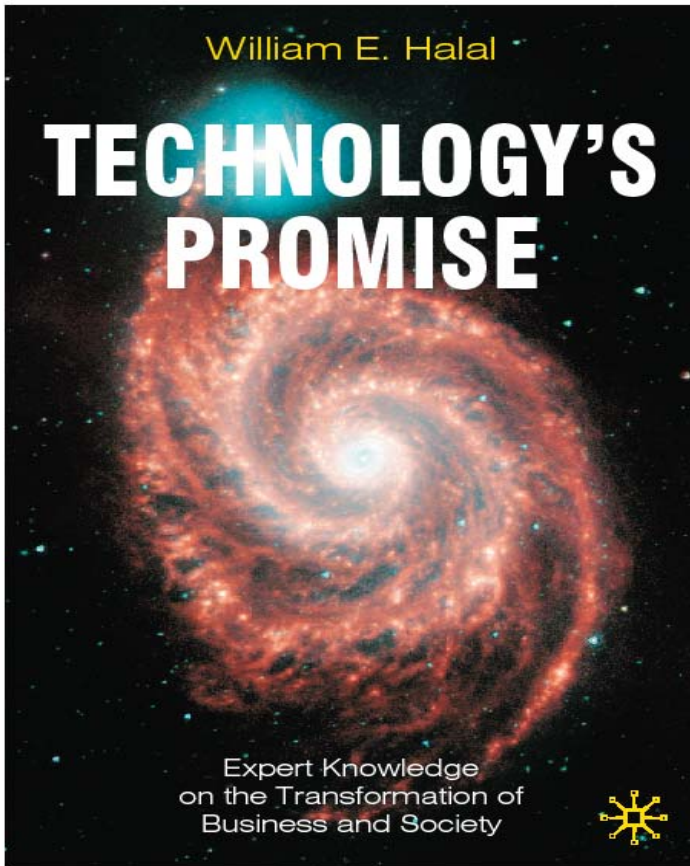


# Collective Intelligence

## Highlights from the TechCast Project

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Bangkok University, IKI-SEA  
TechCast LLC [www.TechCast.org](http://www.TechCast.org)



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## Overview

- The TechCast Project
- Forecast Highlights
- Strategic Implications
- Macroforecasts of Scenarios
- Creative Destruction of Institutions
- Organizational Intelligence

## Participation Invited

- Impact on you, your organization?
- Your industry in 2020?
- Issues? Strategies?

# TechCast Online Research System

“Best Possible Answers to Tough Questions”

