Mark Saylor was doing what he did for a living: driving on a California highway. Only he wasn’t driving his state-issued highway patrol car that day in late August 2009. Nor was he driving his own Lexus 250, which was at the dealer for servicing. He was driving a loaner with his wife, daughter, and brother-in-law on a leisurely family outing northeast of San Diego—until suddenly the car inexplicably took off. And no amount of braking could slow it down. As Saylor frantically tried to gain control, his brother-in-law called 911. “Our accelerator is stuck!” he told the dispatcher. “We’re going 120!”

It wasn’t just the speed that made this so dangerous. He read the sign they were passing: “End freeway one-half mile.” The car was barreling toward a T-shaped intersection. When it got there, it hit another car, flew through a fence, rolled into a field, and burst into flames. The last word before the screams was, “Pray!”

This wasn’t the first time that someone driving a Toyota had experienced sudden unintended acceleration. And it’s not a problem that’s unique to Toyota. But this was the event that Toyota cites as the beginning of its ongoing crisis.

How has it responded? The company has moved aggressively to contain the damage. Shifting floor mats were identified as a primary cause of many of these episodes. The company found that the loaner that the 45-year-old Mark Saylor was driving was equipped with mats that had never been intended for that car. Later, the company fingered accelerator pedals manufactured by a third party as prone to sticking. And Toyota says that many accidents are caused by drivers who inadvertently step on the gas instead of the brake.

As the crisis mounted, the company seemed overmatched. Critics charged that Toyota had sacrificed quality—its traditional strong suit—in a rush to rack up sales. The National Highway Traffic Safety Administration (NHTSA), which had been criticized for years for its willingness to pin sudden acceleration on driver error, suddenly got tough. Toyota recalled more than 8 million cars and paid fines totaling more than $50 million. Litigation, which had slowed down before the Saylor crash, roared back to life, fueled by the recalls and new complaints. And the political pressure, coupled with a Democratic Congress, led to hearings in Washington that drew global attention. Toyota Motor Corporation president Akio Toyoda flew in from Japan to personally face the politicians’ angry questions.

Toyota says its problems with sudden unintended acceleration are in the rearview mirror, but newly disclosed documents raise questions that experts say have not yet been answered.

In the day he died.
But then everything seemed to calm down. As the company battled two large multidistrict litigation class actions (MDLs) in California, it quietly settled some of the smaller lawsuits, including the one brought by the Saylor’s survivors. The results of several investigations trickled in. Some had been commissioned by Toyota, and tended to include lots of technical data and to focus on floor mats and gas pedals. Then, in 2011, NHTSA concluded its own probe, which purported to show that Toyota’s cars were safe. The results of several lawsuits hints at the turmoil beneath the surface. Hagiwara and Chris Tinto, a Toyota vice president in Japan, were fixed in development,” says Tinto. “We are confident that no problems exist in our electronic throttle systems in our vehicles.” He went on to testify, “We have done extensive testing on this system, and we have never found a malfunction that could have caused that risk, including numerous faults.”

The documents seem to tell a different story. An email written by Hiroshi Hagiwara, a Toyota executive in Japan, raises doubts about the company’s electronic throttle control system. They acknowledge that some accidents are caused by drivers stomp[ing] on the gas instead of the brake, and some floor mats and gas pedals. But the experts don’t believe that these explain the surge in complaints. Instead, they believe precisely what Toyota has for many years steadfastly denied: that the problem is rooted in electronics.

Toyota agreed to pay $1.3 billion to resolve the cases. The settlement avoided a long, expensive trial and was a victory for the plaintiffs who claim that they suffered economic damages as a result of these events. Critics point out that it’s a pretty big number for plaintiffs who weren’t even directly affected. Beyond that, more than 200 personal injury cases remain to be resolved in the other MDL. The first bellwether trial had been scheduled for March, but it settled in January on confidential terms. At this writing, it’s unclear how the matter will play out; some lawyers expect another large settlement.

But putting aside the politics and litigation, these automotive experts simply don’t believe that the controversy has been put to rest. They acknowledge that some accidents are caused by drivers stomp[ing] on the gas instead of the brake, and some floor mats and gas pedals. But the experts don’t believe that these explain the surge in complaints. Instead, they believe precisely what Toyota has for many years steadfastly denied: that the problem is rooted in electronics.

