



# THE FUTURE IS A CHANCE TO BE NEW

A collapsing economy paves the way for discovering new kinds of value in all forms of interaction—from the microscopic scale of atoms to the macrocosms of human connections with each other and the planet they inhabit.

A new voice rising from the Global South plots a different course for the next big economy—laying new tracks for economic, scientific, and social development.

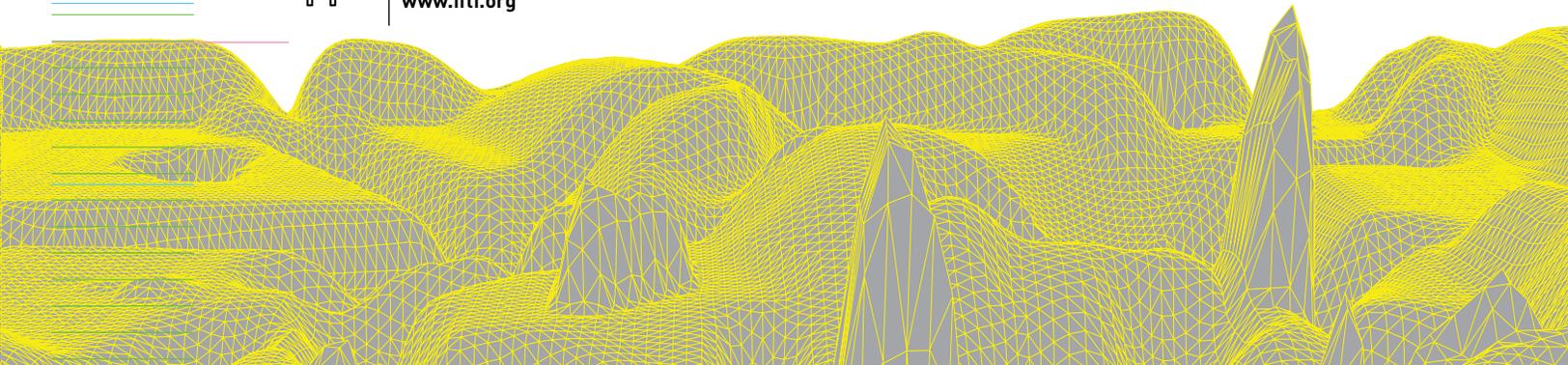
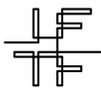
An inexorable shift in climate wipes the landscape clean—sometimes literally destroying centuries-old infrastructure in a single storm, sometimes metaphorically sweeping away the familiar structures of daily life in preparation for something completely different.

A new neuroscience presents an extraordinary new picture of humans—challenging their view of who they are and what they can accomplish, individually and collectively.

This is innovation on a scale no one alive today has ever experienced. This is extreme-scale reinvention, where everything from the cellular processes in the global food web to the global flows of money, information, energy, and intention are taken apart and put back together in new, more complex ways.

Zoom out. Look at the coming decade from the perspective of millennia of change. Focus on the progress of the universe from the breakthrough structures of the atom to the living cell, the biota, the human body, the community of nations, the global economy. This is how the future will be new, by continuing the incredible experiment of reorganization for greater complexity, by creating the next astonishing structural forms in this long evolutionary path.

This is the era of superstructuring. And the *2009 Ten-Year Forecast* begins to reveal how it will be done—how we, the most complex of lifeforms, will do it.



# EXTREME-SCALE REINVENTION: PERSPECTIVES, SIGNALS, AND HOW-TO'S

## 2009 PERSPECTIVES



### DESIGN: POST-NEWTONIAN GOVERNANCE

The Newtonian politics that emerged at the end of the 18th century were a triumph of human ingenuity and foresight, applying the latest technologies and a scientific understanding of the universe to the design of governance. However, there has been little true innovation in governance since the creation of the U.S. Constitution. All of that is about to change. **Jake Dunagan** interviews **James Allen Dator**, Director of the Hawaii Research Center for Futures Studies, about the future of design and governance.



### CIVIL SOCIETY: NETWORKED CITIZENS

In 2004, IFTF introduced its Networking Intelligence index, based on survey responses to questions about group participation, collective behavior, online lifestyle, mobile communication, locative behavior, and computer connectivity. Updated in 2006, the index has now evolved into an IQ for networked citizenship that describes how technology consumers have transformed themselves into networked citizens. **Mani Pande** and **Kathi Vian** describe the index and what it means for companies and communities alike.



