

# *Strategic Foresight at the Front- End of Innovation*

PRESENTED BY ROBIN CHAMP  
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# Robin Champ



## Expert speaker on foresight at multiple forums:

- Association for Strategic Planning
- Federal Foresight Community of Interest
- Palladium Strategy Summit
- National Defense University
- American Society of Microbiology
- Department of Homeland Security
- Environmental Protection Agency
- Department of Energy National Labs
- Defense Innovation Summit
- Centers for Disease Control (CDC)
- IBM
- Baldrige Foundation Institute for Performance Excellence



- Vice President, Strategic Foresight, LBL Strategies
- Instructor, Harvard Extension School
- Co-Chair, Federal Foresight Advocacy Alliance (FFAA-us.org)
- Chair, IASP Government Community of Practice
- Former Chief of the Enterprise Strategy Division at U.S. Secret Service
- Co-Led the Federal Foresight Community of Interest (FFCol.org)
- Proclaimed U.S. Army Mad Scientist
- Previously served as Chief of the Global Futures Office at the Defense Threat Reduction Agency (DTRA)
- Bachelor of Science in Journalism/Advertising from the University of Maryland where she was the Outstanding Senior in Advertising, graduating at the top of the Advertising class
- Master of Science in National Resource Strategy from NDU's Industrial College of the Armed Forces
- Harvard Kennedy School, Senior Executive Fellows program graduate
- Recipient of the DTRA Director's Distinguished Civilian Service Medal
- Recipient of the Secret Service Director's Impact Award

# Who Are We and What We Do

**Our Mission:** Empowering leaders to think, plan, and act strategically.

Center for Excellence  
in Public Leadership

THE GEORGE WASHINGTON UNIVERSITY



Army  
Strategist  
Association





# LBL STRATEGIES SPHERE OF INFLUENCE – PUBLIC SECTOR



Watershed Protection Division



# LBL STRATEGIES SPHERE OF INFLUENCE — NON-PROFIT, HIGHER ED, & ASSOCIATION



***“Organizations have to make their futures, or risk being overtaken by the future.”***

- Clark Murdock, Future Making

# RESILIENCE and FORESIGHT

## RESILIENCE

“An organization’s ability to anticipate, prepare for, and recover from disasters, emergencies, and other disruptions, and when disruptions occur, to protect and enhance workforce and customer engagement, supply-network and financial performance, organizational productivity, and community well-being. See also agility.”

-<https://www.nist.gov/baldrige/self-assessing/baldrige-key-terms#resilience>

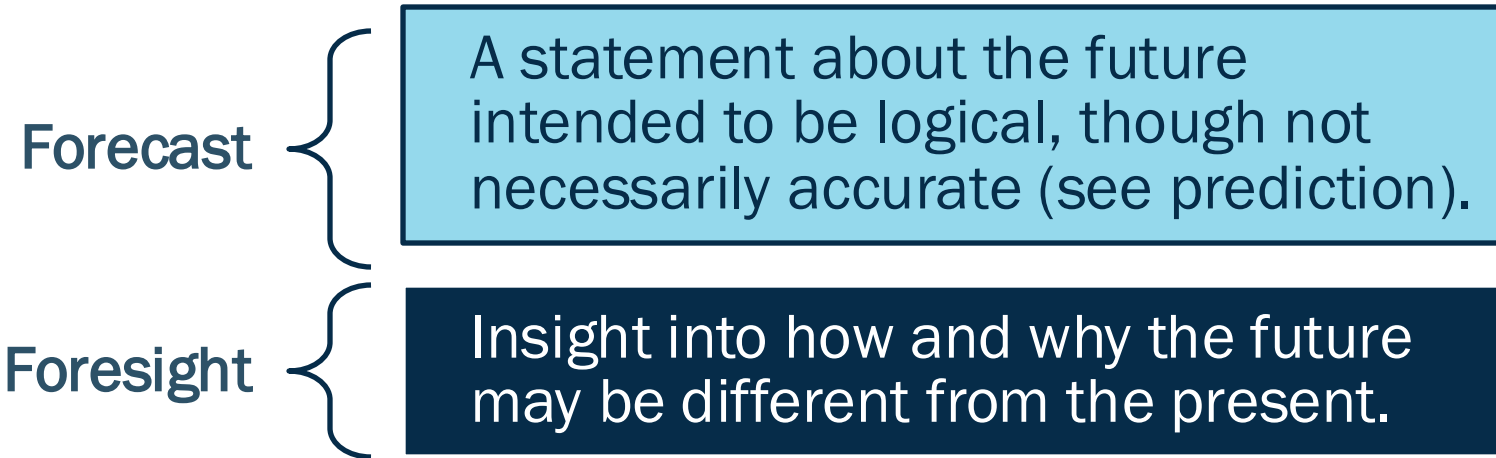
## FORESIGHT

“Insight into how and why the future may be different from the present.”

