

# HOW TO USE THE 2008 MAP OF THE DECADE

There are lots of ways to talk about the future. Often we speak of driving forces, signals of change, trends, or disruptions. This year, we shift our language a bit. We seek a more biological vocabulary of the future—for a future that depends more on our biological savvy.

Signals are the bridge. Cells, when they divide, light up like signals. So think of the cells on our map as signals that are fluorescing. The signals show where the activity is right now, today. But when we step back a bit, we can see that the cells are also signaling a larger pattern—clusters of activity that add up to complex living systems. These systems are the critical structures, the focal points for our strategy.

Such structures do not exist in isolation, of course. They are mapped on a grid. Just as an embryonic cell maps its own poles—top and bottom, front and back—to build its fate map, the cells of our future line up on a matrix of rows and columns. Think of the columns as the nascent energy that will coalesce individual cells into an integrated ecology. Think of the rows as distinctly human lenses that help us see the ecology from different points of view: people, practices, and tools.

## WORKING THE MAP: Foresight to Insight to Action

As always, our process starts with foresight that leads to insight, and ultimately, action.

- **FOCUS on the clusters—the systems—to build foresight.** Find two or three of the clusters of signals that have the greatest potential impact on your own organization, your industry, or your near-term projects. Read the short descriptions on the back of the map. Then consider our Perspectives, or create your own. Use different perspectives to challenge your assumptions about where you and your organization are headed.
- **TRACE a path through the map to provoke insight.** Sometimes the most important insights come from seeing how several signals connect across the map. Draw a line through the cells that seem most important, and tell that story to your colleagues.
- **REARRANGE the signals to uncover more insight.** This year's *Ten-Year Forecast* makes it easy to work with individual signals. Choose the signals that you think are most relevant to your work and cluster them in new ways to provide new focal points. Use the examples on the *TYF Signal Cards* to go deeper into the signals, to find out what they look like today, in real life.
- **CREATE your own grid to stimulate action.** Turn the columns into initiatives, or audiences, or impact zones. Place the *TYF Signal Cards* in your new grid to create new clusters. Add your own signals.

PEOPLE

PRACTICES

TOOLS

## DIASPORAS: THE NEW EMERGING ECONOMIES

As mobility and migration grow, the real emerging economies are the new diasporas of people who leverage shared identities to create new value and generate wealth.



## CIVIL SOCIETY: THE EVOLUTION OF CIVIC INFRASTRUCTURE

Civil society—the spaces and activities that exist between the world of governments and the marketplace—will undergo a renaissance as new platforms for social connectedness and cooperation proliferate.

“The nation-state has grown ambivalent about minorities at the same time that minorities ... increasingly see themselves as parts of powerful global majorities.”

—Arjun Appadurai



## FOOD: THE FLASHPOINT

As global climate change, population growth, and health and safety issues threaten the global food supply, everything from housing, fuel, and water to health and politics will be linked to food policies and practices.



“You can get more info on a box of crackers than you can on a piece of fish. The solution? Get genetic.”

