

# NanoSafe

*Improving technification, safe production and use of nanomaterials in stone sector*

*ERASMUS+ project number: 2020-1-DE02-KA202-007674*

## SUMMARY

### CONTEXT/BACKGROUND

Nanotechnology, in recent years, is dramatically revolutionizing the industrial development of new materials. The continuous advances in the field of nanotechnology, its rapid implementation throughout the industrial fabric and the high number of nanomaterials used in different industrial sectors, are coming up against a limited level of knowledge about the health and safety risks that nanomaterials generate for workers and the environment.

Now, the great revolution of nanotechnology, after great progress in other sectors, is reaching the construction sector, generating great changes in the traditional methodology of manufacturing construction materials. Therefore, it is necessary to reconsider the risk assessment and the effectiveness of preventive measures usually applied in workplaces with exposure to nano agents, together with the effects they have on health. The existence of an emerging risk has meant that the application of actions related to nanotechnology from an integrated, safe and responsible approach has become a central element of European Union policy. Adequate risk assessment of nanotechnologies has become a growing demand, affecting all organisations involved in the development and manufacture of nanomaterials. Professionals in the sector, during the manufacture, transport or handling of products derived from nanomaterials, may be exposed, by the involuntary release of nanoparticles in industrial processes. A retraining of professionals in the stone sector is necessary, which contemplates the special measures to be taken in each process, for each type of nanomaterial with specific associated risks.

On the other hand, the stone sector is taking a step forward in its commitment to the environment. Not only in terms of minimizing the environmental conditions generated, but also by integrating the general feeling of society in aspects related to conservation and respect for the environment. The determination of the environmental risk related to the improper handling of materials on a nano scale and the training in safe handling methodologies is essential to meet the European objective of applying nanotechnology as a safe and responsible tool.

### OBJECTIVES

In this context, the general objective of NanoSafe project is to develop an innovative training tool, through the development of multimedia materials based on a guide to best practices of manufacturing and handling for nanomaterials, aimed at training and qualifying professionals in the stone sector from an integrated approach to worker health and environmental safety.

## **PARTICIPANTS**

This project will contribute to provide stone workers with a better understanding of Health, Safety and environmental issues at workplace and contribute to their knowledge and use of related preventive measures and working procedures and facilitate their personal development and employability in a European level. Also, this project will also support the initial and further training of teachers, trainers, tutors and directors of VET institutions, providing them with a valuable tool for making courses on occupational risk prevention and green workplaces which are continuously applied to successfully achieve their training objectives. The main target groups and end users will be the following:

- Stone and constructions companies and workers
- VET organisations
- Universities and technology centres
- Labour risks organisations
- Public bodies

## **PRODUCTS**

The main results of the project are:

- O1. Guideline of risks, health and environmental prevention measures in safe production and use of nanomaterials in the Stone Sector
- O2. Production of 3D Training Tool for application of nanomaterials in the Stone Sector
- O3. OER for training and raising awareness

## **RESULTS**

The tangible results of this project will be:

- Provide stone workers with a better understanding of risk and safety at workplace and contribute to their knowledge and use of related preventive measures and working procedures in the use of application of nanomaterials in stone products.
- Promoting an ecological approach to working methods using nanomaterials in stone industries.
- Production of training materials in order to support to initial and continuous training of VET teachers, trainers, tutors and institution managers.



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