### ENVIRONMENT: GEOENGINEERING

With broad scientific consensus that global warming requires deep cuts in carbon emissions, what remains unanswered is the question of whether we'll have enough time to implement the economic, social, and technological changes necessary to reduce our carbon footprint. In the face of massive, irreversible changes in our living ecologies, a growing number of scientists have a backup plan: large-scale geoengineering. In conversation with **Jake Dunagan**, **Jamais Cascio** explores the potential for humans to re-engineer their global climate.



### CULTURE: SUPERSTRUCTURED REALITIES

As physical and digital realities are seamlessly integrated, cyberspace is not a place that people go to; it's a new layer in their reality. It's a superstructure that will serve as our outboard brains and senses, remaking the basic concept of self and changing how we keep ourselves psychically sound. **Marina Gorbis**, **Lyn Jeffrey**, and **Kathi Vian** probe the experience of superstructured realities, with **Miriam Lueck** interviewing **Jeremy Bailenson** from Stanford University's Virtual Human Interaction Laboratory.



### COGNITION: BEYOND FOXP2

It's been at least 40,000 years since modern humans—*Homo sapiens*—became the only form of sapient life on Earth, set apart by a critical mutation in the so-called language gene, FOXP2. But that isolation won't last much longer. In a quest to augment our own intelligence with biotechnology and digital tools, our first experiments are re-engineering animal brains, and **Jamais Cascio** looks at the implications for "uplifting" our fellow species and potentially creating a new cross-species politics. **Kathi Vian** interviews **Peter Singer**, Professor of Bioethics at Princeton University and co-founder of The Great Ape Project.



## THE SUPERSTRUCT HANDBOOK: REORGANIZING FOR THE 21ST CENTURY

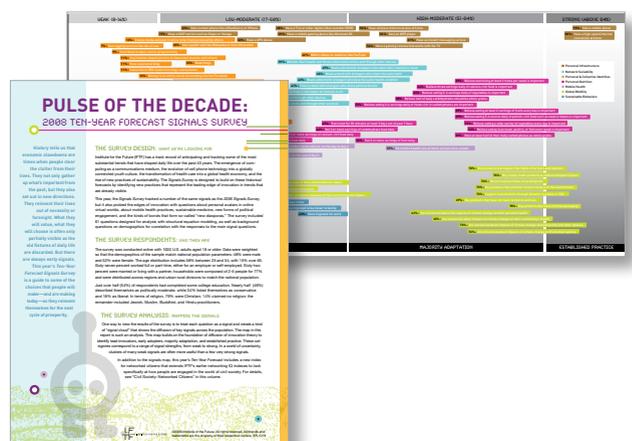


This year, IFTF conducted its first massively multiplayer forecasting game: Superstruct. The goal of the game was to anticipate new institutional ecologies and strategies as people around the world respond to large-scale threats to health, food, energy, security, and habitat. The result was much more. The gameplay gave us an entirely new vocabulary for human organization, with concrete how-to's for superstructuring our way through the coming decade of uncertainty and disruption. **Jane McGonigal and Kathi Vian** report on the future of extreme-scale collaboration.



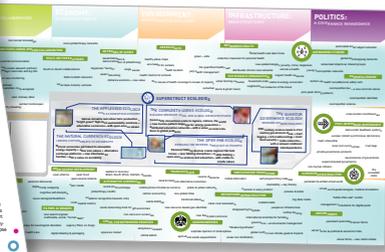
## PULSE OF THE DECADE: 2008 SIGNALS SURVEY MAP

Using more traditional survey research methods, this year's IFTF Signals Survey probed the edges of innovation with questions about personal avatars in online virtual worlds, about mobile health practices, sustainable medicine, new forms of political engagement, and the kinds of bonds that form so-called "new diasporas." The survey results, arrayed on the *Signals Survey Map*, point to the waves of social innovation we can expect in the next decade.



## THE 2009 MAP OF THE DECADE

Each year, the IFTF staff collaborate to construct an at-a-glance view of the coming decade. This year's map blends forecasts of innovation and disruption with a handful of Superstruct Ecologies—along with dozens of signals on the horizon—to create a map that features five big shifts: Extreme-Scale Collaboration, Alternative Wealth, Superstructured Ecologies, Mega-Structures, and A Governance Renaissance.