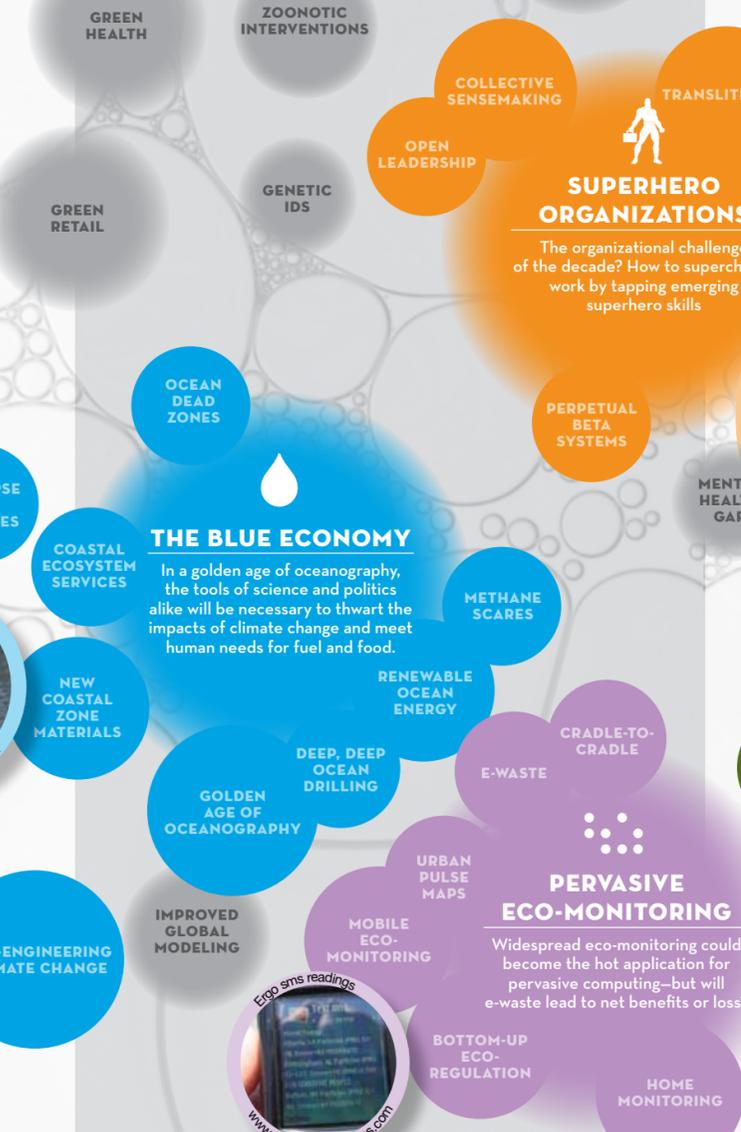
—Kate Wing

## ECOSYSTEMS: MANAGEMENT IN THE CONTEXT OF LIFE

After a half century of scientific research—and in the face of growing ecosystem failures—eco-science will begin to redefine the way individuals and institutions manage the complex ecologies within which every human activity takes place.

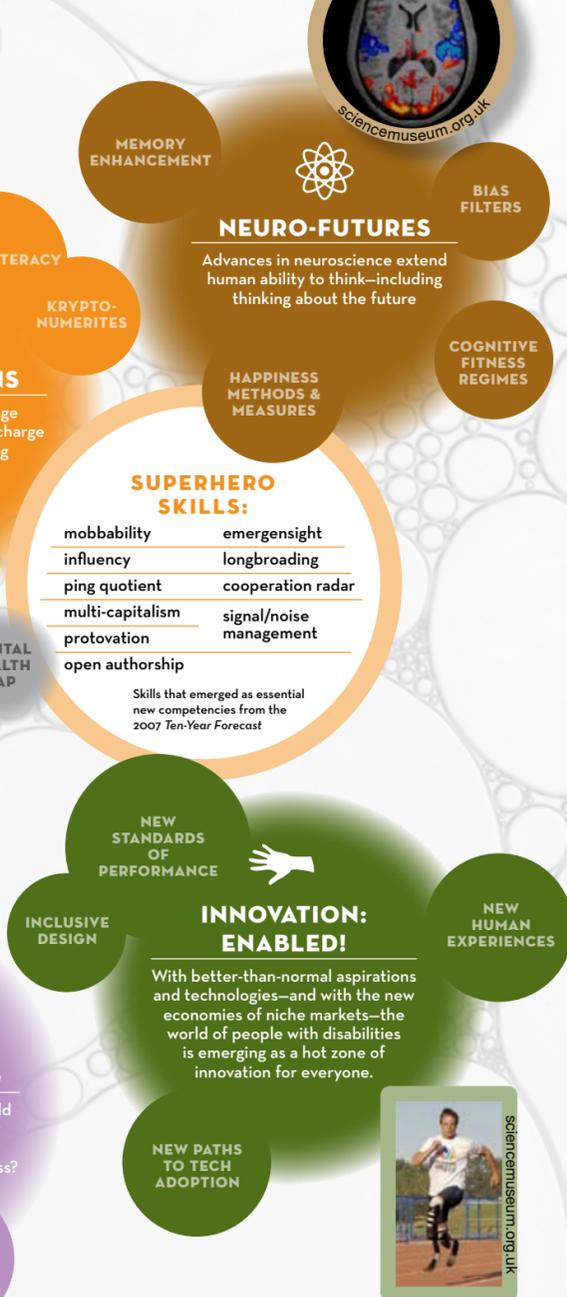
“It's all gardening now.”