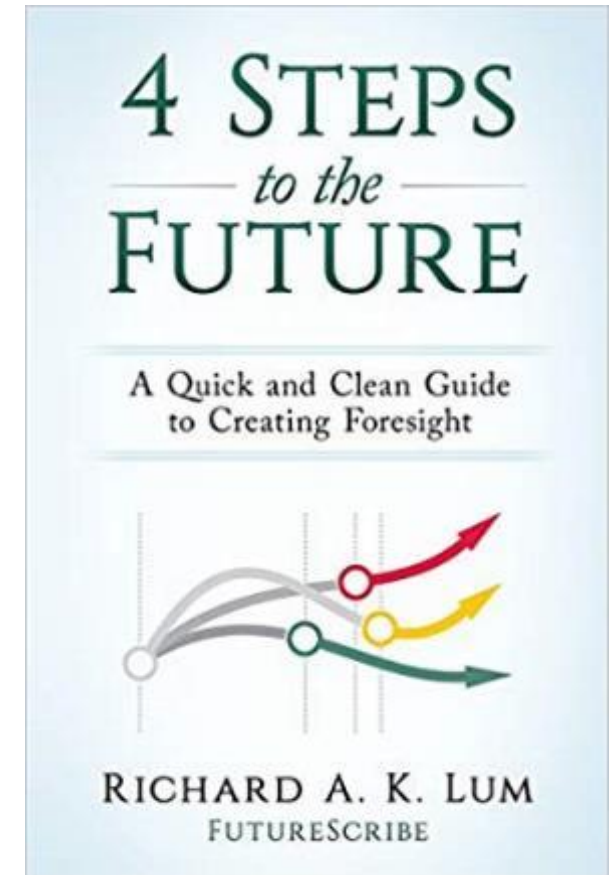
Dr. Richard A.K. Lum, “*4 Steps to the Future*”

# What is Foresight?

# FORECASTING VS. FORESIGHT



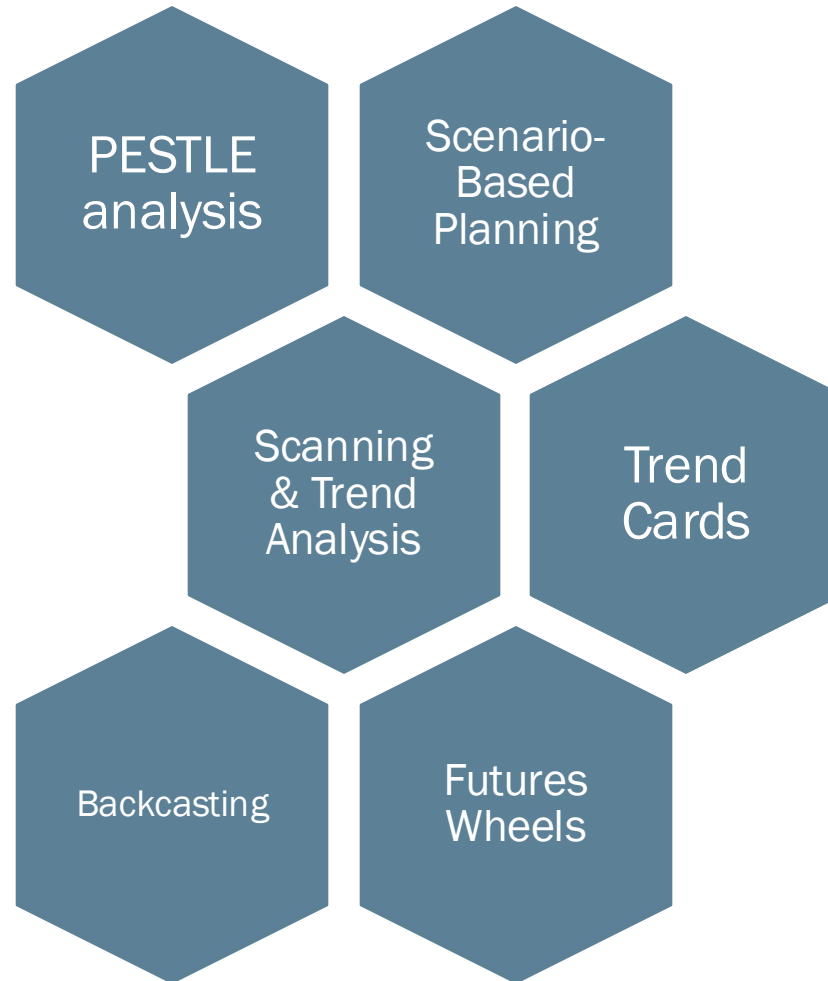
- The future does not exist
- There are many possible futures
- Those futures are constantly in flux



Reference: Richard A. K. Lum (2016) *4 Steps to the Future: A Quick and Clean Guide to Creating Foresight*

# Foresight Techniques

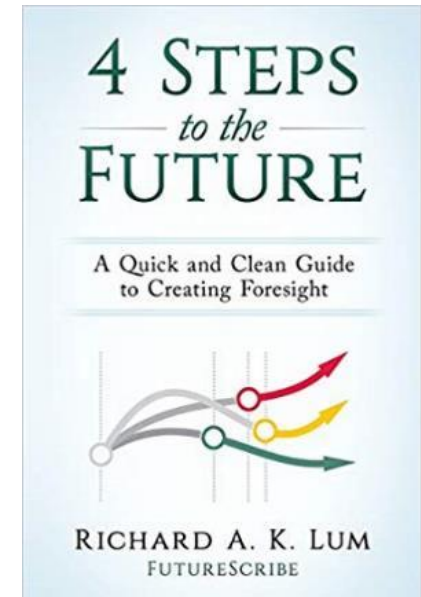
Interconnected



# Horizon Scanning / Environmental Scanning

## Horizon Scanning/Environmental Scanning:

Used synonymously – Process of skimming a wide variety and high volume of information sources in order to identify signals of emerging change. (source: *4 Steps to the Future* by Dr. Richard Lum)



## “Trends” vs. “Weak Signals”

- **Trend:** Direction in which something is changing. Trend is a general tendency or direction evident from past events increasing or decreasing in strength or frequency of observation. It usually suggests a pattern.
- **Weak Signal:** Early signs of currently small change. What is coming down the pike that could be a huge disruptor/surprise. Not an established trend yet. They often are “not necessarily important things” which do not seem to have a strong impact in the present, but which could be the trigger for major events in the future.



- Manual Scanning
- AI Scanning

## SCANNING HIT EXAMPLES

**WTOP News** ✓  
★ Favorites · 3h · 🌐

New vehicles sold in the U.S. will have to average at least 40 miles per gallon of gasoline in 2026, up from about 28 mpg, under new federal rules that undo a rollback of standards enacted under President Donald Trump.



