

# Is there a future for 2D-layered materials in the cement world ?

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Potential of graphene and related materials is becoming increasingly clear as research proceeds. Despite its excellent electronic, thermal and mechanical properties graphene is not going to be an overnight success. Industry needs time to learn how to utilize graphene to get real advantages for the manufacturer and the customer. Identification of applications deserving serious consideration by business to be in the forefront of change takes patience, watchfulness and efforts. Basically construction industry has a conservative nature because of the necessity to guarantee long service life and adequate safety to building structures, to promote economic value of the sector, to strengthen local economies, and last but not least, to satisfy high expectations of the public. Nevertheless it must be highlighted cement is the glue of concrete the most used man-made construction building material on Earth. Bearing in mind this aspect, it is a must to investigate the possibilities of application of graphene and 2D related materials to the construction industry as they could contribute to open a new season in the field of the built environment. The presentation deals with noteworthy investigations on 2D-layered materials made by the academic and industrial sectors in the field of microstructure modifications, interactions with cement hydrates, strength enhancement, shielding and barrier effects, thermal and electrical conduction, photocatalysis.