Status Quo Defined as  
100 % Uncertainty

30 - 40 % Decrease  
In Uncertainty

30 - 40 % Decrease  
In Uncertainty

Uncertainty about 30%  
+/- 3 years

## Scanning

- Internet
- Media
- Science
- Interviews
- Conferences

## Background Analysis

- Event/ Issues
- Data Points
- Trends

## Expert Survey

- Expert Knowledge
- Integration
- Estimates

## Results

- Forecasts/ Tracking/ Arrivals
- Data Analysis
- Comments

Iterations

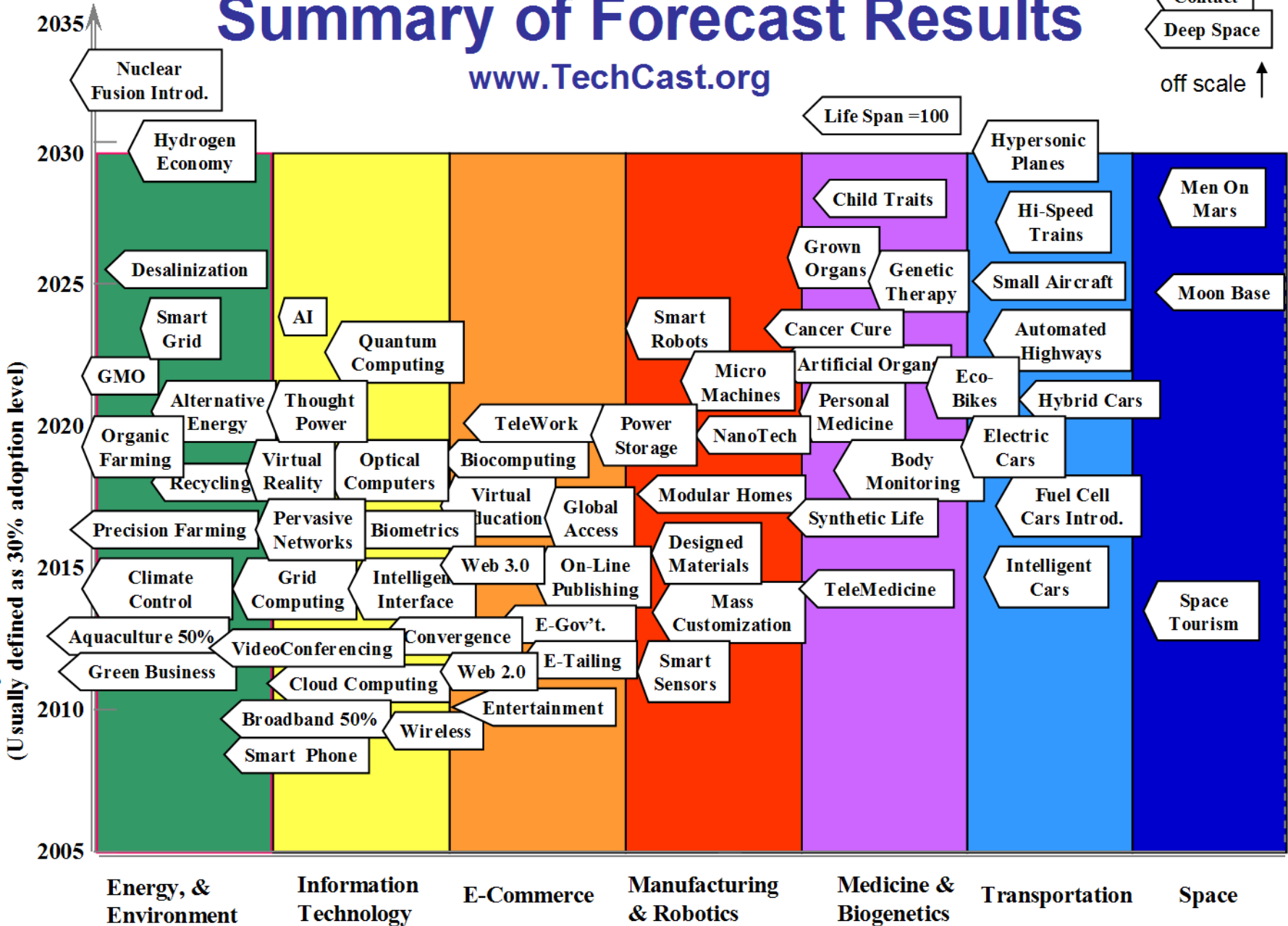
# Summary of Forecast Results

www.TechCast.org

Contact  
Deep Space

off scale ↑

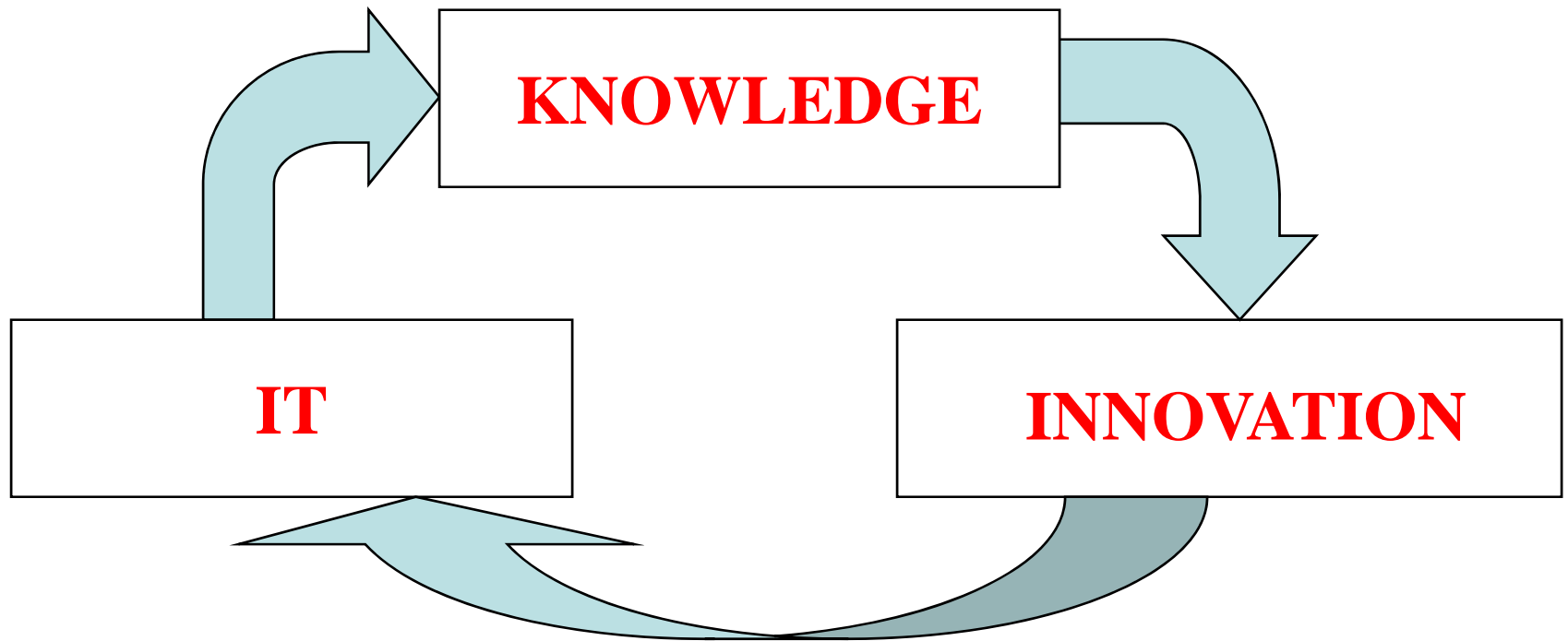
Most Likely Year to Enter Mainstream  
(Usually defined as 30% adoption level)



## Possibly the Best Forecasting System Available

- **Comprehensive** Covers strategic technologies in all fields
- **Authoritative** Pools trend data and knowledge of 100 experts
- **Current** Updated constantly by editors & experts in real time
- **Validated** Annual accuracy study of forecasts over time & arrivals
- **Recognized** Ranks 2 - 3 out of 5 million hits on Google search
- **Cited** Top three systems in National Academies report
- **Awarded** First Prize in AOL competition for creative IT research
- **Published** *Technology's Promise, Washington Post, Newsweek, Futurist, etc.*
- **Consulted** FDA, EPA, DoD, DNI, Corning, AMD, Asian Development Bank, Saudi Arabia, Korea, Singapore, Kuala Lumpur, etc.

