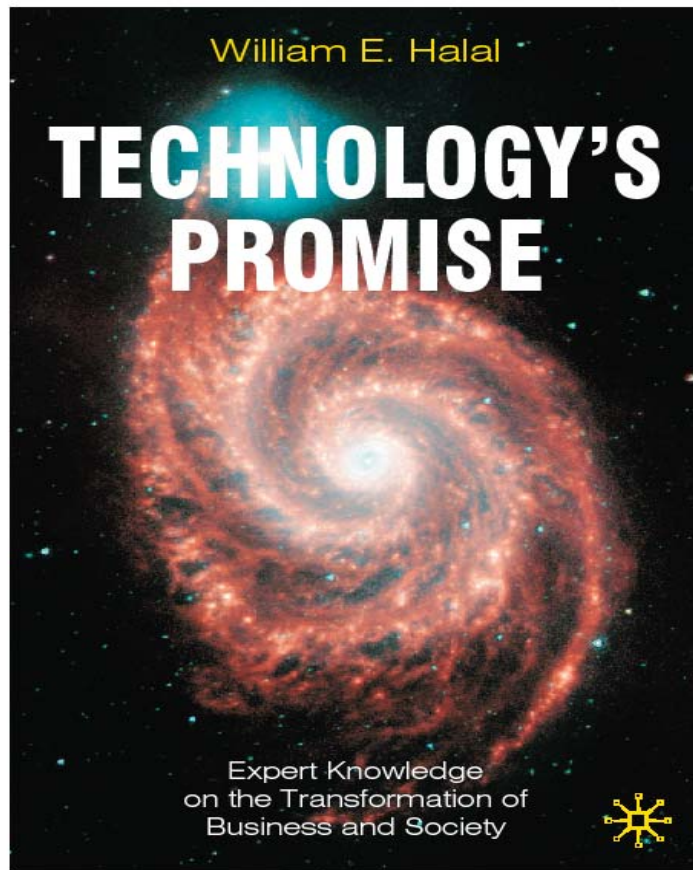


Strategies for the Technology Revolution: Applying TechCast Results

William Halal – Intro and Overview
Laura Huhn – Energy & Environment
James Kadtko – IT & E-Commerce
Kenneth Harris – Transportation
Q& A



Overview

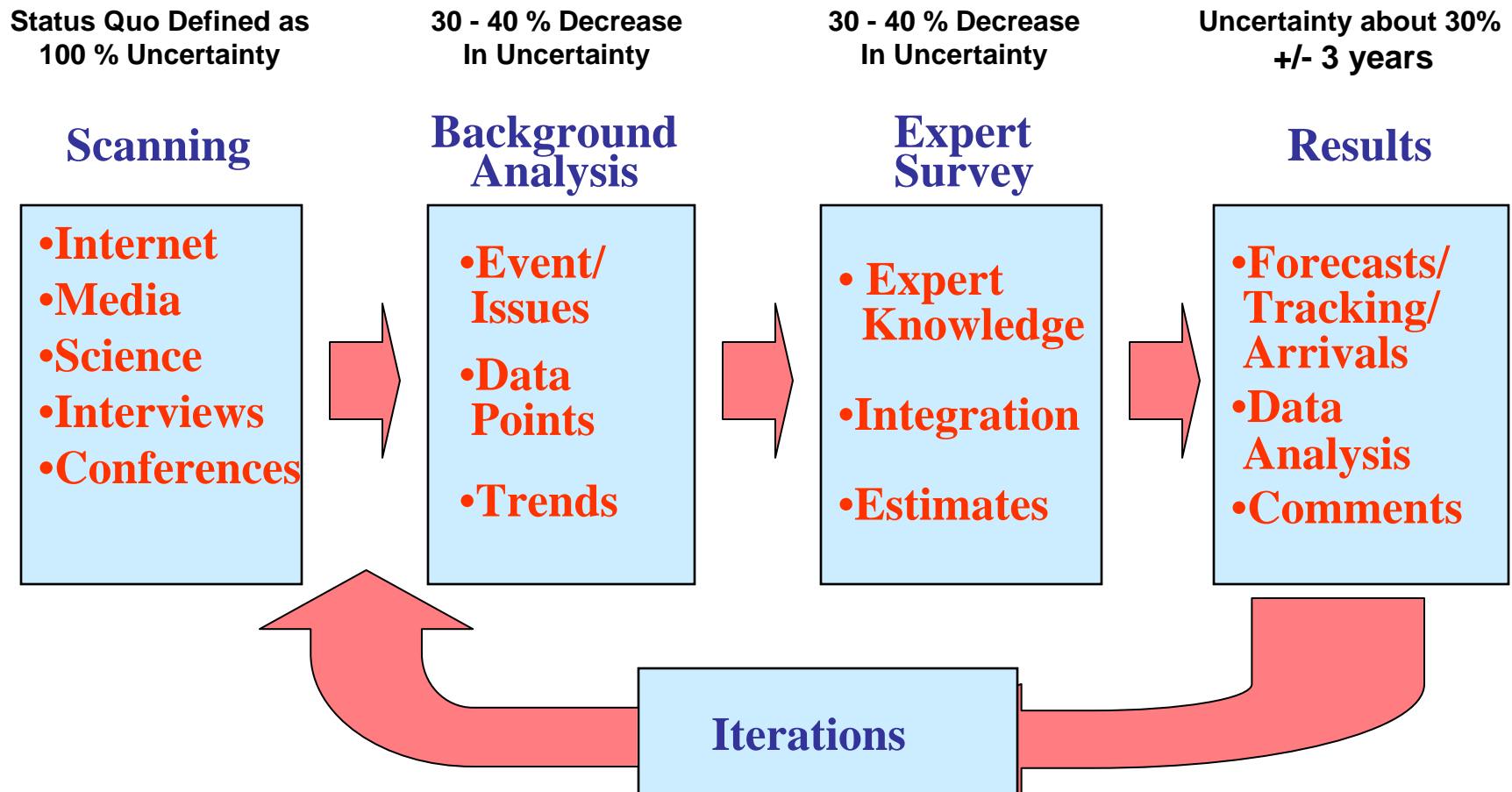
- The TechCast Project
- Forecast Highlights
- Managing Breakthroughs
- Global MegaCrisis
- Macroforecast Scenarios

