

Tuning the optical properties of nanomaterials for buildings façades reflectance improvement

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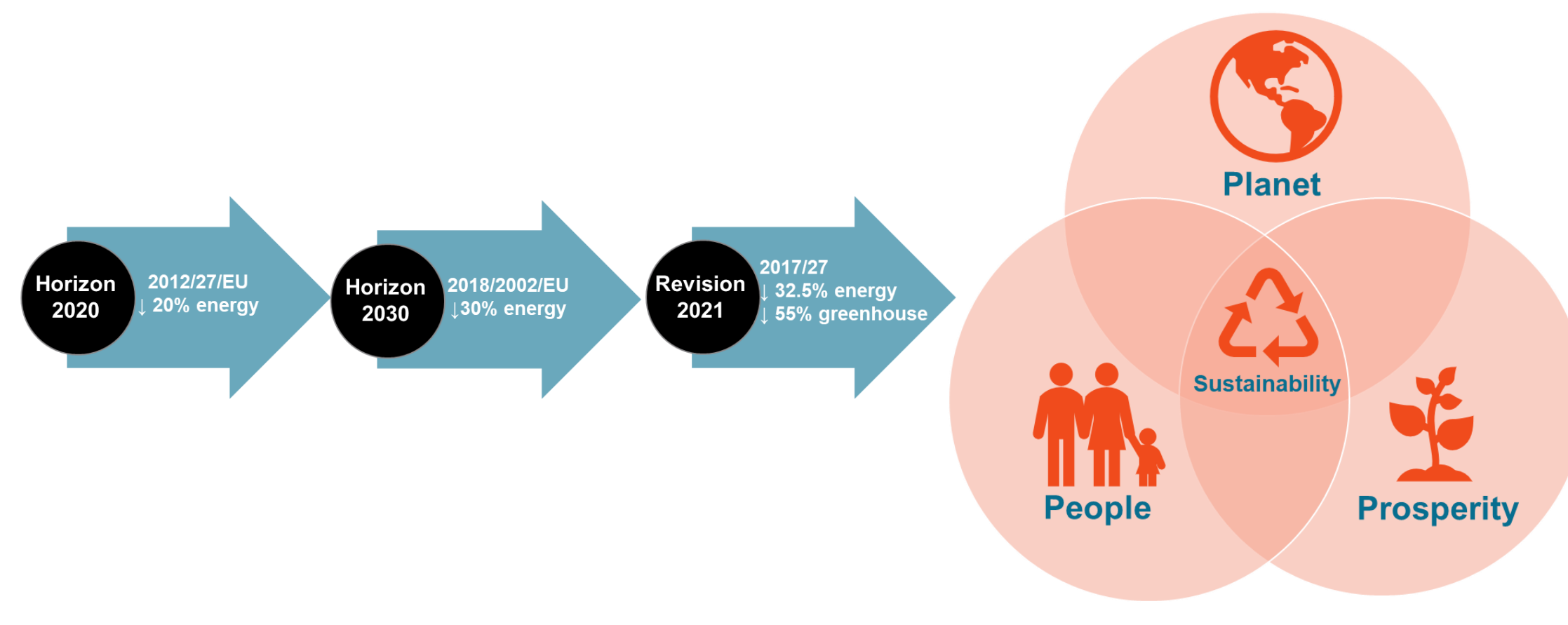
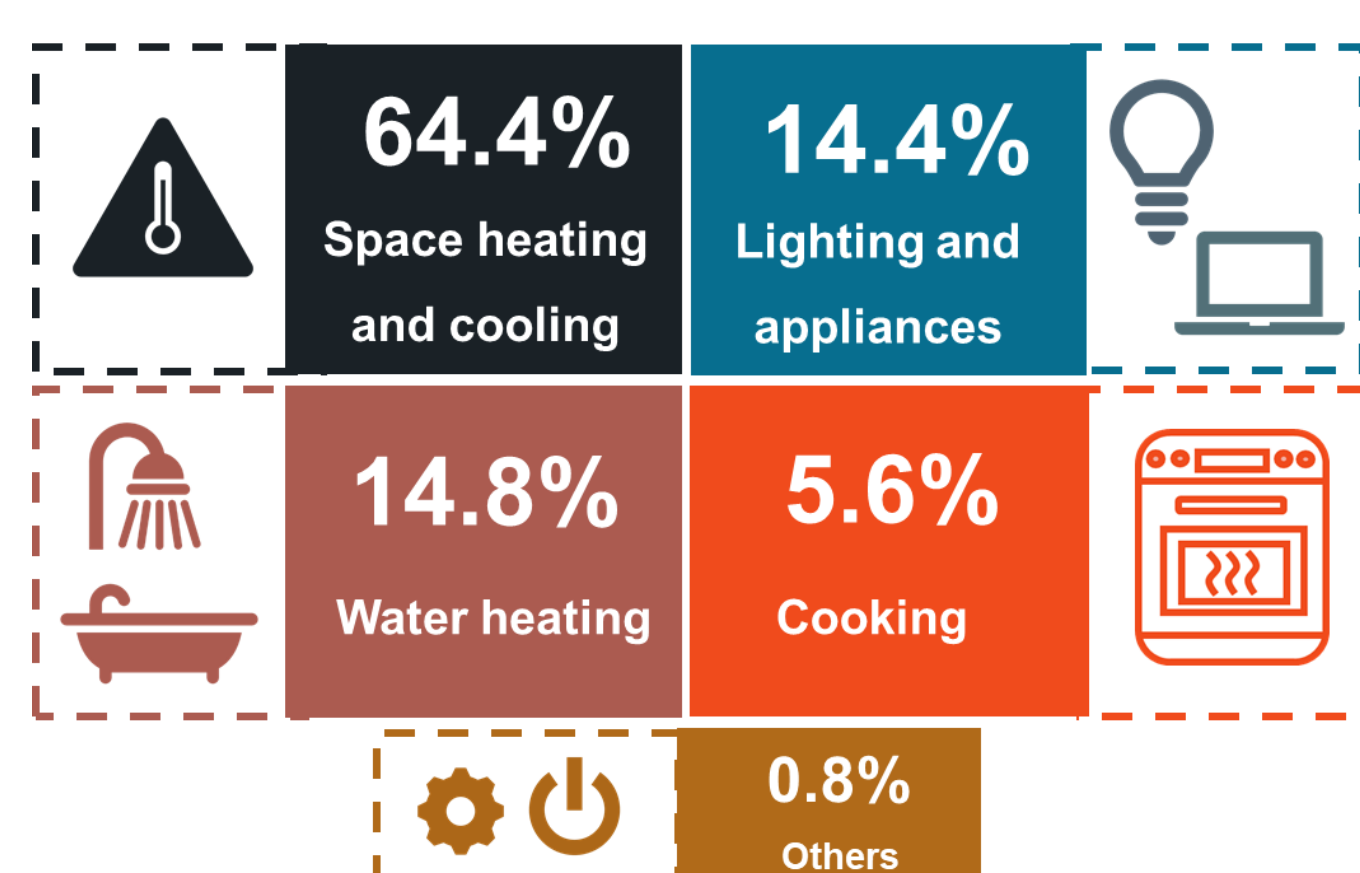