# THE VIRTUOUS CYCLE OF KNOWLEDGE



# Strategic Implications

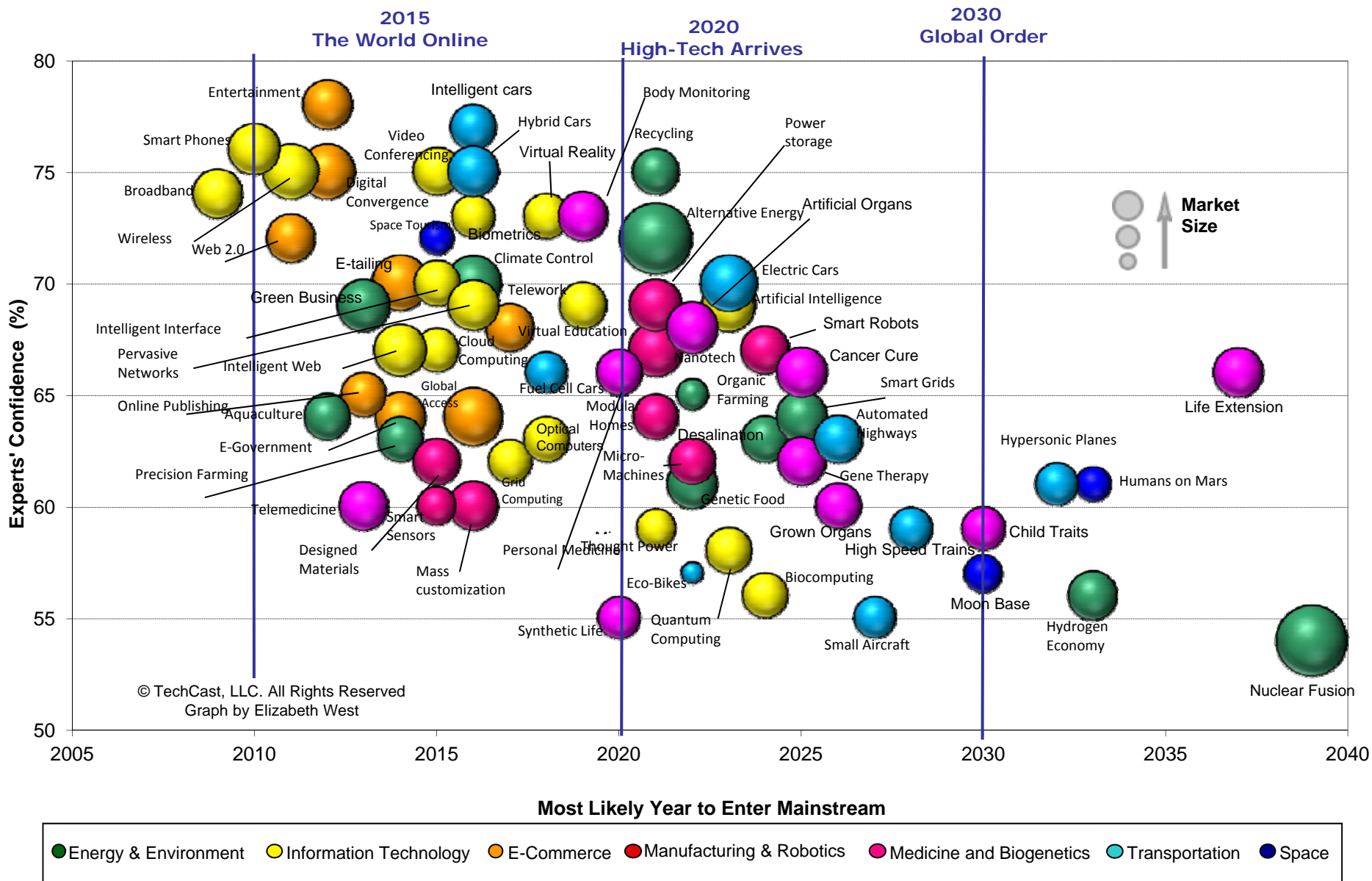
- Online Collective Intelligence a robust tool for pooling knowledge
- Most organizations unaware of the knowledge residing in their system
- Process aids understanding and integration
- Possible applications

Corporate sales, issues, strategy, etc.

