**Zeitschrift:** Swiss review : the magazine for the Swiss abroad
**Herausgeber:** Organisation of the Swiss Abroad
**Band:** 45 (2018)
**Heft:** 2

**Artikel:** The secret ideas factory
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**DOI:** https://doi.org/10.5169/seals-906519

# The secret ideas factory

Esoro is making the cars of the future – and a hydrogen-powered lorry.

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Almost everything that Esoro does in Fällanden is secret – and that has been the case for decades. That means practically all of its activities go on behind closed doors. The company is rarely visible, for instance when an articulated truck manufactured by Esoro delivers fresh produce to branches of the leading retailer, Coop, in the Aargau region. This heavy goods vehicle is the first of its kind in Switzerland. It is powered by hydrogen produced at a hydroelectric power plant in Aargau. A fuel cell acting as an on-board power station generates a continuous flow of electricity, charging a battery. The energy for acceleration comes from a battery which is much smaller than the ones found in an electric car. The lorry produces no exhaust fumes and does not take long to charge. This is a key factor when considering alternative drive systems for HGV fleets. The articulated truck was given the green light by the vehicle licensing office in Zurich last summer.

## Decades of tinkering

"We work on challenging, complex cross-sector projects," explains Esoro CEO Diego Jaggi. He has been involved with utopian ideas on wheels for a long time. It all started back in the 1980s with the Tour-de-Sol, the legendary solar-powered vehicle race through Switzerland. That spawned a company in 1990. Esoro is part of the big – though largely unknown – Swiss automotive industry, which generates annual sales of 16 billion Swiss francs a year and has a workforce of 34,000. "We have to hold our own in the industry," Jaggi adds, "despite facing huge disadvantages in Switzerland." These include the strength of the Swiss franc and customs duties – two factors that make everything more expensive and complex. Simply getting the necessary papers for a new vehicle is something of an art form. Jaggi estimates that vehicle registration alone accounts for about 20 % of the cost of construction and development for the fuel cell lorry – assuming the company has already done it once before. If not, it is 200 %.

To be able to use the coveted white numbers, Esoro is also ultimately dependent on the goodwill of the road traffic offices. After all, the costs of just a single vehicle are also very high for them. It would therefore be much easier for the authorities to find some tiny detail that is not compliant and to refuse to issue a permit. Nevertheless, the vehicle licensing office in Zurich made the effort. Its experts read up on the subject and collaborated constructively.

**The zero-emissions truck of Swiss manufacturer Esoro recently started delivering fresh produce to Coop branches.**
Photo: Keystone

## 19 tonnes permitted

The Esoro truck is the first in Switzerland to receive certification in accordance with the provisions for zero-emission commercial vehicles. Trucks can weigh 18 tonnes in Switzerland and 19 tonnes in the EU. Switzerland now also permits alternative-drive vehicles with a total weight of 19 tonnes. However, significant modifications have to be made to meet the requirements of mass production.

It is therefore important to Esoro that the individual parts look perfect. When one of the first hydrogen-powered cars was presented at the Geneva Motor Show a number of years ago, a senior manager at VW is said to have told Diego Jaggi: "The paintwork is good." In the jargon of the German automotive world, that effectively means "perfect". The paintwork also looks good on the Rinspeed prototypes that Esoro regularly builds for Zurich-based businessman Frank Rinderknecht. Whether swimming, floating or diving, they all come out of the secret factory in Fällanden. These Rinspeed vehicles may look peculiar, but many of the ideas reemerge later in mass-produced cars. Esoro is constantly working on the vehicles of the distant future in what is known as "advance development", an area in which the sky's the limit in terms of ideas and concepts.

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