—Daniel Janzen



## AMPLIFIED INDIVIDUALS: THE EXTENDED HUMAN REALITY

As people extend their biological capacities with devices and pharmaceuticals—and as their individual expressions are amplified in an extended digital world—human reality will be recast by analytics and experience alike.



## DIASPORAS



**NEW DIASPORAS:** diasporas are dispersed populations that share common roots and a common identity. New diasporas manage multiple identities across both geophysical and virtual spaces.

**Climate change diasporas:** climate change displaces communities and creates new identities linked to the causes and impacts of global warming—from climate events like Hurricane Katrina to permanent flooding of whole countries, such as Bangladesh.

**Internal diasporas:** rural-to-urban migrations, especially in China and India, leverage mobile communications to redefine geographic and social identities.

**Biometric diasporas:** the ability to track, imagine, and express biological markers—from genetic genealogies to genetic IDs—catalyzes new identities and communities.

**Media diasporas:** in social media like Last.FM, media “taste trails” become identity markers that define persistent communities.

**Virtual diasporas:** persistent online identities migrate from platform to platform—from virtual worlds to online migrant registers—leveraging personal histories and relationships.

**Corporate diasporas:** corporations serve as destinations among which groups of initiated workers circulate—creating geographies such as Phila-warepragacago or simply very high-performance alumni networks that can rapidly form and reform around the globe.

**Activist diasporas:** technological support for bottom-up, transborder civil engagement creates new kinds of activism—including NGO diasporas and remote campaigning.

**Emerging economy tourists:** more tourists hail from emerging economies like India, China, and Brazil—and visit more diverse destinations in both the global North and South.

**Diffusion of global economic leadership:** as diasporas become the real emerging economies, global economic leadership is dispersed more widely and in unexpected niches.



**FINANCIAL INNOVATION:** financial innovation creates new financial instruments—new kinds of mortgages, bonds, insurance, or even currencies, for example—as well as new kinds of capital.

**Islamic finance:** innovation in Islamic financial instruments opens the global economy to the Muslim population (one in five people worldwide)—and also models possible financial reforms for non-Muslim investors.

**Alternate currencies:** in online worlds as well as local communities, people experiment with leveraging alternate currencies to generate new wealth—and new exchanges with official currencies.

**Health as wealth:** health becomes an investment and risk-management strategy for boomers as they strive to manage financial uncertainty and diminished assets.

**Health credits trading markets:** personal health investments are formalized and traded like personal carbon credits as people leverage health as a social good.

## CIVIL SOCIETY



**NEW COMMONS:** new commons are shared resources that are managed from the bottom up to create new platforms for generating wealth and value—in the spaces between private and public, social and economic, digital and physical.

**Identity commons:** identity commons provide the tools for individuals to manage their online identities as a publicly accessible but privately maintained resource—freeing personal virtual identities from private Web sites.

**Learning commons:** learning commons generate sustainable resources, such as open-source curricula, open academic journals, and open databases—in response to failing public and private educational systems.

**Money commons:** money commons pool financial resources using peer-to-peer strategies as alternatives to traditional, more constrained financial instruments.

**Infrastructure commons:** peer-to-peer structures combine with new and old technologies to provide infrastructures that are communally shared and collectively managed.

**Urban commons:** urban commons layer information, media, and networks on the built environment to create new collectively maintained urban civic and cultural spaces.

**Policy commons:** policy commons leverage tools for electronic democracy as well as open-source social solutions platforms to provide richer policy discussions—and options.

