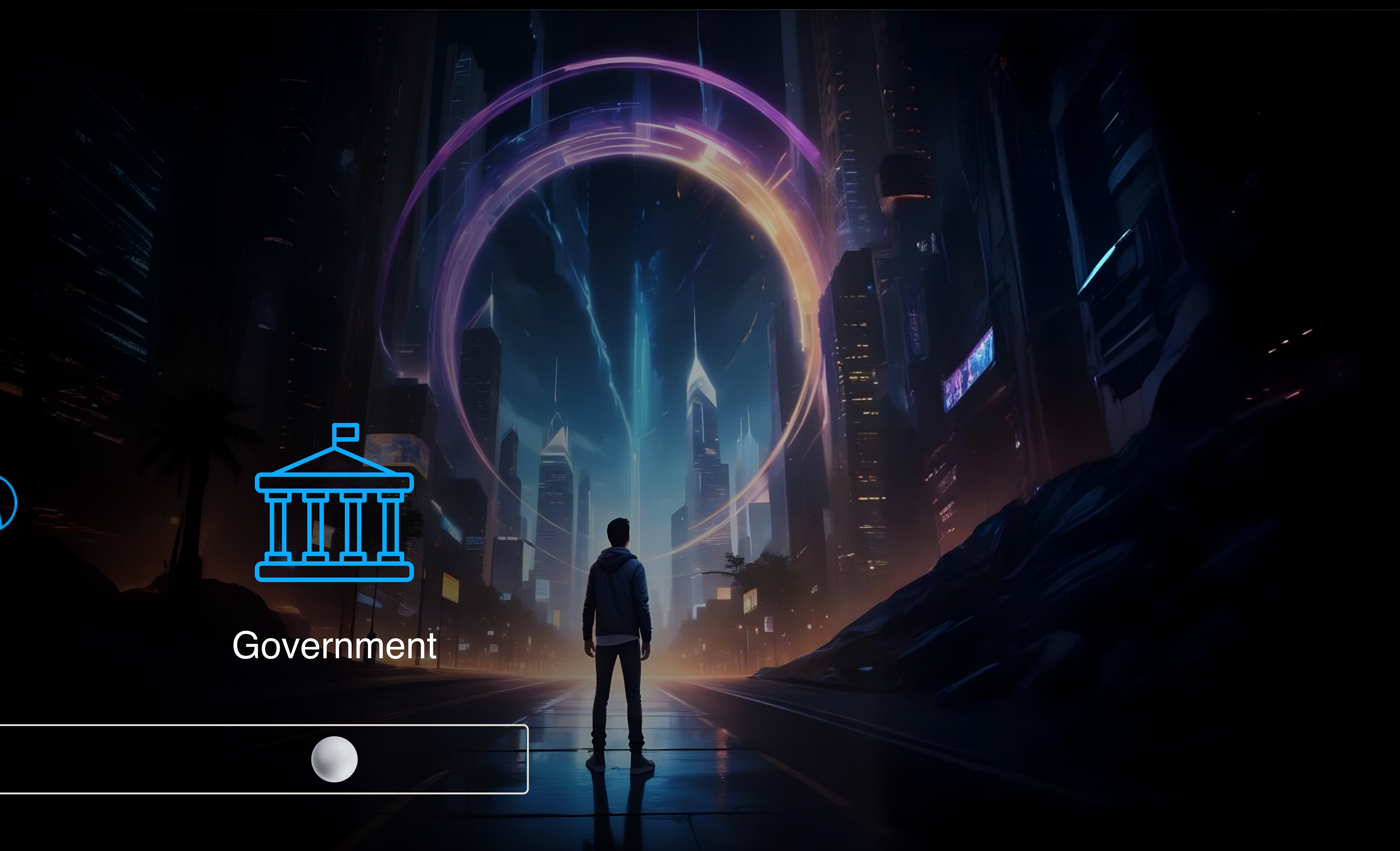
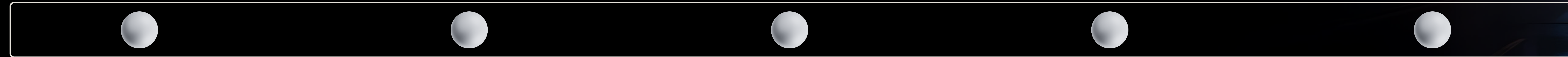
Environment



Society



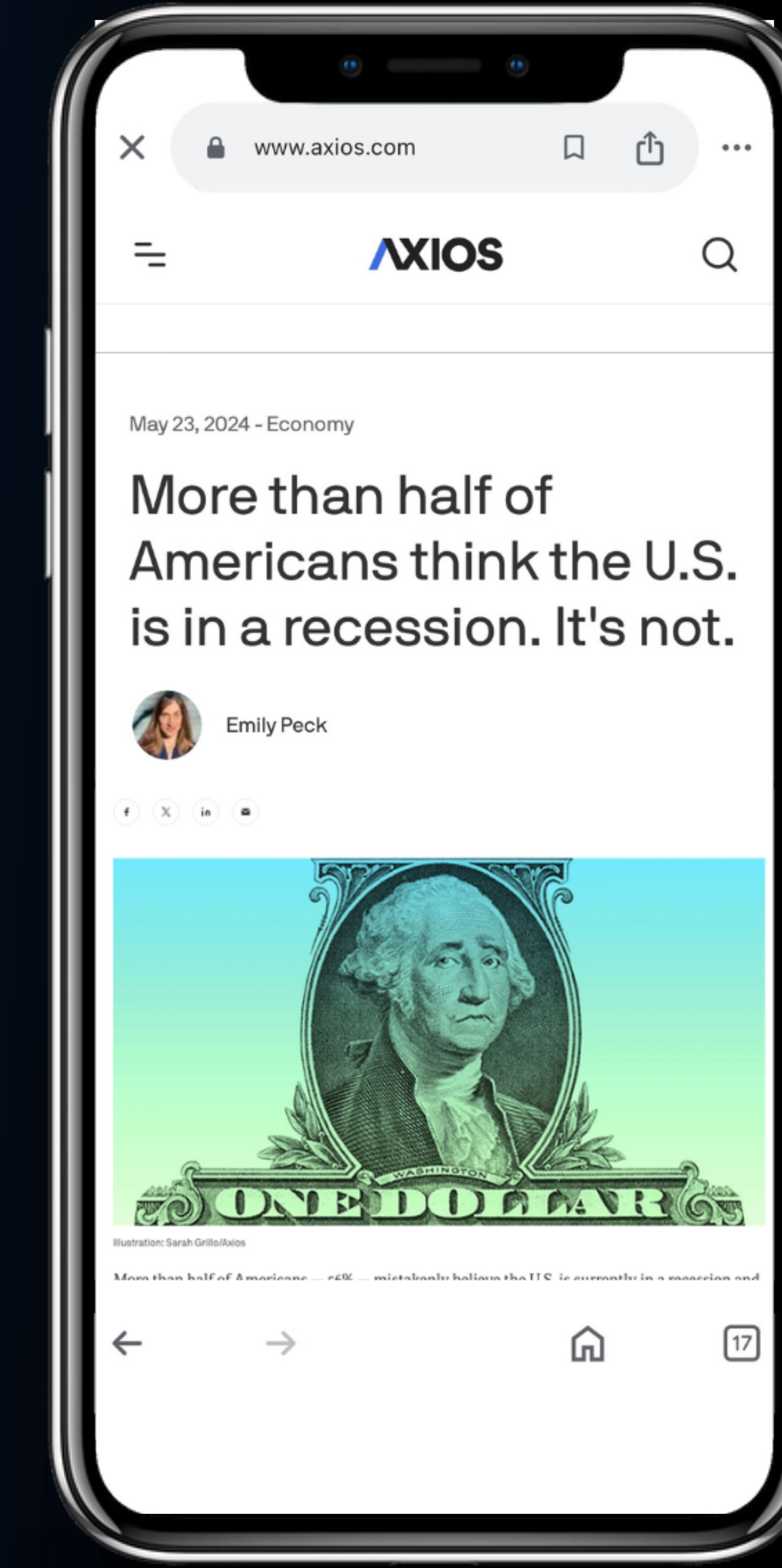
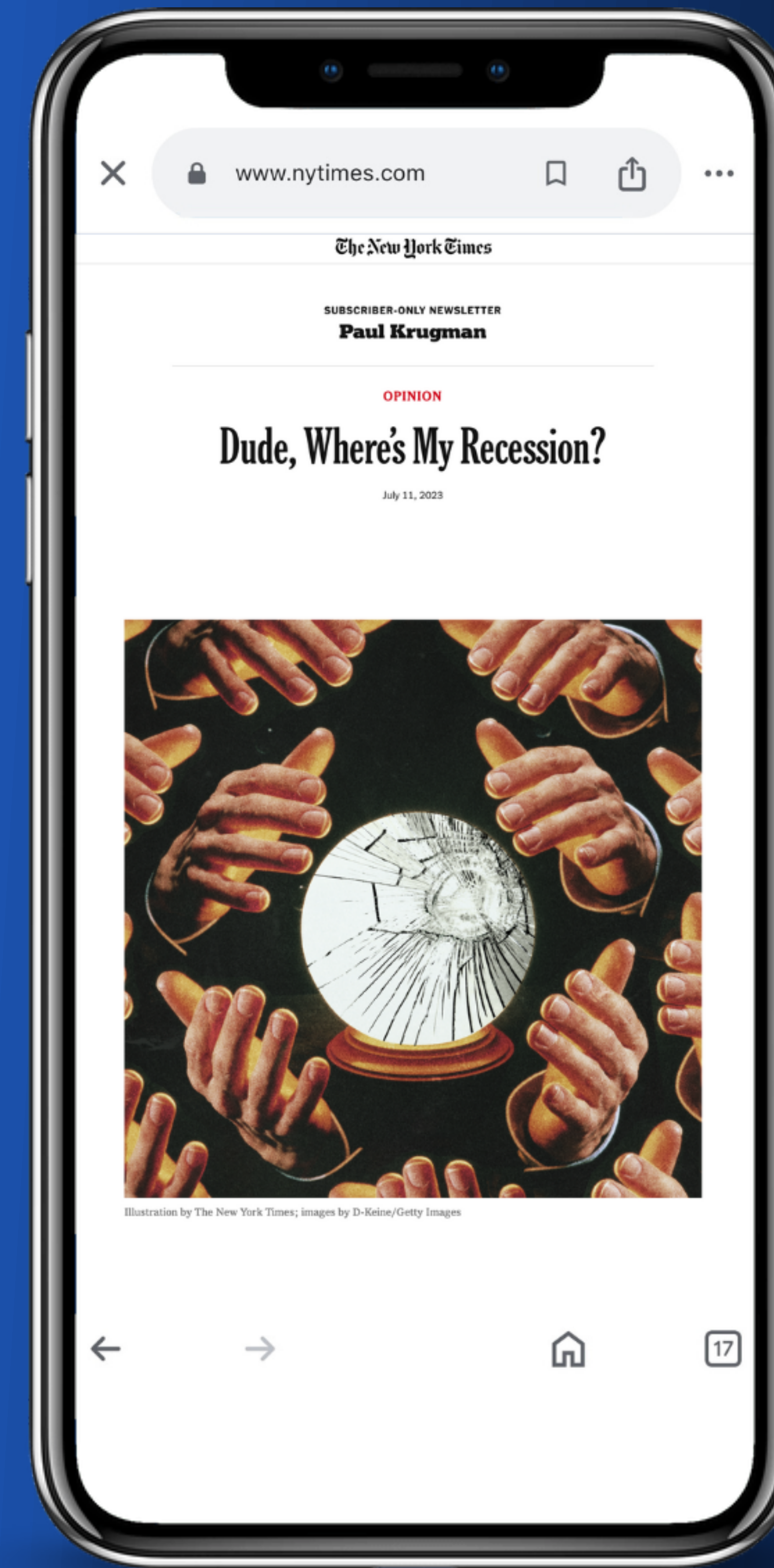
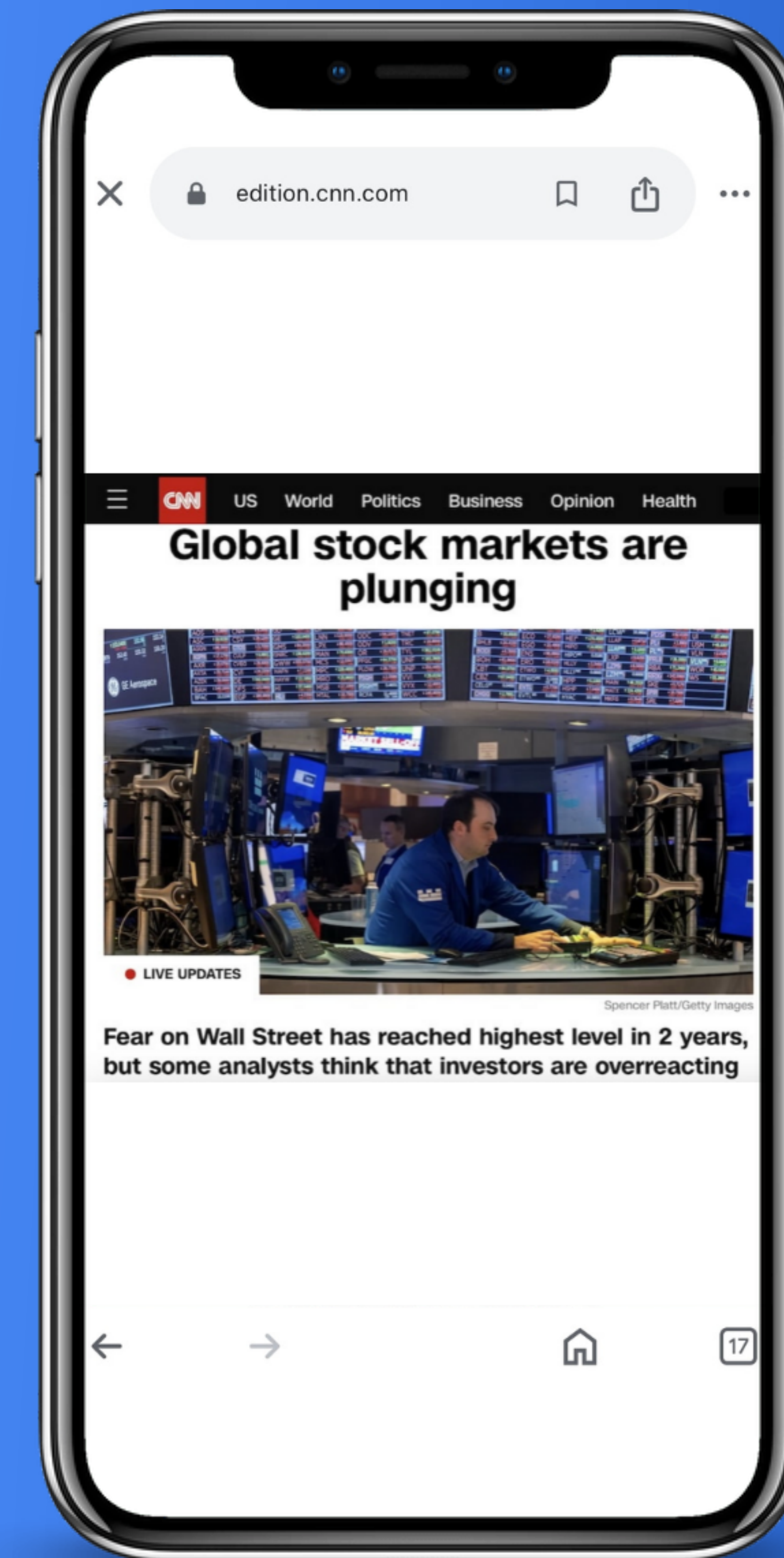
Government



1.