Federal Center for Technology Forecasting

Integrate knowledge of intelligence agencies

# Longitudinal Summary of Forecasts - www.TechCast.org





# 2020 - High-Tech Arrives

**Sustainability** Green business, alternative energy, climate control, GMO, smart grids, etc.

**Green Transportation** Hybrid/electric/intelligent cars, small aircraft, hypersonic flight

**Mastery Over Life** Artificial organs, DNA testing, grown organs, cancer cure, life extension, neurotech.

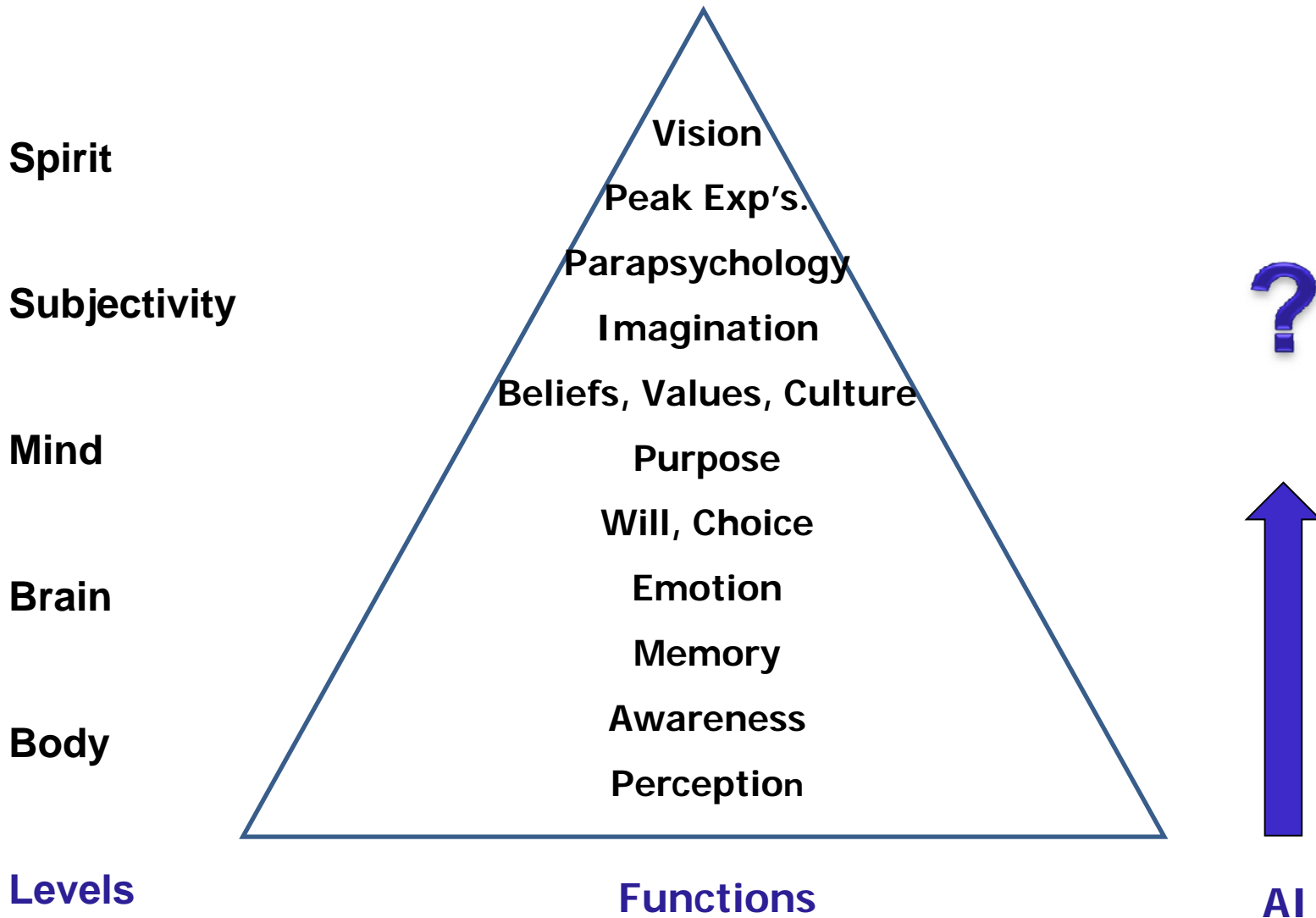
**Knowledge, Intelligence, and Beyond** 2nd generation IT (bio, optical, quantum), AI, robotics, virtual reality