**Food commons:** locally supported food production systems focus on biodiversity and genetic variability as a means of fostering sustainable food webs.

**Biocommons:** shared repositories of bio-information, from open pharmacy platforms to genetic genealogy and ethnobotanical databases, provide alternatives to patenting and privatization of basic forms of life.

**Health commons:** health commons leverage the collective value of health and health care—from health and wellness “mobs” to bottom-up databases of treatment outcomes—to reinvigorate the global health infrastructure.

**Children’s health commons:** as the future economic prospects of individual children are linked to their early health profiles, children’s health becomes a critical resource for developed and developing societies alike.

**Open health:** open health is a paradigm shift in the global health economy, drawing on open innovation platforms, new health commons, and new forms of cross-institutional cooperation to create new health strategies and better outcomes at less expense.



**OPEN-SOURCE WARFARE:** open-source warfare leverages the tools and principles of social network technology to wage a new kind of warfare—sometimes called Fourth Generation warfare.

**New model armies:** a new set of superempowered military actors—human and non-human, privately funded and without state affiliation—exert influence beyond their size.

**Meme warfare:** meme warfare uses information and media to disrupt the so-called “soft infrastructure” in a battle for hearts and minds.

**Open-source intelligence:** a new discipline of intelligence focuses on open tools, resources, and processes—including public media, Internet histories, and even public participants—to discern patterns of strategic importance.

**Platforms for resilience:** open-source intelligence, open-source simulations and models, and other cooperative tools help shift the focus of strategy from achieving stability to building a capacity to respond and adapt quickly.

## FOOD



**FOOD WEBS:** food webs are the complex interlocking and interdependent feeding relationships among plant and animal species in an ecology—relationships that are increasingly tenuous in the face of global climate change.

**Re-wilding movement:** advocates of wild farming combine the objectives of restoring wilderness landscapes and species with those of building more sustainable agricultural practices.

**Disappearance of pollinators:** both managed and natural bee colonies are rapidly declining—perhaps jeopardizing the basic processes by which food is propagated.

**Agritourism:** small-scale sustainable farms turn to tourism as a way to build financial and political support for sustainable farming methods.

**Transparent food:** a combination of top-down and bottom-up methods for tracking food from source to consumer creates a new transparency in global food webs.

**Food footprinting:** carbon footprinting of foods informs marketplace decisions about food consumption—and generates debates about entire food categories and diets.

**Food value chains:** producers are seen as partners in developing value propositions of taste, region, and environmental as well as social care—ensuring reasonable long-term profits and other benefits to local stakeholders.

**Domestic fair trade:** fair trade practices originally developed to provide equity across developed and developing markets are extended to internal economies in both the East and West.

**Vertical farming:** innovative plans for building high-rise urban farms provide an alternative vision of peri-urban farming.

**Urban farming:** reclaiming brownfields and taking advantage of urban distribution systems—as well as a locovore movement—urban farming redefines land use and agricultural practices alike.

**Local diets:** local diets are part of the growing localism movement, focused on rebuilding local value, reducing carbon footprints of long-distance shipping, and securing food safety.

**Next-generation genetic foods:** innovations in genetically engineered food shift to emphasize environmentally beneficial adaptations in everything from rice to cattle.

**Water woes:** shifts in climate, urbanization, pollution, and growing populations all tax the ability of the planet to provide safe water to many communities—while rising sea levels threaten to flood others.

**Nutri-segmentation:** nutritional science becomes more sophisticated in identifying diets that are best suited to specific genetic profiles or disease states.

**Green retail:** sustainability concerns of consumers and producers alike create new retail practices—from carbon labeling of products to green sourcing and distribution.

**Green health:** personal health gets linked to the health of the environment, while medical practices—and pharmaceuticals—are reevaluated and redesigned to be environmentally friendly.

**Zoonotic interventions:** zoonotic diseases—those that spread from one animal species to another (for example, birds to humans)—receive growing attention as environmental management, agriculture, and human health intersect.