WTOP.COM  
**New vehicles must average 40 mpg by 28 mpg | WTOP News**

# healthleaders

Automakers are applying the smart home concept to the automobile, with plans to include sensors that can track a driver's physical and mental health

## CAN A CAR MONITOR A DRIVER'S HEALTH?

## Perfume Is AI a threat to the human nose?

The fragrance industry is embracing artificial intelligence as a tool to create hyper-personalised scents, prompting questions about the future role of perfumers.

BY MAISIE BOVINGDON  
February 14, 2025

**Hard Lum** · 1st

chemically trained futurist leading  
right projects for government, busines...

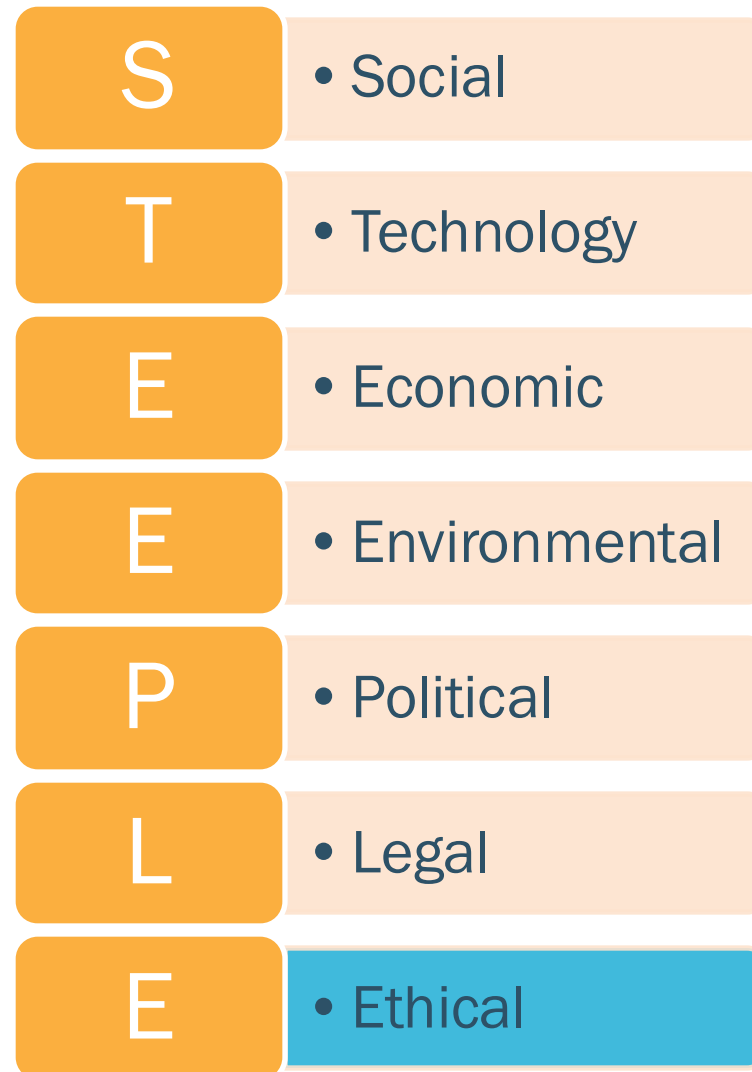
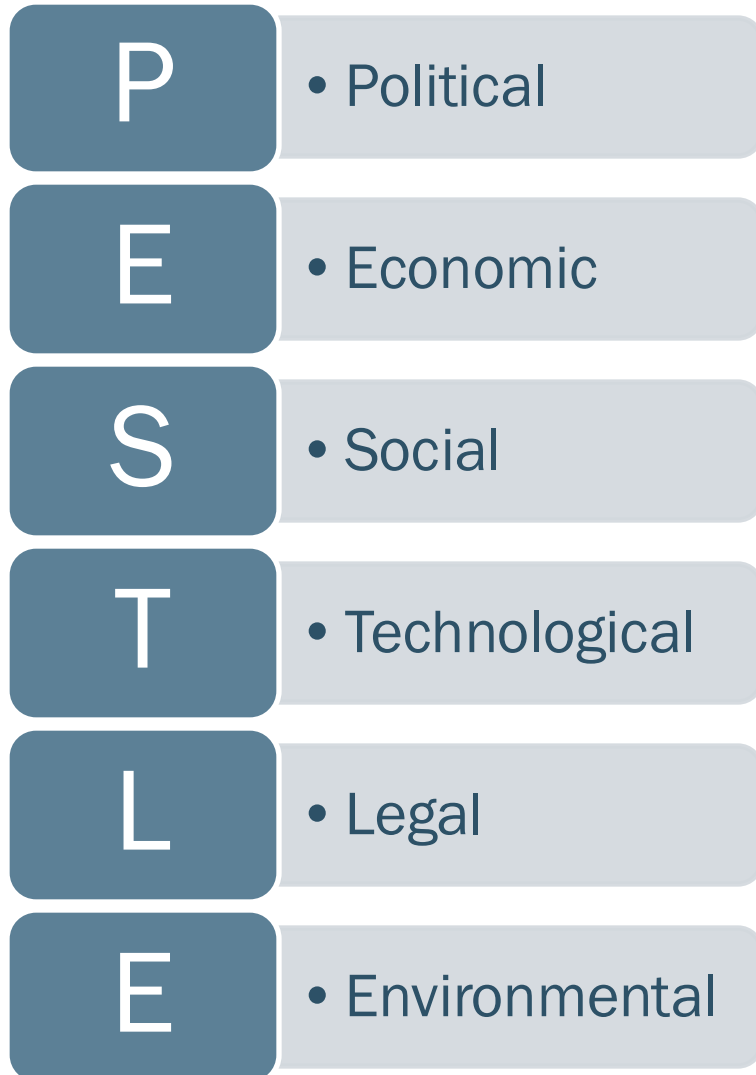
ones that needed replacing would firstly  
uilt in a laboratory. New technology  
oon, it will be possible to 'print' bone  
the body"



