

AECS European Training trip

AECS is best known for its high quality approach to automotive electronics. To stay at the highest possible level in the industry we need to keep ourselves skilled up. For this reason we attend interesting training seminars around the globe on a regular basis. This Autumn Tom, Peter (my sons) and I went to Europe. Following is a bit of a summary of what we have done. You will read between the lines that we are not just technology lovers.

We flew to Europe, into Geneva as Switzerland is nice and central and any car hired in Switzerland does not attract the expensive road user charges of that country. It is a magnificent country to drive through.

We drove from Geneva to the MV Agusta factory, where we did a mini tour. The MV bikes have been iconic for me since the days of Giacomo Agostini back in the early 70's.

Next stop was the Monza F1 Circuit. For me personally is the concrete embankment what Mecca or Rome is for many religious people. How daring were they to drive with spoke wheeled Formula1



cars at full speed through this curve! No way can you look around the bend. Mind blowing especially with the level of technology present in the 50's. I have respect for drivers or that era. This part of the Monza F1 circuit is not being used anymore since approx. 1967 after a horrific accident.

Peter also had to test the current circuit but we had no car... We were oblivious to the fact that race cars had just started to drive and entered that chicane just seconds

after we took the picture. Close call! Monza is at least off Peter's bucket list !

Close to Monza was our first very enjoyable training stop. We learned how to get into ECUs to extract the software from the program chip, the memory chip and the ID/ flash counter chip. We learned how to find for example torque limiter curves and how to modify them.

Some of the ECU's where read/written by opening up the ECU and connecting communication pins.

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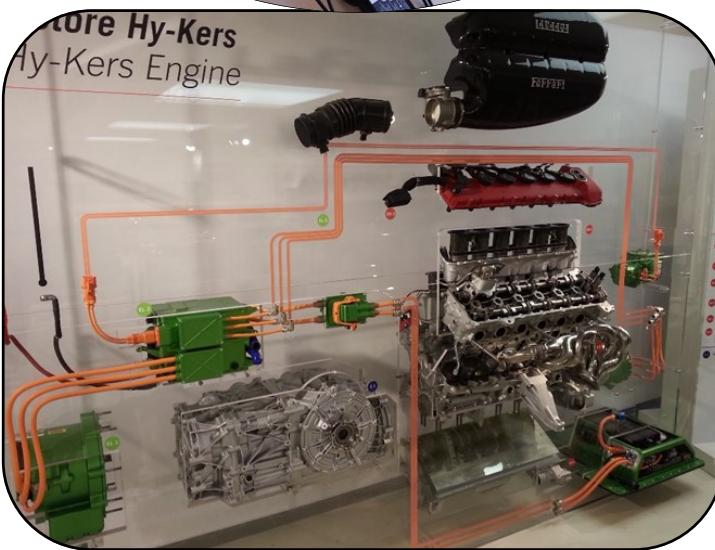
Climbing to the top of the old Monza embankment, walking up there is just not possible.



Sitting on the Chicane of the Monza circuit...



Some of the ECU software modification training equipment.



Of particular interest was the 800hp V12 Hybrid Ferrari of which a power train was on display.

Other ECU's would simply be done via the OBD connector.

We are going to use this knowledge to create an AECS seminar to teach technicians how to modify software in ECU for general interest and for track use. We have purchased a Dyno which still needs to be installed so that Paul (ex Williams F1) can perform this tuning seminar at the AECS headquarters in Hastings.

We have attended this seminar also to learn how to modify the ECU software with regards to for example DPF applications on common rail Diesels .

Next we went to the Autopromotec equipment show in Bologna Italy.

Bologna is close to the Ferrari factory, so we had to stop there for a cuppa...

At the Autopromotec we visited current AECS suppliers of equipment to inspect some of the new developments that were on display.

Ecotechnics also told us how the new refrigerant R1234yf (for which they have machines available) has not been accepted by Mercedes and VW as the refrigerant is deemed not to be safe. They also told us that they are developing equipment for servicing the AC systems those two manufacturers are proposing. Talking about being right up there!



Ecotechnics' futuristic new models Aircon service equipment. Firstly for worldwide distribution into the Citroen Peugeot network

We also visited new suppliers like for example Jaltest from which we have purchased truck and tractor test equipment. We will introduce the sales and service of this equipment into the NZ market very soon.

Jaltest truck equipment



VTEQ suspension tester training, in the same lab we learned about a new type dyno rolling road VTEQ is developing.

Two days at the Auto-promotec was not enough but we had to

move on. Instead of driving north back through Switzerland through the Stelvio pass we decided to go south and see the leaning tower of Pisa. Underwhelming.

