

nanoFlowcell technology solves major problems associated with electric mobility

150,000 Kilometres in QUANTiNO Electric Car

- nanoFlowcell Holdings proves the longevity of the nanoFlowcell® drive for electric cars.
- QUANTiNO with 48-volt low-voltage drive sets new safety and environmental standards for electric vehicles.
- QUANTiNO vehicle concept - the lightest, safest, most environmentally compatible and economical drive system for electric vehicles.

Zürich, May 2018 - The outlook for electric mobility changed dramatically three years ago when the QUANTiNO concept car was presented to the industry and business community. Just one year later, the electric sports car celebrated its premiere at the Geneva Motor Show as the world's first road-legal, 48-volt, low-voltage electric vehicle powered by nanoFlowcell®. This month will see the clock in the QUANTiNO click past the 150,000-kilometre mark. This endurance test for the flow cell and the low-voltage system is being conducted not on a test rig, but under real-life, everyday conditions.

The 150,000 kilometres on the QUANTiNO read-out equate to around 5,000 hours of operation for the nanoFlowcell®. The battery system is proving exceptionally durable and wear resistant and requires very little maintenance. The fundamental concept of the nanoFlowcell® system means it has no moving parts, aside from the two electrolyte pumps, meaning no components susceptible to wear and tear. Based on current test results and further computer simulation, the company is confident about the service life of the flow cell and guarantees an overall operational lifespan of 50,000 hours for the nanoFlowcell®.

The QUANTiNO 48VOLT engineered by nanoFlowcell Holdings is a vehicle concept that challenges both sceptics and advocates of electric mobility to undertake a fundamental rethink. The QUANTiNO is not only highly responsive off-the-line, it also has compelling long-distance qualities. Last year, the QUANTiNO covered a distance of 1,000 kilometres in eight hours and 21 minutes non-stop, marking a world record for an electric car! In contrast to conventional battery concepts, the energy carrier (bi-ION) used by the nanoFlowcell® is environmentally compatible to manufacture and use, non-toxic, straightforward to work with and cost-efficient to produce. These are outstanding properties that can't be demonstrated by electric vehicles powered either by lithium-ion batteries or hydrogen fuel cells.

In the development of the QUANTiNO 48VOLT, nanoFlowcell Holdings focused on more than just the safety considerations associated with electric mobility. The systematic implementation

of electric drive using low voltages of up to 48 volts also makes the QUANTiNO lighter (total vehicle weight) and more cost-effective to manufacture than comparable vehicles with high-voltage technology. Vehicle homologation is also considerably faster and less expensive than with regular high-voltage electric vehicles.

"With the product benefits of the nanoFlowcell® and our QUANT 48-volt low-voltage drive, we are offering the blueprint for an excellent drive system for electric vehicles," says Nunzio La Vecchia, CEO of nanoFlowcell Holdings Ltd. "150,000 kilometres in the QUANTiNO have provided us with an abundance of information on the use of flow cells in a real-life automotive application. The nanoFlowcell® has inherent system stability and is good for at least ten times this distance - as long as the other vehicle components can keep up."

QUANT electric vehicles with nanoFlowcell 48VOLT low-voltage drive are less expensive to produce than comparable high-voltage vehicles, as straightforward as conventional petrol-powered vehicles when it comes to refuelling and distribution, and have absolutely no negative impact on the environment - neither in the manufacture of the cell membrane and the bi-ION electrolytes nor in energy generation while driving. In contrast to fossil energy carriers and, indeed, lithium-ion batteries, the nanoFlowcell® technology is also not encumbered by social, political and environmental problems.

La Vecchia: "As far as we're concerned, the nanoFlowcell® is THE key technology for sustainable electric mobility, a clean environment and a future-proof global society. We see a great need for a product with characteristics such as those offered by the nanoFlowcell®. The potential market for our technology is growing continuously, be it as a source of energy for mobility applications or for off-grid and on-grid energy supply. It is therefore only logical for us to press ahead with our plans for a pilot facility for the mass production of our nanoFlowcell® technology in line with the concept we developed in-house and completed at the beginning of the year."

In April this year, nanoFlowcell Holdings announced its intention to build a pilot facility for the production of flow cells and the bi-ION electrolytes. In parallel, it will also build a demonstration production facility for existing applications such as the QUANT 48VOLT and QUANTiNO 48VOLT. The company will announce details of those investments during this half of the financial year.

nanoFlowcell Holdings Ltd is an innovative research and development company operating in the field of flow cell technology and its applications. Besides prototype development of electric vehicles under the

QUANT brand, the company also conducts research into opportunities for mobile and stationary application of the nanoFlowcell® technology in other sectors and industries.

nanoFlowcell® is the product brand used by nanoFlowcell Holdings Ltd for its proprietary flow-cell based energy technology. To store and convert energy, the nanoFlowcell® needs only a non-toxic, non-flammable and sustainably producible electrolyte liquid developed by the company and known by the brand name **bi-ION**. A nanoFlowcell® flow cell is not charged like conventional batteries at electric charging stations but is instead filled up with bi-ION. Similar to vehicles with internal combustion engines, the size of the tank is scalable and ultimately determines the energy available.

Under the **QUANT** brand, nanoFlowcell Holdings Ltd develops prototype vehicles for the purpose of testing the nanoFlowcell® 48VOLT flow cell technologies. In recent months, the company has demonstrated the potential of an electric vehicle powered by nanoFlowcell®, primarily with its **QUANTINO 48VOLT** technology showcase, a road-legal mid-size sports car with nanoFlowcell® 48VOLT low-voltage drive that enables a range upwards of 1,000 kilometres on electric power alone – with a top speed of 200 km/h and acceleration from zero to 100 km/h lower than five seconds.

In short, **QUANT powered by nanoFlowcell®** stands for environmentally compatible and sustainable electric mobility with no compromise in comfort, inherent safety, performance or cost.

For further information on nanoFlowcell Holdings Ltd, nanoFlowcell® technology or the QUANT technology showcases, visit <http://www.nanoflowcell.com>.