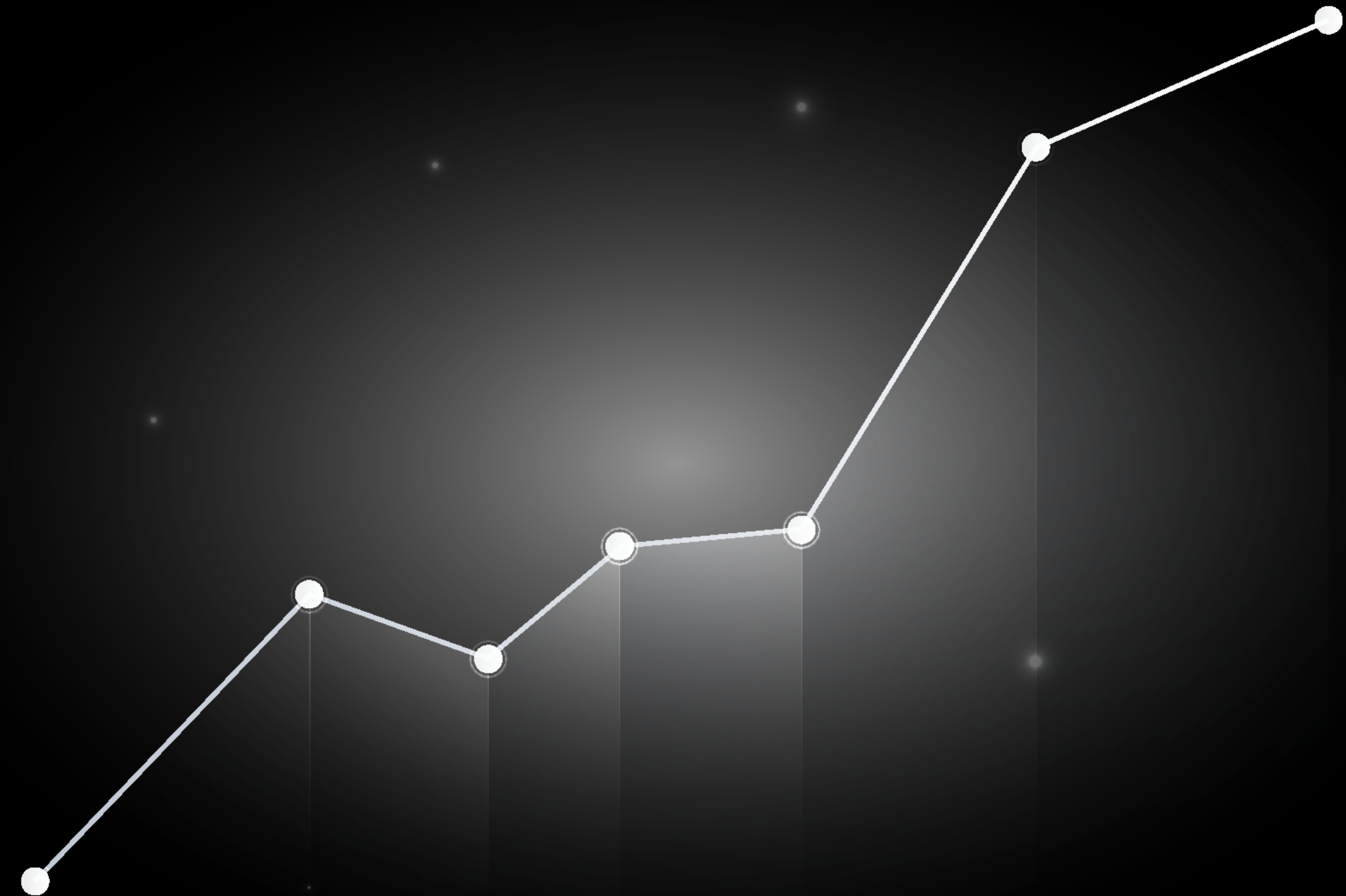
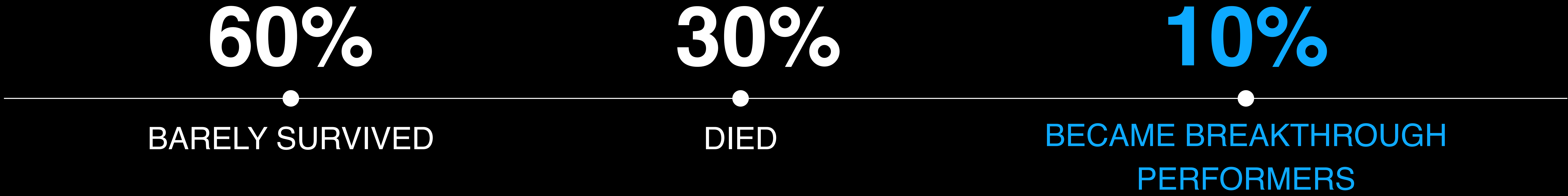
THE ECONOMY

■ “VOLATILITY IS THE NEW NORMAL!”