**Genetic IDs:** DNA profiling gets applied across living systems—for everything from documenting the source of fish to managing human immigration and travel.

## ECOSYSTEMS



**THE BLUE ECONOMY:** the oceans become the focal point of economic development and environmental debates as we struggle with collapsing fisheries, a search for new energy sources, and large-scale interventions in global climate change.

**New coastal zone materials:** the rush to solve problems of rising sea levels and coastal climate events drives the development of new materials—many based on materials and life forms that occur naturally in coastal areas.

**Deep, deep ocean drilling:** in the search for new sources of fossil fuel, engineers go much deeper into the ocean floor—with uncertain results.

**Renewable ocean energy:** new technologies for hydrokinetic (or wave) energy and ocean thermal energy conversion get on the fast track to development as a means of reducing carbon emissions.

**Collapse of fisheries:** climate change and over-fishing threaten the viability of global fisheries—and drive new certification practices for sustainable fishing.

**Coastal-ecosystem services:** urbanization, industrialization, and climate change converge in coastal zones, where measurement of ecosystem services will play an increasingly important role in everything from development and insurance to disaster management.

**Ocean dead zones:** large low-oxygen zones appear to be recurring with regular cycles now off the West Coast of the United States—which scientists attribute to climate change.

**Methane scares:** rising temperatures may contribute to the rapid release of methane—a far more destructive greenhouse gas than CO<sub>2</sub>—trapped in permafrost and the ocean depths.

**Geo-engineering climate change:** as the ocean’s capacity to regulate climate change declines, extreme geo-engineering measures—from ocean fertilization to very large-scale thermal pumps—enter the debate.

**Golden age of oceanography:** ocean crises—plus low-cost sensor-based data, genetic mapping of ocean species, and the growth of amateur and NGO ocean scientists—accelerate the evolution of ocean science.



**PERVASIVE ECO-MONITORING:** pervasive computing—which moves computing into distributed sensor networks and intelligent networked objects—finds its leading application in monitoring the environment.

**Mobile eco-monitoring:** cell phones and wearables become instrumented to sense the environment and report local readings to networked databases—and vice versa—providing real-time environmental and health information to users.

**Urban pulse maps:** distributed sensing, reporting, and aggregation of location-specific information about city resources—from transportation to energy use to spending—provide real-time maps that guide citizen choices.

**Bottom-up eco-regulation:** pervasive eco-monitoring becomes a new frontier of civic life—as citizens track local ecologies and influence local behaviors.

**Home monitoring:** smart home technologies finally find their useful application in monitoring home resource use—and sometimes managing it as well.

**Cradle-to-cradle design:** with sensors built into more and more objects and environments, designers must design for a world where objects are tracked from source through distribution and use then re-use and recycling.

**E-waste:** even as pervasive computing promises to help manage fragile ecologies, it may contribute to greater environmental degradation with digital dumps, toxic metals, and a higher “ecological backpack” than larger computing devices.

**Improved global modeling:** pervasive eco-monitoring plus the new golden age of oceanography should substantially improve global models of everything from climate change to atmospheric pollution to waste streams.

## AMPLIFIED INDIVIDUALS



**SUPERHERO ORGANIZATIONS:** as digital natives enter the workplace with superhero skills like ping quotient, mobbability, influency, and protovation, they will create supercharged organizations that see themselves as beta systems, constantly reinventing themselves through rapid prototyping.

**Open leadership:** open leadership leverages open systems—from media to solutions commons—to tap the vision and capacity of diverse stakeholders inside and outside any organization or institution.

**Collective sensemaking:** using new collective filtering tools and visualizations, teams and networks will discover patterns in large, complex systems faster—and trigger faster collective responses.

**Transliteracy:** transliteracy emerges as a core competency of superhero organizations—combining familiar literacies like reading, speaking, and writing, with new digital literacies of composing digital videos, managing online radio, podcasting, and navigating social networking platforms.

**Kryptonumerite:** kryptonumerite is the organizational equivalent of the anti-superhero element kryptonite—the misuse of automated quantification and visualization to provide rigid guidance along narrow or misleading parameters.

