

## FIT-4-NMP Networking and Brokerage Event

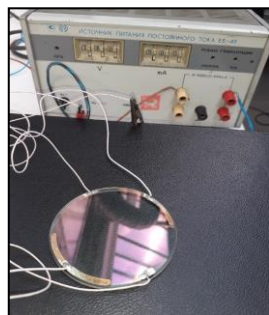
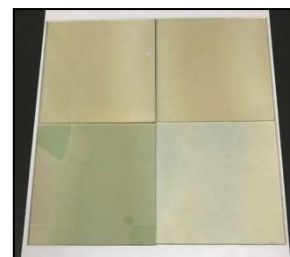
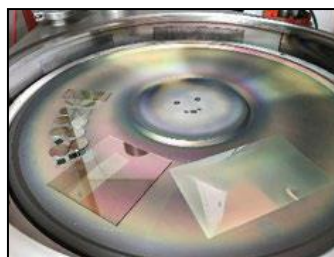
organized by FIT-4-NMP H2020 project at the 45<sup>th</sup> International Semiconductor Conference - CAS 2022

### Multifunctional transparent conductive thin layers

#### Short description of topic (scientific description)

"High optical transparency thin films obtained by vacuum deposition of conductive oxides for anti-static applications and broadband protection against electromagnetic interference-THINSAFE", 7PTE/2020, 2020-2022. Partners: MGM STAR Construct, INCDIE ICPE-CA, INOE-2000. **Project objective:** Increasing the competitiveness of SC MGM STAR CONSTRUCT SRL Bucharest by assimilating the RDI results of INCDIE ICPE-CA for the innovative development of anti-static and broadband protection against electromagnetic interference using transparent conductive thin layers.

**Results:** Development of a technology for transparent conductive thin layer structures manufacturing with thicknesses of max. 600 nm, with a surface resistance of max. 100  $\Omega$ /square for a shielding efficiency of min. 25 dB and for anti-static effect with a max. surface resistance of 1000  $\Omega$  /square, on flexible and rigid transparent substrates for visible transmittances of at least 80%.



"Transparent conductive layers for obtaining radiant or thermally reflective thermal elements based on transparent conductive layers", Competitiveness Operational Program, subsidiary POC 133-D3MGM/2018.

Partners: INCDIE ICPE-CA, MGM STAR Construct.

**Project objective:** Production of thermally radiating elements of the AZO type and thermally reflective elements of the ITO type.

"Innovative technologies for physical vacuum deposition based on thin, multifunctional, nanostructured layers intended for large parts – LargCoat", Innovative technological project for less developed regions POC-PTI no. 262/18.06.2020.

Partners: MGM STAR Construct, INCDIE ICPE-CA, POLITEHNICA University of Bucharest.

#### Short description of Organization/Laboratory/Department:

In August 2004 based on the decision HG no. 1282 of the Romanian Government published on Official Monitor no. 775/24.08.2004 has been founded the National R&D Institute for Electrical Engineering ICPE-CA Bucharest. This institute, with a high scientific and professional reputation, carries out: research, development, small-scale manufacturing and service activities especially in the field of electrical engineering technologies, materials, and other related fields of activity.

The Carbon Materials Laboratory has over the 40 years of research experience in carbon materials for applications in the electrical engineering industry. The vision is to 'tailor' new carbon materials and composites, based on a sound scientific footing and then extend the range of materials and applications by using the developments in nano-structured materials.

**Organisation: National Institute for Research and Development in Electrical Engineering ICPE-CA Bucharest, Romania**

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#### Reference of Call/ topic of interest.

- Research & Innovation Actions, Coordination & Support Actions / Advanced Materials Domain (Material Surfaces, Coatings and Interfaces, Functional Materials, Materials for Energy)

#### Potential contribution/ main ideas

- Materials development (multifunctional transparent conductive thin layers)
- Materials characterization