These experts have found some surprising support from insiders at the National Aeronautics and Space Administration who were close to the investigation Nasa conducted into Toyota’s acceleration problems a couple of years ago (and which LaHood cited when he discounted problems with its electronics). And now the experts say they’ve found additional corroborating in the communications of Toyota’s own people. Corporate Counsel obtained scores of internal documents written by employees who were struggling to understand why cars were suddenly accelerating, and where the company could have gone wrong. Among the writers were executives, managers, lawyers, public relations specialists, and engineers.

What this demonstrates, in the age of YouTube and Wikileaks, is how hard it is for multinationals and their in-house counsel to keep a lid on their companies’ internal data.

Many of the documents are marked “secret” and “confidential.” They were provided by Betsy Benjaminson, a translator who has worked for several agencies that translate Toyota documents from the Japanese (and who translated several of those quoted in this article). She says that these shops work for law firms hired to assist the company in litigation. Benjaminson provided these and many more documents last year to Senator Charles Grassley (R-Iowa), the ranking member of the Judiciary Committee, who then wrote a letter to NHTSA expressing his concern that questions about electronics have not been resolved. Corporate Counsel obtained the documents from which quotes were excerpted for this article; the company’s response is on page 77.

Benjaminson is revealing her identity for the first time here. She decided to go public because lives are at stake, she says. “Up to now,” she adds, “the corporate PR megaphone has completely drowned out the victims.”

Four experts agreed to review the documents independently and share their impressions. Keith Armstrong, Antony Anderson, and Brian Kirk are based in the United Kingdom; Neil Hannemann lives in California. All of them have decades of experience. The documents they reviewed date from as early as 2000; the most recent were written a few months after the congressional hearings in January and February 2010. They include many emails along with spreadsheets, flow charts, and diagrams.

One of the weaknesses in Toyota’s defense was filed in an email sent by assistant GC Webster Burns the following April. Commenting on a demand letter from NHTSA, that the company pay a $16.375 million fine for delaying its sticky pedal report, Burns wrote, “We need to keep in mind that we continue to find significant differences within Toyota about the significance of the sticky pedal phenomenon which will be exploited by NHTSA in any litigation.”

Some documents require translation by specialists. An undated spreadsheet showed test results of an engine’s electronic throttle control system, including numerous faults that the document said caused sudden acceleration. “My guess is they were fixed in development,” says Hannemann, who has been hired by plaintiffs suing Toyota, and also by the defense in a suit against a Toyota dealer. “But this shows you have to find issues during testing. And how do you know you catch them all?”

Several documents illustrated what the experts describe as a propensity of Toyota employees to define
problems as they wish them to be, regardless of the facts. One is Toyota’s analysis—performed three days after Saylor’s death—of car owners’ complaints received by NHTSA. Some drivers described their own harrowing experiences. Several were adamant that theirs had nothing to do with floor mats, yet that didn’t always matter to Toyota’s reviewer.

One woman riding in a 2006 Toyota Tacoma said that it was the third such experience she’d had with the car. “Two times previously Toyota had replaced the cruise control,” she reported. “This is not a cruise control problem. This is a gas pedal issue. I was told previously the mat was under the gas pedal. This is hardly the problem.” In the column provided for the cause, the reviewer wrote: “The mat catches (specifies unknown).” It was the most common cause listed on the chart, regardless of what the drivers had to say. Antony Anderson, an independent electrical consultant who specializes in electrical machine and control system failure investigations (and has provided independent expert testimony for plaintiffs who sued Toyota), says the document shows how Toyota’s “poor analysis” makes it appear that the incidence of slack floor mats “is very much higher than it really is.”

Another example of preemptive answers appeared in an undated email written by an engineer. He asked if acceleration could be caused by radio wave interference. Then he recounted his earlier experience with interference: “Previously, when I was in charge of Hilux [a truck model] in the Japan domestic service division, I experienced an engine stall malfunction due to radio wave interference from a nearby U.S. naval base in Yokohama. At that time I was told that it could absolutely never occur.” Keith Armstrong, an expert in electronic circuit design as well as electromagnetic interference (EMI), says the idea that radio waves can’t cause electronic malfunctions is absurd: “I know of no expert in this field who doesn’t work for the auto industry (and some who do) who would ever make such a ridiculous claim.” Armstrong has advised electronic suppliers on EMI safety engineering process forming a safety engineering team, which was partly linked to early incidents, and some even technical field reports from dealers or regional offices “because as the dealer and they can’t find any abnormality on the vehicle. In those cases the dealer does not make the field report.” Consequently, he added, “Toyota does not know what’s happening on the Tacoma vehicles and just started the investigation.”

