SAM from A to Z

A **Acceleration**: The three-wheeled two-seat SAM accelerates to 50 KPH in seven seconds.

B **Batteries:** For the serial production version of SAM a battery-leasing program is planned. For a fee of about 65 € per month, batteries that are all set to go are provided to the owner at all times. This means that buyers aren't faced with the high purchase cost of batteries, and they also don't have to worry about battery disposal.

C **Charge time:** The maximum charge time is six hours. After just one hour, 40 percent of the necessary current is stored in the battery, and 70 percent after two hours. The battery has a "memory effect", i.e. it can be recharged again and again, even in short stages.
Chassis: The chassis is one of the three main modules. The central aluminum chassis frame serves as a hollow space to accommodate the entire drive module (electric motor, steering, batteries). The placement of the drive module at the center of the vehicle provides an optimal center of gravity and the torsion-resistant chassis provides additional stability.
Consumption: SAM needs only 3.5 to 4.5 kilowatt hours for a full charge, or less than one Swiss franc in electricity costs.
Cree: Cree AG (Creation Research Engineering + Ecology AG) was founded in 1996 to develop a contemporary vehicle for local use, with a carefully crafted overall concept that sets it apart from anything else now available.

D **Design:** The design of SAM has won several design awards for both, its aesthetic and conceptual qualities. The design team is working for a variety of clients in various areas of transportation design, product design and development; www.benecreative.com
Dimensions: Height: 1,583 mm, width: 1,553 mm, length: 3,162 mm
Driving pleasure: SAM is more than just economical in its use of energy; it is also quiet, maneuverable, responsive, agile, and a lot of fun to drive.

E **Ecology:** The fact that SAM is powered by an electric motor is a logical consequence of the requirements for an economical city vehicle. The electric motor is the only alternative for environmentally friendly propulsion now available for mass production. It does not produce any exhaust, and noise is minimal. SAM is emissions-free.
Electric motor: The high-tech electric motor is extremely efficient, making maximum use of energy. Much of the kinetic energy produced while rolling to a stop, driving downhill, and braking is converted back into electrical energy through recuperation (reversing the current direction in the drive motor, which thus functions as a generator). SAM requires very little energy, consuming approximately 5 kWh per 100 km.

H **Highway:** SAM is approved for highway use; short sections of highway can be covered with no problem.

I **Innovation:** With SAM, Cree AG is bringing a new light vehicle for local use into full-scale production. Its carefully conceived overall concept sets SAM apart from anything else on the market today. The goal was to create an outstanding product in terms of price, driving pleasure, safety, and recyclability, in addition to low investment, production, and operating costs.
Insurance/registration fees: Low insurance costs and vehicle registration fees are expected for SAM. Exact rates depend on local or national legislation.

L **Launch:** A timeline for the roll-out will be communicated, once agreements with investors and industry partners are settled.
Local-use vehicle: SAM is a contemporary vehicle that meets all of today's requirements for a city and local-use vehicle through its maneuverability and driving pleasure, comfort, safety, economy and ecology.

M **Maintenance:** SAM is very inexpensive when it comes to maintenance and service. SAM does not require the expensive service visits that conventional vehicles entail (maintenance-free batteries, electric motor without wearing parts, lubricant-free drive belts). A cooperative maintenance arrangement is being worked out with a service partner. Maintenance of the prototype vehicles is being carried out by Samson Electric Garage in Biel, www.samson-electric.ch
Modules: This new electric vehicle is structured around only three main modules: the body, consisting of only four 4 separate body parts, the chassis with the drive module (steering and electric motor), and the batteries (14 lead batteries). The individual modules are prefabricated by system partners, with final assembly done by Cree AG in Biel. Close cooperation with suppliers means that only a minimal, low-cost infrastructure is required for completion of the vehicles.
More information: www.cree.ch

P **Plastic body:** The double-walled polyethylene body is extremely tough. Maintenance is minimal: just a simple washing of the plastic surface is all it needs. The material offers unlimited color possibilities.
Price: SAM's retail price target is 6'600.-- €
Purpose: SAM is a vehicle that fulfills a simple purpose: to get the driver from point A to point B inexpensively and conveniently. In fact, as easily as possible, as inexpensively as possible… while still being fun.

Q **Quality:** SAM is a Swiss quality product.

R **Range**: 50 to 70 km, depending on driving conditions and terrain.
Recycling: The modular design and the purity of the materials used allow polyethylene, aluminum, and lead to be separated out easily during disassembly. Up to ninety percent or more of the materials can be fully recycled by recycling companies.

S **Safety:** SAM has undergone and passed all the safety tests required by law for vehicles in its class. Its safety concept focuses on active safety in city traffic. Its safety concept focuses on active safety in city traffic. Its light construction gives SAM exceptional driving, and the placement of its drive module at the center of the vehicle provides an optimal center of gravity. The warp-resistant chassis also provides stability, and the double-walled plastic body acts as a protective cover ("helmet function"). Passive safety for passengers is provided by 3-point safety belts in the front and rear seats. The front seat is also reinforced with a metal structure that serves as a roll bar. The two-circuit braking system (3 disk brakes for the front wheels and rear wheel) provides firm braking in city traffic. Additional safety tests focusing on city traffic conditions are being conducted in close cooperation with the DTC (Dynamic Test Center) at the Biel School of Engineering in Vaufflin.

T **Top speed:** 85 KPH.
Two-seater: SAM offers plenty of room for two adults or a driver plus baggage. The seats are mounted one behind the other on the chassis, and both are equipped with 3-point safety belts.

V **Vehicle class:** A valid passenger vehicle driver's license is required to drive SAM.

W **Weight:** 545 kg (empty, with batteries), 695 kg (laden weight).
Wheels: SAM has three wheels: two front, and one rear. The three-wheel design is extremely maneuverable, and the vehicle corners well

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