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Revolutionizing How We Move Forward

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Automation Isn't New But Its Impacts Are Accelerating!

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Manual

Automatic

Increased Distraction

As automation increases, we expect to see drivers do more things other than driving.

A KEY PROBLEM

Autonomy Means Different Things to Different People

- Hands-free driving features
- Personal self-driving vehicles
- On-demand autonomous fleets
- Connected multimodal mobility systems
- Safety-first automation standards

"When it comes to autonomous vehicles, technologists, automakers, politicians and drivers see the world through different lenses."

Reimer, B. (2018). Why We Need to Define Success In Our Evolution Toward Self-Driving. Forbes.
Reimer, B. (2018). There's more to the safety of driverless cars than AI. TEDx Waltham.

Two Fundamentally Different Approaches to Development

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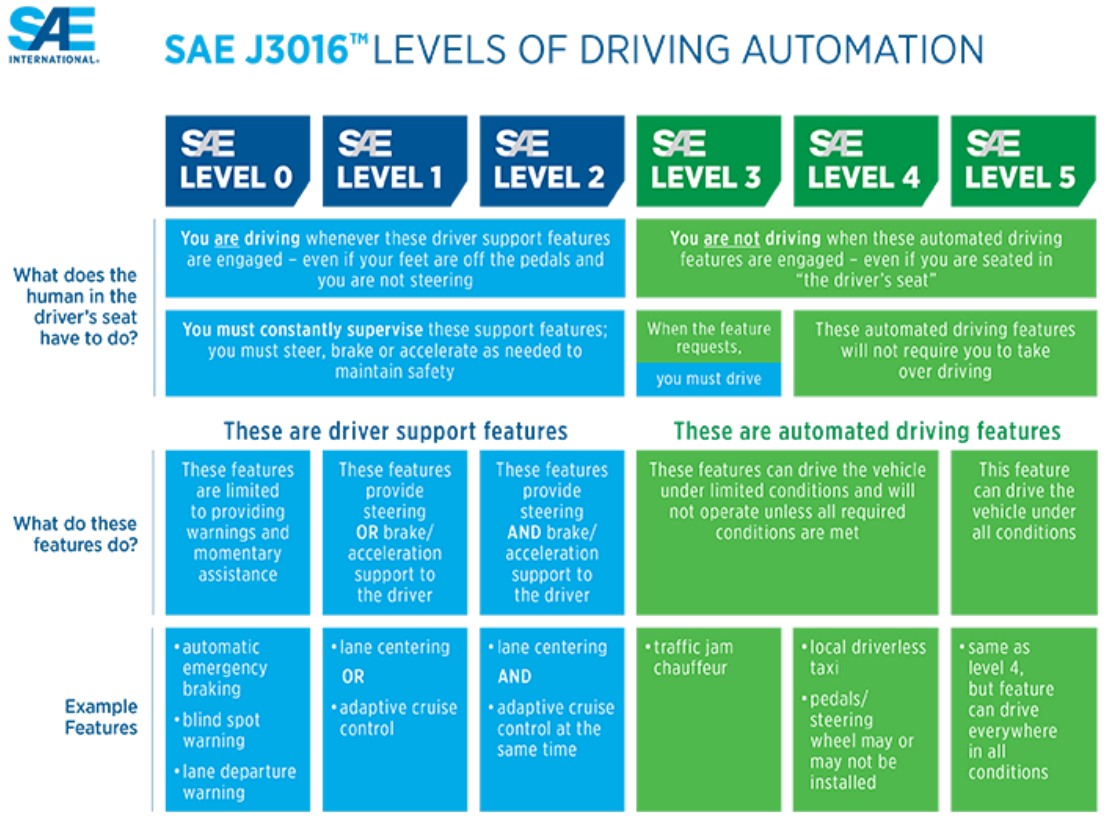
Bottom-up development led by traditional OEMs and suppliers