Hannemann found it more than

BETSY BENJAMINSON’S SICKNESS BEGAN WHEN SHE READ WHAT DRIVERS OF RUNAWAY CARS HAD TO SAY.

odd that Toyota was, as the email makes plain, getting information about its own problem cars from NHTSA, the courts, and Internet forums. “You should be telling NHTSA things, not the other way around,” says Hannemann, who has worked as a product development engineer at Chrysler Corporation and as a chief engineer at the Ford Motor Company. (Toyota admitted in February 2010 that its reviewers were “unable to reproduce a UA in a subject vehicle under driving conditions.”)

The documents also revealed introspective moments during which executives considered where their company went wrong. One Japanese exec, identified only as Takimoto, wrote in March 2010: “All of the current problems were caused by the low level of completeness of vehicle development during the time period when I was there. I am really very sorry.” Another executive tersely admitted in February 2010 that quality problems had been brought over from the production of prototype vehicles, production vehicles, and quality assurance test vehicles were dramatically reduced,” as were problems with the dealers or regions. The document also notes, “We have the burden of proof, and we can’t excuse our handling of SUA cases. Ditlow says, as the car manufacturer, Ford has had its own sudden acceleration problems over the years. “I think that’s why Ford is not doing that either, he says. “Sometimes it will crash and you’ll reboot it. And if someone then asked, ‘Where is the evidence?’ you may not be able to show them Sudden acceleration is still a very rare event, but unlike operating a computer, a malfunction in a car can cause serious injury or death.”

The experts who reviewed the documents offered their own assessments. Brian Kirk, the founding director of Robinson Systems Engineering Ltd, which specializes in safety critical software and systems for the transportation industry (and is not involved in Toyota litigation), says that the process is “seemingly trying to understand the problems and provide practical solutions within the constraints of legacy and time pressures. However, there is no apparent safety engineering process forming a rigorous basis for understanding and solving the issues. Hannemann also finds a general lack of rigor. When technicians investigate complaints, they don’t seem to press to find the root cause. Their problem solving is focused on something that’s predetermined, “he says. And if they’re not going to rigorously test cars prior to production, then they need to listen carefully to complaints from consumers, who are essentially doing that for them. But the company wasn’t doing that either, he says.

THE PROBLEM OF SUEEN ACCELERATION emerged after electronic controls were introduced into cars in the late 1970s and early 1980s. Before then the issues were driver error and mechanical problems—like a throttle return spring failing. Diagnosing electronic failures is, to the other hand, is much more challenging. As Keith Armstrong puts it: “Electronics in its very nature is weak, unreliable, sensitive.” And when a component fails, it doesn’t necessarily leave evidence. “Think of your PC,” he says. “Sometimes it will crash and you’ll reboot it. And if someone then asked, ‘Where is the evidence?’ you may not be able to show them.”

On one level Ditlow can commiserate with the agency, which is notoriously underfunded, he notes. But he can’t excuse its handling of SUA cases. Ditlow adopted the same attitude, Ditlow says, as the car manufacturer. “If you can’t find a failure, it must be driver error.” For example, when a Toyota owner tells him that his car has been repeatedly confirmed by multiple independent evaluations, including by Exponent, which investigated the Space Shuttle disaster, and the comprehensive NHTSA–NASA studies, which found no electronic-based cause of high-speed acceleration in Toyota vehicles and were confirmed by the National Academy of Sciences.

Further, at no time has anyone ever put forth any reliable scientific evidence of an alleged electronic defect in our vehicles that could cause unintended acceleration (UA). In fact, despite more than two years of unprecedented discovery and full access to our proprietary source code, plaintiffs counsel in federal multidistrict litigation acknowledged that they were “unable to reproduce a UA in a subject vehicle under driving conditions.”

Bottom line, no one has ever demonstrated a vehicle-based cause of unintended acceleration in Toyota vehicles equipped with ETCS outside of the known, mechanical causes remedied by Toyota through the recalls it has conducted since 2009.

We continue to stand fully behind our products, and millions of Toyota drivers continue to prove every day that they can depend upon their vehicles to provide safe, reliable transportation. We are gratified that Toyota vehicles are once again widely recognized as among the safest and most reliable on the road.