**Global Consciousness** Automation of routine thought moves beyond knowledge to restructuring institutions and society.



# Structure of Consciousness

## Based on Literature Review

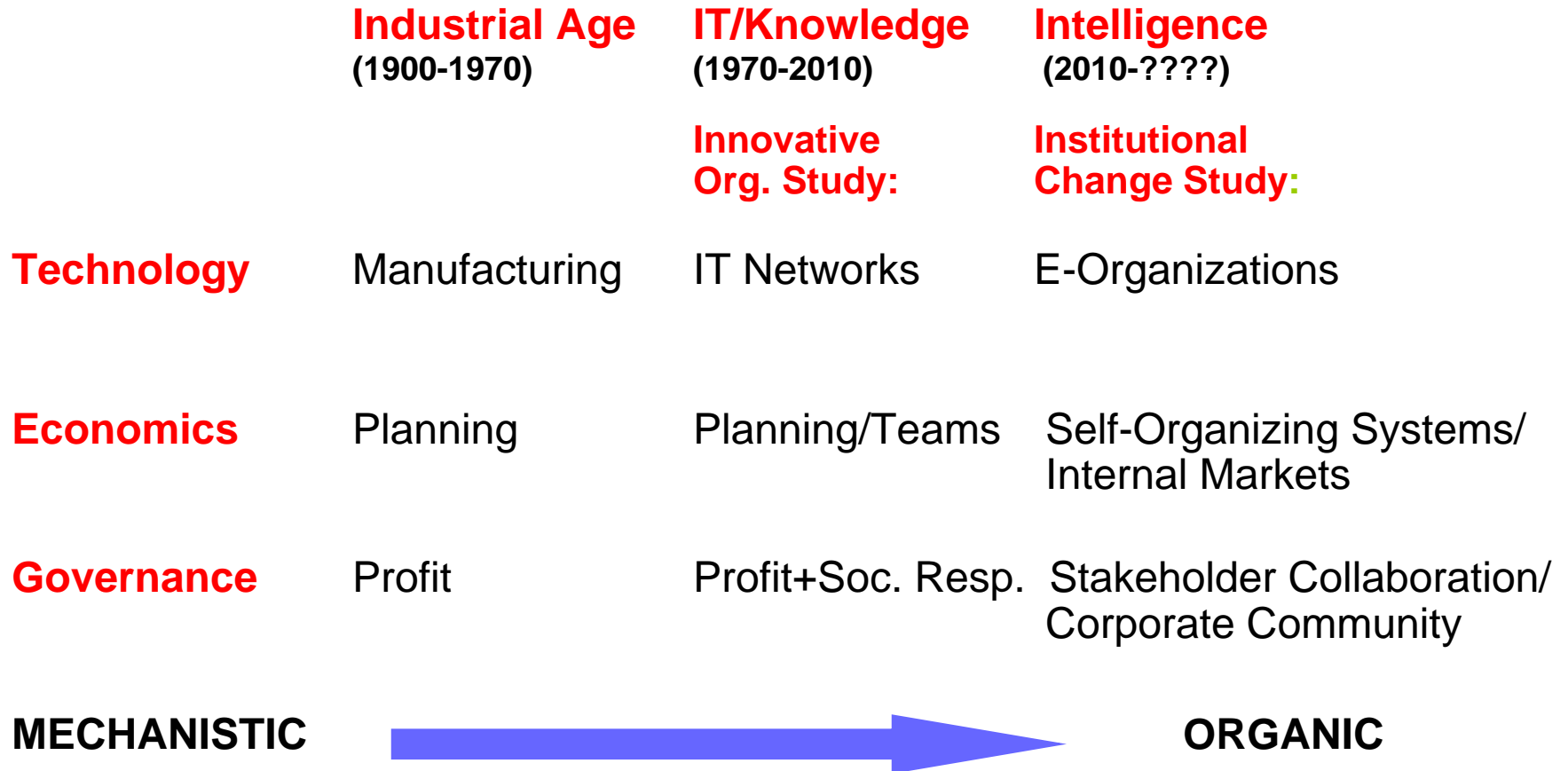


# Creative Destruction of Institutions

- Crisis of Capitalism: Banking collapse, wealth gap, protests
- Government: E-government, budget deficits
- Health Care: Patients vs profits, no outcome data, cost
- Auto Makers: 50K deaths/yr, congestion, environment
- Media/Entertainment: Online Revolution, values
- Education: Distance learning, cost
- Catholic Church: Misuse of authority, dogma
- Manufacturing: Consumerism, advertising, environment
- Military: WMD, peace-keeping

# The Evolution of Institutions

Interviews with 40 Managers



# E-Organization

## The Technological Dimension

**Definition:** IT integrates operations into an automated system operating in real time

### Examples:

- Continuous supply chain - B2B
- E-Tailing (Dell), CRM, ATMs, Kiosks (McDonalds, airlines, etc.)
- Telework, virtual teams - 67% of employees
- Real-time management: Walmart, Cisco, GE's corporate cockpit
- IBM - End-to-End Integration

# Self-Organizing Systems

## The Economic Dimension

**Definition:** Internal market economies of self-managed units unified into a collaborative whole

## Principles:

### Form Internal Enterprise Units

- Link rewards/resources to performance
- Wide freedom within policy constraints

### Create Organizational Infrastructure

- IT systems, finance, culture, etc.
- Monitor and revise

### Provide leadership and support

- Encourage collaboration, innovation
- Coaching, problem-solving, etc

# Exemplars of Internal Enterprise

- Automation, outsourcing eliminate routine – remaining tasks are entrepreneurial.
- Virtual work requires purpose and bottom-line control
- Profit-centers move down to self-managed teams/ “internal enterprises” - Nokia, Alcoa, Lufthansa, Semco
- 90% of firms use team-based incentives/performance pay: Next, Nucor
- Staff & support units become profit-centers - Mobil
- R&D - Matsushita, Nokia
- Internal market systems - EBay, Amazon, J&J, etc.
- Government - Indianapolis, Mexico City
- Schools - Vouchers, choice, charter schools, size