**Perpetual beta systems:** an emphasis on transparency and collaborative open development means everything is always in beta—including organizational processes.

**Social software for simulation:** social software—from alternate reality games to photo blogs—become platforms for simulating the future from the bottom up.

**The simulated self:** a combination of biological body and brain scans plus personal life data creates the inputs for simulating individual lives—allowing people to link personal choices to possible future outcomes many decades ahead.



**NEURO-FUTURES:** neuroscience not only provides a new platform for engineering human systems—it also maps our capacities and limitations for thinking systematically about the future.

**Bias filters:** better understanding of cognitive and affective biases will improve social and business problem solving—and inform rules of thumb for futures research and strategic planning.

**Memory enhancement:** memory enhancement strategies—from memory drugs to lifecaching tools and processes—will improve our ability to think about the future as well as the past.

**Cognitive fitness regimes:** brain mapping plus biofeedback create new cognitive fitness tools and regimes designed to do everything from improving memory to using focus to remotely manipulate objects.

**Happiness methods & measures:** a new emphasis on measuring happiness—from urban emotion maps to gross domestic happiness to brain maps of happiness—leads to new strategies for achieving happiness.

**Mental health gap:** mental health—long neglected by global and local health care policies—becomes a key focus of public health as clinical depression soars.



**INNOVATION: ENABLED!:** the field of disabilities becomes a platform for innovation that enables “better than normal” lifestyles across diverse populations—and amplified expression for everyone.

**New human experiences:** new materials, new drugs, new interventions in human neuro-physiology, and new media for human expression create a new universe of human experience from which a “new normal” will be defined.

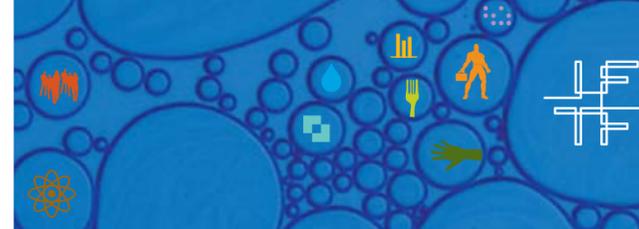
**New standards of performance:** new human augmentations—and new human exercise regimes—help redefine standards for performance across everything from sports to speaking.

**Inclusive design:** with a focus on removing barriers and supporting access for those who are least enabled, inclusive design produces unexpected innovations that serve everyone.

**New paths to tech adoption:** with new tools and platforms for customization, bottom-up manufacturing, and so-called long-tail marketing, innovation will shift from the search for blockbuster products and services to viral innovation that builds on open-source design and materials.

2008 MAP OF THE DECADE

# THE FUTURE IS A NEW VIEW OF LIFE



**Think of it, perhaps, as an organism, starting from a single cell. Like any organism, it unfolds from a small set of internal signals. First there’s just one cell. Then it divides. The new cells specialize and become patterned. The pattern becomes a template for further development. As the future begins to take shape, you can see it in what biologists call *fate maps*—molecular snapshots of the embryonic cells as they divide, over and over, to reveal what they will become.**

If we were to create our own fate map out of the present moment, it might look like this year’s *Map of the Decade*. Clusters of cells cleave together to form the tissue of a future that looks like a distinctly new life. A future where diasporas, not nation-states are the real emerging economies. A fate where the same patterns of social organization produce both vibrant new commons and open-source warfare. A world where food is a flashpoint for people, markets, and the ecosystem itself—and where ecologists are the new MBAs. In this map of fate, humans can be seen to be busy plotting their future development with pervasive eco-monitoring tools, brain maps, physical augmentations, and superhero skills.

Fate maps are, of course, works in progress. As each new cell is added, the pattern shifts. So today’s fate map is not a fixed path to the future. Instead, it can actually help us see how to steer our next steps, where to innovate, and where to hold a bearing. The 2008 *Map of the Decade* is as much a snapshot of now as it is a template for the future. It’s a glimpse of our collective fate, as it appears, *in vivo*, in early 2008.

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