**This ceramic ink can 3D-print bones directly into a patient's body. Here's how**

weforum.org · 2 min read

## MACRO: PESTLE / STEEPLE



- Political: Includes leadership, governance, nation states, etc.
- Economic: Includes commerce, money, markets, financial
- Social: Includes demographics, culture
- Technology: Includes innovation, sciences
- Legal: Includes possible legislative changes, regulations
- Environment: Includes climate, geography, virtual environments, places
- Ethical: Includes social-cultural behaviors and global values



DID YOU  
KNOW ?  
2025

# Emerging Trends

What do these mean for **product developers and managers**?

# 1. AI & The Intelligent Digital Ecosystem

The convergence of Artificial Intelligence (AI), Internet of Things (IoT), and Digital Twins create adaptive, data-driven environments that enhance decision-making and automation across industries.

## Key Components:

- **Artificial Intelligence (AI):** Machine learning, generative AI, and autonomous decision systems.
- **Internet of Things (IoT):** Networks of connected devices enabling real-time data collection and automation.
- **Digital Twins:** Virtual representations of real-world systems for simulation, optimization, and predictive analytics.

## Strategic Implications:

- Increased automation in operations and decision-making.
- New regulatory and ethical considerations for AI deployment.
- Enhanced efficiency in asset management and predictive analytics.



## 2. Biotech & Human Enhancement

Advancements in genetic engineering, regenerative medicine, and longevity science that are reshaping healthcare and human potential.

### Key Components:

- **CRISPR & Gene Editing:** Precision genetic modifications to prevent diseases or enhance human capabilities.
- **Medical Advances:** Personalized medicine, biotech implants, and AI-driven diagnostics.
- **Longevity & Aging:** Anti-aging research, bioengineering for cellular repair, and new models for senior living.

### Strategic Implications:

- New business models in precision and longevity medicine.
- Ethical and regulatory challenges in genetic modifications.
- Workforce planning implications as life expectancy increases.



### 3. Quantum Revolution

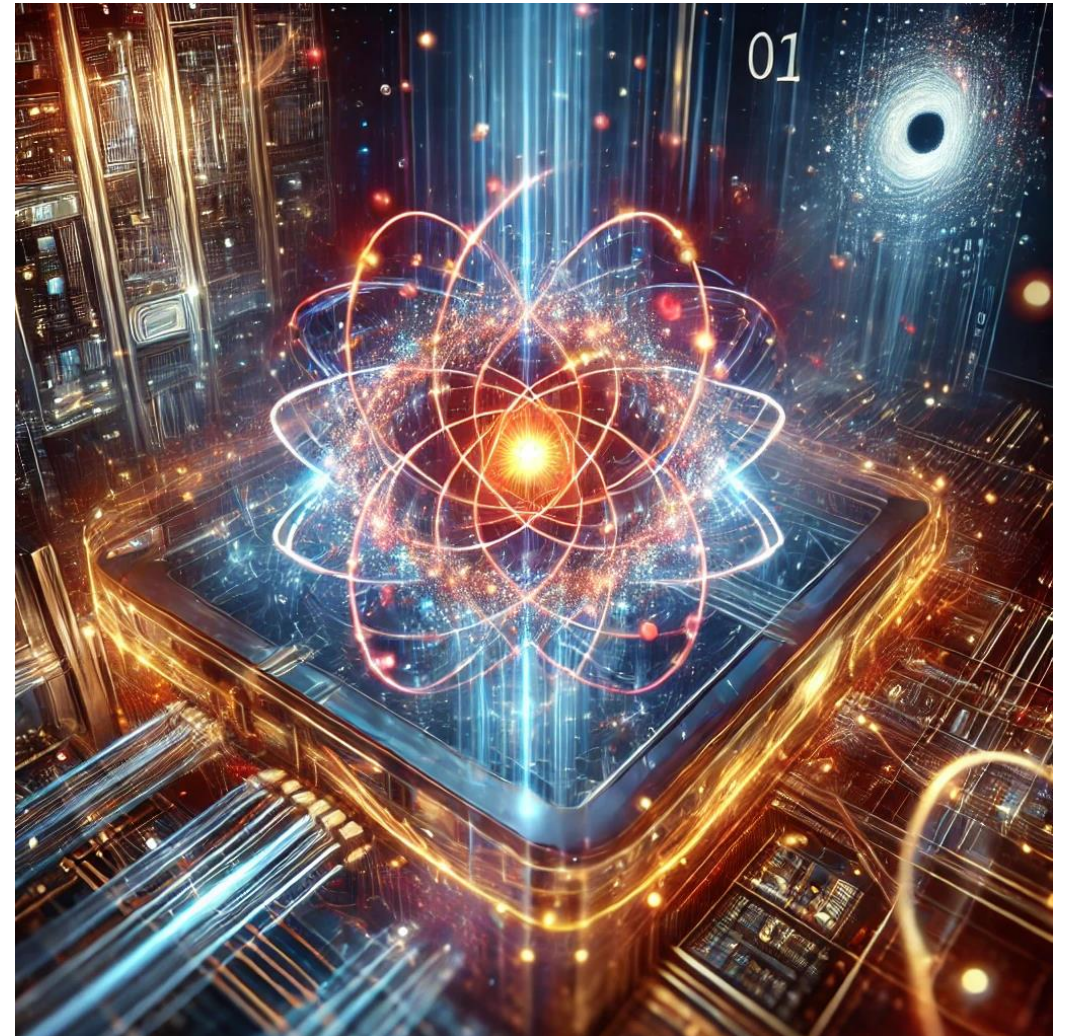
The rise of quantum computing and cryptography, revolutionizing problem-solving, security, and communication.

