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Altitude is an ambitious project that aims to replace Indium Tin Oxide (ITO), which is an ingredient, with excellent performance in two adversary characteristics, conductivity and transparency to visible light. ITO is used in all monitors and screens that are used in everyday life (TVs, mobiles, laptops etc). Additionally, it is widely used in the photovoltaic industry. Indium is a critical, scarce and expensive element for which the majority of the mines are based in China. Thus, Altitude will try to replace Indium, with other, more abundant and low cost materials exhibiting equal or better performance. The economic, societal as well as scientific and technological impact in EU will be enormous. In order to fulfill the purposes of AltiTude, certain steps should be followedconcerning the final target of the program.

Initially, by using computer programming (modeling), the ingredients proposed, will be positioned in a way that they reach Indium's properties. For environmental reasons, AltiTude approached a dry route for the production of these compounds by building a machine that attempts to manufacture the proposed recipe of ingredients in powder format. On the other hand, other chemical based methods will be tried. Then, these powders will be milled in order to reduce the size to nanometric scale (0.000000001 m). After this step, the nanomaterials will be subjected in high temperature in order to make them denser and more compact in a matrix. Then by using adepositon method these matrices will be coated in glass. These coatings will be fully characterized using standard scientific methodology. Finally, these coatings will be embedded in demonstrators concerning the photovoltaics, flat panel displays and touchscreen applications.

Contact details:
Project's Coordinator:
Dr. AlexandrosZoikis – Karathanasis, CERTH/IRETETH
Email: alexkar@mail.ireteth.certh.gr
Tel: +30 6948724831
Project website address: http://altitude.prismaelectronics.eu/