



# An Enthusiastic Success

Data acquisition is the touchstone for today's vehicles but some manufacturers don't make it easy beyond the required OBDII information. One enthusiast cracked the code, wrote his own software, built the interface cables, and then turned it into an international business. He's still having fun, too.

**W**alking into Ross-Tech's offices northwest of Philadelphia tells a visitor a lot right away. One of the pseudo-inspirational posters on the wall says "Meetings: None of us is as dumb as all of us." There are similar satirical offerings throughout the building.

Pointing to the poster, Bruce Ruhf, the company's director of operations says, "Uwe hates meetings. He thinks we should just get on with it." He's referring to Uwe M. Ross – founder, owner, chief designer and motivating force of Ross-Tech, LLC, a small company built on enthusiast passion, excruciatingly detailed software development and a lot of help from friends all over the world. In roughly nine years, Ross-Tech has grown from a table-top household project to dominance in one particular international market.

Uwe ("Oo-vay") and Bruce go way back; they worked together off and on at various software and management jobs for almost 30 years. Bruce joined the company in 2004 and now runs the business end.

"I know the product pretty well, but I'm not a gear-head," Bruce said. Uwe still much prefers the hands-on work of product development—particularly the security encryption.

Uwe is a gearhead even though his training and background is in high-end software development. German by birth, he's always been passionate about Volkswagen products and a decade ago, he was doing a lot of performance work

on his '97 GTi. He was totally stymied by not finding any scan tool that would read much beyond the car's OBDII data. "There was one commercial product that wasn't too bad," he said, "but the company didn't develop it or keep up with new systems and technology."

Volkswagen A.G. (VAG) and Audi are wed at the corporate level and their respective products share much technol-



**Uwe Ross remains passionate about both cars and business.**



**Bruce Ruhf manages business operations for Ross-Tech.**

ogy. The company also makes SEAT and Skoda vehicles not sold in North America. Just about every function on these cars is operated through a variety of control modules. The data access problem comes from the communications protocols the brands use, the way the on-board data is coded, and in no small part, the European business model.

Most North American scan tools can't read the European data for a number of reasons. "Our product only supports the ISO or European protocol(s), meaning that our tool is not OBD-II compatible with most U.S. cars and some Asian cars before 2008," Bruce said. "Remember that OBD-II is only for emission-related data, and Europe takes that to the letter of the law. If it's not emissions, it is considered proprietary data and it is not easily available."

But the data is still there, and getting to it can be figured out. Uwe sensed there would be a market within the cadre of loyal owners for a reasonably priced diagnostic tool. The key was to learn how the communications were handled both between components and to the scan tool.

It wasn't easy, and it took a while, but eventually he came up with software and an electronic interface for his laptop that emulated the expensive VAG tools found in dealerships. His program worked and let him see what the GTI was really doing.

He asked around the VW-Audi owners community: Would you pay \$X for a tool that provides this information? Predictably, the community answered yes. They told their friends who told others, and sales of the new software multiplied rapidly, along with bug reports and requests for added features.

Uwe suddenly found himself very busy improving the product and overseeing a small but going business. He originally made the connectors and interfaces at home, but eventually had to farm that out as the business grew.

"The product was built on the backbone of the enthusiast," Bruce Ruhf said. "Ninety percent of VW and Audi's sales are not in the U.S. and there is huge international interest in the cars." He noted that in the last business quarter, VW surpassed Toyota in number of vehicles produced worldwide.

"Individual owners and enthusiasts still account for

roughly 80 percent of our sales. They are most helpful in reporting problems and providing new information. Additionally, we can send them a beta-version of an update or something new and ask them to beat it up. When they break it, we fix it—usually within a couple days."

"Frankly," he adds "we'd like to have more shop business. Some shops say they won't work on these cars, but they're really saying they don't have the information. Once they get the information from the car and a good repair manual, they can make money."

He's also surprised that many "pros" still want a separate, physical tool in their hands. "They have a hard time understanding that the laptop is actually the diagnostic tool."

### Inside the VCDS

The product's original name VAG-COM still shows up on a variety of websites and chat groups, but it is being officially changed to "VCDS" after the German automaker got a little itchy about trademarks.

Bruce said, "The factory is well aware of us, but they don't provide any official help. We know VW of America has about 200 copies of our product, and we have sold copies to several dealerships." He immediately answers the next question: "The factory tool isn't portable—it can't go on the road. On a laptop, ours can go almost anywhere."

Although Ross-Tech doesn't repair cars, they do pay the license fees to be an official VW+Audi service center. That gets them the latest bulletins and service updates. Keeping current with the full line of models around the world is a huge undertaking, but again some clever programming and a large cadre of loyal customers helps solve the problem.

"Our product has an internal channel to read and record system characteristics of cars we don't see. When something new comes out, perhaps in Europe or China, we can call on our network of enthusiasts and ask them to send a data file of what's on that car."

Today, VCDS covers virtually all U.S. and international models of VW, Audi, SEAT and Skoda, both gasoline and diesel, from '90 to current as well as Bentley cars from 2003. There have also been inquiries from Spyker, a Dutch manufacturer of high performance cars that use Audi engines and drivelines. One notable exception in coverage is the Routan, a van jointly produced by VW and Chrysler. Since it uses Chrysler electronics, only the OBDII codes show up on the Ross-tech product.

Once the software is installed on a laptop, it allows the user to see and address virtually every control module on the car. One convenience is using it to set readiness parameters without a long drive. Many components can be activated or shut off for testing, and, depending on the specific vehicle, VCDS can report in "plain English" (or 15 other languages) the explanations for several thousand factory diagnostic codes.