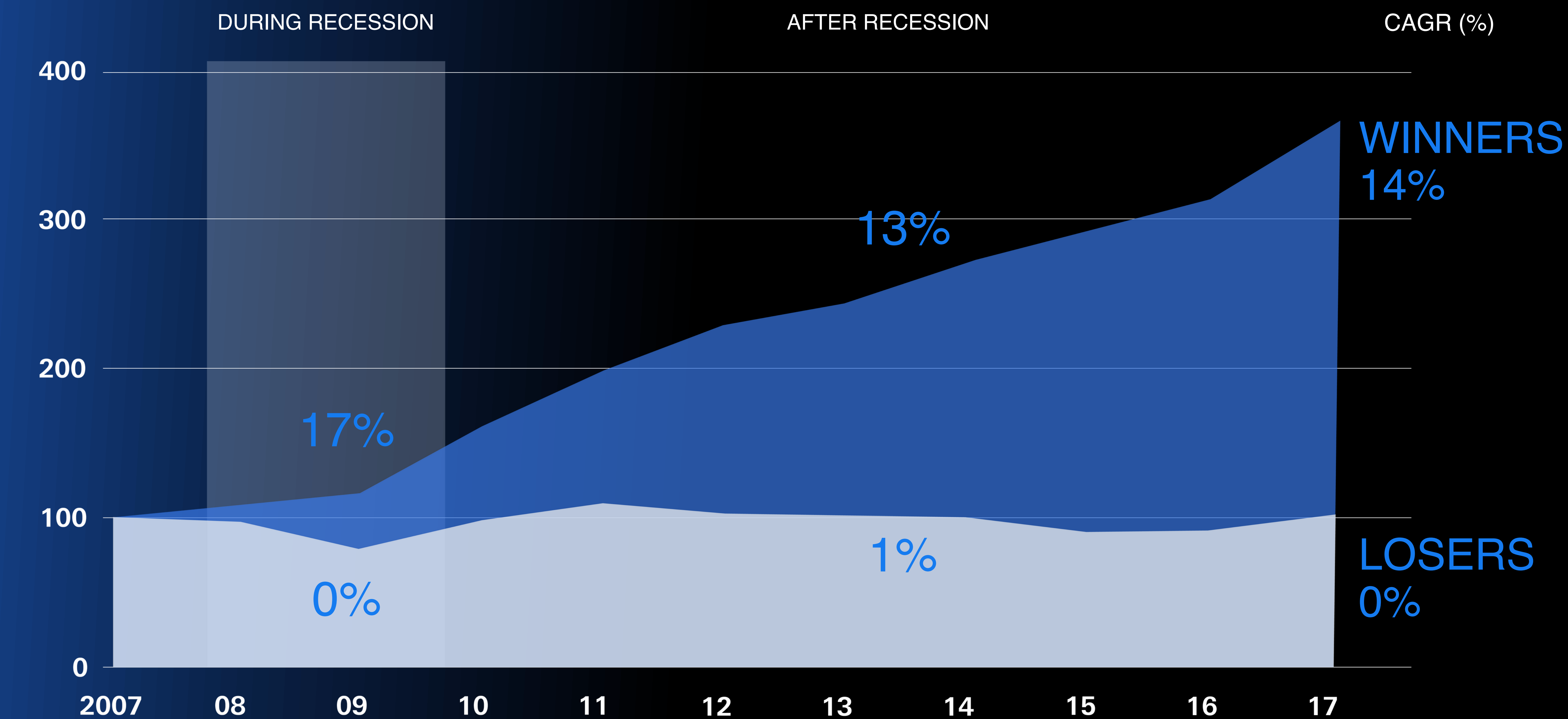
A STUDY OF COMPANIES DURING ECONOMIC DOWNTURNS SINCE THE 1970'S SHOWS

HISTORICAL WINNERS



IN THE DECADE AFTER THE GLOBAL FINANCIAL CRISIS

COMPANIES WERE EITHER WINNERS OR LOSERS



GRANT THORNTON SURVEY



MORE THAN

50%

COMPANIES PLANNED
TO DOUBLE DOWN ON
INNOVATION IN A
DOWNTURN



A TALE OF AN ECONOMIC MINDSET

DEFENSIVE

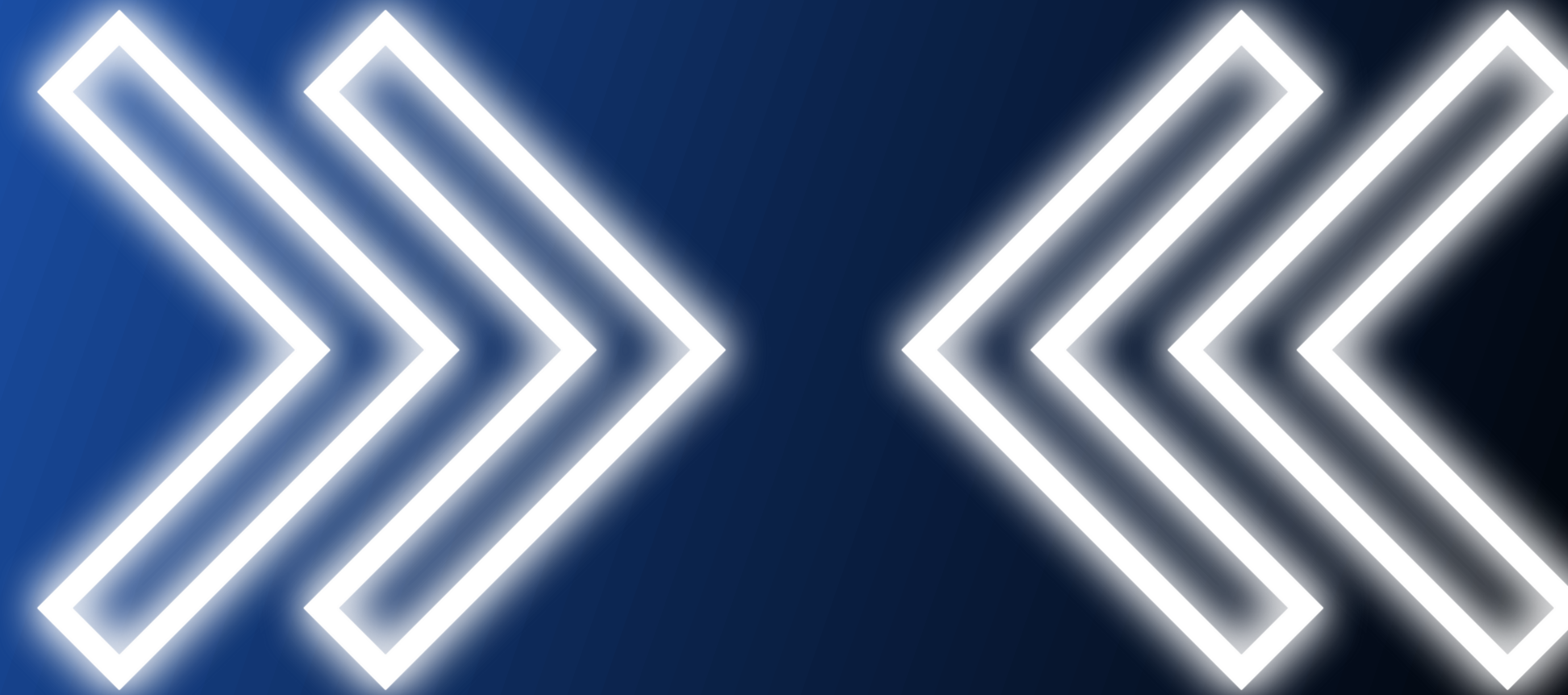
COST CUTTING

SCALE BACK
OF R&D

QUALITY
TALENT LOST

STRAYING OUT OF CORE BUSINESS
TO TRY TO FIND A PATH FORWARD

A WAIT &
SEE APPROACH



OFFENSIVE

ACCELERATED
R&D SPEND

MAINTAINED OR BOOSTED MARKETING
WHILE OTHERS CUT BACK

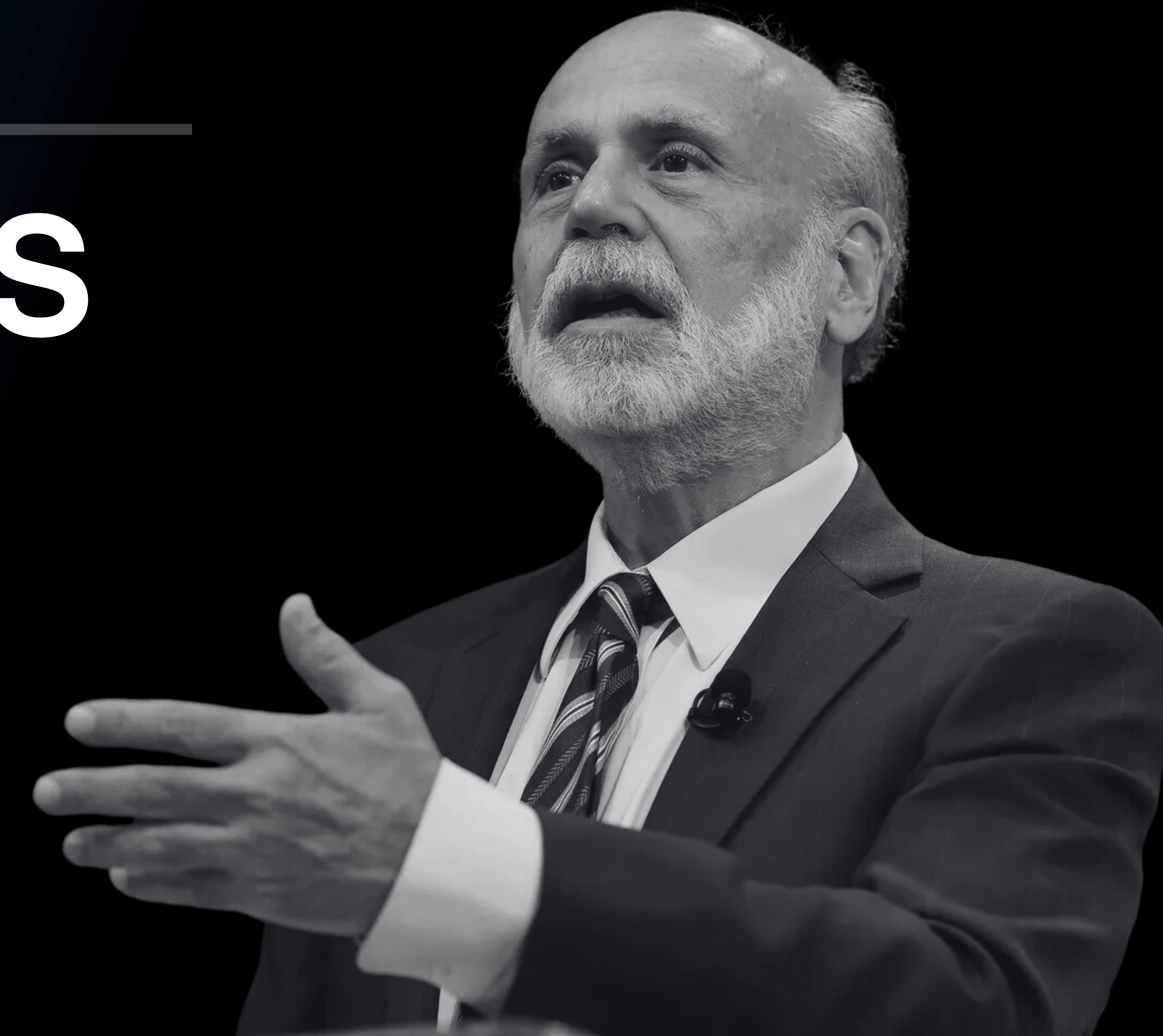
FOCUSED ON DIGITAL
TRANSFORMATION

FOCUSED SALES EFFORTS
ON TOP CUSTOMERS

“

THE SUBPRIME MESS IS
GRAVE BUT LARGELY
CONTAINED.

”





IN 2008, GOLDMAN SACHS PREDICTED THAT **OIL PRICES** COULD REACH **\$200** PER BARREL.

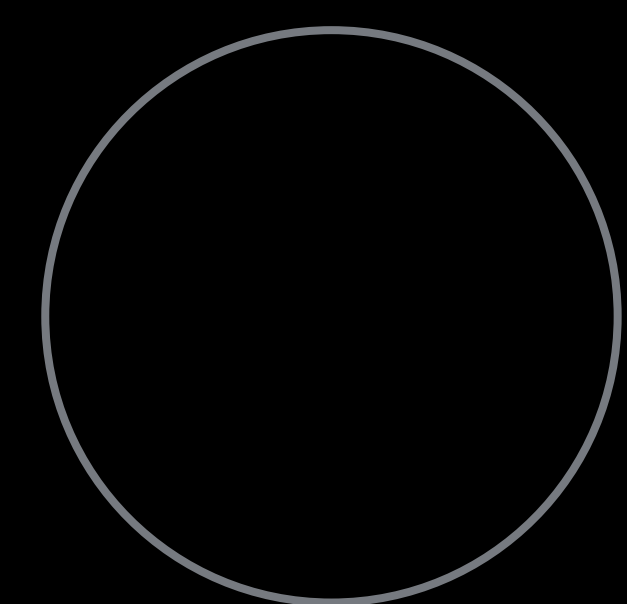
INSTEAD, PRICES COLLAPSED FROM OVER \$140 TO UNDER **\$40** BY THE END OF THE YEAR DUE TO THE GLOBAL FINANCIAL CRISIS.



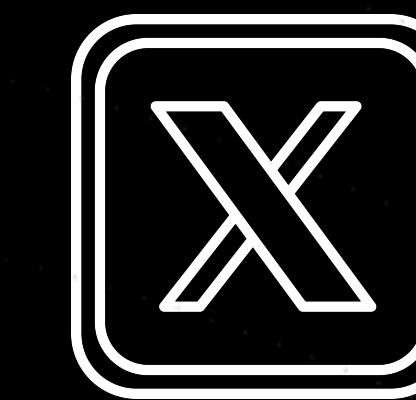
**WHAT WE KNOW: RETAIL & SUPPLY
CHAIN BECOMES FASTER, MORE
TECH, MORE INVESTMENT
NECESSARY TO STAY IN THE GAME**

BNSF
RAILWAY





Justin Wolfers  @JustinWolfers



Summarizing this crazy week in stocks.

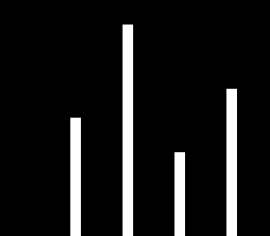
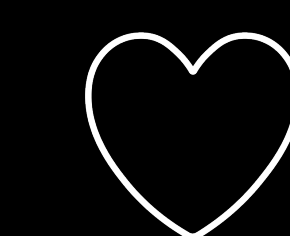
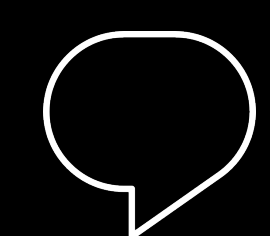
S&P 500

Last Friday's close: 5,346.56

This Friday's close: 5,344.16

=> A decline of **0.04%**

=> the **smallest** weekly drop in over six years

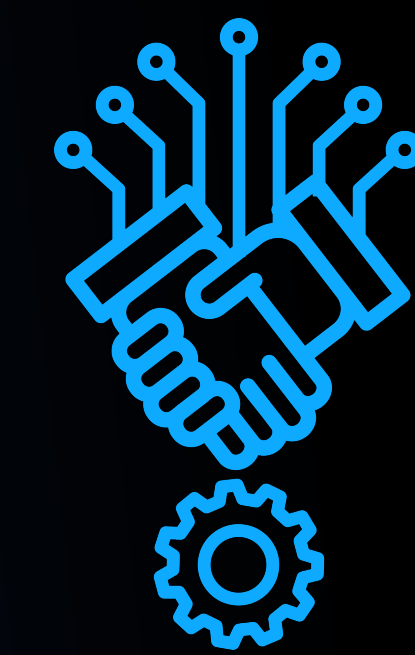


2025 STRATEGY

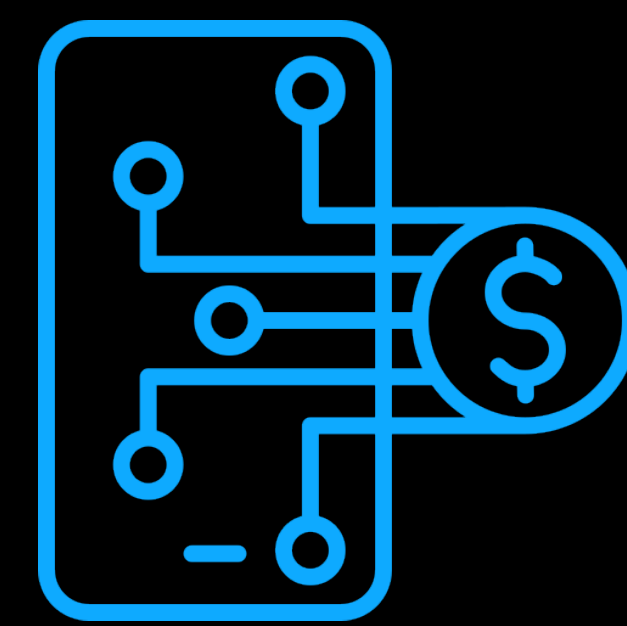
“REMAIN ON AN ECONOMIC OFFENCE”



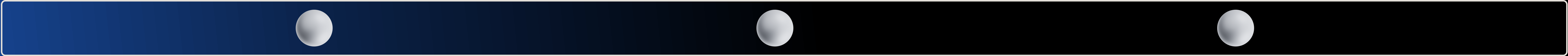
ECONOMIC R&D



CONTINUED INVESTMENT
IN CRITICAL TECHNOLOGY



DIGITIZING THE
ECONOMY



2. ■

TECHNOLOGY

“IT’S THE ERA OF ACCELERATION!”

THE ERA OF ACCELERATION

EXPONENTIAL TRENDS

AMAZON ROBOTS

HUMAN GENOME
SEQUENCING

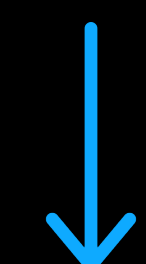
SOLAR ENERGY

3D PRINTING

BATTERY
STORAGE

1,000

(2012)



75,000

TODAY

\$100 million

(2011)

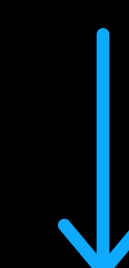


\$200

TODAY

\$76

(1977)



\$0.20

TODAY

\$50 per cm³

(2010)



\$0.50

TODAY

\$1,100 per kWh

(2010)