TOYOTA RESPONDS

At Toyota, our core values have always been to pursue the highest levels of safety and quality and to continuously improve. To conclude otherwise based on a few handpicked documents, including internal deliberations about quality improvements or descriptions of prototype system testing, is misleading and simply wrong.

Over the past three years, the safety of Toyota’s Electronic Throttle Control System (ETCS) has been repeatedly confirmed by multiple independent evaluations, including by Exponent, which investigated the Space Shuttle disaster, and the comprehensive NHTSA–NASA studies, which found no electronic-based cause of high-speed acceleration in Toyota vehicles and were confirmed by the National Academy of Sciences.

Further, at no time has anyone ever put forth any reliable scientific evidence of an alleged electronic defect in our vehicles that could cause unintended acceleration (UA). In fact, despite more than two years of unprecedented discovery and full access to our proprietary source code, plaintiffs counsel in federal multidistrict litigation acknowledged that they were “unable to reproduce a UA in a subject vehicle under driving conditions.”

Bottom line, no one has ever demonstrated a vehicle-based cause of unintended acceleration in Toyota vehicles equipped with ETCS outside of the known, mechanical causes remedied by Toyota through the recalls it has conducted since 2009.

We continue to stand fully behind our products, and millions of Toyota drivers continue to prove every day that they can depend upon their vehicles to provide safe, reliable transportation. We are gratified that Toyota vehicles are once again widely recognized as among the safest and most reliable on the road.

KEITH ARMSTRONG SAYS THAT WHEN CARS MALFUNCTION, YOU DON’T ALWAYS GET AN ERROR MESSAGE.

On one level Ditlow can commiserate with the agency, which is notoriously underfunded, he notes. But he can’t excuse its handling of SUA cases. Ditlow adopted the same attitude, Ditlow says, as the car manufacturer. “If you can’t find a failure, it must be driver error.” For example, when a Toyota owner tells him that his car has been repeatedly confirmed by multiple independent evaluations, including by Exponent, which investigated the Space Shuttle disaster, and the comprehensive NHTSA–NASA studies, which found no electronic-based cause of high-speed acceleration in Toyota vehicles and were confirmed by the National Academy of Sciences.

Further, at no time has anyone ever put forth any reliable scientific evidence of an alleged electronic defect in our vehicles that could cause unintended acceleration (UA). In fact, despite more than two years of unprecedented discovery and full access to our proprietary source code, plaintiffs counsel in federal multidistrict litigation acknowledged that they were “unable to reproduce a UA in a subject vehicle under driving conditions.”

Bottom line, no one has ever demonstrated a vehicle-based cause of unintended acceleration in Toyota vehicles equipped with ETCS outside of the known, mechanical causes remedied by Toyota through the recalls it has conducted since 2009.

We continue to stand fully behind our products, and millions of Toyota drivers continue to prove every day that they can depend upon their vehicles to provide safe, reliable transportation. We are gratified that Toyota vehicles are once again widely recognized as among the safest and most reliable on the road.

KEITH ARMSTRONG SAYS THAT WHEN CARS MALFUNCTION, YOU DON’T ALWAYS GET AN ERROR MESSAGE.
That’s the nature of electronics.” Before one of Murray and O’Neill’s biggest wins, a trial judge ruled that their expert couldn’t mention EMI, which was a crucial part of their explanation of how the accident happened. In the Daubert hearing, the judge gave the experts 20 minutes to talk about it—and the social media seemed to doom it. “Without that crash that was caught on a 911 tape,” says Ditlow, “no one would have paid any attention to [denied acceleration]. And there would have been no controversy.”

The worst thing that came out of the whole investigation, Claybrook and many others say, was the widely publicized 911 tape. “The scientists on this team wouldn’t have done that,” Claybrook says. “They were totally independent, and they have a lot of skill,” she says. “Unfortunately, they don’t have a lot of experience with automobiles.”

The individual who undoubtedly felt the most pressure was Gilbert. He did not respond to requests for an interview. But he did talk to The Huffing-ton Post several months after these events, and the website reported the pressure Toyota applied in an apparent attempt to get Gilbert out of the picture. “The individual who had been looking at our evidence had decided to look at Toyota in the first place.”

Then it got worse. She read reports that Clayton and now living in Sderot, who had lived in Japan for four years and had long admired Japanese cul-true in this crisis demonstrates, in the age of wikileaks, how hard it is for companies and GCS to keep a lid on data.