

Media Release

CNM Technologies manufactures first carbon nanomembrane in A4 format

Bielefeld, September 2015 – CNM Technologies, based in Bielefeld/Germany, has succeeded in manufacturing its first carbon nanomembrane in A4 format. This success is a major step on the path to an industrial and large scale manufacturing of these highly innovative and disruptive membranes.

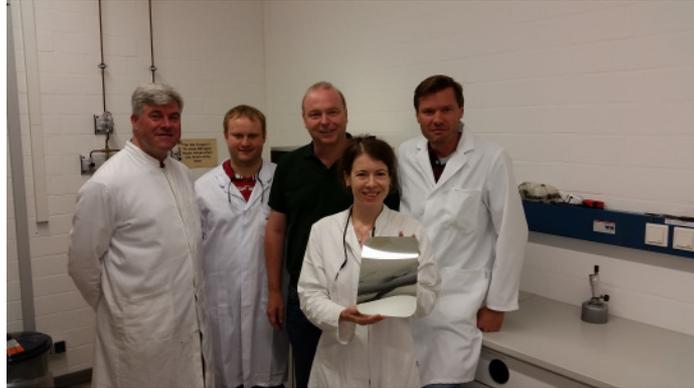
CNM Technologies manufactures ultrathin membranes on carbon basis, which are only one molecular layer, the equivalent of 1 nm = 1 million of a millimeter thick, and develops new applications for this innovative material. This novel class of material has the potential for disruptive changes in all areas of membrane applications, e.g. in energy technology, gas separation, medical technology such as the field of kidney dialysis or diagnostics (lab-on-chip), but also in the semiconductor industry for the manufacturing of flexible display and sensor technology.

Up to now, the format of the membranes was limited to 2.5 cm x 2.5 cm due to size restrictions in the used laboratory equipment. This membrane size was sufficient for research and further development of membrane properties. However, many customers need larger sizes for their applications.

Dr. Albert Schnieders, CTO and co-founder of CNM Technologies, has now produced in co-operation with his R&D team a membrane in A4 format (30 cm x 20 cm). In a first step a self-assembled molecular monolayer could be formed on a commercially available starter substrate. In a second step, the crosslinking of the monolayer was achieved in a time suitable for industrial production: several minutes instead of hours as before. The technology used for crosslinking was identified during the development process and is also commercially available in the equipment market. Dr. Albert Schnieders: „This success was possible by an interdisciplinary co-operation between chemists, physicists and engineers. It is not necessary to invent everything from scratch. Sometimes, the combination of creative ideas and existing technologies is sufficient to manufacture highly innovative products.”

CNM Technologies CEO Dr. Holger Ulland sees the breakthrough as extremely important in view of the start of development co-operations with customers.

Dr. Holger Ulland: „We are very happy, that this major step towards mass production is now done. We rate it even higher, as we have now shown to many interested industry customers that we can manufacture our membrane beyond lab scale. We are ready to start developments in a wider range of applications. This is the basis to establish this new class of material in existing but also new fields of applications worldwide.”



The inventor of carbon nanomembranes Prof. Armin Götzhäuser surrounded by the CNM Technologies R&D team (f.l.t.r.): Dr. Albert Schnieders (CTO), Dr. Henning Vieker, Prof. Armin Götzhäuser (Universität Bielefeld), Dr. Polina Angelova (with the first A4 size carbon nanomembrane) and Dr. Nikolaus Meyerbröker

About CNM Technologies GmbH

CNM Technologies, located in Bielefeld/Germany, develops and manufactures ultrathin membranes on carbon basis. The highly innovative and patented technology is an enabling platform for filtration and other separation tasks in gases, liquids, energy fluxes, but also for sensor applications with a minimum of material consumption and a maximum in efficiency and economics.

Based on this platform technology, the company intends to contribute significantly to sustainability by opening new resource-saving application areas, which are until now not economically viable.

The field of applications is extremely broad and covers gas detection, the removal of CO₂ from flue gases, upgrading of biogas, new sensor concepts in biotech, water treatment and several applications in semiconductor manufacturing.

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