

# Congress of the United States

## House of Representatives

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

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[www.science.house.gov](http://www.science.house.gov)

June 28, 2018

Dr. Volkmar Denner  
Chief Executive Officer  
Robert Bosch GmbH  
Robert-Bosch-Platz 1  
Gerlingen, 70839  
Germany

Dear Dr. Denner,

The Committee on Science, Space, and Technology is conducting oversight of the concealed use of technology to illegally circumvent emissions requirements. The Committee previously wrote Volkswagen AG (VW) regarding allegations that VW “continues to circumvent global emissions requirements” using stealth technology,<sup>1</sup> despite VW entering into a settlement with the U.S. government for billions of dollars for previous “allegations of cheating emissions tests and deceiving customers.”<sup>2</sup> The Committee is also examining increasing allegations that other automobile companies have similarly concealed the use of technology to control emissions in order to evade and defeat U.S. regulations on emissions standards, and the role that Robert Bosch GmbH (Bosch) has as auto supplier of critical software controlling emissions.<sup>3</sup> As part of this ongoing investigation, the Committee requests documents and information related to research, development, and technology developed by Bosch to control emissions.

The Committee has advocated a restrained approach to regulation. However, where regulations are deemed necessary, any efforts to circumvent those rules can result in unfair

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<sup>1</sup> Letter from Hon. Lamar Smith, Chairman, H. Comm. on Sci., Space, & Tech. and Hon. Dana Rohrabacher, Member, H. Comm. on Sci., Space, & Tech. Comm. to Mr. Herbert Deiss, Chief Exec. Officer, Volkswagen AG (Apr. 12, 2018); Letter from Hon. Lamar Smith, Chairman, H. Comm. on Sci., Space, & Tech. and Hon. Dana Rohrabacher, Member, H. Comm. on Sci., Space, & Tech. Comm. to Mr. Herbert Deiss, Chief Exec. Officer, Volkswagen AG (June 14, 2018).

<sup>2</sup> Press Release, U.S. Dep’t of Justice, *Volkswagen to Spend Up to \$14.7 Billion to Settle Allegations of Cheating Emissions Tests and Deceiving Customers on 2.0 Liter Diesel Vehicles* (June 28, 2016), <https://www.justice.gov/opa/pr/volkswagen-spend-147-billion-settle-allegations-cheating-emissions-tests-and-deceiving>; *see also* Press Release, U.S. Dep’t of Justice, *Volkswagen AG Agrees to Plead Guilty and Pay \$4.3 Billion in Criminal and Civil Penalties; Six Volkswagen Executives and Employees are Indicted in Connection with Conspiracy to Cheat U.S. Emissions Tests* (Jan. 11, 2017), <https://www.justice.gov/opa/pr/volkswagen-ag-agrees-plead-guilty-and-pay-43-billion-criminal-and-civil-penalties-six>.

<sup>3</sup> Jack Ewing, *Supplier’s Role Shows Breadth of VW’s Deceit*, N.Y. TIMES (Feb. 1, 2017), <https://nyti.ms/2jVAsO0>.

competition and public harm. The Committee is wary that more companies are engaging in research and development aimed at defeating emissions standards, as well as using emerging technologies to manipulate and defeat the same U.S. regulations. To fulfill its oversight responsibility, the Committee has an obligation to understand the depth and breadth of the use of this technology.

Recent reports and law enforcement action against VW, which was found guilty of similar emissions cheating issues, indicate that there could still be potential issues within the company that would be of concern to the U.S. government.<sup>4</sup> VW continues to operate under a cloud—news broke recently that VW was required to pay over a billion dollar fine in Germany and that the CEO for VW’s Audi brand was arrested related to ongoing investigations.<sup>5</sup> A confidential Independent Compliance Monitor report on VW—a report required under the settlement between the U.S. government and VW—found VW “had failed to hold executives accountable for wrongdoing that led to the huge emissions fraud, and [VW] was not making a serious enough attempt to remake its culture.”<sup>6</sup>

Of additional significant concern is the broad nature of the deception and coordination that is required to control emissions through a defeat device. VW used Bosch built electronic control modules and software to form defeat devices that enabled their vehicles to deceive emissions testing.<sup>7</sup> Detailed specification requests from VW resulted in Bosch developing code that would instruct the computers in diesel engines to recognize the conditions that were similar to those of emissions testing parameters.<sup>8</sup> This allowed the vehicles’ computer systems to fully deploy pollution controls selectively when the software recognized those normal testing driving conditions present or for a set duration of time after the engine is started.<sup>9</sup> Once the technology determined the vehicle was not under testing conditions, “the vehicle [could] switch to an operating regime favored by the manufacturer for real driving rather than the clean regime necessary to pass the emission test.”<sup>10</sup> Furthermore, as part of an effort to cover up the illegal nature of the defeat device, Bosch has been accused of altering onboard diagnostics systems to not provide emissions system malfunction warnings, deleting text from software documents to

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<sup>4</sup> Jack Ewing, *Overseer Faults Volkswagen’s Reform Efforts Since Emissions Scandal*, N.Y. TIMES (Apr. 22, 2018), <https://nyti.ms/2vxW5Ud>; Jack Ewing, *Top Porsche Official Targeted in German Police Raid Tied to Diesel Scheme*, N.Y. TIMES (Apr. 18, 2018), <https://nyti.ms/2vpLdHV>; Reuters Staff, *Prosecutors search Volkswagen headquarters in new emissions investigation*, REUTERS (Mar. 20, 2018), <https://www.reuters.com/article/us-volkswagen-emissions/prosecutors-search-volkswagen-headquarters-in-new-emissions-investigation-idUSKBNIGW0PT>.