<\$100

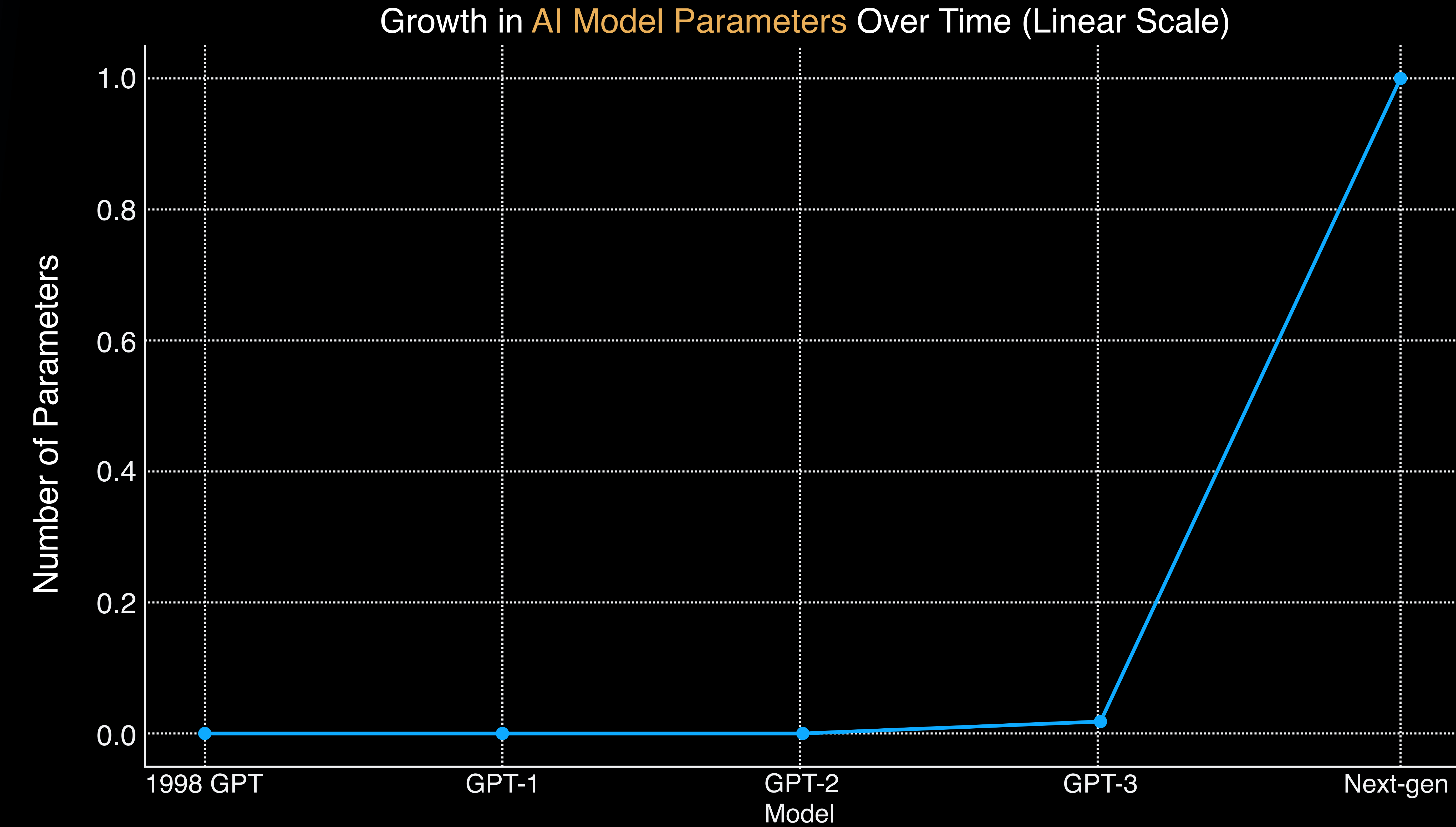
TODAY

EXPONENTIAL GROWTH

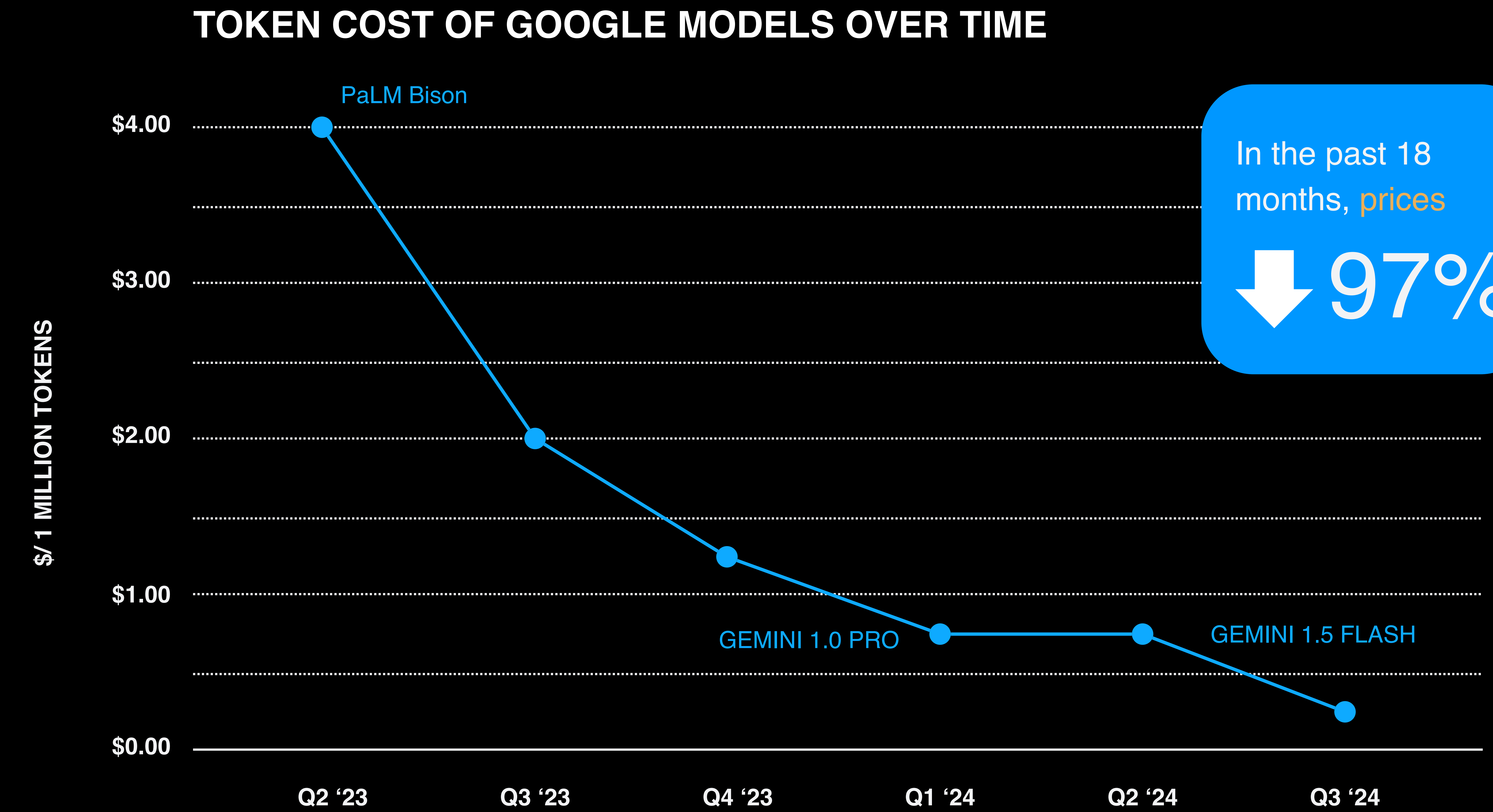
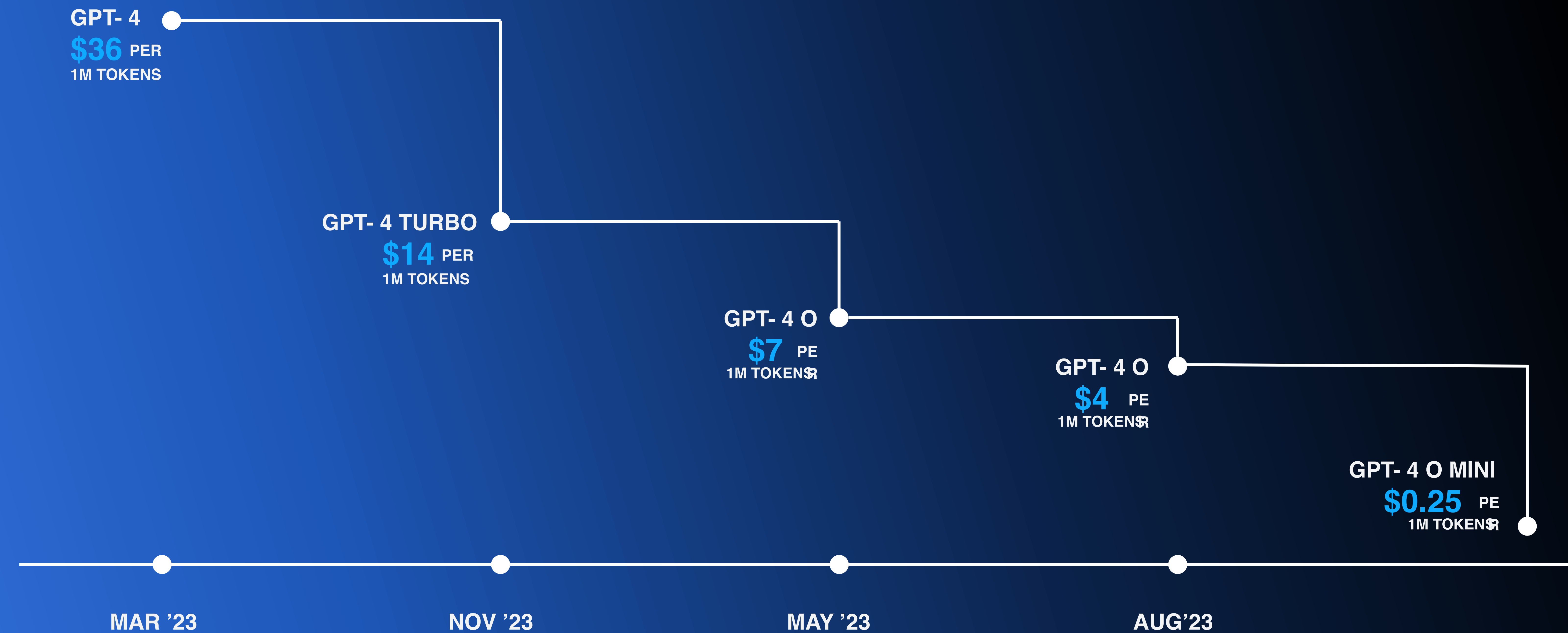
TIME IT TOOK TO REACH 1 MILLION USERS