## THE 50-YEAR OUTLOOK: 2010–2060

The choices we make in the next decade will set the course for the century. Likewise, our visions of what the world could be in 30 or 50 or 100 years shape the decisions we make today, both directly and indirectly. So this year's *Ten-Year Forecast* has added a set of 50-year scenarios, both to highlight implications of present choices and suggest targets to strive for or avoid.

Any attempt to forecast 50 years into the future, especially in a time of extraordinary uncertainty, is necessarily speculative. Nevertheless, by tracking some key variables and their implications consistently across five decades, we can give shape to plausible scenarios that help us imagine new roles, new ways of organizing our economies and societies, and new tools that will shape our world—as well as obstacles to our well-being.

So looking long, we offer the following three scenarios:

- **THE LONG CRISIS** plots a path of slow response, resistance to change, and attempts to maintain current power relationships.
- **EMERGENCE** follows a course of rapid adaptation from the bottom up, without much unifying direction.
- **THE GREAT TRANSITION** envisions a world re-made by technology, a challenge to the planetary dominance of humans as a species.

All these scenarios are troubling. They challenge us to ask hard questions about the choices we're making today and are likely to make tomorrow. They disabuse us of utopianism. But perhaps they also inspire us to think beyond our current tracks, to search for the breakthrough ideas that will provide a fourth, fifth, or tenth scenario.

# THE LONG CRISIS

<b>2010</b>	<b>“Decarbonization Challenge” underway</b>
<b>2014</b>	“False Dawn” recovery begins
<b>2015</b>	“Global Storming”: massive weather events UN stops public-private geoengineering attempt Decarbonization too costly, focus on adaptation
<b>2017</b>	Drought, heat kill tens of thousands across Northern Hemisphere
<b>2018</b>	UN accepts stratospheric injection geoengineering plans
<b>2019</b>	Recording sensors commonplace in West
<b>2020</b>	<b>Temp: +1C over 1990; Carbon: 395ppm; Pop: 7.6B</b> <b>~1B people displaced/refugee status</b> <b>World GDP peaks at \$68T (2008 dollars)</b> <b>~40 year global recession begins</b> <b>~4B in poverty</b> <b>Global Powers: US, EU, China</b>
<b>2022</b>	Global terror attacks (many with microbots) reignite conflicts
<b>2023</b>	China demands US repay debts; US defaults; US-China “Cold Shoulder” period begins India, Pakistan exchange gunfire India first to use fully autonomous military robots in warfare
<b>2024</b>	India-Pakistan nuclear exchange Great Migration: many South/Southeast Asians move to Europe China transfers fallout zone communities to depopulated regions in Africa
<b>2025</b>	Fallout, dust problem; stratospheric injection suspended Global Famine I Nuclear Arms Elimination Treaty (NAET) talks begin General-purpose 3D printers available
<b>2026</b>	Temperature instability; UN Climate Management Agency (UNCMA) formed China assailed for “New Colonialism” Insurgents attack biofuel plantations African bio-hackers find AIDS cure
<b>2027</b>	“Glorica”: Open-source rice strain for very high yields in low-water conditions
<b>2028</b>	Global Famine I eases
<b>2029</b>	99942 Apophis asteroid near approach Apophis Emergency triggers US-China space cooperation “Cold Shoulder” period ends NAET signed by all UN members
<b>2030</b>	<b>Temp: -1C under 1990; Carbon: 410ppm; Pop 7.2B</b> <b>~2.5B people displaced/refugee status</b> <b>World GDP: \$54T</b> <b>~5.5B in poverty</b> <b>Global Powers: US, EU, China</b> <b>US, China negotiate repayment</b> <b>Local fabrication disrupts trade networks</b> <b>Major unrest, strikes in US</b>
<b>2031</b>	Iran, South Africa, Indonesia, Brazil launch “New Alignment” trade network

