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EELICON partners

1 Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung E.V., Germany (ISC & FEP) | 2 Coatema Coating Machinery GmbH, Germany | 3 YD Ynvisible S.A., Portugal | 4 TEKS SARL, France | 5 MASER Microelectrónica S.L., Spain | 6 LCS Life Cycle Simulation GmbH, Germany | 7 Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei materiali, Italy | 8 Institut de Recherche d'HydroQuebec, Canada | 9 Centrum organické chemie s.r.o., Czech Republic | 10 GORENJE Gospodinski Aparati D.D., Slovenia | 11 ACREO SWEDISH ICT AB, Sweden | 12 Universität Stuttgart, Germany | 13 EControl-Glas GmbH & CO. KG, Germany

EELICON
SMART LIGHT TRANSMITTANCE CONTROL

EELICON – SMART LIGHT TRANSMITTANCE CONTROL

THE EU-FUNDED EELICON PROJECT, launched in January 2014, brings together thirteen international partners with the aim of designing an innovative switchable window shading technology. The core aspects of this development are mechanically flexible and light-weight electrochromic (EC) devices based on a conductive polymer nanocomposite with a unique property profile far beyond the current state of the art.

EELICON PROVIDES patented electrochromic polymers, special pre- and post-treatments and customized roll-to-roll processing employing the special ISCoating® process.

Currently, the partners are working at upscaling the technology from research to

innovation and from lab to pilot scale by removing equipment limitations, automating processes and validating a high-throughput prototype production process for a cost-effective, high-performance electrochromic film technology.

EC FILMS CAN SAVE CONSIDERABLE AMOUNTS OF ENERGY

when integrated in architectural glazing, vehicle windows, or even appliance doors. Existing windows can be retrofitted with the electrically dimmable plastic film. While maintaining the view through the window the technology reduces heat gain and dims sunlight, resulting in lower air conditioning needs in summer and hot climates. The user comfort is enhanced by reducing glare and the ability to individually control

lighting conditions, e. g. at workplaces or passenger seats. Appliances such as stoves consume less energy when an EC film is integrated in the door. In addition, life cycle assessment results show that EC films based on ISCoating® technology can be produced with less primary energy than a standard EC window.

FUTURE STEPS will focus on technology transfer and industrialization as well as the upscaling from pilot to small production scale. To work towards commercialization and achieve the price target, a full performance evaluation with potential end-users, producers, and suppliers is currently in progress.

YOU WANT TO DISCUSS YOUR APPLICATION?
Please contact us!

PROPERTY PROFILE OF EC FILMS

- Mechanical flexibility
- High safety and cycling stability
- High electrochromic contrast
- Low weight
- Low switching voltage
- High thermal stability
- Chemically variable and adaptable by »Molecular Design«

TECHNICAL DATA

- Bright state transmittance: 60 - 65%
- Dark state transmittance: 5 - 10%
- Response time: 15 - 30 seconds (A3 size)
- Durability: >100,000 cycles under lab conditions
- Thermal stability:
 - operates at -25 °C to +60 °C
 - survives at -50 °C to +100 °C