#### Key Components:

- **Quantum Computing:** Exponential processing power for solving complex problems in seconds.
- **Quantum Cryptography:** Unbreakable encryption for cybersecurity.
- **Quantum Communications:** Secure, instantaneous global communication using quantum entanglement.

#### Strategic Implications:

- Disruption of current encryption and cybersecurity frameworks.
- New opportunities in computational problem-solving.
- Potential geopolitical and economic shifts driven by quantum supremacy.



## 4. Space: The Next Frontier

The commercialization and militarization of space, impacting resource extraction, security, and international policies.

### Key Components:

- **Space Mining:** Extracting rare minerals from asteroids and the Moon.
- **Space Tourism:** Commercial space travel and long-term habitation.
- **Space Weaponization:** National defense and security implications of space-based systems.
- **Space Junk:** Growing concerns over orbital debris and sustainability.

### Strategic Implications:

- New investment opportunities in private space ventures.
- Increased international collaboration and conflict risks.
- Regulatory frameworks for sustainable space operations.



# 5. The Future of Food: Vertical Farming, Synthetic Meat, & Precision Fermentation

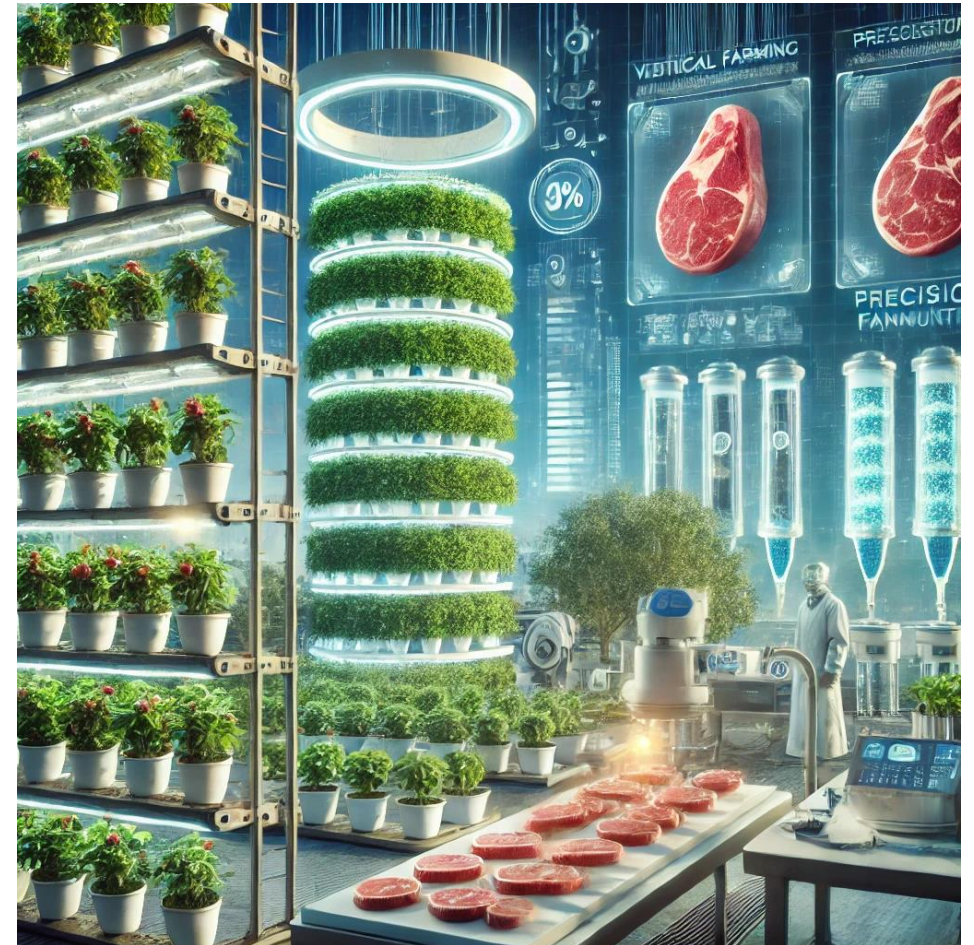
Revolutionary food technologies that address sustainability, global food security, and the environmental impact of traditional agriculture.

## Key Components:

- **Vertical Farming:** High-tech indoor farms that use AI, hydroponics, and controlled environments to produce food efficiently.
- **Synthetic Meat:** Lab-grown meat reducing the need for livestock farming, lowering carbon emissions.
- **Precision Fermentation:** Using microbes to produce proteins, dairy, and fats as sustainable alternatives to traditional agriculture.

## Strategic Implications:

- Potential shifts in global food supply chains.
- Reduction in land and water use for food production.
- Regulatory considerations for synthetic food markets and consumer adoption.



***“Innovation, by definition, means change – and change is hard. It’s also not free. You have to invest in the future, committing time, people, and dollars to exploring and experimenting with new ideas.”***

- Clark Murdock, Future Making

## Foresight and Resilience Take-Away #1

1. If you carefully and proactively look for signals and trends pointing into the future, you will be able to better anticipate change and prepare for it. For product developers, this means uncovering future opportunities AND pitfalls early – shaping resilient innovation.

# Scenario-Based Planning

## WHAT IS SCENARIO BASED PLANNING?

- A Critical Foresight Tool.....

