



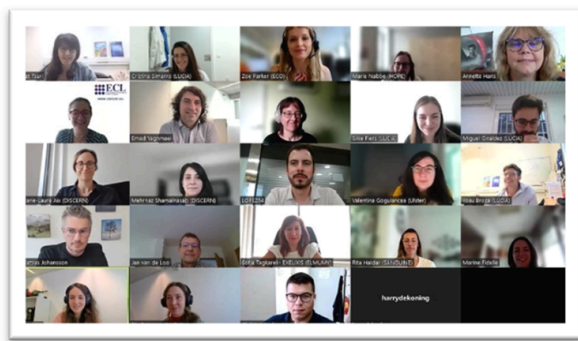
LUCIA has received funding from the European Union's Horizon Europe Research and Innovation Programme under Grant Agreement no 101096473 . Views and opinions expressed are however those of the authors only and do not necessarily reflect those of the European Union or the Health and Digital Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.



**L**Ung **C**ancer-related risk factors and their **I**mpact **A**ssessment

*Newsletter 4, December 2024*

## Our Social Lab Workshops



We are thrilled to share the main results of the Social lab workshops conducted within the LUCIA project earlier in 2024!

Our aim with these workshops was to identify barriers to the implementation of LUCIA technologies in lung cancer screening, to be able to prioritise them and to find solutions collaboratively by engaging different types of stakeholders as well as the LUCIA consortium.

Two Social lab workshops have been organised, one in May 2024 connected to the LUCIA Consortium meeting in Mannheim, and one in June 2024 online for stakeholders and representatives of other lung cancer research projects. Participants were asked to imagine a hypothetical future, 5 years after the end of the LUCIA project and brainstorm on potential barriers that may hinder the effective implementation and use of LUCIA technologies, as well as to predict potential unfavourable effects to mitigate. By identifying and later prioritising barriers, we aim to form a set of recommendations to avoid these challenges in the future in different healthcare systems.

As a next step, a prioritisation survey was conducted to be able to focus on those barriers having

the highest potential impact on the implementation of LUCIA technologies in real-life, while creating the strategy for LUCIA and recommendations for implementation. All barriers identified, with priority scores and recommendations will be published and openly available on the LUCIA website.

If you represent a stakeholder group, organisation or other lung cancer/ cancer screening related projects out of our scope, please reach out to us and we will be happy to include you in the following steps of finding potential solutions for the identified barriers.

Please note your interest through the LUCIA open call for interest form: <https://forms.office.com/r/rJ8cLAXDct> or write to Ivett Jakab, Research project manager at YAGHMA ([ij@yaghma.nl](mailto:ij@yaghma.nl)).

Open call for interest

## Two consortiums meetings



Since our last edition, the LUCIA Project consortium met twice in-person to exchange on the advancements of the project: once in May in Mannheim (Germany) and once in November in Seville (Spain).

During the first meeting, the key moment was the Social Lab Workshop described above. During the second edition, an important focus was on the clinical side and patient recruitment. The November meeting was also the occasion for partners to display the role of the Virtual Research Environment and the advancements of the LUCIA technologies! Both meetings brought great insights into the work of partners and ensure the progression of the project in a timely manner!

Huge thanks to the teams of the German Research Cancer Center (DKFZ), the University of Heidelberg, the Servicio Andaluz de Salud (SAS) and FISEVI for their warm welcome in Mannheim and Seville!

## Interviews with clinical partners:



Between September and October 2024, YAGHMA conducted a series of interviews with the clinical partners of the LUCIA Project: the University Hospital of Liège (CHUL), Biocruces Bizkaia (BB), the University of Latvia and the Servicio Vasco de Salud (SAS).

These exchanges were the occasion to discuss the first couple of months of the LUCIA clinical study and to raise some key challenges including logistics and participant recruitment. These findings were a key part of the LUCIA Consortium meeting in Seville, Spain, at the end of November where YAGHMA led a workshop to address these challenges and share the learnings.