<b>2033</b>	Apophis trajectory shifted, emergency ends
<b>2034</b>	Post-nuclear dust eases, temperatures spike Stratospheric injection restarted Last oil-fueled commercial vehicle built
<b>2035</b>	Temperatures remain unstable Southeast Asia: unusually heavy storms North America, EU: massive droughts Recording sensors common globally, for NAET enforcement
<b>2036</b>	Islamic finance networks attacked by viral money China-Iran proxy war in Central Africa Svalbard Seed Vault plans parallel vault for animal biology
<b>2037</b>	Chinese investment networks under viral attack China accuses Iran of funding Western China insurgents; Iran accuses China of Islamic finance system attacks Iranian, Chinese autonomous military systems clash in Afghanistan Engineered wheat blight unleashed
<b>2038</b>	Global Famine II New Alignment network splits Global financial networks collapse under relentless viral attack, now autonomous
<b>2039</b>	Global depression peaks; hits North America, Russia, Europe, China hardest Secessionist movements worldwide US splits: United States of America (Midwest + Great basin, military power); Pacifica (West coast, technology); New Columbia (Atlantic seaboard, finance); Gulf and Southern Federation (economic-environmental depression); Republic of Texas; Republic of Alaska; People's Kingdom of Hawaii, Caribbean Federation (South Florida, Cuba, Protectorate Islands) EU splits: European Free Trade Zone: (Ireland, France, Belgium, Germany, Holland, Poland); Mediterranean Coalition: (Spain, Portugal, Italy, Egypt, Greece, Libya); UK, Scandinavia pull out of European coalitions entirely China: mass unrest, near civil war Russia: civil war
<b>2040</b>	<b>Temp: +2C over 1990; Carbon: 425ppm; Pop: 5.9B</b> <b>~1.5B people displaced/refugee status</b> <b>World GDP: \$48T</b> <b>~5B in poverty</b> <b>Global Powers: Iran, US, Brazil, Japan, Mediterranean Coalition</b> <b>Limited Machine Intelligence developed in Japan</b> <b>Svalbard Fauna Vault opens</b>
<b>2041</b>	Temperatures stabilize; UNCMA declares Ocean Acidification Emergency, requests immediate cuts to carbon emissions
<b>2042</b>	China stabilizes, becomes confederation of mini-states Cure for wheat blight developed; wheat re-cultivation begins
<b>2043</b>	Svalbard Seed Vault releases heirloom wheat seeds First new wheat crop fails, requires protective modification

<b>2044</b>	Second wheat restart successful UNCMA again requests immediate carbon action
<b>2045</b>	Global Famine II eases
<b>2046</b>	Russian civil war ends, rumors of bioweapon use US: Gulf and Southern Federation (GSF) undertaking “rogue” geoengineering effort
<b>2047</b>	Money virus eliminated from financial networks
<b>2049</b>	UNCMA releases “Ocean Extinction” report, demands cessation of carbon emissions by 2055 to avoid disaster
<b>2050</b>	<b>Temp: +2C over 1990; Carbon: 431ppm; Pop: 6.0B</b> <b>~0.75B people displaced/refugee</b> <b>World GDP: \$54T</b> <b>~3B in poverty</b> <b>Global Powers: Iran, US, Brazil, Japan, Mediterranean Coalition</b>
<b>2051</b>	Global census: slight increase in population, first since 2020. “Jubilee Year” declared; most debts forgiven
<b>2052</b>	US attempts reunification with Gulf and Southern Federation by force First use of nanoscale weapons
<b>2053</b>	US forces occupy GSF; insurgency erupts
<b>2054</b>	US: New Columbia and Pacifica supplying GSF insurgents
<b>2055</b>	First nanofactory produced in Japan, under strict controls UNCMA: mass extinctions in world’s oceans imminent
<b>2056</b>	Total collapse of most large fisheries Mediterranean Coalition leads work on Ocean Recovery Plan
<b>2059</b>	First year World GDP matches 2020
<b>2060</b>	<b>[Projected]</b> <b>Temp: +2C over 1990; Carbon: 438ppm; Pop 6.2B</b> <b>Global Powers: Iran, U.S., Brazil, Japan, Mediterranean Coalition</b> <b>~0.5B people displaced/refugee status</b> <b>World GDP: \$69T; ~2B in poverty</b>