We went the next day to the Monaco F1 circuit but were just too late to see the race. We walked the circuit just after the race when the cars where loaded in the trucks. Still awesome! The amount of wealth in Monte Carlo state is unbelievable, being there makes you feel like a pauper no matter what.

From Monte Carlo we drove 700 Km's along the south coast of France into the North of Spain, as the next day we had training at VTEQ in Barcelona.

We learned about a new type suspension test method which is under development in Europe. The machine produces a suspension coefficient. The development is a joint development between a small number of

manufacturers (VTEQ and others), a university and CITA, a European government body. These testers will be available in NZ in due time.

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The European Union has reprimanded the German government with regards to Mercedes still using the R134a refrigerant in their cars.

At the end of this August a solution should be found.

The background is that DuPont holds the patents on the new refrigerant R1234yf which does not sit well with a number of manufacturers like Mercedes and VW. The R1234yf is far more expensive.

Then there is the fact that R1234yf is flammable and deemed to be unsafe in crashes by a number of car manufacturers.

Watch this space!



*Millau super bridge,
the pillars are larger
than the Eiffel tower.
Spot the large truck
close to the first pillar.*

We also learned how to setup VTEQ 3080 brake testers so that existing and future VTEQ owners can control the brake tester from any Wi-Fi enabled smart phone. A really nice development as you can read the brake test results from your phone's screen, but also you can control the suspension tester from your phone, handy when you are trying to find for example a rattle in the car.

We drove via Andorra's beautiful roads and the Millau super bridge in France back to Switzerland.

Andorra's main road with all its hairpins.



After flying back to Holland to see the family we went for training with GMTO and TiePie engineering.

We learned some previously unknown diagnostic methods, like how to read inter ECU communication as graphs and values from the vehicle's CAN data bus.

We used a Volvo truck with the J1939 protocol. We measured with one channel the CAN bus, while with the other channel we measured a sensor.

The screen showed the communication between the ECUs connected to that data bus. We learned that the data packs on the CAN contain sometimes 4 or 5 data parameters per call, whatever the ECU needs to pass on to other control units. Listening to this with a scope and graphing that data is awesome, very, very different than communicating with a scan tool and mind blowing fast.

The communication data can be filtered so that you only get to see one or two data lines or hundreds with no loss of communication speed. These lines can be graphed with the actual sensor's voltage on the second channel.

We are doing more research on this diagnostic method at the moment and as soon as this is useful for truck and

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tractor workshops, we will publish a report on this to ATS scope owners.

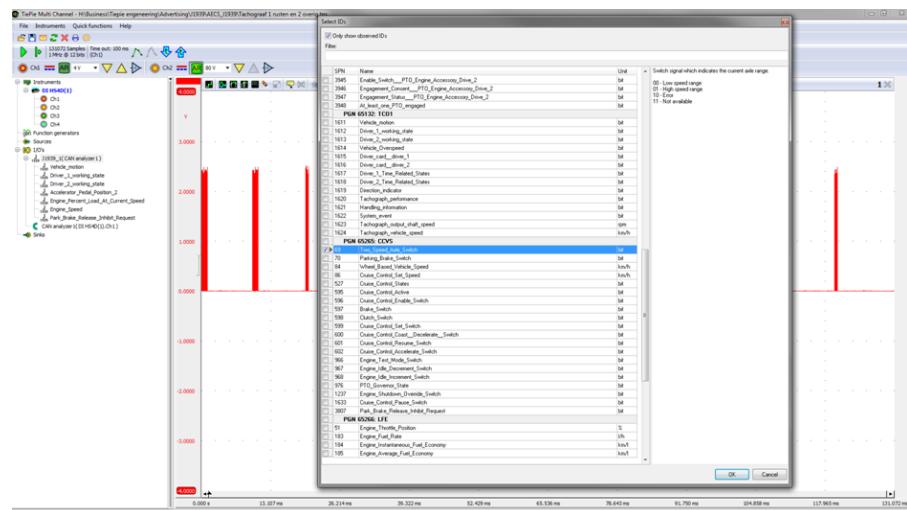
We tried to keep everyone informed via Facebook during the trip which worked nicely. We published many pictures as they were made. With this training (and fun) trip AECS has moved itself in a position where it is fully prepared for the future!

Look after yourself and your business, keep the knowledge up, as the world of technology is moving on very, very fast.

Choose **AECS** as the company you use for equipment and training to further your business. We are working hard to be a worthy partner.

Herbert

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Screen dump of ATS CAN data bus recording of inter communication recording.

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