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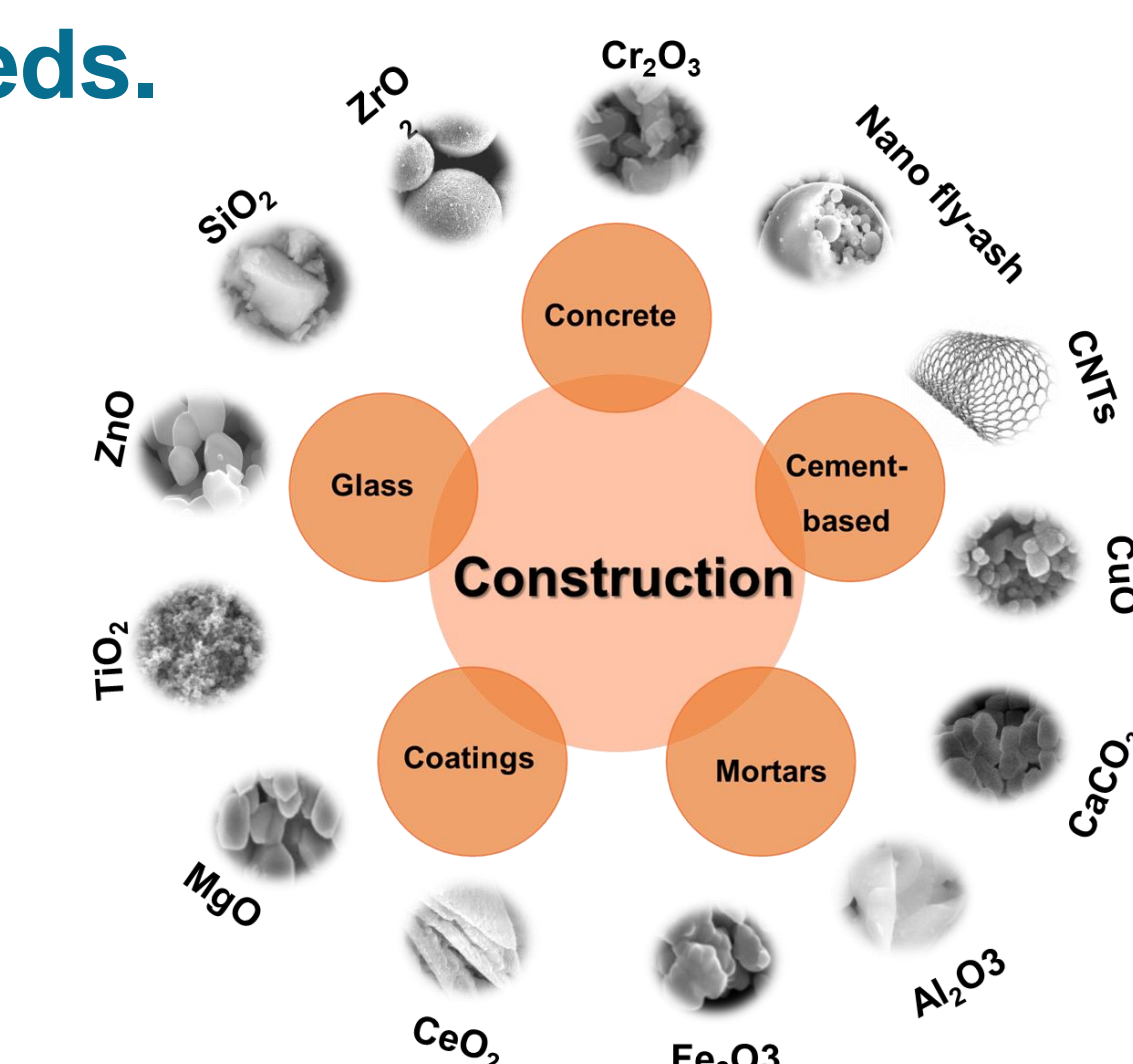
Motivation

