In lighting technology new paths are being forged. A novel idea is the combination of lightning and textiles. Luminous textiles could generate outstanding ideas in the world of fashion, advertising and in safety technology. Especially in the visual perception of people in the traffic sector self-luminous clothing would deliver a great safety feature. The coating or printing of textiles with self-luminous structures sets special demands on the layer structures, e.g. only the minimum requirement for flexibility needs special layer technologies.

The work presents a plasma technological approach for the encapsulation of electroluminescent (EL) elements or organic light-emitting diode (OLED) structures. The requirement for the EL consists of the electrical insulation of the layers whereas the barrier performance against water and oxygen is the biggest challenge for the OLEDs. The applied low pressure microwave sustained PECVD process is presented. The plasma source consists of an array of four Duo-Plasmalines which enables the deposition of oxide and nitride layers of silicon in combination with organic components.

This work is partly funded by the AiF within the CORNET-programme.

**Keywords**
Electroluminescence
OLED
Duo-Plasmaline
Barrier coating
Insulation coating