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New Metrics for a Sustainable Planet

Emerging Water-Smart Design



Predictions Fall Flat, but Future Trends are a Useful Tool

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Predicting the future is a notoriously risky business. In 1959, U.S. Postmaster General Arthur Summerfield confidently predicted that, “We stand on the threshold of rocket mail.” That same year, IBM told the future founders of Xerox that they were denying them start-up funds because, “The world potential market for copying machines is 5000 at the most.” We have yet to learn how this one turns out: “The well-dressed man of 2020 will wear shorts for every occasion except formal events,” predicted New York City haberdasher, John David, in 1929. We’ll see.

While such specific predictions are not useful guides to action, constant monitoring of larger trends is a necessary activity for leaders, as a basis for guiding the firm’s strategy and direction. During the AIACC Practice Conference last November in San Diego, we led the 300 attending architects in an exercise to capture their views of the future. The participants’ ideas about trends and the future of the industry were used to develop scenarios that would help them and their firms better prepare for the future.

The economic downturn will not last forever, and, when the turnaround comes, your firm will need to be prepared in order to act strategically and at speed.

We asked the session participants to identify trends that will affect our industry from now through 2015 in the following categories:

Economy
Environment
Technology
Demographics
Energy
Collaboration
Globalization
Innovation
Change
Urbanization

Their insights, coupled with our own extensive research in recent months, have helped us identify key trends that our profession will face in the coming years, as well as suggestions for how people and firms should deal positively with these possible futures. A full listing of these trends, their implications, and possible actions runs to many pages. To provoke your thinking, we have pulled out five trends of particular interest that we expect to see directly affecting the industry and your firms during the next ten years.

The A/E/C Industry is Changing

Our industry is still undergoing a consolidation process that began before the millennium and continues to expand; large- and medium-sized firms have been acquiring firms in desirable geographic locations or with strategically useful specialties. This process will continue, as it has in other industries, resulting in national and international mega-firms, small local firms, and a limited number of middle-sized firms. These will eventually either become large firms themselves or be absorbed. Medium-sized firms must find ways to adapt creatively to new markets and marketplace conditions, or they will find themselves the targets of acquisition.

Clients have also been changing: today, they are better informed about our work, and they get smarter about it every year. They want to be more involved in projects, on both the managerial and creative sides. Clients want to collaborate with us, rather than just hire us.

Technology Takes Over

We have all observed vast changes in other industries during the past twenty years, as technologies appeared that automated or competed directly with work formerly done by professionals and blue-collar workers alike. While technology has had some impact on the A/E/C industry, because our work is highly complex and requires intuition and judgment, it has not yet been easily subjected to automation. With the advent of true Artificial Intelligence (AI), that is going to change.

Scientists expect a major breakthrough in AI at any time. Smarter computers will lead to software that combines the mechanics of design with real-time GPS and geotechnical information; engineering requirements; building codes; available materials, their sources, and projected delivery times; how to orient the building on site for maximum energy savings; and so forth. When the day arrives that a complete building design can be created by anyone with access to a smart computer, how will your firm continue to thrive?

Design firms need to begin now to develop their creative, innovative, and problem solving capacities—those human talents that software will be unable to replicate. Doing so requires firms to bring the best and brightest young minds into the industry and keep them here. Our industry needs an attractive and exciting informational program aimed at grade-, middle-, and high-school students, to compete with the louder presence of other fields—such as entertainment, stock brokering, and technology—that have been luring students away from architecture, engineering, and the sciences. What steps will your firm take to reach out and increase awareness of our industry as an attractive career option?

People Are on the Move...

Attracting those graduates won’t be easy. While the total number of college-educated people worldwide is rising, journalist Philip Longman reported in *Foreign Affairs* in 2004 that U.N. statistics show that the world’s overall population will peak before mid-century and then begin dropping. With smaller generations entering the workforce and the worldwide birth rate going down, competition for the best and brightest minds is going to heat

up. The U.S. will no longer be “the place” to work, as the size of the middle class around the world expands and many countries offer a comparable quality of life, strong economies, and challenging work. We are already seeing many foreign-born graduates returning to their country of origin, rather than staying on to work in U.S. firms. Competition from overseas will increase this “brain drain” as time passes, so your firm should prepare a plan now for attracting and retaining the best talent.