One highly appealing solution to improve energy savings in buildings is the application of high reflective finishing coatings, which reduces the surface temperature and consequently decreases the energy required for cooling needs.

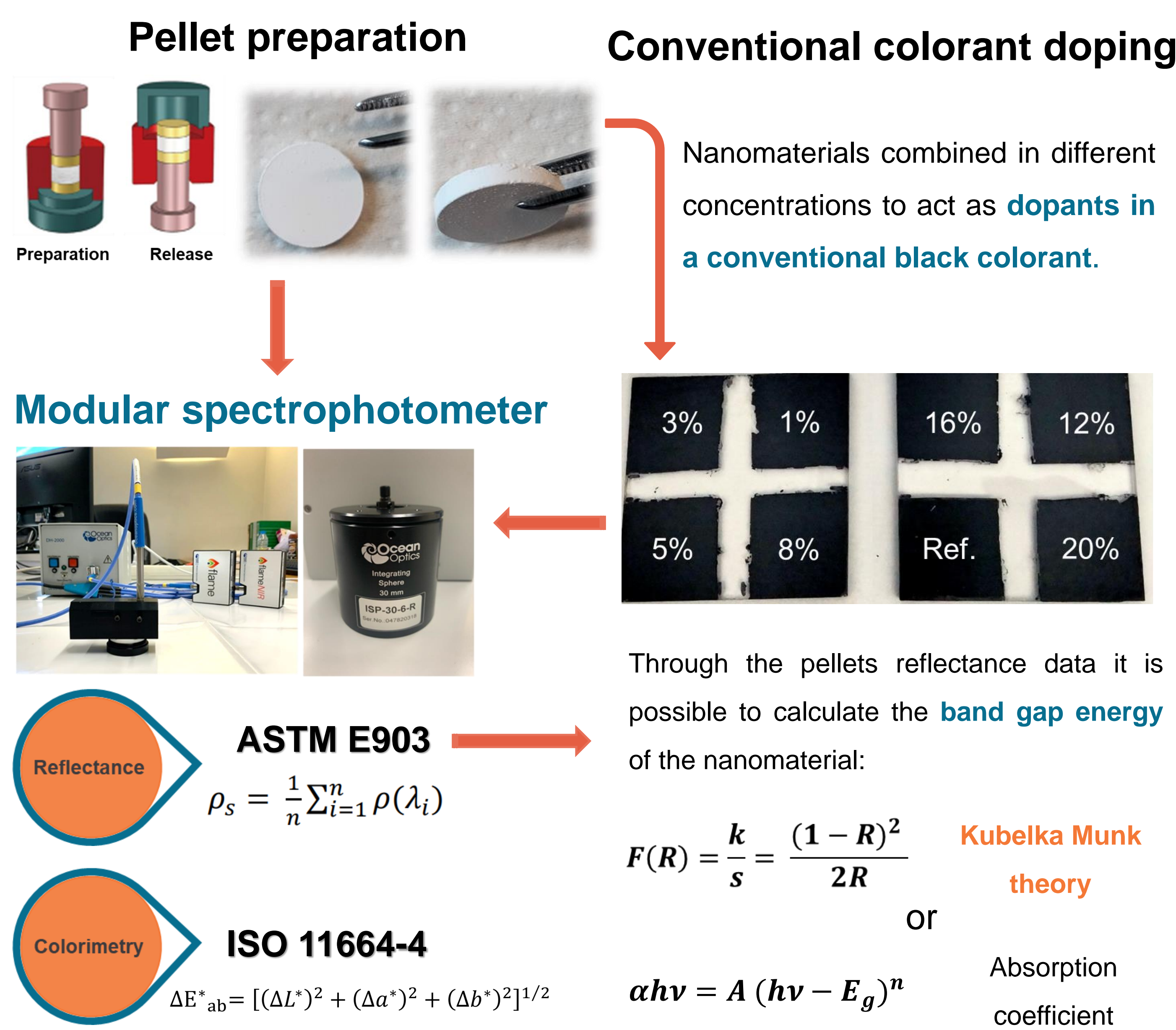


Improve buildings

Smarter
Greener
Efficient

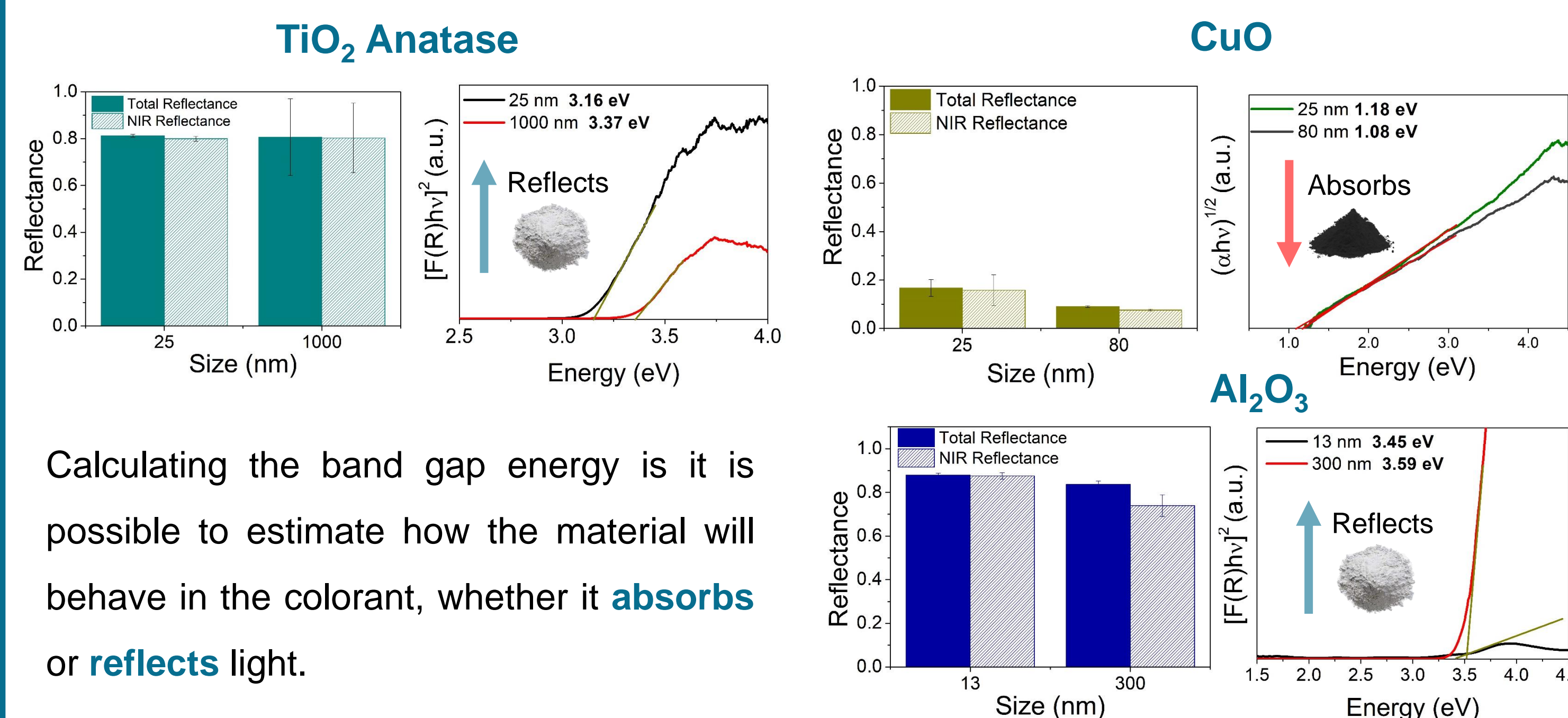


Experimental section

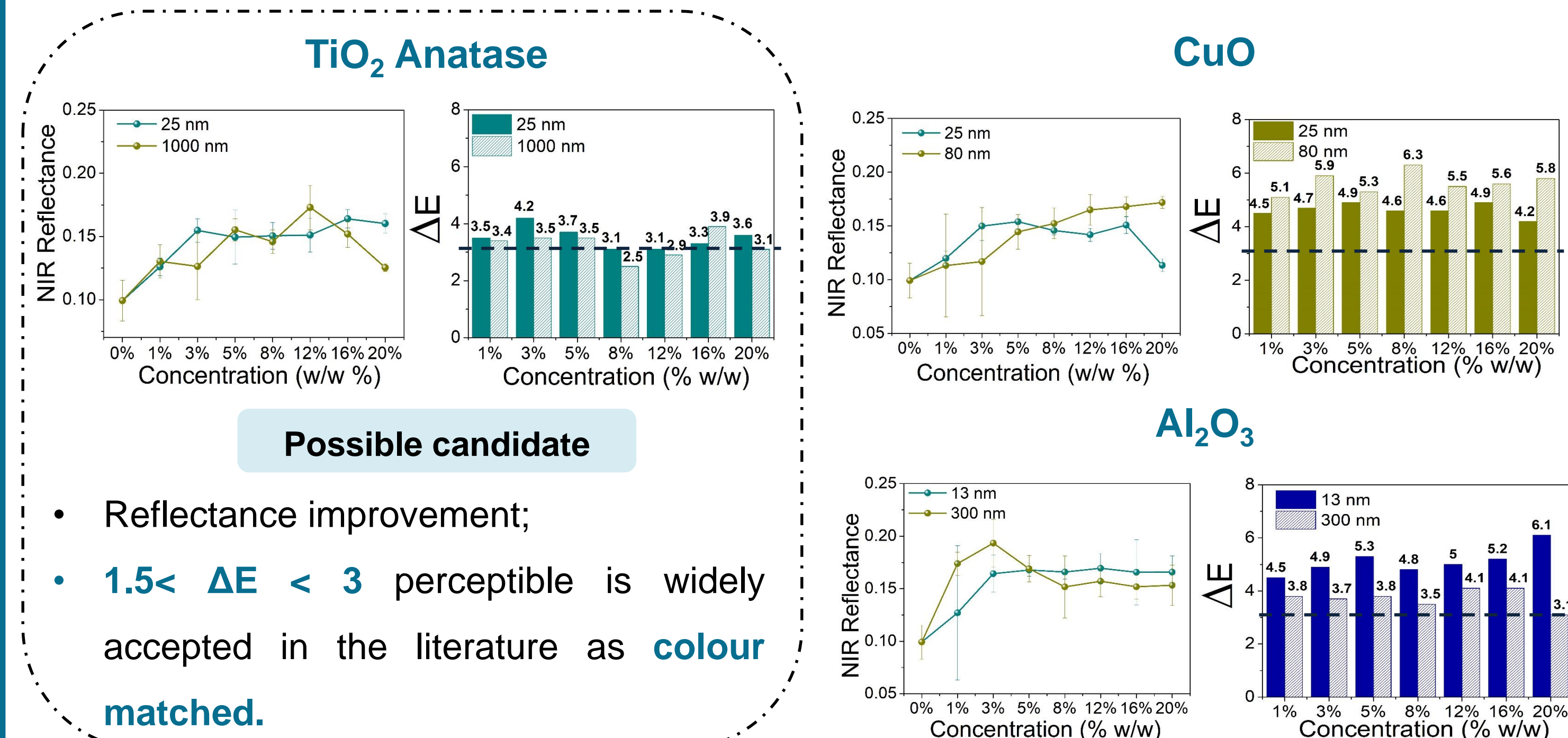


Optical properties assessment