THE ACCELERATION OF EXPONENTIAL GROWTH



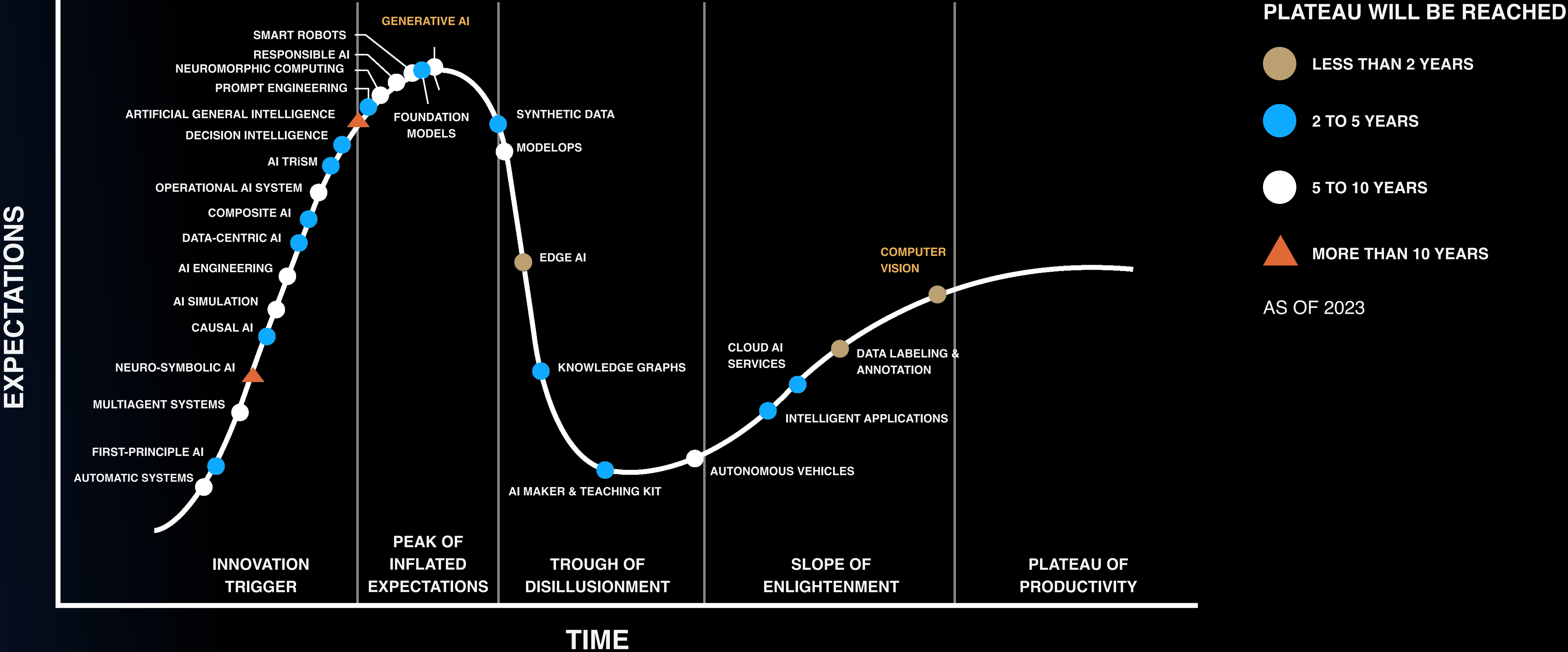
COLLAPSING COST

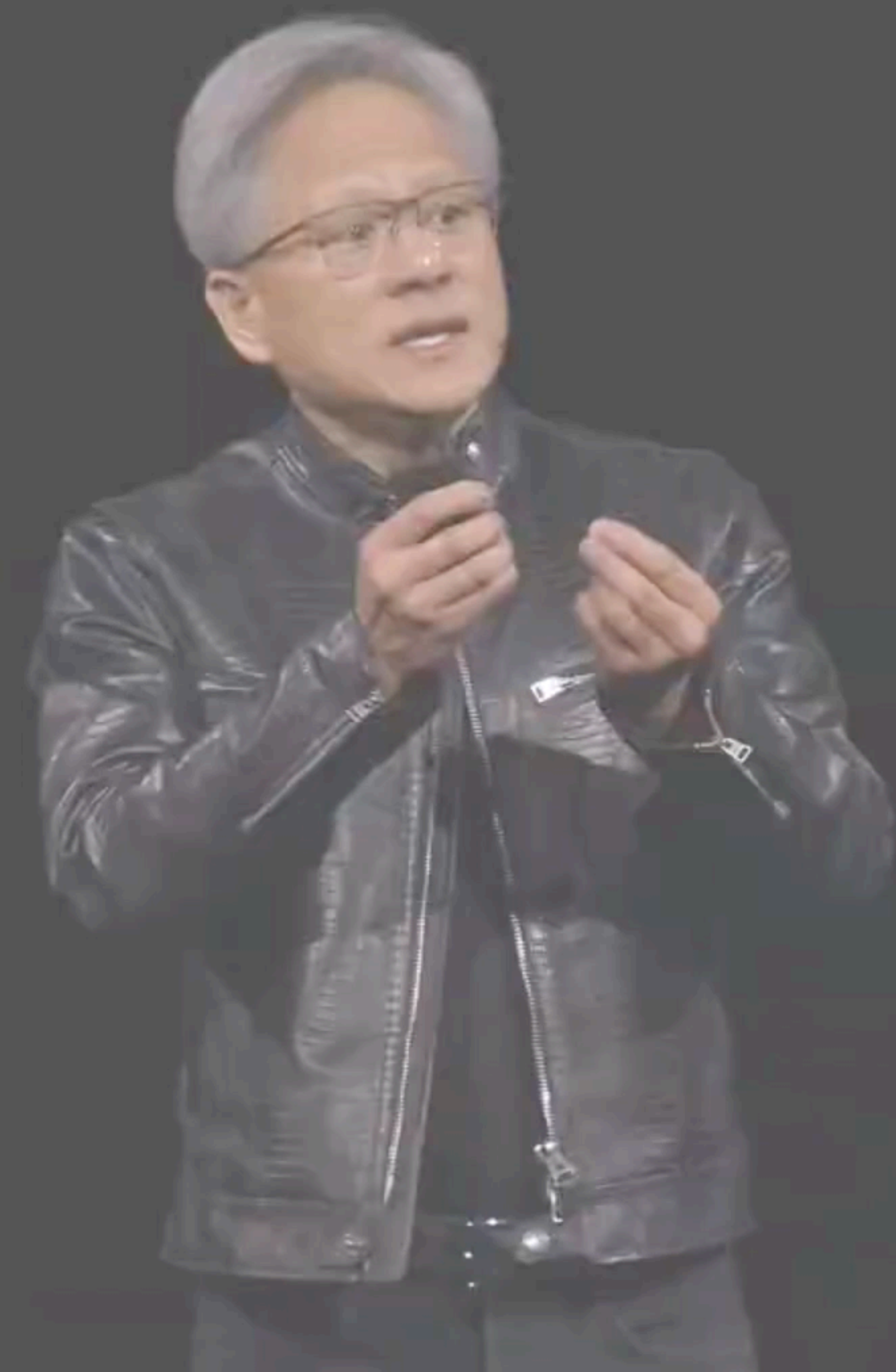


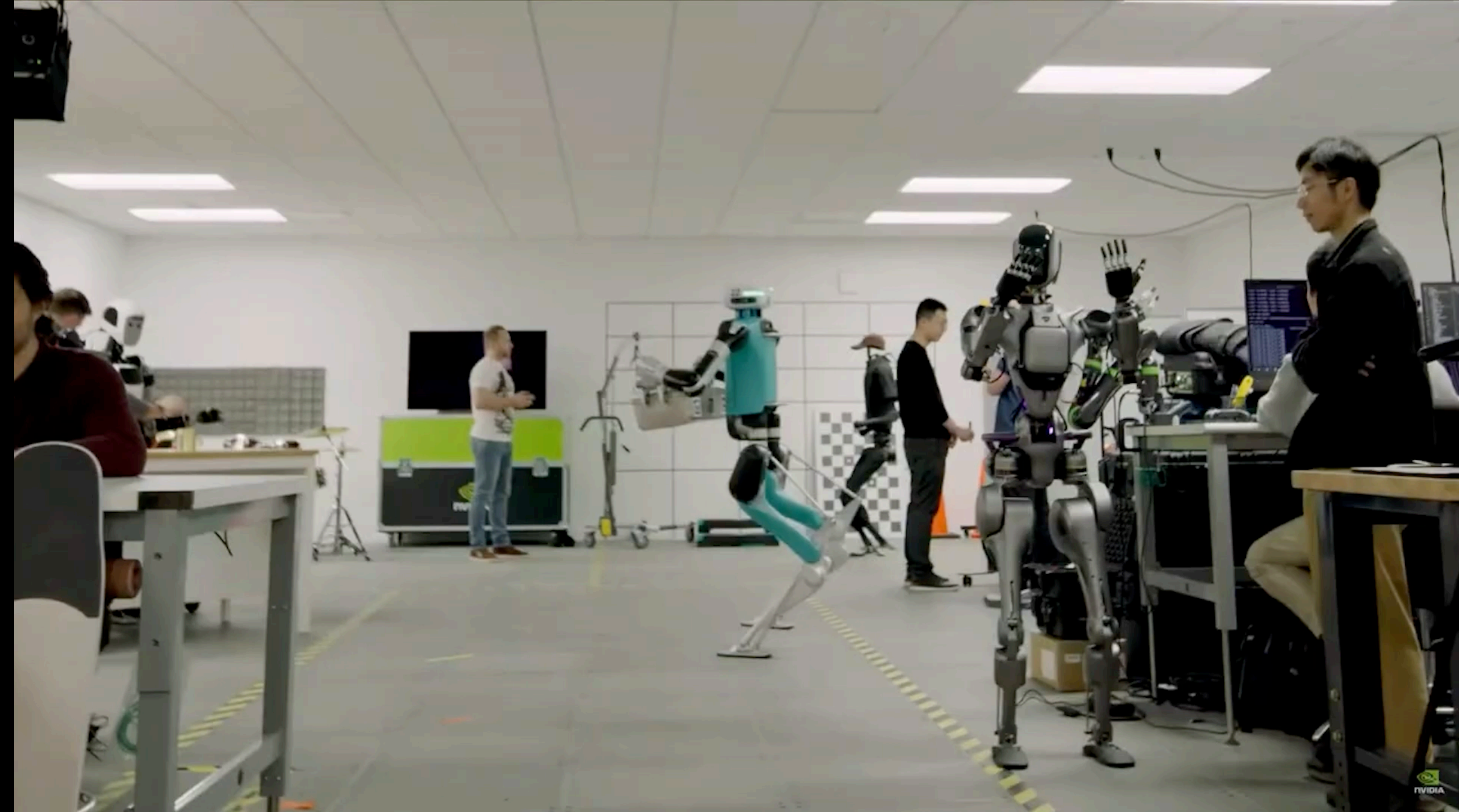


DIFFERENT TYPES OF AI ARE AT DIFFERENT LEVELS OF MATURITY

HYPE CYCLE FOR AI







A large orange industrial robotic arm is positioned in the foreground of a dimly lit factory floor. The background shows a long, perspective view of the factory aisle with various equipment and structural elements. The lighting is cool and blue-toned.

MANUFACTURING

“AUTOMATION, ROBOTICS, PROCESS”

\$6.2 BN

2022

\$178 BN

2030

DIGITAL TWINS, ROBOTICS, VISION INSPECTION

HEALTHCARE

PREVENTATIVE, DIAGNOSTIC, FORWARD LOOKING

\$10 BN

2022

\$177.4 BN

2030

**IMAGE ANALYSIS, PREDICTIVE MEDICINE,
PHARMACOGENETICS, DEVICE MONITORING, CHATBOTS**

AGRICULTURE

“AUTOMATION, ROBOTICS, PROCESS”

\$2.1 BN

2022

\$75 BN

2030

**PRECISION AGRICULTURE, VIRTUAL FARM
MANAGEMENT, REAL TIME MONITORING”**

ENERGY

“AUTOMATION, ROBOTICS, PROCESS”

\$4.0 BN

2022

\$19.8 BN

2030

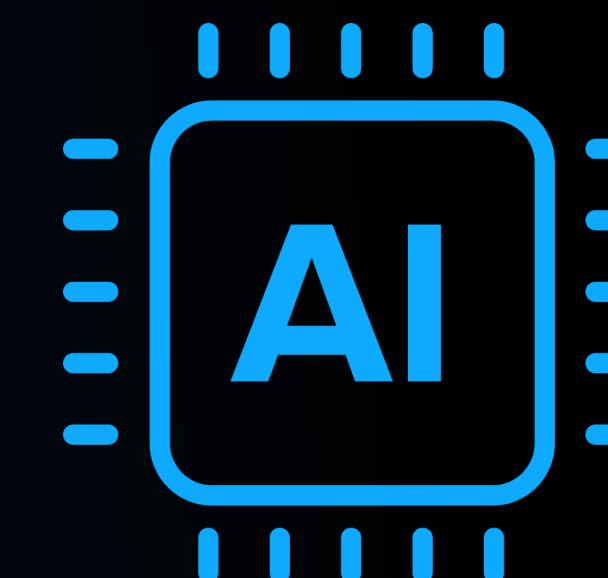
**NEXT GENERATION MICRO-GRID DEPLOYMENT, UTILITY
SCALE BATTERY, HOME ENERGY MANAGEMENT SYSTEMS**

2025 STRATEGY •

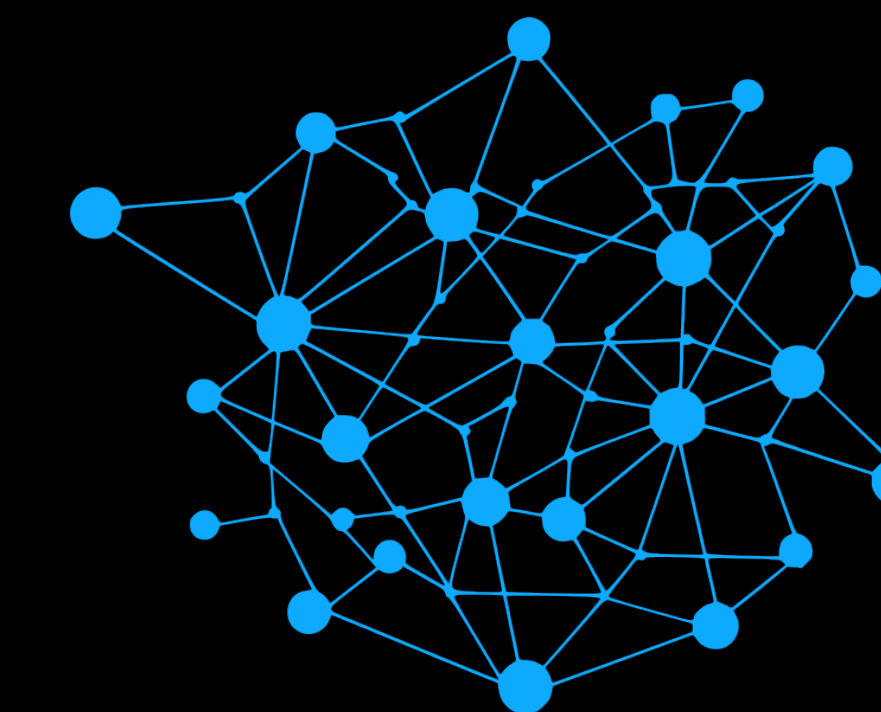
“PLAY ON THE AI TECH OFFENSIVE”



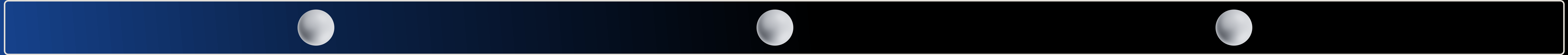
AI GYMS



AI R&D



AI COLLABORATIVE
GLOBAL NETWORKING



3. ■

SUSTAINABILITY & ENVIRONMENT

“A STORY OF THE INEVITABILITY
OF SCIENCE”

EXPONENTIAL TRENDS

“THE UNDENIABILITY OF ENERGY TRENDS”



