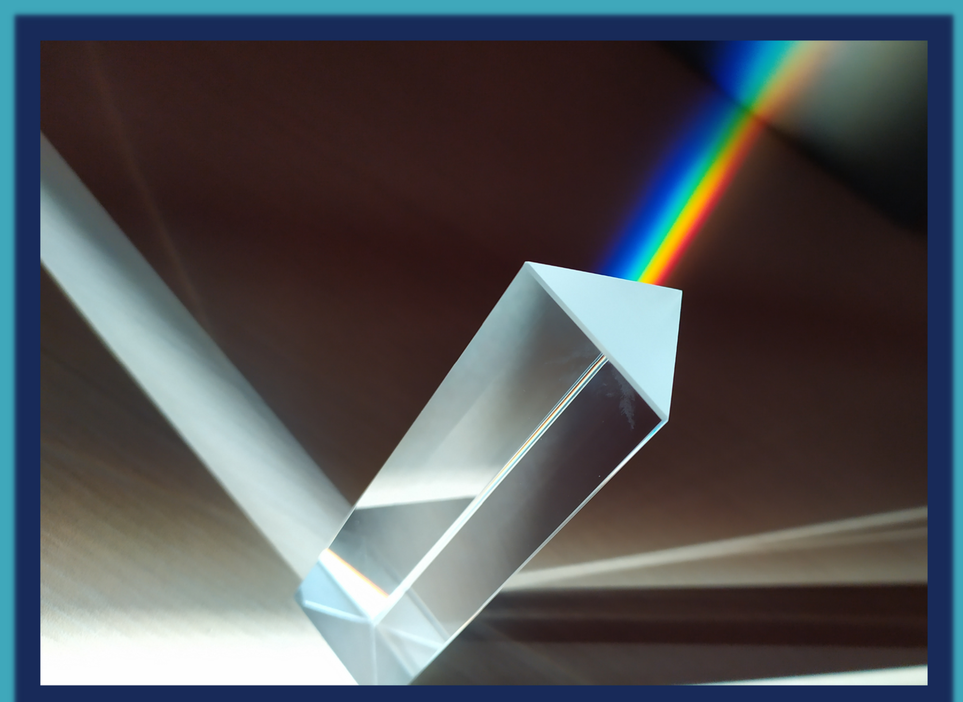
CHARISMA

Characterisation and Harmonisation for Industrial Standardisation of Advanced Materials

The CHARISMA Project aims to harmonise and standardise characterisation by Raman spectroscopy, including hardware, measurement protocols, and in silico methods, enabling end users to share digital spectral data through FAIR databases across domains and across the entire life cycle of diverse products.



Project Facts

- **5 Million** EU CONTRIBUTION
- **14** PARTNERS
- **48** MONTHS DURATION
- **9** COUNTRIES

Expected Impacts

RAMAN Harmonisation
- Increase calibration speed
- Minimize the deviation of Raman shift and intensity
- Pair similar and dissimilar Raman systems

Advanced Software and Interoperable Database
- Share, compare and analyse harmonised data under machine learning environment.

Security Raman Markers
- IoT security markers will break the dominant position in the market of multinationals based on the luminescent rare earth market.

Raman Active Food Packaging
- Increase safety and shelf-life

Industry
- Reduced goods cost and energy and raw materials consumption.
- Minimize waste production.

Case Studies

SECURITY
Nanomarkers

FOOD
Active food packaging

CHEMICAL INDUSTRY
Nanomaterial production

Harmonisation of Raman Spectra

OUR VIDEO

Project Objectives

- Normalise the use of harmonised Raman spectroscopy
- Develop models to harmonise Raman spectroscopy
- Harmonise Raman spectra
- Harmonise Raman characterisation data
- Standardise Raman protocols
- Demonstrate in industrial environments
- Generate a FAIR Raman data repository

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Partners

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