<sup>5</sup> William Boston, *Volkswagen Fined \$1.17 Billion in Germany in Emissions-Cheating Scandal*, WALL ST. J. (June 13, 2018); Edward Taylor & Jan Schwartz, *Head of VW’s Audi arrested in Germany over diesel scandal*, REUTERS (June 18, 2018), <https://www.reuters.com/article/us-volkswagen-emissions-stadler/audi-ceo-arrested-volkswagen-idUSKBN1JE0R3>.

<sup>6</sup> Ewing, *Overseer Faults Volkswagen’s Reform Efforts Since Emissions Scandal*, *supra* note 4.

<sup>7</sup> Ryan Beene, *Bosch software enabled emissions violations by VW, FCA, study says*, AUTO. NEWS (June 9, 2017), <http://www.autonews.com/article/20170609/OEM11/170609775/bosch-software-enabled-emissions-violations-by-vw-fca-study-says>.

<sup>8</sup> Ewing, *supra* note 3; Moritz Contag et al., *How They Did It: An Analysis of Emission Defeat Devices in Modern Automobiles*, IEEE 2017 SYMPOSIUM ON SECURITY & PRIVACY 231 (2017).

<sup>9</sup> *Id.*

<sup>10</sup> Contag et al., *supra* note 8, at 236.

reduce suspicion, and helping conceal the presence of the software from authorities and the government.<sup>11</sup>

While Bosch has not officially admitted wrongdoing for its role in any of the legal settlements resulting from the VW litigation, there remain questions about how they could knowingly allow their proprietary software to be manipulated with obvious illegal intent. As one of the world's largest auto suppliers, the presence of similar Bosch software on other vehicles is concerning. In addition to Bosch software in vehicles, the company is also a major producer of the semiconductor chips used in cars and smartphones, controlling the technology behind airbags, automatic car parking, and motion sensing.<sup>12</sup> The importance of this technology will only continue to increase with electronic mobility and automated driving functions, making it imperative to understand the culture of the industry. There is a need to better recognize the challenges of verifying this technology and understand techniques that will shed light on software and systems that may try to hide nefarious behavior.

Although VW has been the most prominent example for emissions related violations, recent media reports reveal comparable misconduct throughout the auto industry. Internal employee discussions at other companies acknowledging software functions acted as "essentially a defeat device" and the increasing allegations of the use of similar illegal technology in other vehicles to cheat on emissions tests,<sup>13</sup> demonstrate the need for oversight. The Committee has an obligation to investigate the science and technology underpinning legal and regulatory actions. Where U.S. policymakers have determined there is a need for regulations, it is incumbent upon this Committee to investigate to ensure that research and development on emerging technologies in the automobile and other industries is not used to illegally circumvent regulations.

To assist the Committee with its investigation, please produce the following documents, in electronic format, for the time period January 1, 2010, to the present:

1. All documents and communications between and among VW, Bosch, and VM Motori referring or relating to the development, testing, approval, and use of the software installed in diesel model passenger vehicles developed to effect emissions testing, including the development of the electronic control module and any associated software capable of cycle detection.
2. All documents and communications sufficient to show a detailed timeline of events and activity related to Bosch's actions regarding VW's violation(s) outlined in the Clean Air Act civil settlements in 2016.

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<sup>11</sup> Ewing, *supra* note 3.

<sup>12</sup> Martin-Werner Buchenau & Joachim Hofer, *Bosch powers the chip boost in cars — and iPhones*, HANDELSBLATT (Apr. 5, 2018), <https://global.handelsblatt.com/companies/bosch-powers-ever-more-cars-and-iphones-907449>.

<sup>13</sup> See Chester Dawson & Mike Spector, *Fiat Chrysler Employees Knew of Emissions Cheating, Documents in Shareholder Suit Claim*, WALL ST. J. (May 14, 2018), <https://www.wsj.com/articles/fiat-chrysler-employees-knew-of-emissions-cheating-documents-in-shareholder-suit-claim-1526350332>; *Mercedes diesel probe in U.S. finds possible 'defeat' software, paper says*, AUTO. NEWS (Feb. 18, 2018), <http://europe.autonews.com/article/20180218/ANE/180219749/mercedes-diesel-probe-in-u-s-finds-possible-defeat-software-paper>.

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The Committee intends to hold a hearing to examine the use of advanced technologies to circumvent regulations. Please provide dates when you would be available to travel to Washington, D.C. to provide testimony.

The Committee on Science, Space, and Technology has jurisdiction over environmental and scientific research and development programs and “shall review and study on a continuing basis laws, programs, and Government activities” as set forth in House Rule X. This request and any documents created as a result of this request will be deemed congressional documents and property of the House Science Committee. An attachment to this letter provides additional information about responding to the Committee’s request.

Please provide the requested documents and information as soon as possible, but no later than 5:00 p.m. on July 12, 2018. When producing documents to the Committee, please deliver production sets to the Majority Staff in Room 2321 of the Rayburn House Office Building and the Minority Staff in Room 394 of the Ford House Office Building. The Committee prefers, if possible, to receive all documents in electronic format.

If you have any questions about this request, please contact Travis Voyles or Ashley Callen of the Committee staff at 202-225-6371. Thank you for your attention to this matter.

Sincerely,



Lamar Smith  
Chairman



Dana Rohrabacher  
Member of Congress



Ralph Norman  
Member of Congress

Encl.

cc: The Honorable Eddie Bernice Johnson, Ranking Member, House Committee on Science, Space, and Technology