# EMERGENCE

<b>2010</b>	<b>“Decarbonization Challenge” underway</b>
<b>2014</b>	“Last Recovery” begins
<b>2015</b>	“Global Storming” worldwide UN stops public-private geoengineering attempt Decarbonization efforts redoubled Industrialized nations carry debt of conversion Southeast Asia leads small-scale waste-to-energy technology
<b>2017</b>	Drought, heat kill tens of thousands across Northern Hemisphere Protests over access to open-source bio Civil society networks coordinate bottom-up response
<b>2019</b>	Mass movements protest weak government climate threat response; most lawmakers in post-industrial countries unseated by civil society leaders
<b>2020</b>	<b>Temp: +1C over 1990; Carbon: 395ppm; Pop: 7.6B</b> <b>Global states considered “failed”:</b> 5% <b>World GDP: \$66T (2008 dollars)</b> <b>Top 2% of global pop owns &gt;50% of wealth; bottom 50% owns &lt;1% of wealth</b>
<b>2021</b>	Industrial food assets nationalized across Global South
<b>2022</b>	Avian flu pandemic begins in Indonesia Pharma patents attacked, revoked across Global South
<b>2023</b>	“Medicine War” breaks out: pharma companies vs. Global South US/EU revoke leading biopharma company operating charter; remaining companies cease Medicine War support
<b>2024</b>	General-purpose 3D printers available Piracy of designer goods rampant Avian flu pandemic hits Eastern Europe: EU tries to close eastern borders, fails Pandemic: ~25 million dead
<b>2025</b>	EU nationalizes all biopharma firms Offices of bio firms firebombed Pandemic: ~28 million dead
<b>2026</b>	Avian flu strain 3 hits United States; one million die in six months H5N1-free regions in US ban entry from infected areas Pandemic: ~32 million dead
<b>2027</b>	US nationalizes all biopharma firms Charter revocations increase “Battle of Nashville,” US Army forcibly opens city Pandemic: ~33 million dead
<b>2028</b>	20% of manufactured goods labeled open source Pandemic slows: ~33.5 million dead
<b>2029</b>	99942 Apophis near-approach; rumors of impact in 2036 “Open source” label fraud common

<b>2030</b>	<b>Temp: +1.5C over 1990; Carbon: 410ppm; Pop: 7.7B</b> <b>Global states considered “failed”:</b> 25% <b>World GDP: \$58T</b> <b>Top 5% of global pop owns &gt;50% of wealth; bottom 50% owns 3% of wealth</b>
<b>2031</b>	“God’s Chosen” terror network reengineers H5N1; existing treatments no longer work Pandemic: ~40 million dead
<b>2032</b>	Global open-source project seeks H5N1 treatment; “rogue nations” (Nigeria, Pakistan, Ukraine) barred, many poor nations locked out Protests over access to open-source bio Pandemic: ~44 million dead
<b>2033</b>	Most airlines bankrupt, some regional carriers still operate “Avian Flu Initiative” announces treatment candidates Pandemic: ~46 million dead
<b>2034</b>	Global Lifeboat Network formed to distribute flu treatment Pandemic: ~46.5 million final death toll
<b>2035</b>	<i>The Fractal Planet</i> published, arguing for devolution of nation-states coupled with dense global networks
<b>2036</b>	Suicide wave around Apophis approach Global Lifeboat Network leads response Apophis second near-approach, no impact Europe tries devolution experiment
<b>2037</b>	3D printers make microscale polymer-electronic objects “Freetnet”: fabbed picocells for free mobile broadband Eco-biosensors are most popular fabletics Meat consumption declines globally as biosamplers spread
<b>2038</b>	Mobile network industry collapses
<b>2039</b>	Microcameras connected via piconets provide petabytes of visual content; open-source tools for “emergent editing” Global film industry collapses
<b>2040</b>	<b>Temp: +2.5C over 1990; Carbon: 425ppm; Pop: 7.8B</b> <b>Global states considered “failed”:</b> 33% <b>World GDP: \$43T</b> <b>Top 15% of global pop. owns 50% of wealth; bottom 50% owns 10% of wealth</b>
<b>2041</b>	United Nations declares “carbon emergency,” demands decarbonization Attacks on banned coal plants
<b>2042</b>	Emergence of independent “Local Civil Communities” (LCCs)
<b>2043</b>	Remaining oil production facilities hit by “plug” attacks: fabbed microbots that disrupt oil drilling
<b>2044</b>	One-fifth of global citizens live in LCCs; one-third of LCCs explicitly faith-based Conflicts increase between LCCs
<b>2045</b>	“Community self-sufficiency” economies emerge

