

# 2013 Economic Club of Washington, D.C. - Takeshi Uchiyamada

September 30, 2013

*As prepared for:*

*Economic Club of Washington, D.C.  
Monday, September 30, 2013*

*Takeshi Uchiyamada, Chairman, Toyota Motor Corporation*

To view the Economic Club video, go to the video library at [economicclub.org](http://economicclub.org)

---

Thank you for your introduction, David. I really appreciate this opportunity.

I'll bet that you and many other people here this morning think that all Japanese executives do is work, work, work.

So I wanted to tell you about a passion I have.

I love to sail with my friends. We've been doing it for 40 years as a group. You have to know so much about the shifting tides and winds and cross-currents. There are moments of real danger. But knowing that you have the skills to recover ... and knowing you have to rely on teamwork to survive...that is really the soul of sailing.

It's a good thing I like it because it's a lot like managing a global automobile company through a very turbulent period.

Toyota has gone through a series of tough challenges.

The financial crisis of 2007 and 2008 was followed by the recall crisis in 2010, and then the terrible earthquake and tsunami in 2011, with its disruption of our global supply chain.

But we managed to sail our way through these challenges. And we are now intensifying our efforts to get better, to continuously improve, which is the Japanese concept of kaizen.

The kind of turbulence I want to talk to you about today is different. It is technological, starting with the issue of what propulsion systems cars of the future will have.

You know, some people call me the father of our company's Prius hybrid car—or maybe grandfather by now—I'm not sure. But I can tell you, the Prius was not easy to create.

Back in 1993, my group was supposed to come up with a car for the 21st Century.

My team proposed to top management that we design a vehicle that would achieve “one and a half times better fuel consumption.”

We thought that was extremely ambitious. But top management told us, “Double it. You are not being ambitious enough. You should think about the century ahead.” So, we had to give up the “possible” target, and try to achieve the “ideal” target. This was major pressure, the most intense I had ever experienced.

Finally, we decided to adopt a hybrid system to achieve this very challenging goal.

We studied 80 different types of hybrid systems, and finally chose the so-called “series parallel” system. This would enable a vehicle to run only on the gasoline engine, only on the electric motor, or on a combination of both, depending on driving conditions. Overall fuel consumption and environmental protection would be optimized.

When we showed the first concept model at the Tokyo Motor Show in the fall of 1995, we failed to make the prototype actually function. Can you imagine the agony we endured? For 49 days in November through December, the car did not move an inch. I could not sleep very well during that period. Finally, near the end of the year, we got the car to run—but only for 500 meters!

We kept developing the vehicle and reached the launch goal in December 1997.

It’s not very modest of me to say this, but I think the facts support my statement: The Prius has become the most important vehicle for our future. We have taken what we learned and applied it to other Toyota and Lexus vehicles. As of March, we had sold 5 million hybrid vehicles around the world. And Prius alone hit a cumulative level of 3 million sales globally in June.

I am personally very proud that hybrid vehicles have achieved this kind of popularity, and deeply grateful to our customers who supported it.

One of our competitors has said, “Customers who drive Prius are Geeks.” After this, one Prius owner wrote on the web, “I’m a Prius Geek, and proud of it!” We then created a Prius Geek Badge. The badge is made of cheap tin, but for me, it is the most valuable award that I can wear.

It’s no longer my job to design or engineer vehicles. I got kicked upstairs to become chairman, to have an overview of everything the company is doing, now and into the future.

As I look around the world, I see some people believe diesel engines are the future. Others think that all-electric vehicles are the quick solution.

Some people say hybrid vehicles such as the Prius are only a bridge to the future. But we think it could be a long bridge and a very sturdy one. There are many more gains we can achieve with hybrids.

As we disclosed last month in Michigan, we are working on the fourth generation of the Prius. In each of the previous moves to a new generation, we achieved a 10 percent increase in mileage per gallon. We are committed to beating that record this time.