Other niceties include many output tests, the option to simultaneously display data from up to 12 different channels, and live data logging – a function not found on the factory tool.

## An Enthusiastic Success

---

“Let me tell you what it doesn’t do,” said Bruce. “VCDS only reports information, although in an enhanced form. We’ll tell you what the readings and values are, and the titles of the stored codes and other factual data. We don’t include diagnostic trees or how-to-fix-it information, and we expect our customers to have their own access to that either through a factory manual, VW’s website, the Bentley repair manuals (publisher, not the car) that we sell, or other reliable sources.”

One part of the enhanced presentation is the addition of ‘normal range’ data, a huge benefit to diagnosis. Instead of simply seeing a number in a data block, placing the cursor over the block reveals a balloon with a known-normal range for that parameter.

There are a few other product limits, too. VCDS won’t support the U.S. Pass-Thru function and it won’t do a reflash. “The factory has released only three emission-related reflashes and it wasn’t worth our effort to pursue them,” Bruce said. “All the other, non-emission, reflashes are proprietary and the car has to go to the dealer. We would upgrade our professional product if the factory ever decided to make that data available.”

VCDS won’t recode a key or free up the Immobilizer system either. Well, it will if the owner can get the necessary code(s), but that’s so proprietary that dealers are not permitted to see, much less release, the required code to the owner after receiving it from headquarters.

There are some enthusiast-oriented functions in the program, but it won’t allow the user to adjust anything outside the factory limits or beyond what the factory tool would do. “We love our enthusiasts, but we also hate them because we know they don’t always follow directions. We don’t want to lead them into trouble,” Bruce said with a smile. “There is a lot you can do to the cars while staying within the factory limits.”

### Test it on the web

It’s not surprising that a company built by software gurus would have a stylish and informative website. But here’s a tip: if you go to [www.ross-tech.com](http://www.ross-tech.com) (note the hyphen), plan to spend some time. Some information is very technical, and there is a lot of it.

A visitor will find a compendium of VCDS product information, VW and Audi diagnostic hints, five pages of FAQs, and a serious discussion of what VCDS won’t do along with strong warnings about the possible results if you try. There’s a full guide to product selection for both software and connectors (interfaces) and minimum requirements for your laptop before ordering. The company’s ever-present wry humor shows up, too: ever read a product warranty with a “Buyer’s Remorse” clause?

Perhaps the most interesting item on the site is the interactive demo of how the VCDS looks in use. The sample allows visitors to click on screen buttons and see the resulting data, graphs and other information as they would in the shop. Stored codes, data blocks, engine performance, and module information are all replicated in the demonstration version.



The interactive website lets a visitor start at the top. All the buttons are “clickable.”



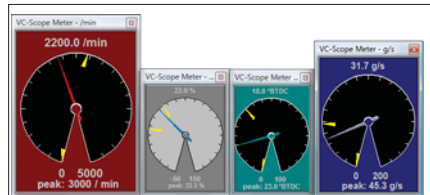
Stored fault codes are displayed with their explanation.

## Down the road

Ross-Tech’s exponential growth in the past nine years is posing some challenges and the future, while apparently rosy, is still a bit unclear.

“Our success is our conundrum,” Bruce Ruhf said. “Where do we go next? Three years ago we never thought we’d be where we are today.” In the early years, ten to fifteen orders per day posed a challenge; today, nine employees handle about a thousand per month with many shipped to other countries.

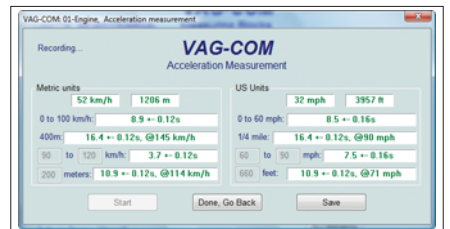
One testament to the product came from Germany in April. DEKRA, a national trade organization, ran its tri-annual shootout with ten scan tools and products



Data can be displayed in a gauge format for quick visual reference.



Got modules? All of these are for “comfort and convenience”.



For enthusiasts, by enthusiasts: The software includes a page for 0-60 times and quarter-mile data.



from some well known manufacturers. The results awarded Ross-Tech's product the highest score: 316 points out of a possible 320. No other tool scored over 300, and it was a huge win for a small company.

But since VCDS is brand-specific, why not expand the reach and develop products for other German brands? "Maybe way in the future," according to Bruce. "The other German makers, particularly BMW, do their electronic systems differently and there are just

too many variables for us to pursue a product now. There is a move among the Germans to develop a common communication protocol. If that happens, we're going to be there."

Other development continues, and a wireless version allowing VCDS to run on a handheld unit like a Blackberry is anticipated within a year, but it still needs a lot of work. They're also looking at a possible product for Porsche, but again well into the future.

Another drag on development time is fighting counterfeit versions of their product "We spend far too much time and effort chasing the bad guys," Uwe Ross said. "U.S. copyright law gives us some real power, and shutting down a fraudulent vendor under threat of prosecution isn't too hard in this country. It's hugely more difficult to force somebody in another country to shut down, and often they'll remove one web site only to start another one with a different name."

The company also keeps corporate competitors in view as well. Uwe notes, "We do have legitimate competition, and at least one other company has a pretty solid product. But they use over 160 software engineers to get there, and their product still can't do what ours does. There are no companies that match our price/performance level."

Uwe Ross's GTi is gone, replaced by a 2006 Audi A3, but his enthusiast's passion for both cars and his product remain evident throughout the business. ❁



An full-function instrument panel and control unit aids in new product development.