

Off to the races: How will policy shape autonomous vehicles tech in 2018?

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At the start of 2018, we find ourselves in the midst of an autonomous vehicles revolution. In the private sector, leading, and some nascent, autonomous mobility innovators have forged ahead with a surge of investment. Last year, The Brookings Institution found that during a snapshot between 2014 and 2017, more than 160 investments worth [more than \\$80 billion](#) went toward the auto electronics, microchips, sensors, artificial intelligence and deep learning, digital mapping, ridesharing, physical systems, and other software needed to power autonomous mobility.

Some of transactions were large (e.g., GM acquired Cruise Automation for \$1 billion); many others registered relatively smaller blips on the radar (e.g., NVIDIA's \$5.25 million investment in Optimus Ride, or Ford's \$6.6 million investment in Civil Maps). But the volume — and the acceleration of investment beginning in 2016 — speaks to a general dynamism in the autonomous mobility space.

Indeed, the race to become the first jurisdiction to have autonomous vehicles on the road is becoming an increasing priority for governments globally, particularly within the United States, Europe and Asia. A recent [study](#) from KPMG has ranked 20 countries on their readiness for autonomous vehicles. The United States and European countries ranked among the highest with the U.S. at third place, and the Netherlands in first. Although Singapore ranked second, other Asian countries didn't rank quite as highly; South Korea tenth, Japan eleventh, and China sixteenth.

U.S. Developments

The federal government has been moving ahead apace in the new year. Autonomous vehicles are the subject of bipartisan legislation on Capitol Hill, where both the House ([SELF-DRIVE Act](#)) and the Senate ([AV START Act](#)) have developed (and, in the case of the House bill, [passed](#)) legislation that would allow innovators to seek exemptions from state and federal regulations that might ordinarily hamper the acceleration of new car design and technology deployments. The Senate bill is still under consideration and its author is making an effort to respond to concerns that Democratic members have raised about safety.

Perhaps more immediately relevant to stakeholders in the autonomous mobility sector is a recent set of requests for comment issued by the federal Department of Transportation (DOT) — the dockets for which remain open until early March. On January 10th, DOT announced requests for information and comments from the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and the National Highway Traffic Safety Administration (NHTSA). FHWA seeks information on the [integration of automated driving systems \(ADS\) into the highway transportation system](#); FTA seeks comments on [transit bus automation technology](#) (and potential areas of future research) and on [removing barriers to transit bus automation](#); and NHTSA seeks comment on [removing regulatory barriers for automated vehicles](#). These requests for comment and information provide an opportunity for the private sector to influence the shape of the autonomous mobility landscape for years to come.

European developments

As highlighted by the KPMG study, the autonomous vehicle landscape in Europe is equally showing a bright future,

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and the race between Member States and European automotive companies to be the first to get driverless cars on the road is rife.

To ensure Europe remains competitive in this area the European Commission has been active with the development of various funding initiatives and working groups. In November 2016, the Commission published a strategy on [Cooperative Intelligent Transport Systems](#) (C-ITS) which examines possible legislative developments in this area. A [public consultation](#) on the specifications for C-ITS closed on January 12, 2018, with the results currently pending.

Legislative developments at Member State level have also been important in ensuring this race remains competitive. For example, as of July 2017 in Sweden, the Road Transportation Authority has been able to [authorize permits](#) to allow companies to trial autonomous vehicles on Swedish roads. Last year the Netherlands approved a [bill](#) which allows the testing of autonomous vehicles without a driver, and the UK's chancellor announced in his [2017 autumn budget](#) plans for new legislation which will allow self-driving cars on UK public roads without a driver behind the wheel by 2021.

Developments in China

The Chinese government is also in the process of developing rules of the road for autonomous vehicles. Notable examples include local road testing rules promulgated late last year in Beijing ([Guiding Opinions on Accelerating Work Relating to Autonomous Vehicle Road Testing in Beijing \(Trial\)](#)) (Dec. 15, 2017), as well as the forthcoming local rules expected to be announced soon in other cities. These local rules allow autonomous vehicle companies to apply for permits to conduct road testing and set out basic guidelines for eligibility and liability standards.

Also, multiple initiatives are underway at the national level. For example, the Ministry of Industry and Information Technology (MIIT) is in the process of drafting trial regulations for road testing of intelligent vehicles that will, among other things, “regulate road test applications, verification management, [and] accident liability allocation.” This work complements an earlier commitment to equipping more than 50% of new vehicles by 2020 with driver assistance systems, partial automation systems, or conditional automation, and 10% of new vehicles with Internet-connected driving assistance systems in China's *Medium- to Long-Term Development Plan for the Automobile Industry*. (Apr. 6, 2017).

Notwithstanding the Chinese acceleration of autonomous vehicle deployments and regulations, private sector stakeholders — especially foreign-owned companies — may still face significant challenges. Chinese restrictions on foreign companies' participation in the surveying and mapping sector, and requirements to localize mapping data present key regulatory hurdles.

The landscape for autonomous mobility is taking shape, with an increasing need for partnership between governments, regulators, and industry. The UK, for example, recently announced its [HumanDrive](#) initiative in which Highways England have teamed up with academic institutions and companies such as Nissan, Hitachi and Renault to develop an autonomous car prototype which will conduct a 200-mile journey in December 2019. Last week, urban autonomous mobility took a leap forward when Airbus Group's A³ division staged a [full-scale flight test](#) of its autonomous vertical takeoff and landing (VTOL) Vahan aircraft. In recent days we've seen some of the reverberations of an industry bursting at the seams, with Baidu significantly [updating](#) its open-source autonomous driving platform, Apollo, and a coalition of thought leaders in autonomous mobility coming together around a set of [shared mobility principles](#).

Stay tuned here for further developments at the intersection of autonomous mobility, technology, regulation, law, and policy.

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