# Stakeholder Collaboration

## The Political Dimension

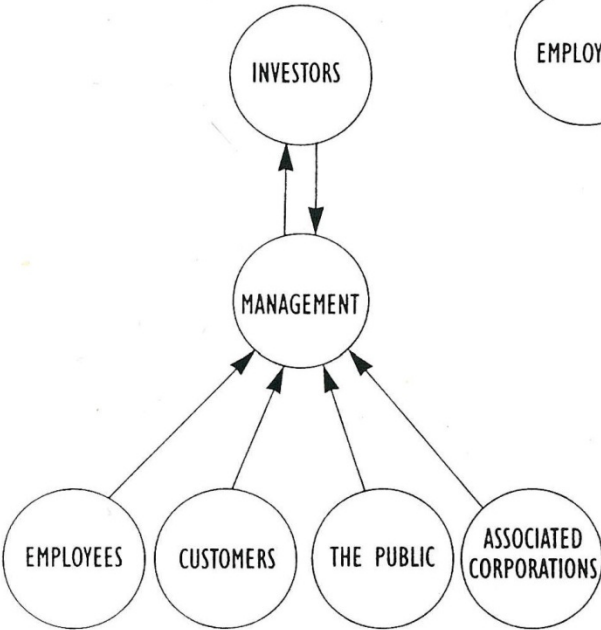
Definition: Corporations form working partnerships with stakeholders

### Examples:

- Firms involve workers in management - Nucor
- Customers – IBM, J&J, Merck
- Suppliers – Chrysler (“an extended part of the firm”), IKEA
- Models of collaborative governance – Saturn, Japanese, Whole Foods, Unilever, Tata, Nortel
- 80% of managers accept concept