<b>2046</b>	Sunni/Shia LCC conflict draws “assistance” from other LCCs Global dialogue over how to prevent inter-LCC fights
<b>2047</b>	Viruses corrupt open-source weapon designs for fabbers “Denial of Service Attacks” (DOS) block conflicts: microdrones drop automated fabbers and bots to form barriers, disrupt weapon systems
<b>2048</b>	One-third of global citizens live in LCCs
<b>2049</b>	Most conflicts disrupted by DOS Attacks before shots are fired Online arms race: “pathogen” viruses attack anti-weapon viruses
<b>2050</b>	<b>Temp: +2.5C over 1990; Carbon: 428ppm; Pop: 8.5B</b> <b>Global states considered “failed”:</b> in dispute, 12% or 57% <b>Top 20% of global pop. owns 50% of wealth; bottom 50% owns 12% of wealth</b> <b>World GDP: \$55T</b>
<b>2051</b>	“Open-Source Cities” movement: large-scale fabbers, biomimetic designs, and collaborative production
<b>2052</b>	90% of food grown within 100 miles Piconets: full Internet access in all big cities, most medium/small cities
<b>2053</b>	“Mesh Civil Communities” (MCCs) emerge: non-geographic LCCs
<b>2054</b>	London, New York, San Francisco, Tokyo, Shanghai, Singapore, Bangalore, Teheran, Johannesburg, Cairo, Sarajevo, Berlin, Paris spin off MCCs, allowing global citizenship
<b>2055</b>	Three-quarters of global citizens live in LCCs, 2% in MCCs
<b>2056</b>	Memetic viruses (pathological memes) labeled “cognitive denial-of-service”
<b>2057</b>	Storm Year: massive cyclonic storms Collaborative network forms to accelerate carbon removal
<b>2059</b>	United Nations formally dissolved
<b>2060</b>	<b>[Projected]</b> <b>Temp: +2.7C over 1990; Carbon: 419ppm; Pop: 8.4B</b> <b>Global states considered “failed”:</b> in dispute, 3% or 90% <b>World GDP: \$64T</b> <b>Top 25% of global pop. owns 50% of wealth; bottom 50% owns 15% of wealth</b>

# THE GREAT TRANSITION

<b>2010</b>	<b>“Decarbonization Challenge” underway</b>
<b>2014</b>	Slow recovery begins
<b>2015</b>	“Global Storming” worldwide Decarbonization efforts redoubled
<b>2017</b>	Drought, heat kill tens of thousands across Northern Hemisphere
<b>2018</b>	Public-private coordination on carbon
<b>2019</b>	US energy 60%: non-fossil General-purpose 3D printers available
<b>2020</b>	<b>Temp: +1C over 1990; Carbon: 390ppm; Pop 7.6B</b> <b>25% of world population online</b> <b>World unemployment 7%</b> <b>World GDP: \$67T (2008 dollars)</b> <b>~4B in poverty</b>
<b>2021</b>	Energy storage breakthrough Biochar, carbon capture projects common Fabbed micro-drones hit Indian Parliament
<b>2022</b>	Semi-autonomous household robots spread: US, 30% of homes, Europe, 10%, Japan, 50%, China, 5% Chinese coal-fired power plants attacked Surveillance laws pass in India; “spy-wallahs” offer tools for spying, stealth
<b>2023</b>	More consume participatory media than professional media globally
<b>2024</b>	Open-source robot designs proliferate
<b>2025</b>	Household robots: US, 50%; Europe, 25%; Japan, 70%; China, 10%
<b>2026</b>	Immersive sensory games indistinguishable from reality US energy: 75% non-fossil; global: 40% “Smart virus” attacks common
<b>2027</b>	Sweden provides basic income guarantee “Freetirement” movement begins; lifelong leisure and learning communities Amateur scientists: 25% of open-access science
<b>2028</b>	First nanoscale fab US energy: 100% non-fossil; global: 65% Chimpanzees extinct in wild; secret uplift program starts Massive vote-system fraud in US presidential election
<b>2029</b>	99942 Apophis near-approach Voluntary Extinction suicide cult releases global anti-reproductive bioweapon
<b>2030</b>	<b>Temp: +2C over 1990; Carbon: 405ppm; Pop: 6.9B</b> <b>World GDP: \$75T</b> <b>~5B in poverty</b> <b>30% of world population online</b> <b>World unemployment 12%, “Freetired” 1%</b> <b>30% of reproductive-age population unable to reproduce</b>
<b>2031</b>	Nanoscale production allows global temperature moderation technology Planetary Rights Movement seeks ban on all carbon emissions, geoengineering