Technology will make it both easier and more difficult to bring people into the firm. As communications technologies become even more advanced, the workplace will become increasingly dispersed. People will no longer choose their home based on where the company office is, but on where they want to live. It will be incumbent upon firms to find people, no matter where they are located, and build the relationship with them that engages them with the firm for the long term. A byproduct will be that firms will have a presence in many more locations than today, an advantage to be sought after and leveraged as the world economy becomes more integrated.

We could see new work models arise in our industry as the number of talented people becomes more limited; one possibility is that talented freelancers will move from project to project around the world, much as workers in the movie industry do today.

...and They're Moving to the City.

Urbanization of the human population will have a major impact on the A/E/C industry. In 1800, three percent of humanity was urban. By 1900, the number had grown to 14 percent. Since 1900, the shift from rural to urban living has become a flood. As of May 2007, approximately 50 percent of humanity—3.3 billion people—had moved into urban areas. Stewart Brand, in his Spring 2006 *Strategy + Business* article “City Planet,” reported that, “Every week, 1.3 million people arrive in the world’s cities (about 70 million a year.)” This trend is likely to peak and stabilize at 80 percent of the human population during the last quarter of this century; 20 percent of people will remain rural and agricultural.

The vast majority of the millions of newcomers to city life build their own homes out

of whatever materials they can scavenge. They have limited or no access to utilities; they are off the grid and off the tax rolls. They run small businesses out of their homes or have a local market stall—also homemade—where they sell services or handmade goods. Their top priorities in life? Educate their children, build a better home, build a better workshop.

As Cameron Sinclair, executive director of Architecture for Humanity, frequently points out, the sheer numbers of people living in favelas and squatter towns worldwide provides an immense market for the services of the A/E/C industry—with billions of potential clients. They need homes, workplaces, schools, infrastructure of all kinds, and, because much of their work and economy happens outside the mainstream world economy, governments will become anxious to bring these populations into the mainstream and the contributing tax base.

Where will the fastest urbanization take place? It will be higher in less developed countries than in the developed world, as rural villagers head to the city to join the middle class—or see their children join it. Demographers Miguel Villa and Jorge Rodriguez believe that the fastest growth will be in secondary cities with populations between 100,000 and 500,000.

Sustainable Becomes Beneficial

We all know that sustainable design has been a major trend in recent years and continues to grow. The next phase of that trend goes beyond “sustainable” to “actively beneficial,” and this is a worldwide trends. Due to the pressures of energy use and economic necessity, it will no longer be possible simply to create a sustainable building; facilities of all kinds will be expected to generate some or all of their own power, use less energy, purify their own wastewater, offer wildlife habitats, and restore local ecosystems. People will also expect these places to provide healthy, functional, and attractive places to work, shop, and gather and to be aesthetically pleasing to look at and experience.

Successful prototype projects have already been constructed, most famously the Adam Joseph Lewis Center at Oberlin College, by William McDonough + Partners.

As competition heats up for talented indi-

viduals, the proverbial “war for talent” will go on worldwide for those with “green” abilities, experience, and solid credentials. Already, the pressure is on for firms to do more than simply be LEED certified; clients are seeking firms experienced in innovative solutions to their energy problems and environmental requirements. Both our greater national interest and our local communities will demand that every project do much more to benefit the community than simply be a functional piece of infrastructure.

With dozens of trends to choose from, we selected these five to pique your interest and start you thinking about what trends will affect your firm. Our work in helping firms with leadership development, strategic thinking, and scenario planning is heavily dependent on tracking and leveraging future trends; we actively follow dozens of trends, scan for new trends, and provide annual updates to the A/E/C industry.

To obtain a PowerPoint version of our full trends overview for 2009, visit: <http://www.ami-institute.com/publications/2009Megatrends.ppt>.

For notes from the Trends Session at the AIA California Conference, November 28, 2008, visit: <http://www.ami-institute.com/publications/CCAIAITrendsNov2008.pdf>. ●