WIND TURBINES

produce more power now in the US than the entire country used in 1950



RENEWABLES

the largest source of power in Europe



BATTERY STORAGE TECHNOLOGY

cost has collapsed by 97% in the last 3 decades



SOLAR ELECTRICITY

cost has gone down by 89% over 10 years



CARBON BASED CARS

In July 2024, only 632 sold in Norway - the rest were electric



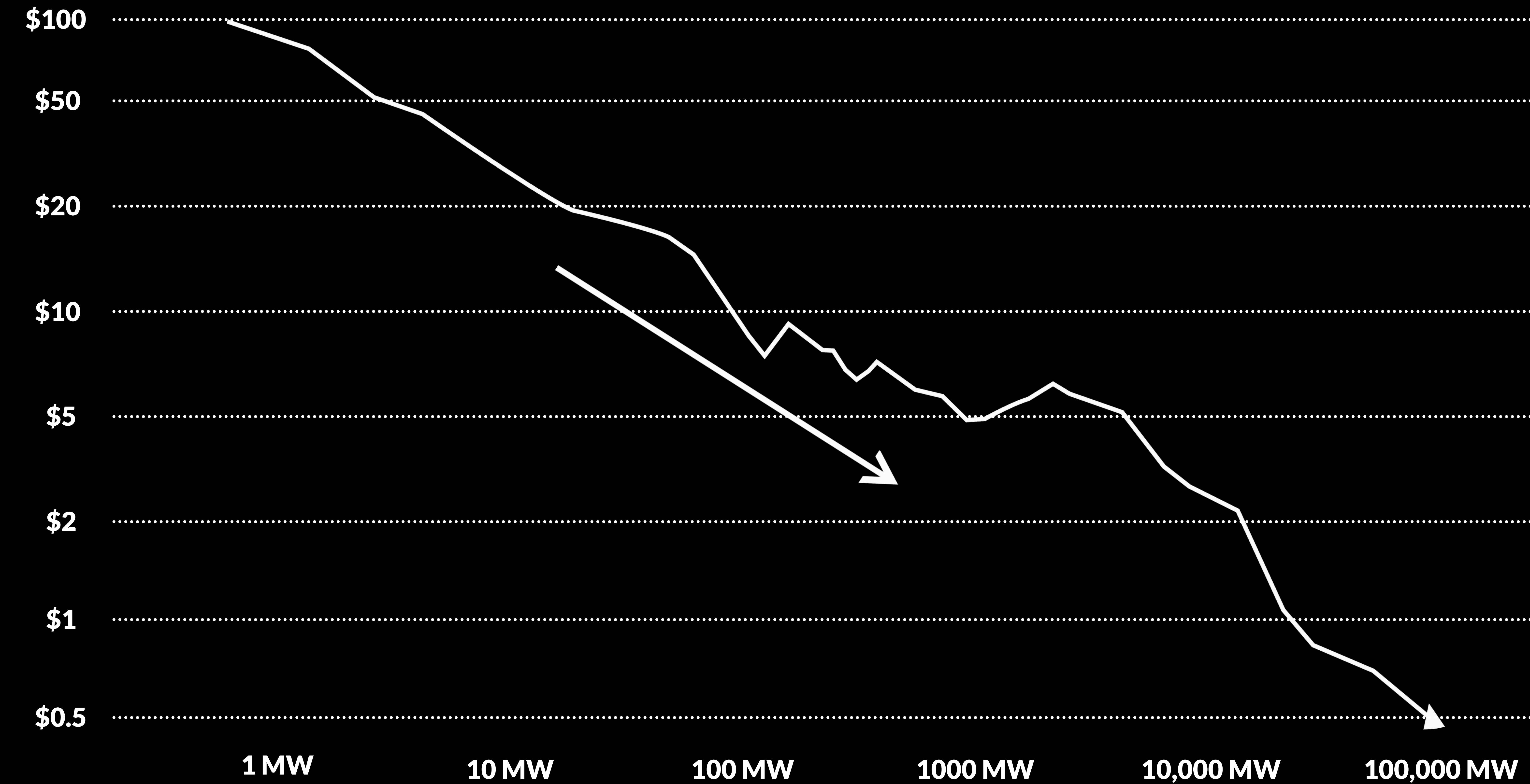
\$11.5 TRILLION

INTO ENERGY
INVESTMENT BY 2050

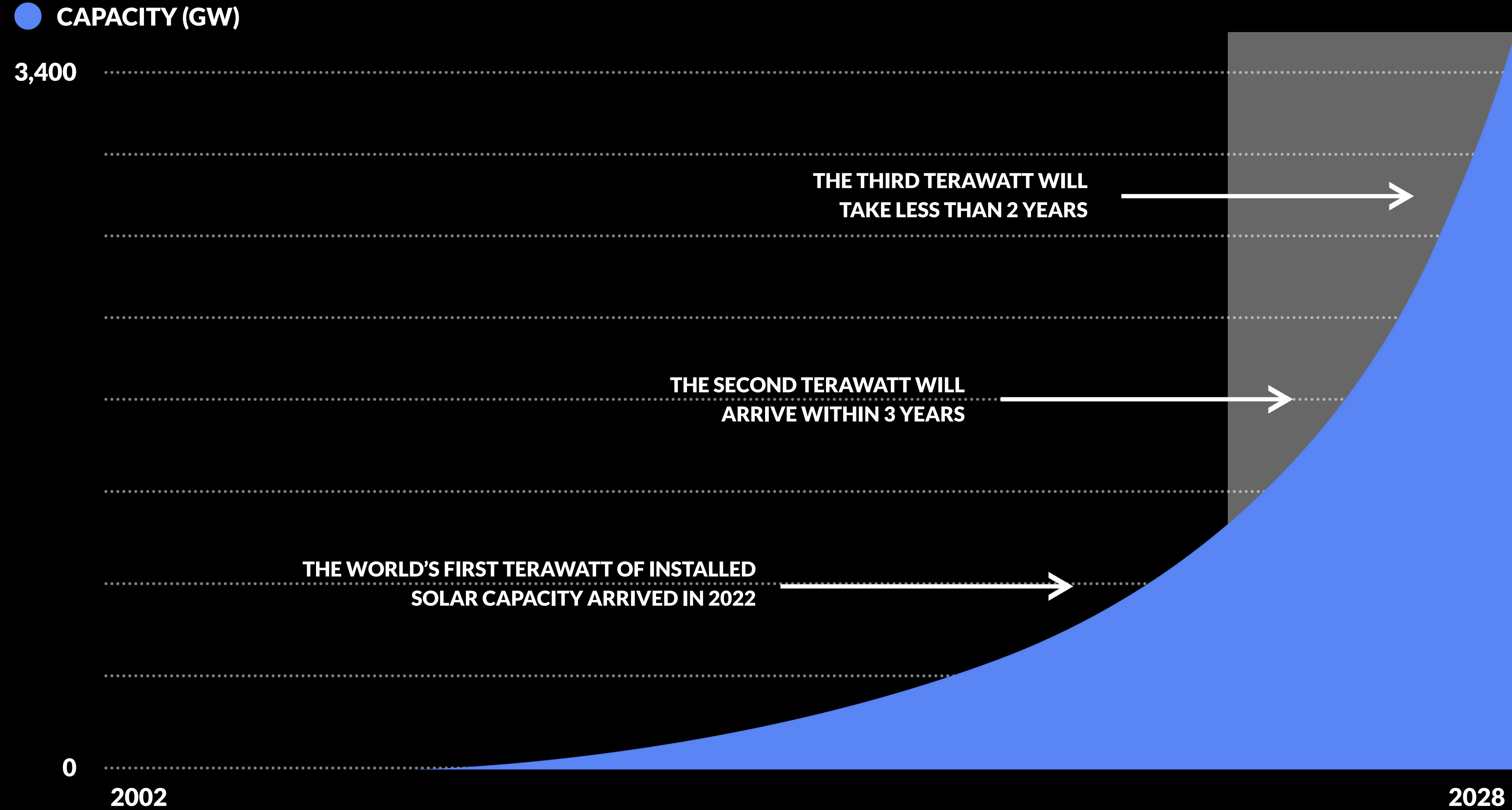
85%

INTO WIND, SOLAR,
RENEWABLES, GRID, SMART
TECHNOLOGY, MICROGRIDS

THE PRICE OF SOLAR MODULES DECLINED BY 99.6% SINCE 1976

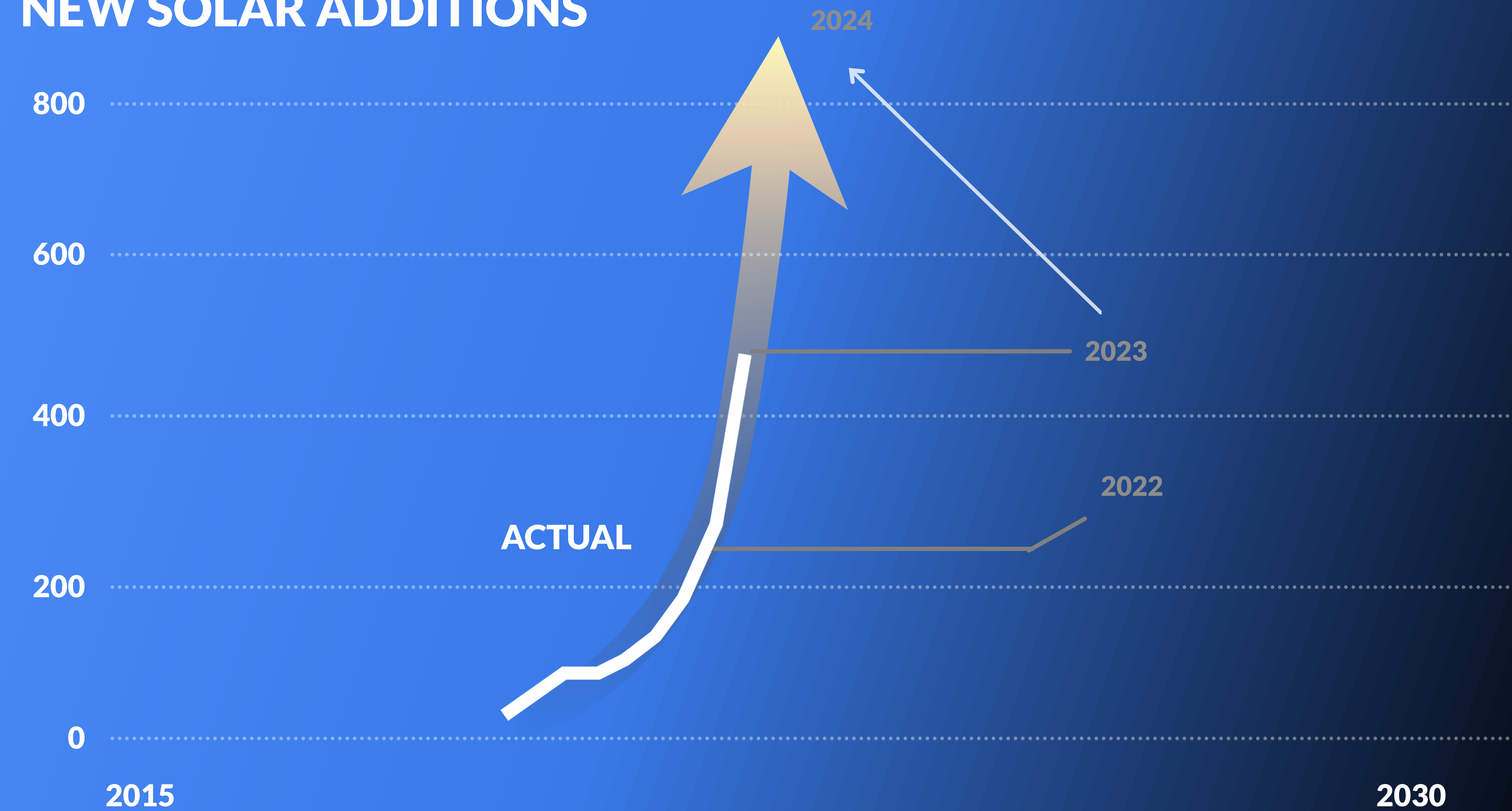


22 YEAR FOR THE 1ST TERRAWATT
OF SOLAR POWER, 2ND AND 3D
TERRAWATTS WITHIN 5 YEARS

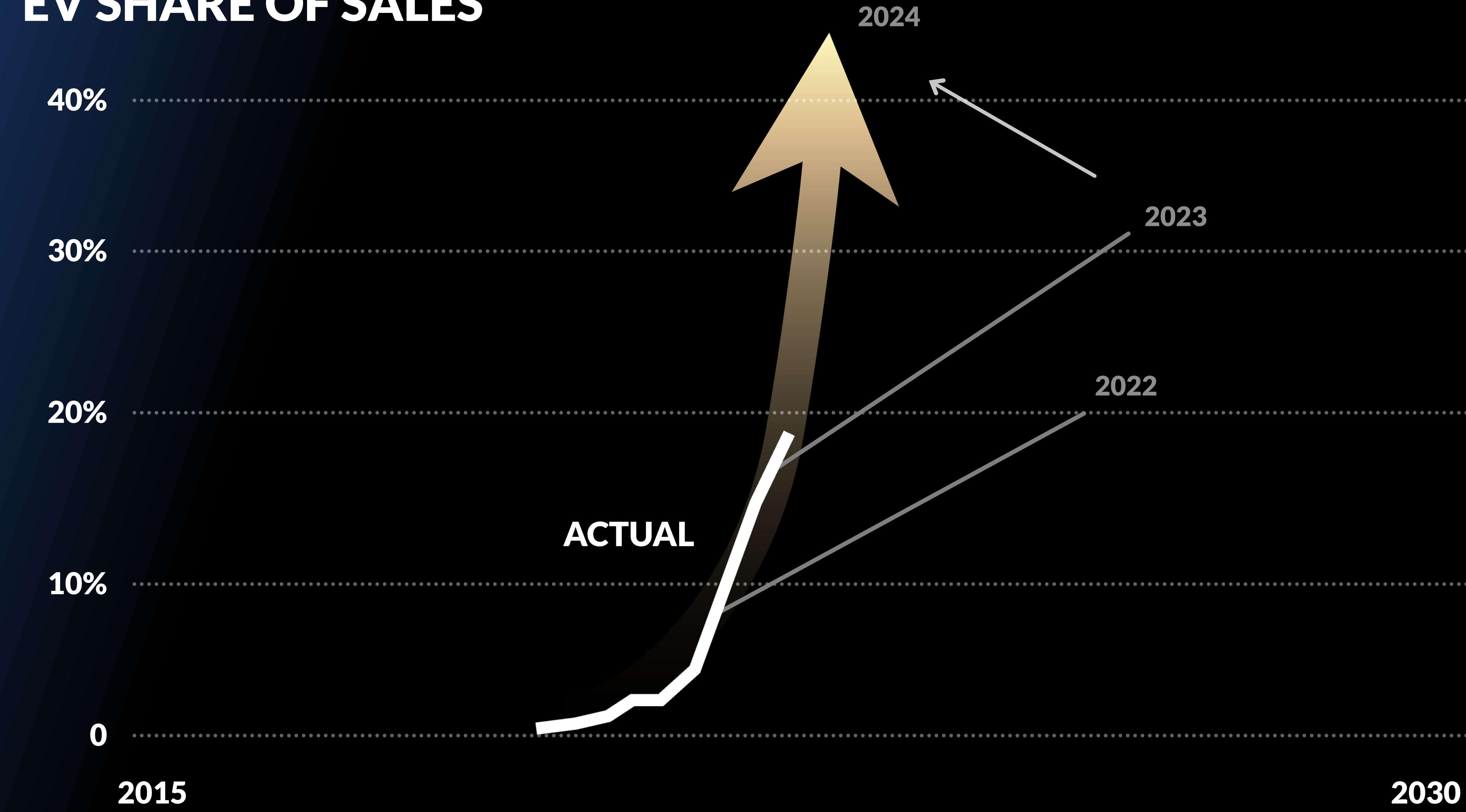


THE SPEED OF CHANGE IS UNDERESTIMATED!