## Enhancing Healthcare Personalization with the LUCIA Patient and Clinician Mobile Apps

EMODA specializes in Internet of Things (IoT), AI, web, and mobile development. We deliver integrated systems for the healthcare industry, enhancing applications with smart and medical device integrations.

As an IT company within the LUCIA project, we have concentrated on developing the LUCIA patient and doctor apps, which facilitate seamless communication with an innovative skin patch. This advanced wearable device continuously gathers data from sweat, transmitting vital information directly to the patient's smartphone. With these apps, both patients and healthcare professionals gain access to critical health insights, supporting early detection and enabling personalized intervention strategies for lung cancer risk management.

By improving connectivity between wearable technology and mobile platforms, we're contributing to a proactive and individualized healthcare approach. This empowers high-risk individuals to actively monitor and reduce their lung cancer risk, aligning with LUCIA's mission to improve early diagnosis and support effective healthcare solutions for the future.

## Lung Cancer Screening Risk Calculators: Selecting the Right Candidates

As countries begin implementing pilot lung cancer screening programs, one of the main challenges is determining who should be invited for screening. One promising approach uses risk prediction calculators, which assess an individual's likelihood of developing lung cancer over the next few years based on their personal exposure to various risk factors, such as tobacco smoking, asbestos, or previous lung diseases. Those identified as having a high risk of developing lung cancer are expected to benefit most from screening.

Information on exposure to these risk factors can be collected through questionnaires, making this approach both practical and efficient. Many of them are freely accessible online (for example, here, [ScreenLC.com](https://www.screenlc.com)). While several different risk calculators have been developed for lung cancer, these calculators have been tested with different groups of people, leaving some uncertainty as to which tools perform best and should be used in practice.

To address this issue, within the framework of the LUCIA study, a study was conducted to compare these lung cancer risk prediction calculators against each other. The findings from this study were important in selecting the most effective tool to be used for identifying high-risk individuals for participation in LUCIA's ongoing screening study. The results were also recently presented at the International Conference on Cancer Prevention 2024 in Heidelberg, to share these new insights with the scientific community.

Stay tuned for more updates on this research, as we continue to develop ways to identify those people who need screening the most!

## Three new blog posts!

Throughout 2024, LUCIA partners have been pretty active! The following blog posts were written by our partners to give you an insight into our work on various topics.

You can access all our blogposts on our website in the [Resources's section!](#)

## **Data-Driven Healthcare: The LUCIA Project's Vision for Precision Screening in Lung Cancer**

[Read me!](#)

## **Requirements Gathering in the LUCIA Project**

[Read me!](#)

## **Exploring Knowledge Graphs: A Primer on Representing Lung Cancer and Environmental Factors**

[Read me!](#)

## **Maximising efficiency and accuracy in the prospective medical study of the lung cancer-related risk factors and their Impact assessment through the development of a personalised eCRF**

[Read me!](#)

## **Clinical challenges in the identification of lung cancer risk factors - the LUCIA consortium response**

[Read me!](#)

## **Social lab workshops: identifying barriers to the implementation of LUCIA technologies in lung cancer screening**

[Read me!](#)

### **New publication by Professor Haick**

On 23 October, the book "Nature-Inspired Sensors" was published. It was edited by Professor Hossam Haick, LUCIA EU Project coordinator from Technion - Israel Institute of Technology.

Nature-Inspired Sensors explores the principles and innovations in nature-inspired materials for



multifunctional sensing. It reviews key mechanisms in humans, animals, and plants, and shows how structural features like porous and bristle-like designs enhance sensing functions such as self-cleaning, adhesion, and detection. The book also highlights the transition from lab to practical applications using AI-powered sensors like electronic noses and skins.

[Read the book](#)

## Cluster collaboration

### Prevention & Early Detection (Screening) cluster Joint LinkedIn Page!

In March 2024, the cluster on Prevention and Early Detection (Screening) launched a Joint LinkedIn page!

This is the place to be if you want to be informed about all our projects, about updates on the Cancer Mission and a lot of other things!



