

“LEARN will measure and characterize indoor and outdoor air pollutants and evaluate the presence of biomarkers of exposure and their effect on children’s cognition, while also trying to recapitulate those effects using *C. elegans* as a biosensor.

Moreover, we will use advanced human-based in vitro models of lung and skin, coupled with a revolutionary multi-sensing device to investigate their mechanisms of toxicity in real-time.”



**Dr. Ernesto Alfaro-Moreno, Ph.D.**

Project coordinator



**1. Describe your project through three key words / key phrases that identify it.**

The LEARN project is an EU-funded initiative that aims to identify the levels of exposure to indoor air pollutant in children at classrooms. We are measuring the concentration of different pollutants using traditional methods and developing new sensors. We also use air-filtration systems to eliminate or reduce the concentrations of the indoor air pollutants.

Moreover, we run some cognition tests in the children, to understand the impact that air pollutants may have, and how the remediation (air filtration) may improve the condition. To understand the mechanisms of action of the air pollutants, some experiments are run using in vitro methods. We are also developing strategies to communicate our findings with society, stake holders and decision takers.

**2. In terms of impact, what are the most concrete results your project has or will achieve?**

The LEARN project will help to understand how the indoor air quality has an impact in the health and cognition of children, and how the remediation has a positive impact on these outcomes. We want to overcome the barriers of the currently existing technologies and use new scientific methods and state-of-the-art equipment. For that, we will develop and deploy novel sensors to detect the presence of possibly harmful air pollutants such as Volatile Organic Compounds (VOCs) and ultrafine particles (UFPs).

**3. Please describe your project overall impact at the European level**

The LEARN project aims to evaluate the impact of indoor air quality using cases from three different countries, Denmark, Belgium and Greece. Considering the differences among these three countries, we will be able to identify potential factors that may have a unique effect and therefore could be considered as factors to be evaluated all around Europe.

The scientific achievements expected to result from the LEARN project will unlock a large technology potential in indoor air quality for decades to come, leading to disruptive societal and economic impacts steaming from a radical improvement in the quality of life of children in Europe.

**4. As an applicant, what advice would you have wanted in the Horizon project design process? What support did you receive from National Contact point (NCP) and your organisation, and what improvement of support would you benefit from?**

For applicants with an innovative project idea in mind, it is essential to receive some guidance and advice on the call objectives and how to align your project idea with them.

It is also important to write a proposal that is well structured, has a compelling narrative, and arguments the added value of the project according

to the evaluation criteria used by the European Commission evaluators, in terms of excellence, impact and implementation.

It is especially relevant to stress not only the scientific and technological impact expected from the project, but also the societal, environmental, and economic impact that it may have in Europe.

Therefore, for a successful proposal, it is extremely helpful to receive some guidance on these matters, either from the National Contact Point (NCP) or consultancy firms with expertise in European Union Grants.

## **5. Project's strengths that are considered important and may serve as good practices for other applicants**

One of the main strengths of the LEARN project proposal was having a clear societal impact: to improve the quality of life of children in Europe and their life expectancy. We aim to expose the status of indoor air quality in schools and its impact in the health and cognition of children, highlighting the need for better practices and policies to improve it at the political level.

Moreover, the project aims for a clear scientific and technological impact, with the development of novel sensors and improved remediation strategies to better detect and prevent possibly harmful pollutants in schools.

The success of the LEARN project proposal was also possible by a consortium of twelve leading research teams, unrivalled in their respective fields, from environmental epidemiologists to toxicologists, air quality specialists, systems biology, engineers, as well as citizen and social scientists.

Check the video-interview to the LEARN project coordinator at [youtube.com/watch?v=6hnR82KvIM](https://www.youtube.com/watch?v=6hnR82KvIM)

For more information, please visit [learnproject-heu.eu](https://learnproject-heu.eu)