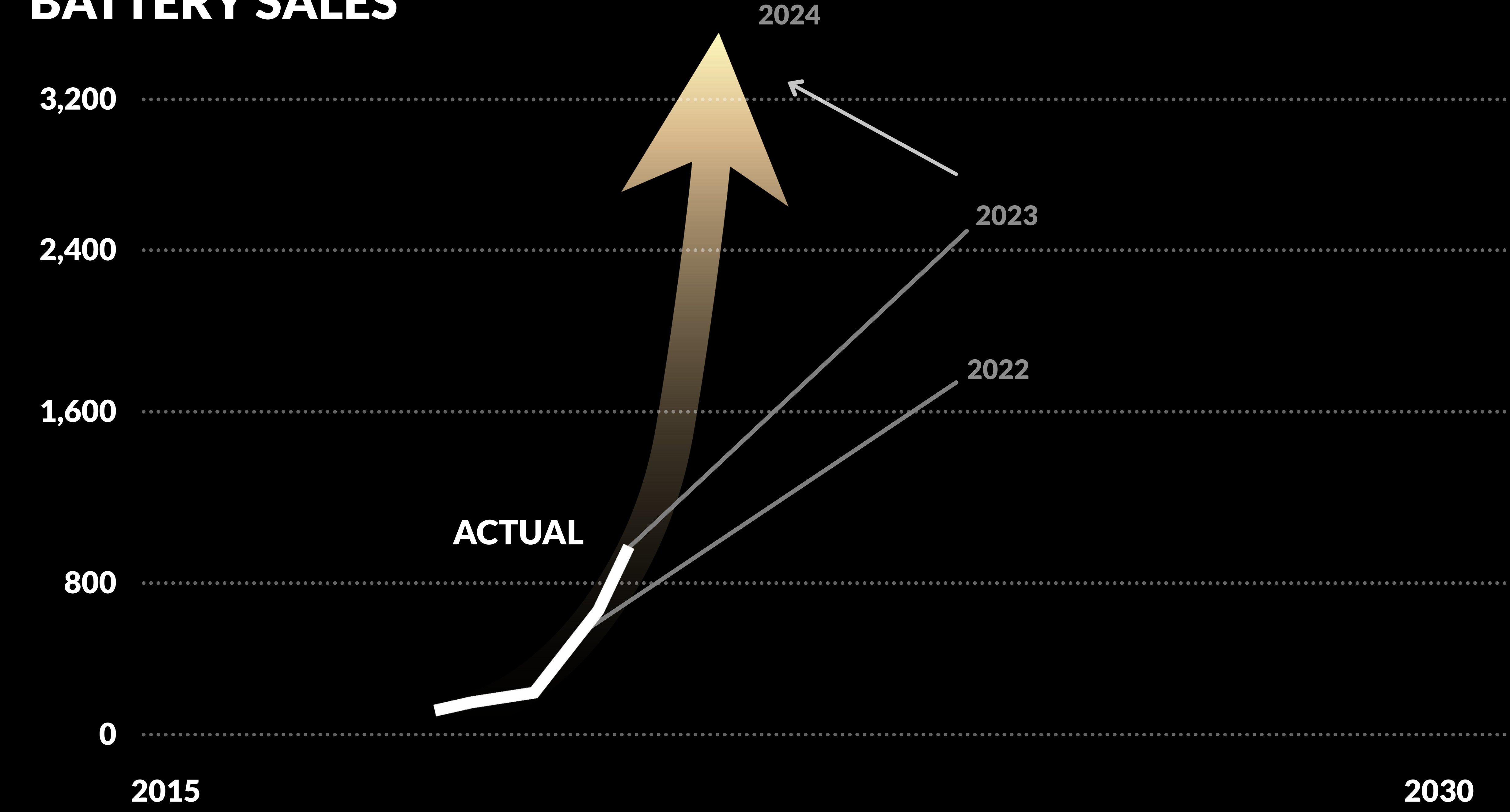
NEW SOLAR ADDITIONS



EV SHARE OF SALES



BATTERY SALES



**SKYSCRAPERS CAN SOON
GENERATE THEIR OWN POWER, DUE
TO TRANSPARENT SOLAR CELLS**



THE FUTURE IS

GRID CONNECTED ENERGY STORAGE

DEPLOYMENT AND
COST COLLAPSE OF
RENEWABLES

INDUSTRIAL SCALE
BATTERY STORAGE

LOCAL MICROGRID
TECHNOLOGY

SOPHISTICATED
GRID MANAGEMENT
VIA AI

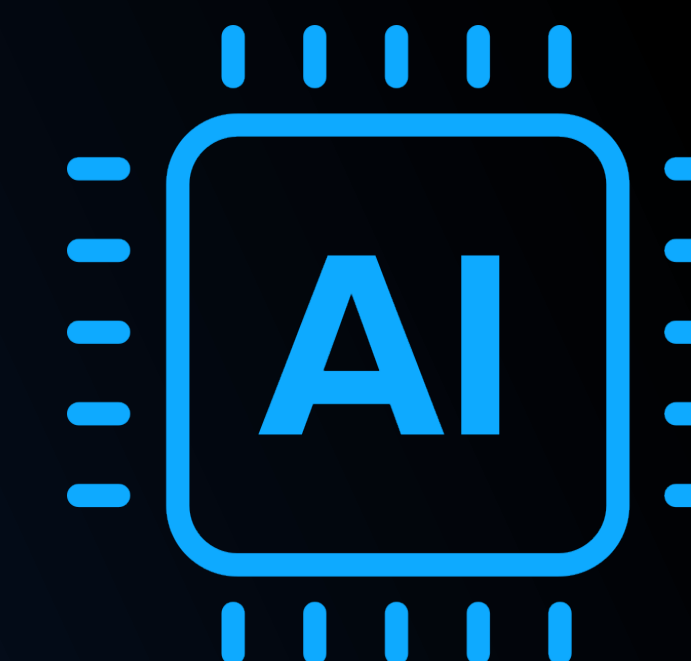
ARRIVAL OF VEHICLE
BATTERY TECH AS A
PART OF THE GRID



2025 STRATEGY • “SUSTAINABILITY IS THE NEW BUSINESS”



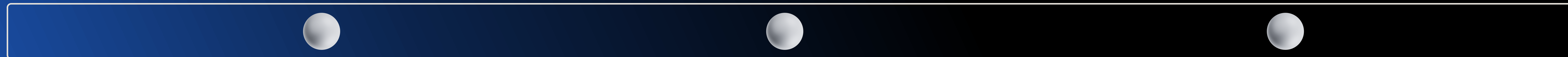
**NEW GRID BUSINESS
MODEL**



**AI TAKES ON A ROLE IN
THE SMART GRID**



**BATTERIES AT THE HEART OF
THE FUTURE OF ENERGY**



4.

SOCIETY

“GENERATION NEXT”

“

**AN OPTIMISTIC SOCIETY
THAT SEES OPPORTUNITIES
IS A TRANSFORMING ONE.**



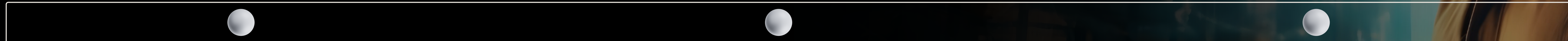
“THEY AREN’T LIKE THE REST OF US”

GENERATIONAL DISRUPTION

HALF OF THE GLOBAL
POPULATION < 25
YEARS

GLOBALLY WIRED,
ENTREPRENEURIAL,
COLLABORATIVE, CHANGE ORIENTED

NOW DRIVING RAPID BUSINESS MODEL
CHANGE, AND INDUSTRY TRANSFORMATION
AS THEY MOVE INTO EXECUTIVE POSITIONS



GENERATION NEXT

THE ENTREPRENEUR GENERATION

66%

OF MILLENNIALS AND GEN Z ARE
INTERESTED IN STARTING THEIR
OWN BUSINESS

80%

OF GEN Z SEE **TECHNOLOGY**
IN THEIR FUTURE BUSINESS
(AUTOMATION, AI, AND DIGITAL SOLUTIONS)

55%

OF YOUNG ENTREPRENEURS
VALUE PRACTICAL SKILLS OVER
FORMAL EDUCATION

75%

OF YOUNG ENTREPRENEURS
INDICATE THEY ARE WILLING TO
TAKE FINANCIAL RISKS

THE IMPORTANT IMPACT OF FUTURE-POSITIVE THINKING

ENTREPRENEURIAL EDUCATION SUPPORT IS A MUST!

72%

of people with a college education are
optimistic about tech innovation

30%

more likely for higher educated individuals
to expect an improvement in their economic
conditions

68%

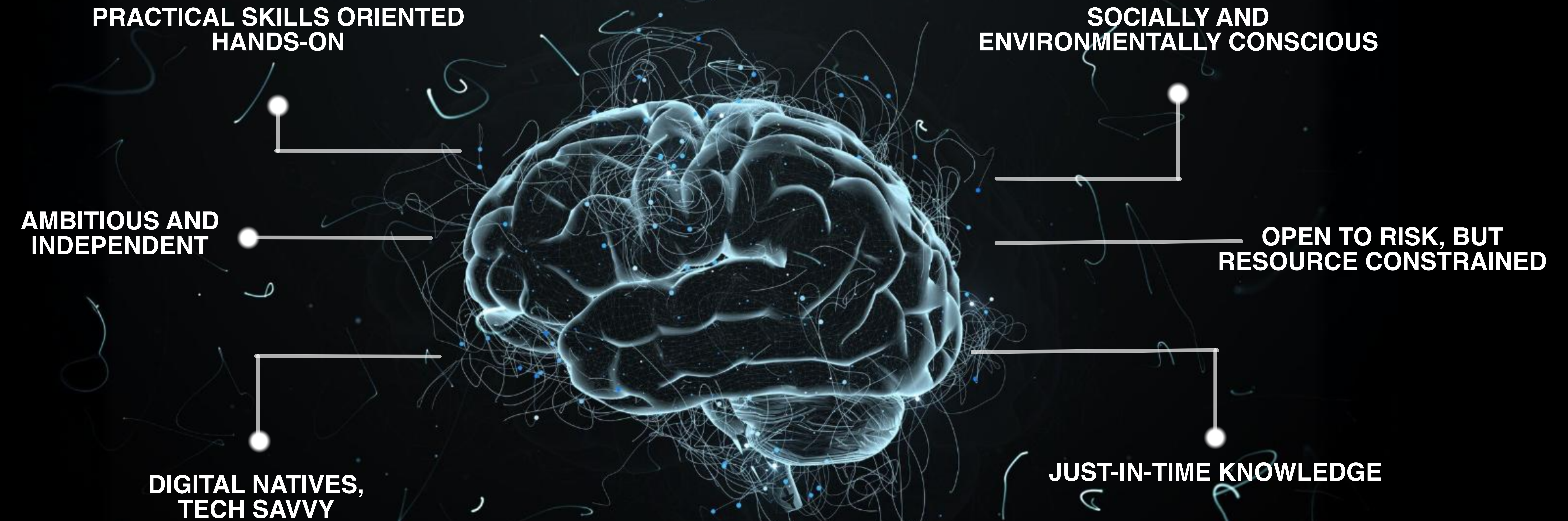
of individuals with a higher education
believe that science & tech would provide
for a better future

65%

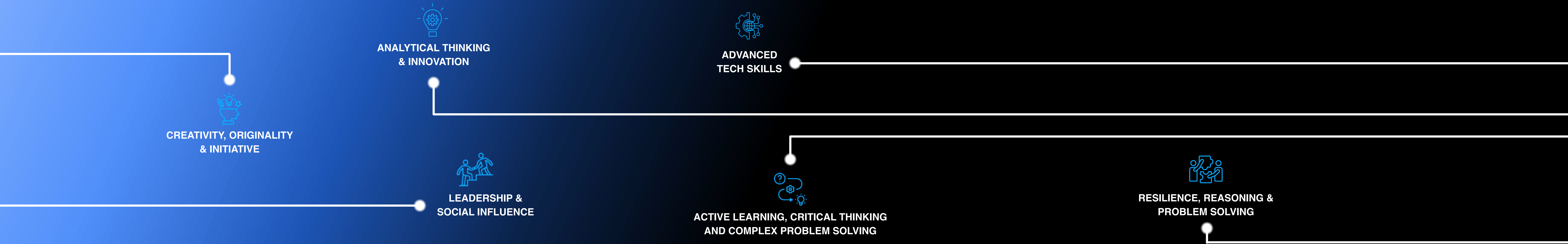
of those who described themselves as “well-
informed” had a positive outlook on AI and
tech

**“When the kid playing
Roblox gets into digital
twin technology.....”**

THE GENERATION NEXT MINDSET



CRITICAL FUTURE SKILLS ARE NOT TRADITIONAL ONES



FUTURE SKILLS ACTION PLAN



**ACCELERATE DIGITAL
SKILLS TRAINING**

2025 STRATEGY • “DOUBLE DOWN ON THE UAE BRAND”



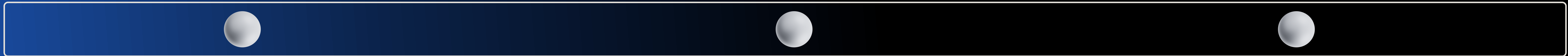
**TRANSFORM EDUCATION MODELS
AND FUTURE SKILLS FASTER**



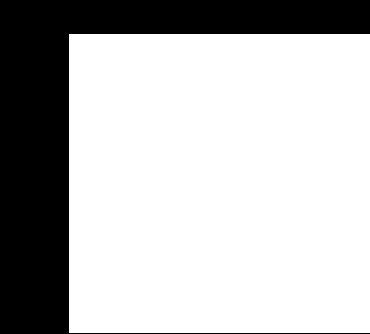
**GROOM THE
ENTREPRENEURIAL MINDSET**



**FUTURE PROGRESS DRIVEN
BY UAE NATIVE VALUES**



5.



