Driverless buses let loose on the streets of Swiss Alpine town

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The “SmartShuttle” is Switzerland’s first driverless bus. It’s running on an experimental basis through the narrow streets of the old town of Sion, the capital of The Valais. I took a ride on Wednesday.

The bus has the same appeal as the old Volkswagen Beetle: ugly as hell but so practical.

PostAuto’s yellow and white livery with its red top line separating the body from its wrap-around windows makes it stand out in a crowd and evokes the adventurous feel of the big PostAuto buses that explore the remoter byways of the Swiss Alps.

As for overall shape, it reminds me of a grownup version of those closed baby carriages you can attach behind a bicycle.

But by the time I’d taken a 40-minute ride around town I’d come to think the SmartShuttle was as much part of the Sion scene as the much more outlandish street train that runs up and down Sion’s main hill and its picturesque late-Medieval streets in tourist season.
Now for the science bit, to quote Jennifer Aniston: the SmartShuttle is 4.8m long, 2.05m wide and 2.55m high. Its top speed is 20kmh.
It has 11 (narrow) seats for passengers and wheelchair access. And, thank goodness, the bus is air-conditioned.

It runs every afternoon from Tuesday to Sunday, and rides are free. The bus has to wait till 3p.m. on Fridays to start its schedule because of the street party known as the local market in this bustling town of 33,000 people.

The SmartShuttle website says two shuttle buses will be running experimentally in Sion for two years.

The electricity-powered vehicles do not have a steering wheel, accelerator or brake pedal. But an emergency button can stop the vehicle. I didn't see this in action on Wednesday and forgot to ask whether it had ever been used.

The 1.5 km route is pre-programmed but an "attendant" in a yellow PostAuto teeshirt is always onboard with power to override the operation centre at the Valais University of Applied Sciences. To me the attendant's equipment looked like a video game controller (it is) but hey, that's okay, too, these days.

The braking felt stiff, with lots of jolts when the shuttle stopped because of other vehicles blocking the medieval streets. It was also slow. I don't know when it reached its 20kmh maximum but it never felt like it.
The bus has only been running for a week, so I expected it to be full of gawkers and excitement seekers like me. But one man got on with a cellphone to his ear and never paid any attention to the people around him or the historic route. So I’m not the only one who quickly saw the SmartShuttle as part of Sion life.

The rest of us chattered with each other and the two attendants on this trip. The other passengers were pleased to learn we had been nudged into taking the bus by a friend in the United States who wanted to know all about it.

Though most of our fellow travellers were locals, the SmartShuttle was packed throughout its journey. At one stop we turned away five or six young men who acted like locals (no backpacks and very relaxed for tourists).

By chance there was room for me and two of my relatives from Australia because, by sheer luck, we stepped onboard near the start of the bus route.

Wednesday was hot and brilliantly sunny — 29° Celsius outside the bus. Despite the active air vents, with the transparent roof the heat was too much for the Australians away from the ventilation.

The website’s English pages say: “Thanks to state-of-the-art sensors, the vehicles are guided to the centimetre when moving through the streets, and they recognize any obstacles and
signalling on the road during the day and at night. A programme created by the Swiss start-up BestMile (of Lausanne) monitors and controls the two autonomous vehicles."

Our two attendants, including the young son of a bus-driver, signed on to the project because he was curious about the new technology.

The French company Navya designed the shuttle bus, and the Sion CarPostal is its first client for its Arma model. The Australian city of Perth is also experimenting with the vehicle and Navya demonstrated the model in Lyon last February.

A video entitled “Hello, my name is SmartShuttle” points out that the Arma can be useful in airports and large factory grounds as well as in the pedestrian streets of cities. Navya says it can carry 15 people with a theoretical top speed of 45kmh, and can handle slopes of 1 in 7 (15%).

The plan is eventually to run the shuttle up to the square serving the highest tourist point in Sion, the Bishop’s Palace, and the Tourbillon (Wuthering Heights) Castel ruins. The Lausanne Federal Institute of Technology (EPFL) is also working on a project for shuttle-busing on demand.

Since Switzerland has no regulations yet for driverless vehicles, the experimenters required a special permit to put their vehicles on the road.
A major participant in the project is the Mobility-Lab of Sion-Valais, which also organizes a car-sharing scheme and Sion's free bicycle scheme.

A touch-screen electronic map will eventually allow passengers to interact with the controls. The SmartShuttle stopped regularly at junctions when other vehicles had priority, and there were no “Google smartcar” disputes over pedestrians and thoughtless car drivers. Messages on the screen told us exactly why we had stopped.

PostBus offers guided tours of the old town on the shuttle bus two Fridays each month. By pre-arrangement it can offer English, German and Italian tours. A webapp indicates the position of the shuttles at any time with an indication of when one is due at any stop on the map.

You might be asking whether the SmartShuttle gave me the solution to the latest philosophical and practical conundrum posed by the driverless motor vehicle: in a crash should it manoeuvre to save its passengers or the people in the other vehicle?

I saw nothing to give me an answer from the way the SmartShuttle performed on Wednesday. At speeds that were only a little more than we could walk and lots of stops for other vehicles, moving or stationary, it’s hard to imagine any kind of collision.

But presumably the SmartShuttle's controlling algorithms could count the number of people
inside at any time and use its laser guidance device to tell how many humans are in the approaching vehicle. Survival could then be a simple matter of arithmetic, and passengers would encourage others to get on board with them.

By Peter Hulm

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