---

### The newsletter of the Prevention & Early Detection (Screening) cluster

In November 2024, the Prevention & Early Detection (Screening) cluster released its second newsletter!

In this edition, all the cluster projects (LUCIA, DIOPTRA, MammoScreen, ONCOSCREEN, PANCAID and SANGUINE) each present one of their key elements!

You can click on the button below to read about our last updates, and follow all projects if you wish to know more!

Issue 2  
November 2024

PREVENTION  
& EARLY  
DETECTION  
CLUSTER



## Cluster newsletter

Horizon Europe Health Research Cluster for a Healthy Society

DIOPTRA | LUCIA | MammoScreen | ONCOSCREEN  
PANCAID | SANGUINE

#PreventionCluster #EUmissions  
#HorizonEU #MissionCancer



Funded by  
the European Union



UK Research  
and Innovation

Project funded by

Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,  
Education and Research (SEK)  
State Secretariat for Education,  
Research and Innovation (SERI)

Read the newsletter!

## Understanding (risk factors & determinants) cluster: second meeting!



On 15 October 2024, the annual Understanding (risk factors & determinants) cluster meeting was held in the International Agency for Research on Cancer (IARC) facilities in Lyon, France, on

the behalf of the [DISCERN Project](#).

The LUCIA project was represented in person by Dr. Yoav Broza LUCIA's Project Manager together with Silke Fiers, LUCIA's legal representative.

Laura Garcia Ibanez, the HaDEA Project Officer, opened the meeting with details, updates and expectations from the European Commission. This was followed by presentations from all projects (DISCERN, LUCIA, MELCAYA, ELMUMY and GENIAL) presented showcasing the activities during the first 18 months of the projects. After a presentation on cancer data initiatives, the leaders of the cluster's sections – Research and innovation, Data Management Plan, Citizen Engagement, Addressing Inequalities – provided update on the cluster common work

## European Cancer Summit

On 20 and 21 November 2024, the European Cancer Organisation (ECO), part of the [Sanguine Project](#), organised the European Cancer Summit. As part of the Prevention & Early Detection (Screening) cluster, LUCIA was invited to display a presentation slide at the Summit!

### Understanding LUng Cancer related risk factors and their ImpAct



#### Background

**Lung cancer: leading cause of cancer deaths worldwide.**  
**Current 5 year survival rate following the diagnosis of all types of lung cancer: 21%.**



#### Our technologies



Sign up for our newsletter



#### Our solution

Develop a **toolbox** to discover and understand risk factors and causes of lung cancer via 3 domains

- 1 The personal risk factors
- 2 The external risk factors
- 3 The cellular process



Funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the Health and Digital Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

## News from the EU and other international agencies

- [Mapping Socio-economic Inequalities in Cancer Mortality across European Country \(IARC and European Commission, June 2024\)](#)
- [Europe's Beating Cancer Plan: Making a difference \(May 2024\)](#) - Factsheet on the advancements of Europe's Beating Cancer Plan after 3 years.



## Coming events

### International Symposium on Computer Based Medical Systems (CBMS)

Organised by LUCIA's partner UPM (Universidad Politecnica de Madrid), the CBMS conference focuses on computer-based medical systems and is one of the main conferences within the fields of medical informatics and biomedical informatics. The conference will be held in Madrid in June 2024.

Do you want to know more about LUCIA activities? Visit our website!



#### Sign up to receive our newsletter!

Stay in touch with LUCIA project's progress and results by subscribing to our newsletter. You can unsubscribe at any moment.

Subscribe

*Disclaimer: The information contained in this Newsletter is for information purposes only. The content of this Newsletter does not reflect the official opinion of the European Union. Responsibility for the information and views expressed lies entirely with the authors.*

This email was sent to <<Email Address>>

[why did I get this?](#) [unsubscribe from this list](#) [update subscription preferences](#)

LUCIA EU PROJECT · Avenue Marnix 30 · Bruxelles 1000 · Belgium