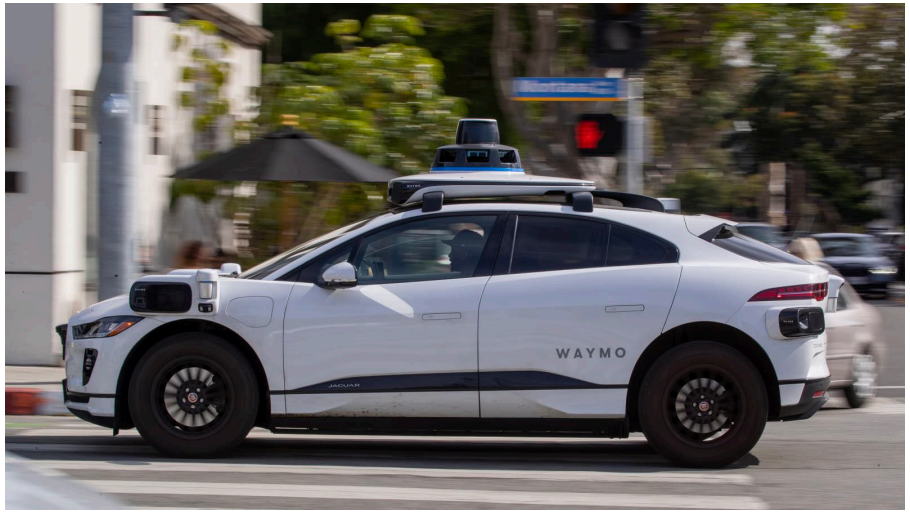
Top-down development led by high tech and robotics

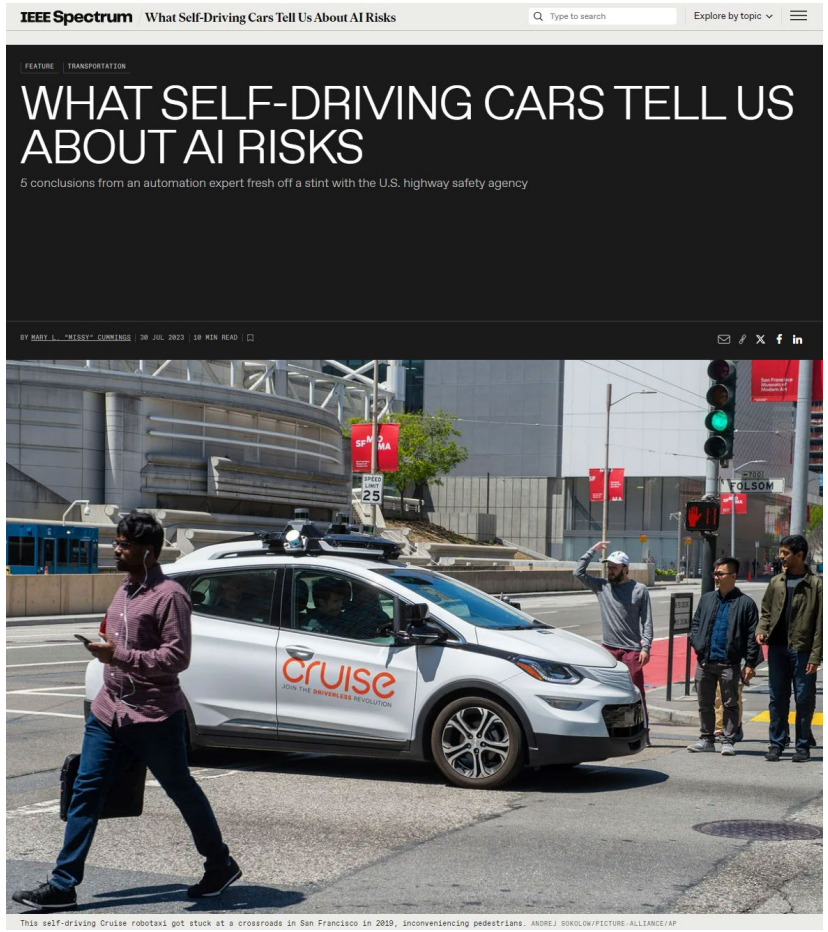
L4 DRIVING IS “HERE”

The Road to Scale is Long and Winding

Early pilots prove technical capability, but not commercial viability.