Participation Invited

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

TechCast Online Research System

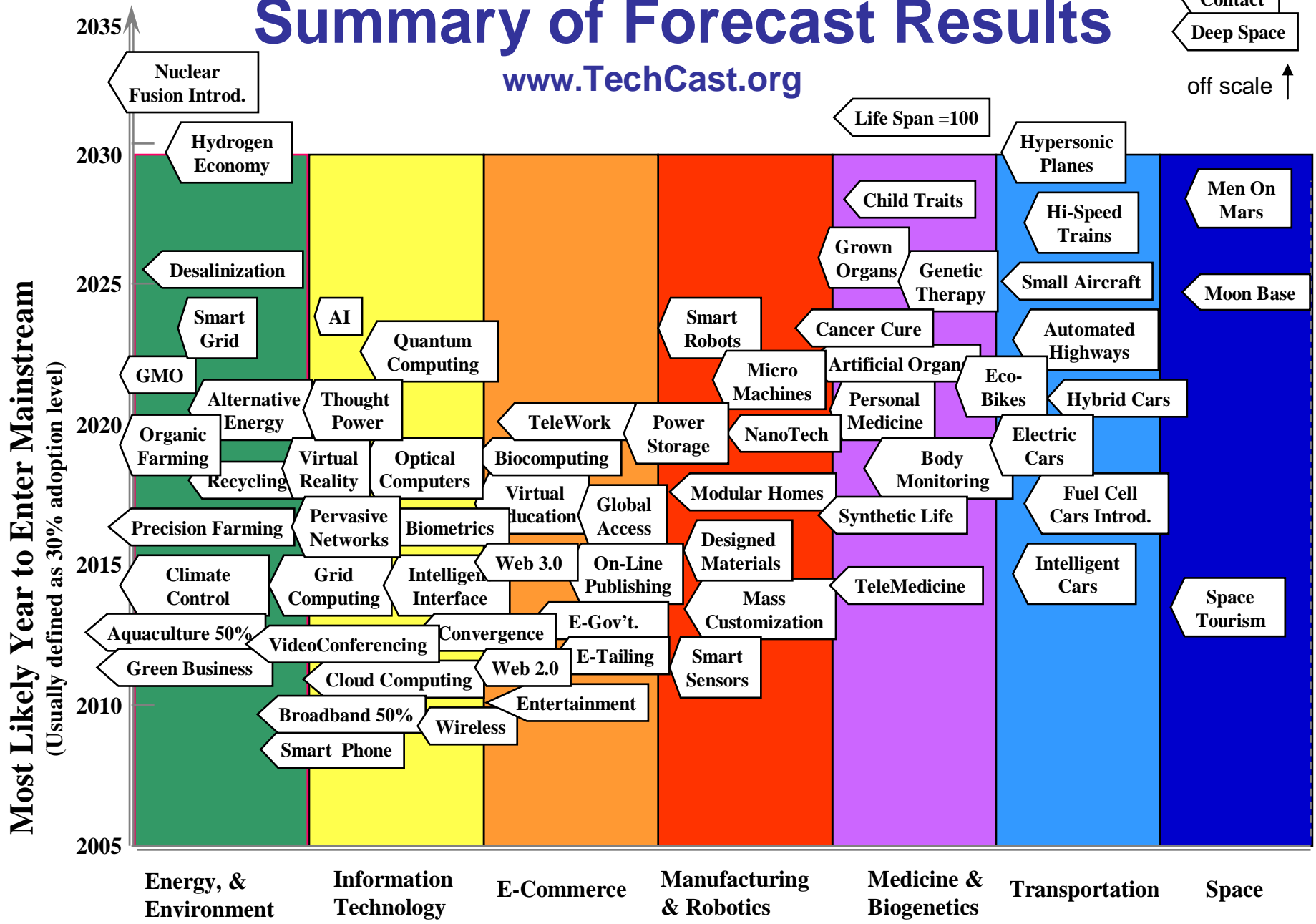
“Best Possible Answers to Tough Questions”