GOVERNMENT

“AGILE LEADERS LEAD FAST NATIONS”

CITIZEN EXPECTATIONS SHAPE THE FUTURE OF GOVERNMENT

62%

OF CITIZENS WORLDWIDE EXPECT
GOVERNMENT SERVICES TO BE AS FAST
AS PRIVATE SECTOR SERVICES

BUT

48%

OF CITIZENS GLOBALLY ARE
DISSATISFIED WITH THE SPEED OF
GOVERNMENT RESPONSES

TRENDS IN GOVERNANCE

80%

OF GOVERNMENTS BELIEVE THAT
SCENARIO PLANNING FORESIGHT ARE
CRITICAL TOOLS FOR FUTURE
CHALLENGES

75%

OF COUNTRIES NOW HAVE **REGULATORY
SANDBOXES** TO TEST EMERGING
TECHNOLOGIES

67%

OF PUBLIC SECTOR WORKERS BELIEVE
THEY NEED **DIGITAL TRANSFORMATION**
TRAINING

75%

OF GOVERNMENT LEADERS RECOGNIZE
THAT SLOW DECISION-MAKING IS A
BARRIER TO **EFFECTIVE GOVERNANCE**

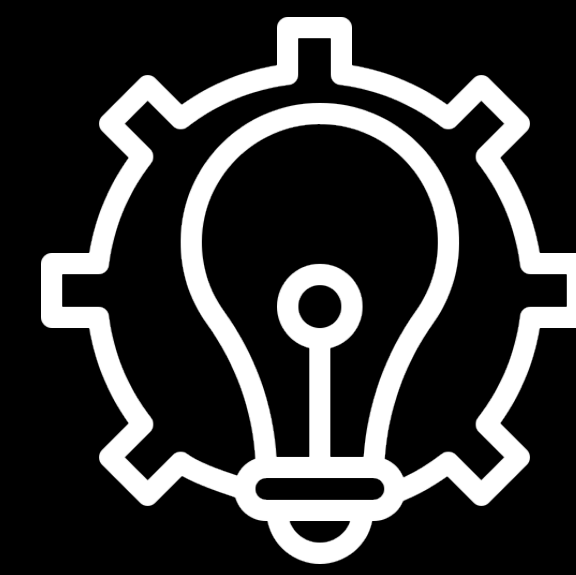
“

GOVERNMENT SERVICES THAT DO **NOT YET** EXIST
WILL DEVELOP PROGRAMS **NOT YET** DEFINED TO
SUPPORT SOCIETAL NEEDS **YET TO** EMERGE WITH
IDEAS **YET TO** BE IMAGINED

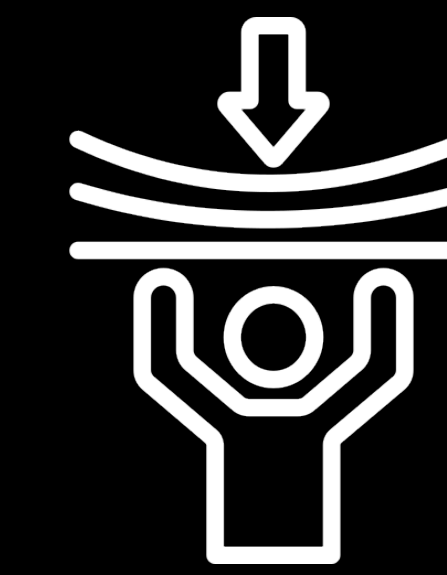
”



THE FUTURE OF GOVERNMENT MEANS



**SUPERCHARGING
INNOVATION**



**RESILIENCE AS A
NORM**



**FUELING DIGITAL
CAPABILITIES**



**SCALING PERSONALIZED
SERVICES**

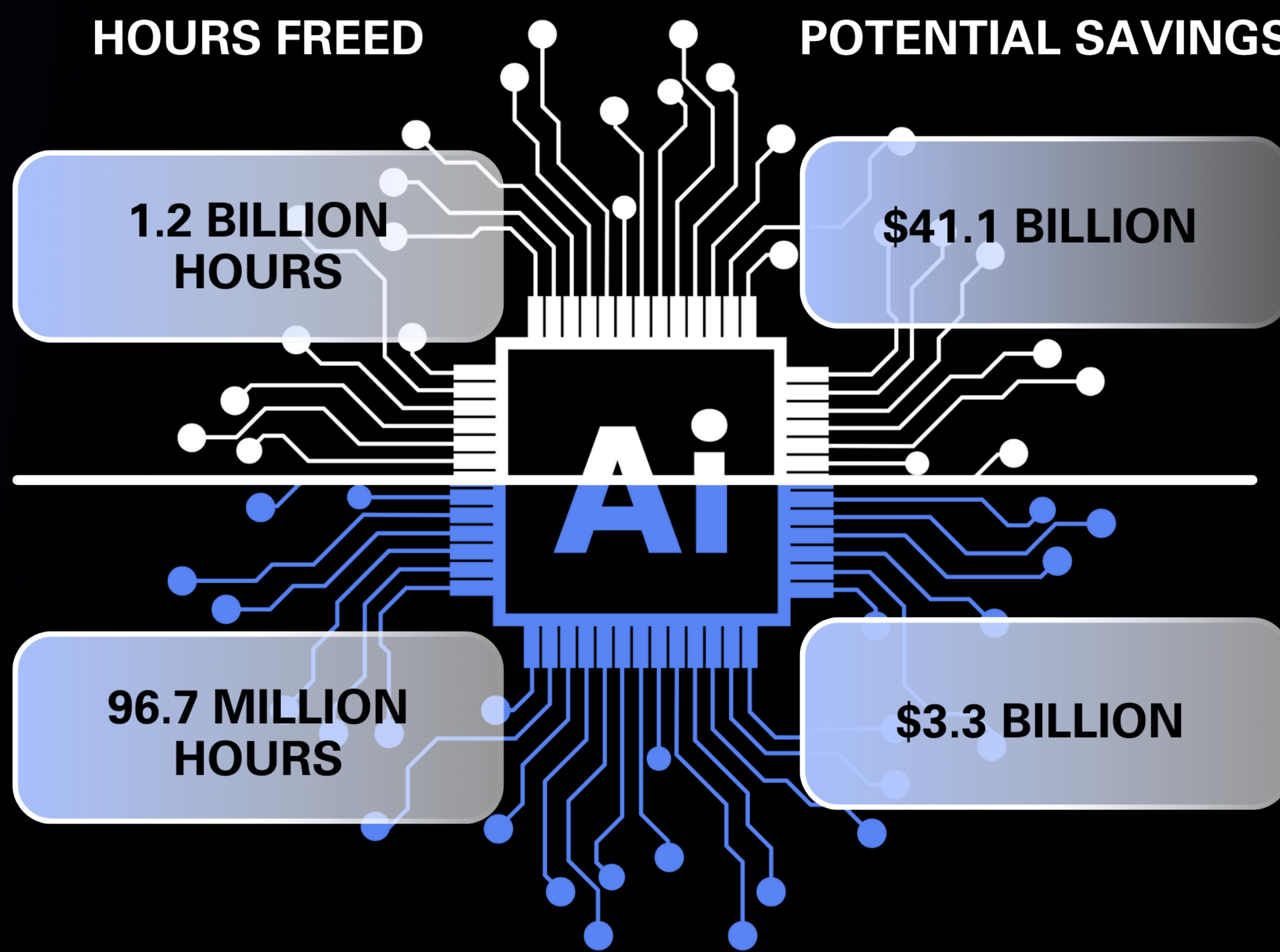


**DATA IMPERATIVE AT
WARP SPEED**

AI IN GOVERNMENT TRANSFORMS PRODUCTIVITY

HOW MUCH SAVING CAN AI IN GOVERNMENT GENERATE

HIGH INVESTMENT
(TASK SPEED UP BY 200%)



LOW INVESTMENT
(TASK SPEED UP BY 20%)

EXAMPLES OF USE CASES OF AI IN GOVERNMENT

- AI IN POLICY MAKING
- DATA-DRIVEN DECISION MAKING
- TASK AUTOMATION VIA CHATBOTS
- TRAFFIC MANAGEMENT
- PREDICTIVE POLICING
- INFRASTRUCTURE MONITORING
- FRAUD DETECTION

FUTURE OF GOVERNMENT MINDSET

MASTER OF GOVERNMENT IMAGINATION (MGI) PROGRAM

SEE THINGS
DIFFERENTLY

REFUSE TO ACCEPT
THE STATUS QUO

FOCUS ON OPPORTUNITY,
NOT THREAT

SPUR CREATIVITY IN
OTHER PEOPLE

BRING NEW IDEAS
TO LIFE

LEARN AND
UNLEARN

REFUSE TO SAY THE
WORD CAN'T

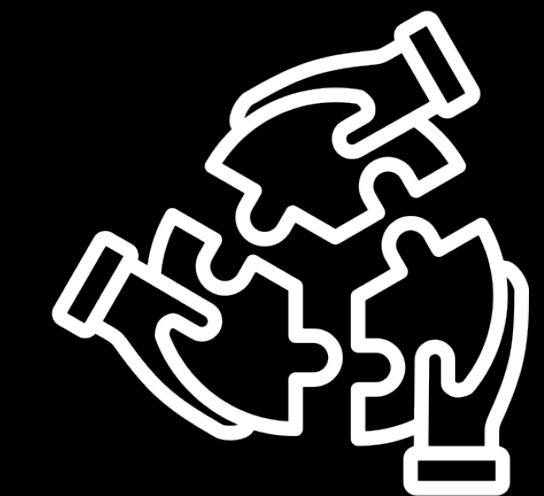
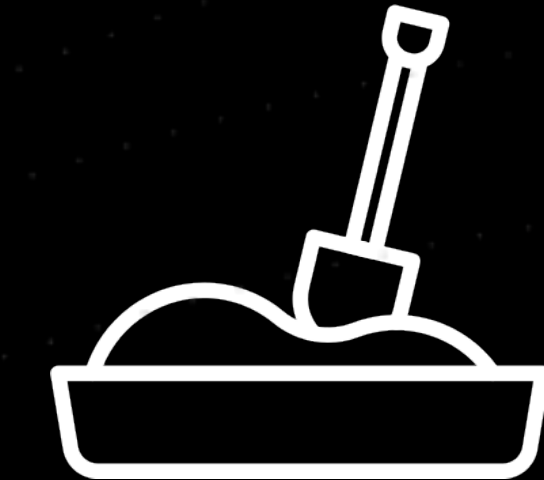
ACCEPT COMPLEX
CHALLENGES WITH PASSION

CHALLENGE
ASSUMPTIONS

SOLUTION
ORIENTED



WHAT DO GOVERNMENTS NEED TO DO?

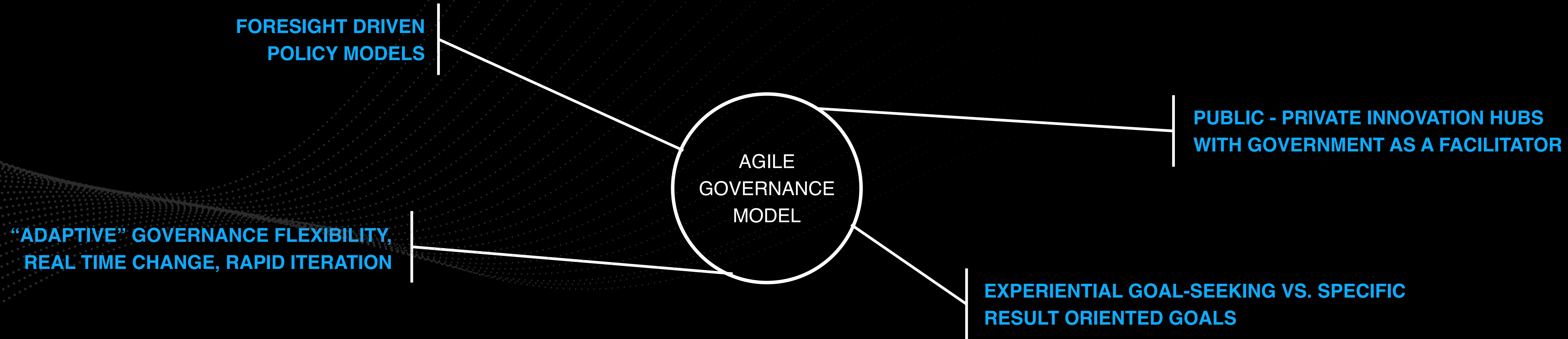


ENHANCE **FUTURE ORIENTED DECISION MAKING**

PROVIDE **'EXPERIENTIAL SANDBOXES'**

UPSKILL GOVERNMENT WORKFORCE RELENTLESSLY

CULTURE OF ACCELERATED DECISION MAKING



2025 STRATEGY •

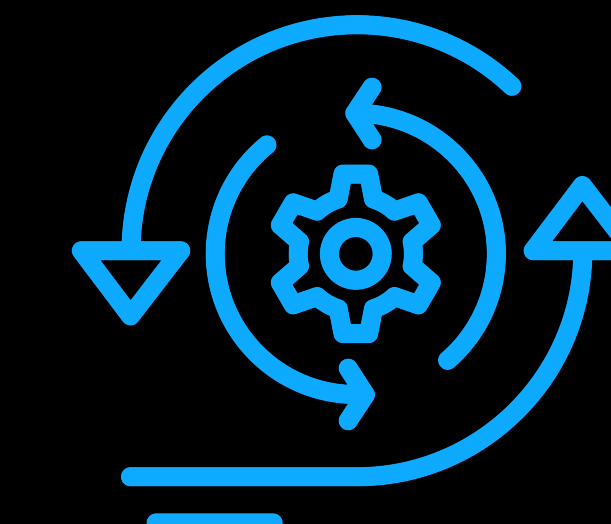
• “BE FIT FOR THE FUTURE”



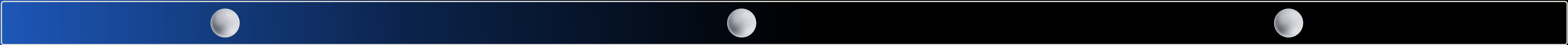
UAE AS A GLOBAL
LEADER FOR FUTURE
OPPORTUNITIES



FUTURE ORIENTED POLICIES
ACCELERATING INDUSTRY, HUMAN
CAPITAL & FAST TRENDS



NEW ‘FUTURE FIT,’ AGILE
GOVERNMENT BUSINESS
MODELS





**“SO WHAT DO WE
DO?”**

INNOVATION

[PHONETIC] NOUN

1. A new idea, method, or device : novelty
2. The introduction of something new
3. FUTURE PROOFING A NATION!

2025

• GET OUT IN FRONT



“TRANSLATE FAST MOVING
TRENDS INTO OPPORTUNITIES”
WITH AGILE GOVERNANCE



ENCOURAGE DIGITAL EXPLORATION
THROUGH APPLIED INNOVATION



INVEST IN ‘EXPERIENTIAL
CAPITAL’



UPSKILL AND RESKILL



ENCOURAGE ‘MGI’ THINKING
“STEVE JOBS: BE THE REBEL,
OUTLIER, MISFIT...”



THINK **BIG**

START SMALL

SCALE *FAST*