- Technology limits: Sensing, compute, and operational design domains still constrain real-world performance
- Economic pressure: Backend labor costs, system complexity, and slow ROI challenge scalability
- Trust & safety: Human-driver benchmarks challenge regulation and risk eroding consumer confidence
- Societal friction: Acceptance, workforce transitions, and ethics questions remain unresolved
- Fragmented governance: A lack of standards and cross-industry alignment slows progress



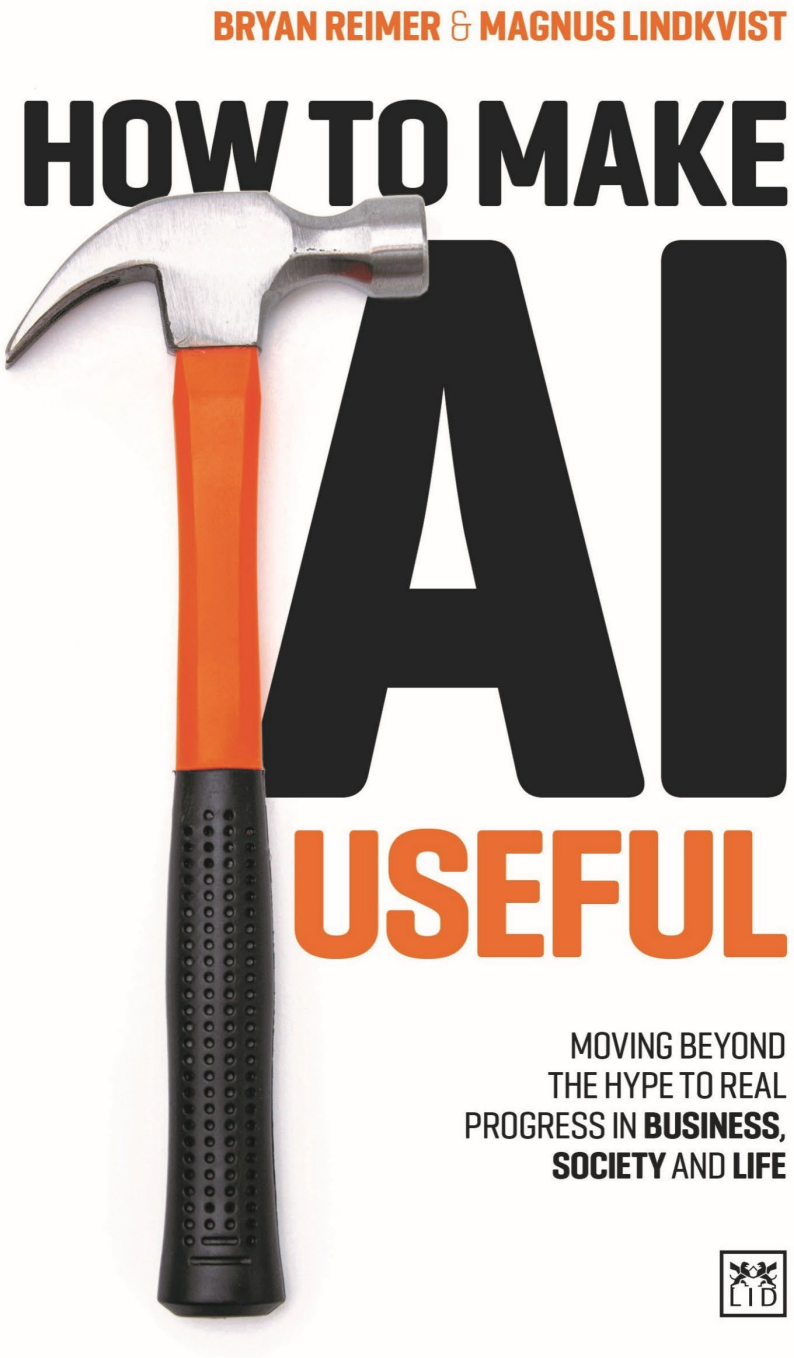


A LINK BETWEEN AV AND AI

What Self-Driving Cars Tell Us About AI Risks

5 conclusions from an automation expert fresh off a stint with the U.S. highway safety agency:

1. Human errors in operation get replaced by human errors in coding
2. AI failure modes are hard to predict
3. Probabilistic estimates do not approximate judgment under uncertainty
4. Maintaining AI is just as important as creating AI
5. AI has system-level implications that can't be ignored



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"The question isn't what will AI change?

it's

Will we let AI change us?"