Summary of Forecast Results

www.TechCast.org

Contact
Deep Space
off scale ↑



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 in real time. Now TechCast 6.0
- **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.

Managing Technology Breakthroughs

- Organizations need to plan for technological changes in products, organization, society
- Track Strategic Technologies – Netflix, Apple, Toyota
- Develop Creative Opportunities – All
- Involve stakeholders – Netflix, Apple
- Expect failures as well as success – Apple

Source: Halal, “Business Strategies for the Technology Revolution.”

The Global MegaCrisis

Trends Driving the MegaCrisis

- **Science Forecasts of Climate Change** 1 F to 4-10 F, 3-6 ft sea level by 2100
- **Environmental Impacts** Extreme weather, pollution, energy shortages, lose a quarter of species, disease
- **Methane a Growing New Threat** 23 times the global warming impact of CO₂
- **Reducing CO₂ is Costly** \$20 trillion, or about 1-3 % of global GDP.
- **Industrialization Growing** Globalization to double GDP and these trends about 2020
- **Little Political Will** No global agreement on taxing carbon. US in gridlock
- **Increasing Water Scarcity** World Bank - half of the world facing scarcity
- **Recession Likely for Years** Like the Great Depression of 1930
- **Institutional Failures Could Grow Severe** Stiglitz: “The financial collapse may be to markets what the Berlin Wall was to Communism.”
- **CyberWarfare** US military, banks, air traffic systems under constant attack
- **Weapons of Mass Destruction** 1,784 nuclear trafficking incidents

Trends Resolving the MegaCrisis

- **The World Starting to Use Alternative Energy** 20% of energy by 2020
- **Technology Revolution Introduces New Powers** Information Technology (IT), Artificial Intelligence (AI), robotics, biogenetics, etc. about 2015
- **Forces of Social Change** Women in power, Millennial generation, etc.

TechCast Survey on the Megacrisis

(Results as of June 10, 2011 Sample = 55)

Decline to Disaster - 25% probability World fails to react. Global warming, sea level rise, energy shortages, economic depression, nuclear exchange, etc. Loss of civilization in major nations.