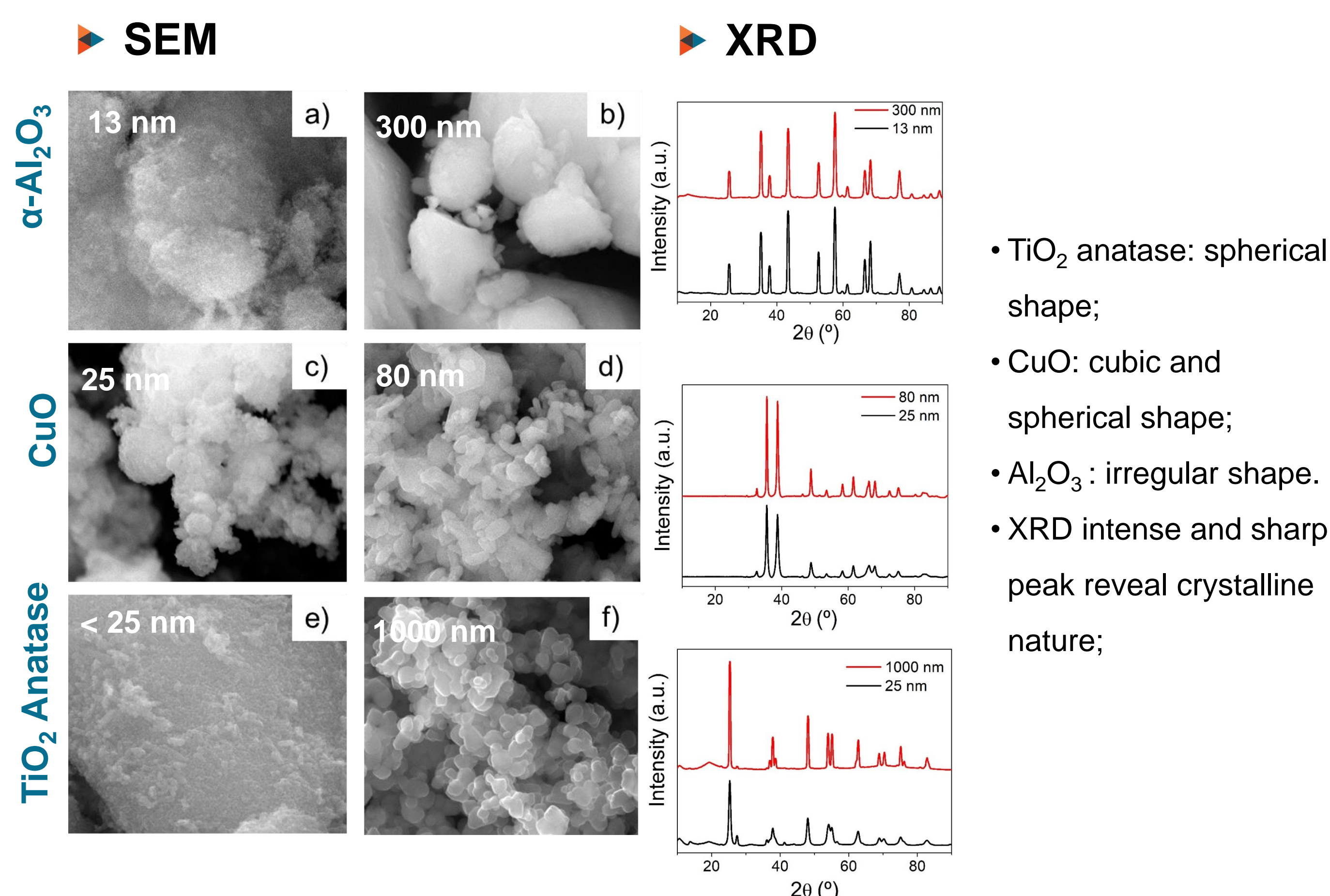
Nanomaterials reflectance and band gap calculation



Black colorant doped behavior in the NIR region and colorimetric analysis



Nanomaterials characterization



Summary & Perspectives

- The increasing tendency in **applying darker colours** in buildings increases the relevance of the inclusion of **high-reflective nanoparticles in black colorants for coatings**;
- Incorporation of nanoparticles** in the conventional black colorant **increases the reflectance** of the samples;
- It is possible to **enhance the performance of nanomaterials** in the NIR region, compared to conventional materials, providing a **similar visual aesthetic**.

References:

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Acknowledgements:

This work was financially supported by project Project PTDC/ECI-CON/28766/2017—POCI-01-0145-FEDER-028766—funded by FEDER funds through COMPETE2020—Programa Operacional Competitividade e Internacionalização (POCI) and by national funds (PIDDAC) through FCT/MCTES, project Circular2B - 37_CALL#2 - Circular Construction in Energy-Efficient Modular Buildings funded by EEA Grants and by Base Funding—UIDB/04708/2020 of the CONSTRUCT—Instituto de I&D em Estruturas e Construções—funded by national funds through the FCT/MCTES (PIDDAC). R. C. Veloso would like to acknowledge the support of FCT—Fundação para a Ciência e Tecnologia for the funding the doctoral grant SFRH/BD/148785/2019.