<b>2032</b>	Nanoscale fab systems make most inorganic “dry” objects Leading use of nano fab system is to make another nano fab device Amateur scientists: 50% of open-access science
<b>2033</b>	EU adopts basic income guarantee, design-restricted nano fab for all citizens; non-citizens in EU demand equal access “Marseilles Massacre”: 300 protestors killed by police
<b>2034</b>	“Venture Altruist” movement begins in Europe; innovators and creatives award free ideas “Personal Swarms” of semi-autonomous flying microbots provide information, recording, protection for individuals
<b>2035</b>	US offers citizens basic income guarantee, design-restricted nano fab Uplifted chimpanzees revealed, have near-human intelligence
<b>2036</b>	Apophis second near-approach, no impact Strategies for Engineered Negligible Senescence (SENS) offers significant improvement in lifespan
<b>2037</b>	Zero Augmentation Movement (ZAM) begins Venture Altruist movement taken up in China, Brazil, Indonesia
<b>2038</b>	Limited Machine Intelligence (LMI): computers developed, first used in autonomous military and police systems; quickly adopted in civilian robotic systems Household robots: US, 100%; Europe, 90%; Japan, 100%; China, 20% Fully autonomous companion robots: US, 15% of households; Europe, 5%; Japan, 50%; China, 1%
<b>2039</b>	New Pope declares ZAM support SENS scientists attacked, go into hiding EU expands income guarantees and nano-fabs to non-citizen residents
<b>2040</b>	<b>Temp: +2C over 1990; Carbon: 410ppm; Pop: 7.2B</b> <b>World GDP: disputed, \$120T or \$30T</b> <b>~4.5B in poverty</b> <b>40% of world population online</b> <b>Unemployment: 35%, “Freetired”: 5%</b> <b>Lifespan, augmented: 140 years (1B)</b> <b>Lifespan, ZAM: 80 years (1.2B)</b> <b>Lifespan, urban poor: 60 years (5B)</b>
<b>2041</b>	Personal swarms tied to domestic surveillance networks
<b>2042</b>	Participatory/amateur sources: 90% of media Amateur scientists: 80% of open-access science
<b>2043</b>	Nanotech carbon capture tech developed
<b>2044</b>	Two-thirds of nations offer basic income guarantees, nano fab “Swarm wars” over culture, identity markers use nano-fabbed weapons
<b>2045</b>	Further SENS breakthroughs “Free-range” replicating molecular assemblers developed

<b>2046</b>	Self-Aware Machine Intelligence (SMI) developed “Uplifted” chimpanzees demand full human rights
<b>2047</b>	“Nano-war” era: ~200 million killed SMI (incorrectly) blamed for nano-war strategies; ban enacted First effort at unified Global Senate
<b>2048</b>	ZAM launches “crusade” against augmented populations
<b>2049</b>	Global Senate collapses “30-Minute Wars”: nano-enabled mass attacks kill 1.2 billion over 4 months ZAM crusade “truce” called after leaders are “infected” with augmentation virus
<b>2050</b>	<b>Temp: +1C over 1990; Carbon: 320ppm; Pop: 5.8B</b> <b>World GDP: disputed, \$500T or \$15T</b> <b>~2B in poverty</b> <b>65% of world population online</b> <b>Unemployment: 50%, “Freetired”: 25%</b> <b>Lifespan, augmented: 200 years (0.5B)</b> <b>Lifespan, ZAM: 85 years (2.3B)</b> <b>Lifespan, urban poor: 65 years (3B)</b>
<b>2051</b>	Functional collapse of conventional global economy; minimal impact
<b>2052</b>	Governments use SMI for planning Global Participatory Governance model
<b>2053</b>	No distinction between amateur and professional science
<b>2054</b>	Global Ecumenical Council requests end to anti-augmentation crusade, still opposes augmentation
<b>2056</b>	Global Participatory Government rejects surveillance state
<b>2058</b>	50%+ world’s population regularly engages in public artistic expression
<b>2059</b>	90% of political entities offer basic income guarantees SMI request citizenship rights
<b>2060</b>	<b>[Projected]</b> <b>Temp: 1990; Carbon: 280ppm; Pop: 6.3B (+2B non-human)</b> <b>World GDP: disputed, \$900T or \$3T</b> <b>~0.75B in poverty</b> <b>90% of world population online</b> <b>Unemployment: 5%, “Freetired”: 80%</b> <b>Lifespan, augmented: unknown, potentially 500+ years (1B)</b> <b>Lifespan, ZAM: 87 years (3.3B)</b> <b>Lifespan, urban poor: 70 years (2B)</b>

# 2009 TEN-YEAR FORECAST TEAM

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