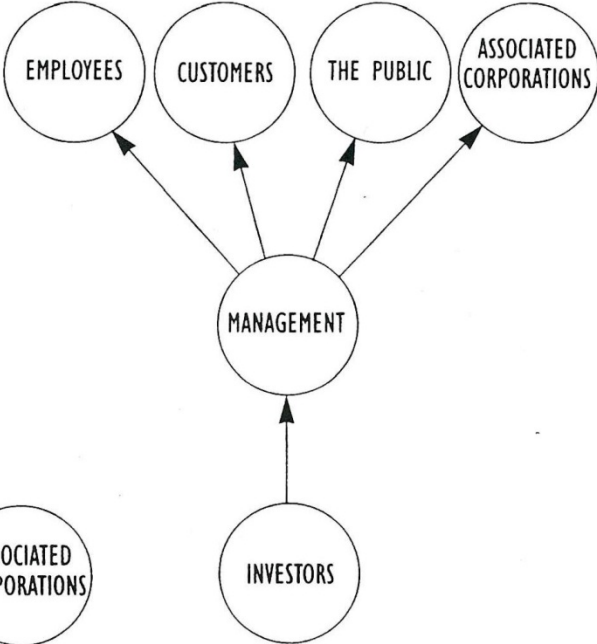
# Evolution of Corporate Governance

**PROFIT-CENTERED MODEL**



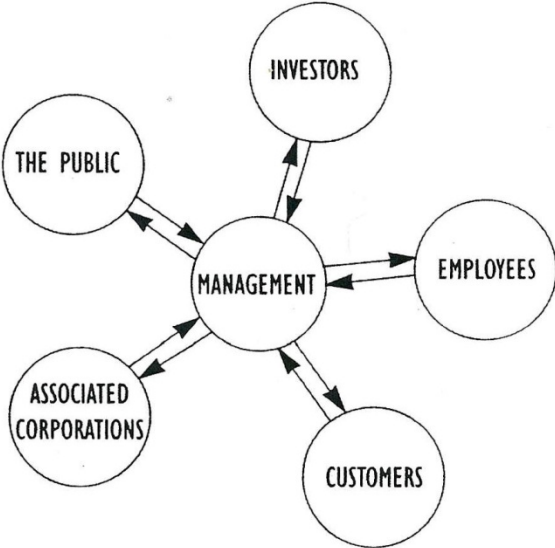
**Industrial Age  
(1900 – 1950)**

**SOCIAL RESPONSIBILITY MODEL**



**Neo-Industrial Age  
(1950 – 1980)**

**CORPORATE COMMUNITY MODEL**



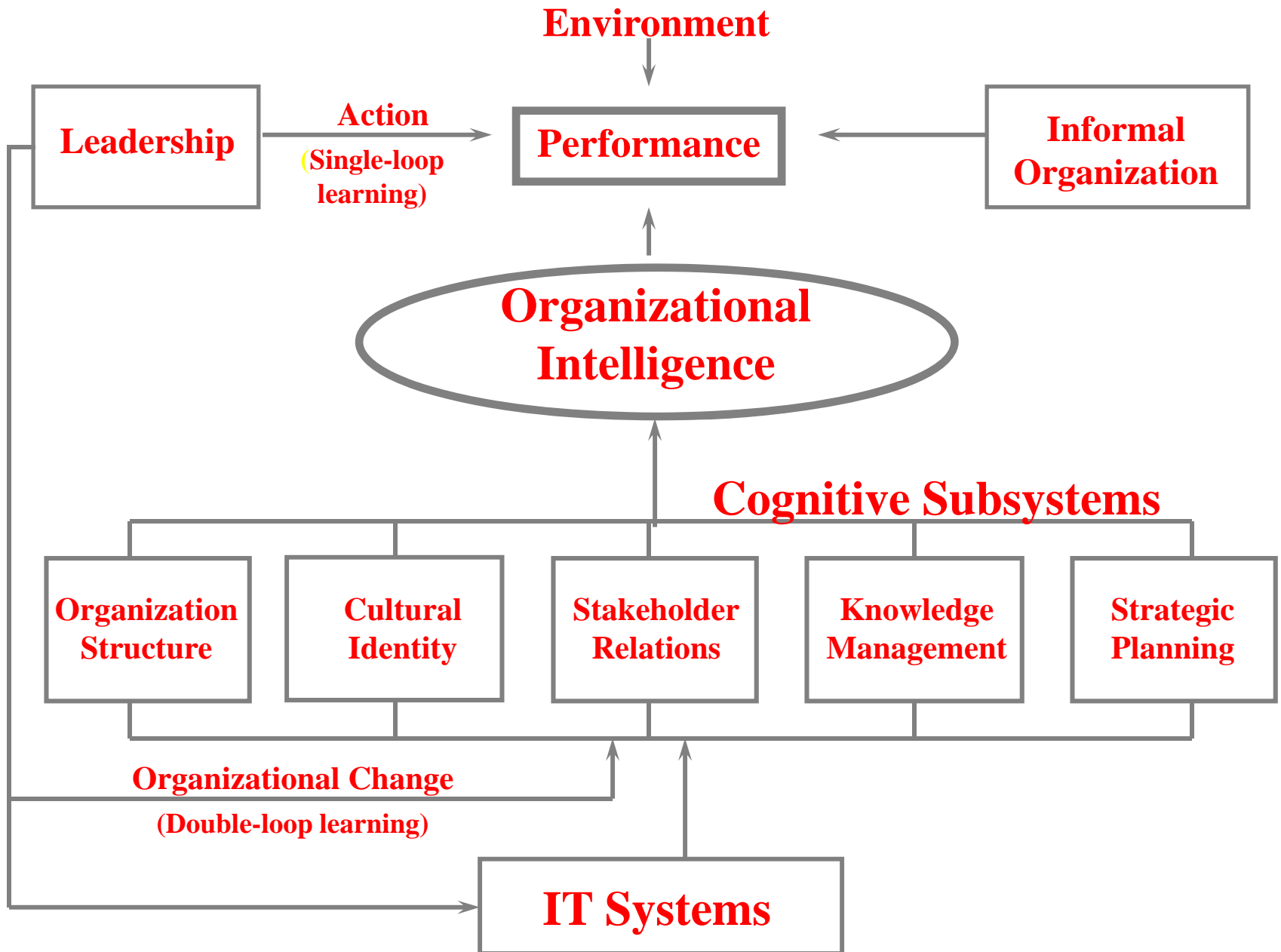
**Information Age  
(1980 – ?)**

# Bonville Power

## Harnesses the Knowledge of its Critics

**Before:** “We viewed outsiders as a nuisance”

**After:** “Our adversaries helped us find creative solutions to intractable problems. Public involvement is a must for today’s managers. Conflict is unavoidable; the only choice is whether to dodge it or harness it.”



Thank you

Questions?