Transportation Transformed

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The Future
Visions of the Future

Your meeting downtown is in an hour, but you leave your house - which is some 100 miles away – knowing you’ll make it on time. In fact, you’ll even have time to go over your notes on the way in. You get in your car, guide it to the expressway, and then settle down with your cup of coffee and a laptop on a tray in front of you.
Visions of the Future

Each compartment of the automated truck is loaded with goods. The driver verifies that the vehicle’s automated systems are in perfect operating order; she then eases into the designated lane, turning control over to the “autopilot”. She will continue to monitor progress, while checking her data sheet for the next delivery and overriding automatic control if necessary. All of the truck’s stops have been timed practically to the second; this control lets stores buy more efficiently and better manage their inventories.
Visions of the Future

The Automated Highway System
An Idea Whose Time Has Come
by Nita Congress

U.S. Department of Transportation
Federal Highway Administration

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25 YEARS AGO
13 Years of Progress...
10 Years of Progress...
20 Years of Progress...
25 Years of Progress...
Gartner Hype Cycle for Emerging Technologies

2015

Expectations

Innovation Trigger
Peak of Inflated Expectations
Trough of Disillusionment
Slope of Enlightenment
Plateau of Productivity

Time

Plateau will be reached in:
- less than 2 years
- 2 to 5 years
- 5 to 10 years
- more than 10 years
- obsolete before plateau

As of July 2015

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- less than 2 years
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As of August 2019

Emerging Technologies, 2019

- Bioclusters
- AI First
- Edge Analytics
- Autonomous Driving Level 5
- Low-Earth-Orbit Satellite Systems
- Edge AI
- Exploratory AI
- Personalization
- Knowledge Graphs
- Synthetic Data
- Future Redundancy
- Light Cargo Drones
- Transfer Learning
- Flying Autonomous Vehicles
- Augmented Intelligence
- Nanoscale 3D Printing
- Decentralized Autonomous
- Generative Adversarial Networks
- Decentralized Work
- ALL Cloud
- Biotech: Cultured or Artificial Tissue
- Immersive Workspaces
- Digital Eye
- Adaptive ML
- Next-Generation Memory
- 3D Sensing Cameras
- Autonomous Driving Level 4
Complex Technologies . . . But Uniform Leadership
Complex Technologies . . . In a Complex Environment

- Multi-faceted endeavor
- Little federal budget or leadership
- Many end goals
- Varied political wills
Complex Technologies . . . And Lots of Progress

- Vehicle safety
- Level 1 and 2 Automated Driving
- Vehicle electrification
- Drone technology
- $100’s of millions – federal research
- Private industry development
- Data analytics
- MaaS / MoD – new with the decade
- Scooters
We are not at the beginning of the end, but at the end of the beginning

– Shane Robison, VP Hewlett Packard,
(possibly quoting Winston Churchill)
Four Suggested Take-Aways

- Individually Act

Survey Large Fields, Cultivate Small Ones
- HB Lee
Four Suggested Take-Aways

• Individually Act

• Get Involved – Locally and Nationally

If you want to go fast, go alone.
If you want to go far, go as a team

- African Proverb
Four Suggested Take-Aways

• Individually Act

• Get Involved – Locally and Nationally

• Share What You Do

Many of us are more capable than some of us, but none of us is as capable as all of us.

– Tom Wilson
Four Suggested Take-Aways

• Individually Act

• Get Involved – Locally and Nationally

• Share What You Do

• Take a Risk

The best thing to do is the right thing
The second best thing to do is the wrong thing
The worst thing to do is nothing at all

- Theodore Roosevelt