Serious Future Shock

Mike Rainone, Co-Founder of PCDworks

As I write this column there are, according to the World Population Clock, 6,962,951,052 people in the world. With normal death rates, 135 million people will come into existence this year and about 60 million will go out, so that by 2020 there will be eight billion people on this planet.

With the rapid progress in anti-aging and regenerative medicine, those numbers can only continue to grow. Researcher Dr. Aubrey de Grey, a biomedical gerontologist and chief science officer of the SENS Foundation, says there are children alive today that could live to be 150 years old. Further, he believes that in the next twenty years, a child will be born that could live for 1,000 years.

Barring some cataclysm, one might predict a total population of 15 to 30 billion by 2100, especially if the net “outflow” of people drops with the substantial improvements in life expectancy we will all demand.

Which begs an important question, where is the food going to come from to feed all of those people? For that matter, how will we feed eight billion world citizens in 2030, when we are already facing mass starvation in Africa, and malnourishment in India and much of the developing world?

I posed this and other questions recently, as a speaker at the Next Level Summits Food Innovation Conference in Phoenix, where I was asked to talk about innovation as an “outsider,” or one not directly involved in the creation of food products. As someone who consumes food and works across product lines, I was asked to suggest technologies that would make an important impact on the food industry.

It is not, by the way, a stretch to think that those in a specific industry would have a bit of a myopic view of what is coming down the pike. Most of us can’t see the

forest for the trees when we're deeply involved in a subject area, because our efforts are often focused on simply trying to avoid hitting the trees.

As I prepared for my presentation, I began digging into food innovation and was truly overwhelmed by the incredible amount of agricultural and technological efforts being done worldwide to provide the cornucopia of food and beverage choices that we in the developed world now take for granted.

It seems every company (large and small), every nation (developed and third world), and everyone who eats for that matter, does something to innovate in the food world, and it is pretty easy to understand why. In addition to our skyrocketing global population, our willingness to try new things and our expectation of increasing choices has shot the market for innovative food and beverages through the roof.

As the wealth of the developed world increases, demand grows for both high-dollar foods and fast foods, and while everyone works to meet those demands, agriculture has the added burden of simply trying to feed the horde. If any of you remember Alvin Toffler's Future Shock, you will recall that the "shock" was due to information overload generated by too many choices. I personally am not just shocked, I am stupefied.

The food and beverage folk are in a seemingly never-ending search for new flavors, new nutritional supplements, new and better packaging, and cheaper prices (not necessarily reflected in shelf prices, of course). In a business in which the average life of a new product is about a year and a half, the industry is trying to stay ahead of the curve.

But, that means a terrific amount of new product development just to keep running in the same place. And lest we lose sight of the truth, keeping up with the demand for new energy drink flavors is irrelevant compared to the real crisis in food and agriculture just over the horizon.

We must reflect on a frightening, but likely, scenario in our global food concerns: climate change. While we may not agree on the degree to which man is responsible, most will admit that our global climate is changing. There are likely to be winners and losers in this lottery, so we must consider how those results might stack up.

One group of climatologists predicts climate change would benefit the east coast with more rain and milder winters. For the middle portion of our nation ... Well, let's just say that they may learn how to race camels. A note to you non-farmer types, much of the food consumed in this country is produced across the globe in places that are most at risk for "desertification," which would most certainly be an outcome of global climate change.

Current indications show the production rate of the main crops of rice, corn, wheat, barley, soybeans, and sorghum will be reduced by 3-5% for each degree of temperature rise. The consequence of a five degree temperature increase, producing a 15-25% decline in food production, compounded by at minimum 25%

more people on the planet is going to call for some real innovation, not just in flavor choices, but in greatly enhanced output.

So what's to be done? Some tech geek recently asked me what I thought was the most disruptive technology of the last century -- thinking I would answer something like the Internet or personal computing. Without hesitation, I said it was the "Green Revolution," the revolutionary changes to agriculture, much of it revolving around rice, which has allowed billions to survive, even thrive, on less land, but with more fresh water. Almost by definition, we are going to need another agricultural revolution to survive both climate change and an exploding population, but perhaps this one will be called a "Brown Revolution," since our water supply is also at risk. Developed nations will offer affluent citizens long life; third world nations will provide starvation and social upheaval. We, in the developed world, eat a piggish, high protein, high fat, highly processed diet. This will have to change. Globally, we'll have to look for alternative feedstock, stop using food stocks to supplement our appetite for energy, change our habits, become more sustainable, and learn to live with a smaller footprint and less water.

As innovators and new product developers, you and I play an enormous and significant role in this change. We must think beyond creating products that satisfy inane consumer preferences and put our collective heads to solving the real issues facing our world. We must learn to apply lessons from nanotechnology, biotechnology, and, frankly, anyplace else to agriculture and food preservation if we are going to realize that predicted prolonged life span, or perhaps any life span at all.

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