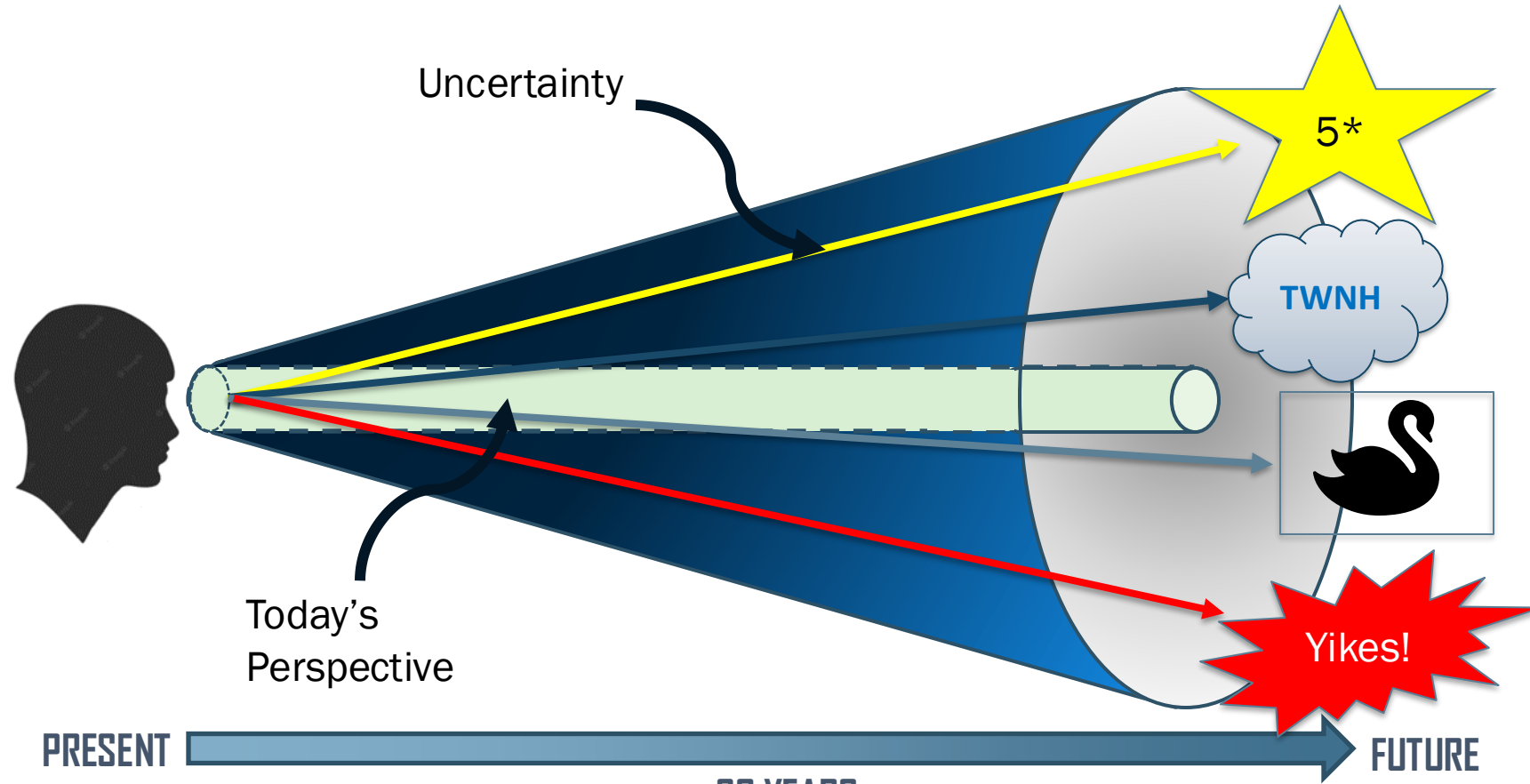
***"Scenario planning ... is a structured way for organizations to think about the future."***

Reference: <https://www.economist.com/news/2008/09/01/scenario-planning>

For product developers, this means uncovering future opportunities AND pitfalls early – shaping resilient innovation.

# UNCERTAIN FUTURE – CONE OF POSSIBILITIES

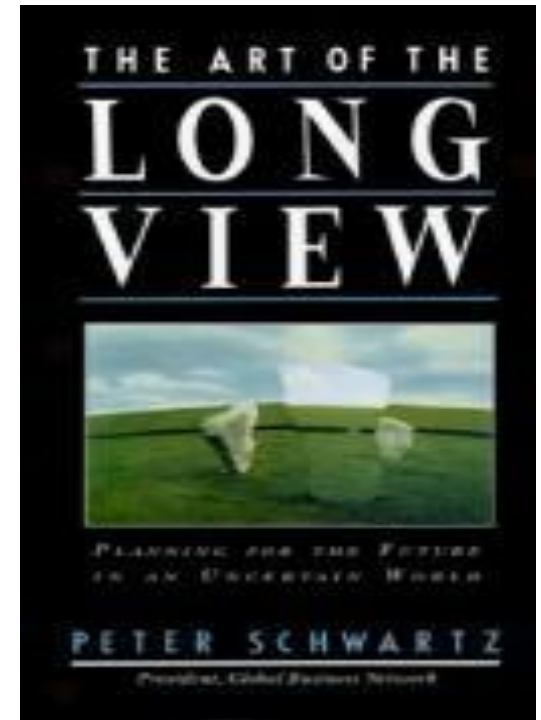
Planning for Increasing Uncertainty



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# History of Scenario Planning

- Scenario planning is rooted in the military strategy work of Herman Kahn related to the possible scenarios associated with thermonuclear war in the late 1960's.
- Scenario planning in a business environment goes back to the 1970s with the work of Pierre Wack at Royal Dutch Shell around the oil crisis.
- Peter Schwartz wrote the definitive book in 1991 about SBP: The Art of the Long View



Reference: The Art of the Long View: Planning for the Future in an Uncertain World, Peter Schwartz, 1997

# What are Scenarios?

*A way to confront uncertainty by embracing it and identifying potential needed capabilities*



Rich, data-driven, **stories about tomorrow** that can help you make better **decisions today**

**Hypotheses** that describe a range of possibilities for the future

Imaginative narratives that stretch thinking, but are **plausible and logical**

An **organizing framework** used to make sense of conflicting or ambiguous **market signals**

# Why use Scenarios?

Deal with uncertainty and limited information

Explore and convey complex situations in an easy-to-understand format

Provide compelling images of unconsidered possibilities about the future

Think outside the box

**Scenarios are *NOT* predictions**



# THE 9/11 COMMISSION REPORT

## GENERAL FINDINGS:

“Across the government, there were failures of imagination, policy, capabilities, and management.”