True transformation is behavioral, not technological.

HOW TO MAKE AI USEFUL

From Hype to Helpfulness

As we navigate AI's messy middle—the phase where machines meet human complexity and the noise of hype and doom grows loud, remember:

- AI can change us for the better
- Some things will always remain human
- AI's true power lies in amplification

L2: CONVENIENCE THAT DRIVES LOYALTY

Consumers Value Predictability over Autonomy

- Three predominant implementations with converging characteristics:
  - Hands-on lane centering (via ACC and LKA)
  - Hands-on lane centering (via a single function)
  - Hands-off driving
- Key business and safety questions:
  - Are these systems designed to mitigate foreseeable misuse, or merely to enable more presumed convenience?
  - Are they safe enough under real-world use and driver behavior?
  - Is the value proposition strong enough to justify the added cost—and can it sustain brand loyalty as features commoditize?
- Does the driver assistance model create a predictable cash flow?

Next Frontier:
Driver-Monitoring as a Trust Enabler

Systems only work when drivers stay engaged.

Support the driver, or risk the automation failing to deliver on its promise.

- **Evolving role:** As automation advances, drivers shift from operators to supervisors or co-pilots. Expecting this transition to succeed without active support is unrealistic
- **Attention assurance:** Technologies must ensure drivers remain attentive and capable of intervening—and deploy countermeasures when they are not
- **Consumer opportunity:** Driver monitoring isn't just a safety requirement—it's an opportunity to build consumer trust and deliver a positive, human-centered experience

Rewards of Vehicle Automation Need to be Balanced Against the Risks

- Edge cases will become rarer, but may always exist, creating brittleness
- Automation is changing the nature of driving; careful planning will help accelerate value and mitigate risks
- Misuse and over-use of technology may require guardrails
- Liability will change to hold system developers increasing responsible
- Society is not ready for systems without human oversight, but we will get there

Is Highly Automated Driving: Making a Comeback?

- Driverless is not humanless
- Operational domains are highly limited
- Larger deployments are not necessary better
- The path to revenue is uncertain
- There's no agreement on what is safe enough

Why Americans Won't Give up Their Cars — And What That Means for the Future of Automation

Bryan Reimer. MIT research scientist, sees "a limited market" in robo-taxis. Others disagree. I asked Bryan to lay out his vision for "Personal Automated Vehicles" in this guest column.

SEP 09, 2025

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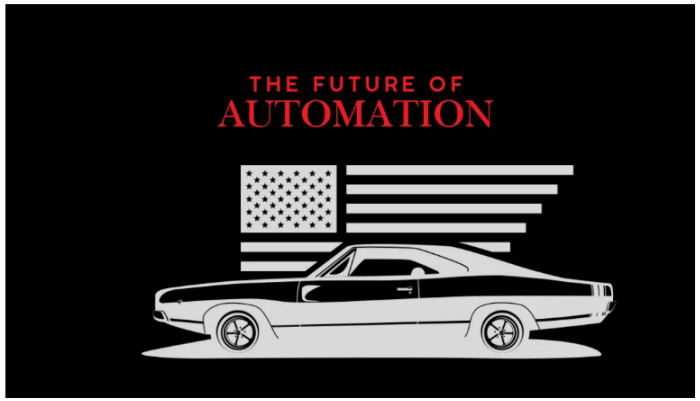
Bryan Reimer



For more than a century, Americans have built their lives around the automobile. In many households, the car is not just transportation but is the centerpiece of identity, freedom, and even wealth. In some cases, families even own vehicles worth more than their homes, or multiple cars when they can barely afford one. That culture of ownership is deeply rooted — and it matters profoundly when we think about the future of automated driving.

https://junkoyoshidaparis.substack.com/p/why-americans-wont-give-up-their

Let's make AI and automation genuinely useful.

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