We will continue to offer many types of hybrids, more than any other manufacturer. One variation is the plug-in hybrid. It reduces CO<sub>2</sub> to the same extent that an all-electric vehicle does. But the big difference is that a plug-in can be driven on its gasoline-charged engine even it runs out of the electricity it received from being plugged in to a socket. That gives the driver much more confidence that he or she will not run out of juice somewhere along

the highway.

The United States has many hybrids on the roads. But, today I wish to call on the auto industry to sell 5 million of these vehicles in the United States by the end of 2016 on a cumulative basis. It's only when we put ourselves under the same kind of intense pressure we faced in developing the Prius that we can achieve great goals. That's what it takes. I want our industry to achieve this goal of 5 million hybrids in America.

Now, if hybrids are the bridge to the future, what is the other end of the bridge? Like everyone else, we are pursuing a portfolio of options. But we have made big progress in developing a hydrogen fuel cell vehicle. Toyota will be able to offer that, in a sedan, around 2015. A fuel cell vehicle has zero tail pipe emissions just like an electric vehicle. But it does not have issues of driving range and charging time that EV's have. I personally expect a lot from this hydrogen fuel cell technology. If government and industry work together, this might be part of the long-term solution.

Perhaps 15 years from now, we can meet again here in Washington and we will know exactly which system has prevailed. By that time, if I am still around, I may be the great-grandfather!

There are two other somewhat different but related technological challenges I would like to touch on.

One is automated driving technologies. We are now able to recognize driving conditions surrounding the car and to determine a driver's physical condition. We do that by using millimeter wave radar and an object-recognition camera system. We can control vehicle behavior using sensors on the front of the vehicle to apply brakes and control steering.

We believe these technologies must be introduced in stages. They must be layered on, because we always have to be prepared for the worst case accident. We must make sure that drivers and society as a whole fully understand the implications of these new technologies. Issues of safety must never be compromised. Our ultimate goal is zero fatalities from accidents.

Secondly, how do we allow cars to be connected to other vehicles, to roads and other infrastructure, and to the Internet as a whole? If we could combine vehicle-to-vehicle and vehicle-to-infrastructure communication, we would create an Intelligent Transportation System. That could detect congestion far in advance. We could see a vehicle even before it enters a highway. Or we could see a vehicle hidden behind a fence or a building.

This also has the potential to prevent accidents and congestion. It also would reduce emissions. The question is how we get it all done and who pays for it. We will need standards that specify how cars made by different manufacturers will communicate with each other. And an overall communications network must be created. Government and industry will have to work together to allow that to happen. New business models and new industries may also have to spring up.

We are pursuing the automated driving and connectivity technologies separately, but ultimately they will come together as part of the same system. They will be like a belt and trousers. They will fit with each other.

When you add all this up, you can see how different cars will be in just a few years' time. We really are in the process of creating cars of the future.

Finally, we at Toyota recognize there is much economic uncertainty in the world, including here in the United States. As we attempt to navigate our way through the many issues, we believe we have profound responsibilities, like a good captain does.

In 2011, we drafted the Toyota Global Vision. In short sentences consisting of fewer than 70 words, it defined what kind of company we should be. It said that creating “always better cars” is our chief focus.

But we also believe we should contribute to communities where we have enjoyed such strong sales. For example, we strive to contribute to communities through our work on advanced infrastructure, such as intelligent transportation systems, smart grids, and other solutions that allow greater mobility.

At the national U.S. level, after being in crisis just a few years ago, the auto industry is encountering much better weather. It is now playing a major role in creating new jobs in America and in enhancing the country’s overall competitiveness in the world. These jobs are good jobs. They require continuous efforts to improve education and training. We think this lifts a society as a whole.

Currently, Toyota has invested \$19.5 billion in the United States and has 10 plants. Altogether, with sales, marketing, R&D and other functions, we employ more than 31,000 people directly.

We obviously wish to develop our business further here with many exciting new vehicles, but we also have a strong commitment to contribute to the entire auto industry, to the U.S. economy and to American society as a whole.

Thank you very much for your kind attention. I wish you all well, and I look forward to talking with David.

###