“The most important failure was one of imagination.”

## PERSPECTIVE

*“In dealing with the future, it is more important to be imaginative and insightful than to be one hundred percent ‘right.’ The maps of the world drawn by medieval cartographers were too hopelessly inaccurate, so filled with factual error, that they elicit condescending smiles today. Yet the great explorers could never have discovered the New World without them.”*

- Alvin Toffler



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## Foresight and Resilience Take-Away #2

1. If you carefully and proactively look for signals and trends pointing into the future, you will be able to better anticipate change and prepare for it. For product developers, this means uncovering future opportunities AND pitfalls early – shaping resilient innovation.
  
2. If you exercise creative thought and imagination, you can unchain yourself from today and explore both the potential positive and also adverse scenarios in the future. By doing so, you are better able to see signals of these possible futures and prepare accordingly.

# Navigating an Uncertain Future

## Shell Scenarios



# **NAVIGATING AN UNCERTAIN FUTURE**

## **SHELL SCENARIOS**

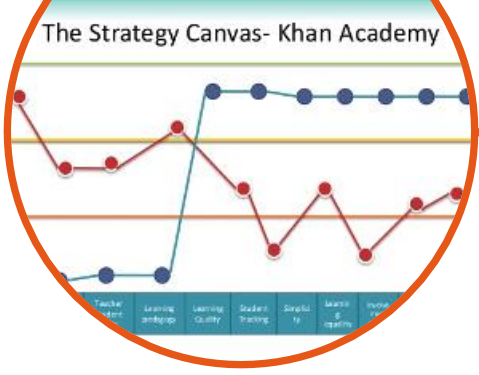
***“What works today won’t work tomorrow.”***

- Clark Murdock, Future Making

## Foresight and Resilience Take-Away #3

1. If you carefully and proactively look for signals and trends pointing into the future, you will be able to better anticipate change and prepare for it. For product developers, this means uncovering future opportunities AND pitfalls early – shaping resilient innovation.
2. If you exercise creative thought and imagination, you can unchain yourself from today and explore both the potential positive, and also adverse, scenarios in the future. By doing so, you are better able to see signals of these possible futures and prepare accordingly.
3. If you **develop and explore alternative future scenarios**, you prepare yourself for many different possible futures. By doing so, you analyze capabilities needed for the future which better prepares you to adapt to changing circumstances.

Customer Value Proposition  
Competitive Landscape

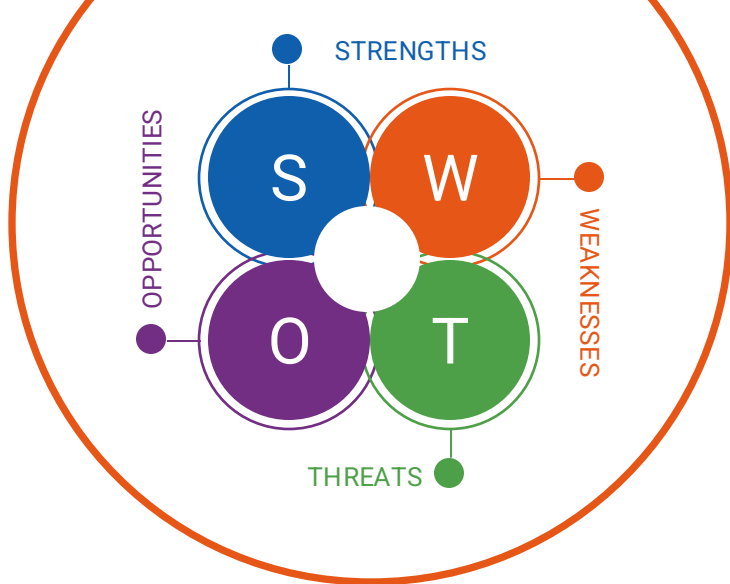


SBP IS OFTEN COMBINED WITH  
OTHER ENVIRONMENTAL  
SCANNING EXERCISES:

Stakeholder Input



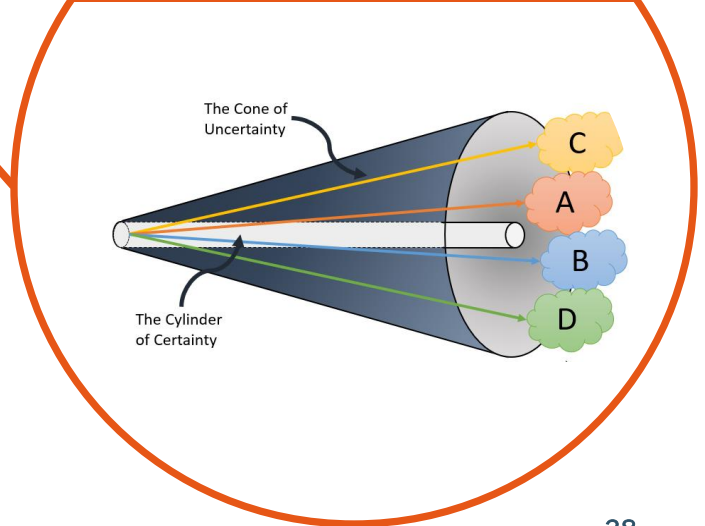
Environmental Scan of Industry  
Experts and Key Stakeholders