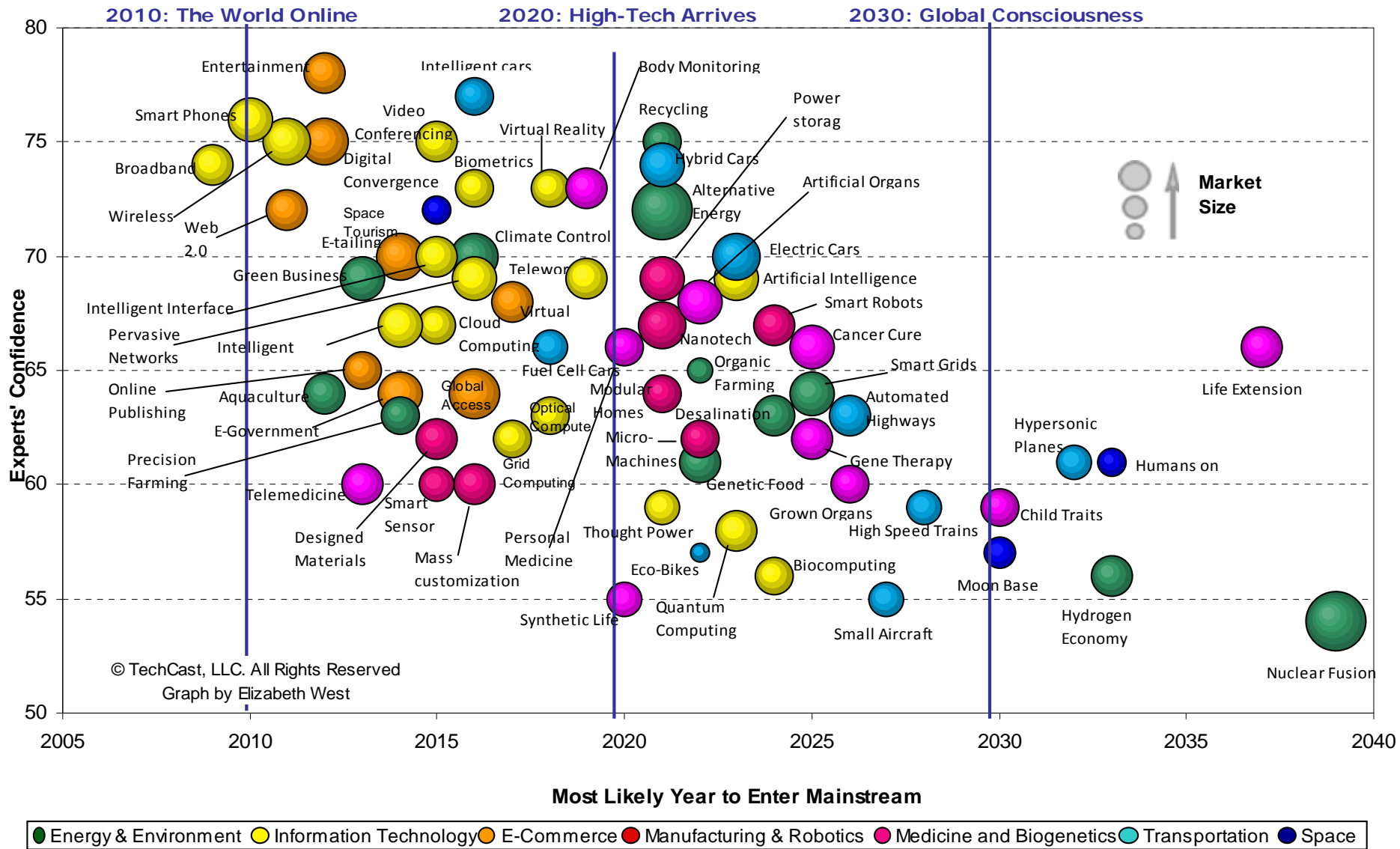
Muddling Down - 35% probability Weak response. High-tech dark age, ecological damage, increased poverty and conflict.

Muddling Up - 28% probability World reacts out of need and the help of IT/AI. Disaster avoided but some increased disorder

Rise to Maturity - 12% probability Ideal transition to a responsible global order.

Source: "Global MegaCrisis" (The Futurist, 2011)

Longitudinal Summary of Forecasts - www.TechCast.org



2015 -The World Goes Online

Devices: Smart phones, \$100 PCs, Web 2.0/3.0, wall monitors, convergence

Infrastructure: Faster BB and wireless, cloud computing, intelligent networks, language translation, speech recognition

E-Commerce E-businesses reaches 30% take-off adoption levels

Global Brain: Half the world joins the Internet

Next 35 yr Upcycle: About 2015 - 2050



2020 - High-Tech Arrives

Sustainability

Green business, alternative energy, climate control, distributed power, GMO, organic, smart grids, etc.

Mastery Over Life

Artificial organs, DNA testing, grown organs, cancer cure, life extension, neurotech, etc.

Knowledge, Intelligence, and Presence

2nd generation IT (bio, optical, quantum), AI, robotics, virtual reality, etc

Global Consciousness

Automation of routine thought moves beyond knowledge to the MegaCrisis.
Restructuring of institutions and society.