Strategic Plan

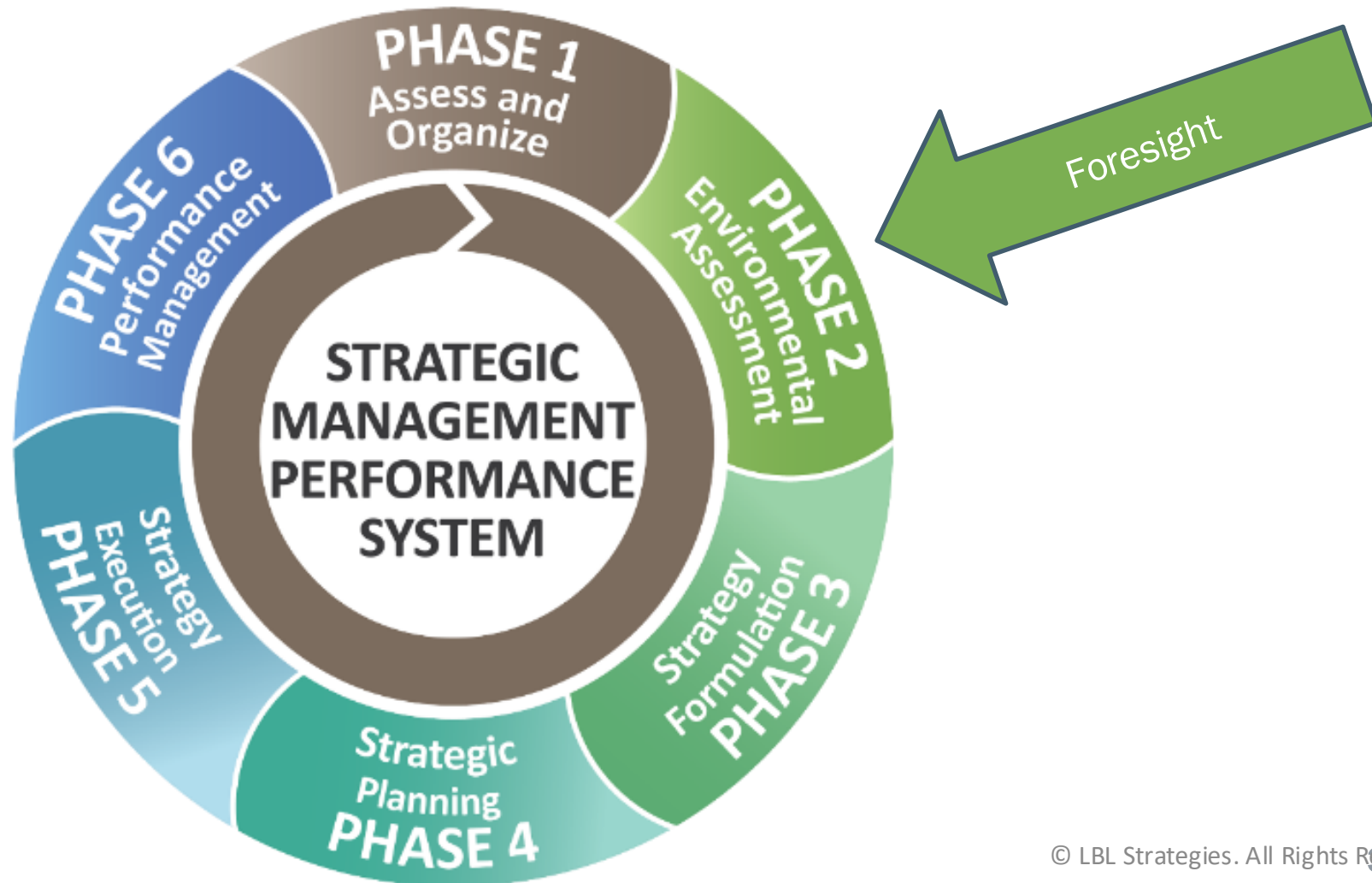


Scenario-based Planning



# Overview

## Strategic Management Performance System



## Foresight and Resilience Take-Away #4

1. If you carefully and proactively look for signals and trends pointing into the future, you will be able to better anticipate change and prepare for it. For product developers, this means uncovering future opportunities AND pitfalls early – shaping resilient innovation.
2. If you exercise creative thought and imagination, you can unchain yourself from today and explore both the potential positive, and also adverse, scenarios in the future. By doing so, you are better able to see signals of these possible futures and prepare accordingly.
3. If you develop and explore alternative future scenarios, you prepare yourself for many different possible futures. By doing so, you analyze capabilities needed for the future which better prepares you to adapt to changing circumstances.
4. By **incorporating foresight throughout the planning cycle**, you will develop and adjust your strategy based on signals, trends, and potential disruptors in the environment. This allows your organization to be more resilient in the face of coming change and not chained to a strategy that could be outdated at any point in time. By thinking through signals, trends, disruptors, and potential scenarios – your strategy can adapt quickly to changing circumstances and your initiatives can be adjusted in an agile fashion because you already thought about the possibilities in a low-stress workshop environment.

## Foresight Library

<https://www.lblstrategies.com/scenario-based-planning/#foresight-library>



# WANT TO LEARN MORE?

Ask about our:

- *Mastering Strategy: SMPS*, and
- *Mastering Foresight: Scenario-Based Planning*

certification programs affiliated with **George Washington University (CEPL)** and endorsed by the **Baldrige Foundation**.

Contact us at:  
[LBLStrategies.com](http://LBLStrategies.com)  
[RChamp@LBLStrategies.com](mailto:RChamp@LBLStrategies.com)

