

Endocrine disrupting chemicals and knowledge on health-related effects

HORIZON-HLTH-2023-ENVHLTH-02-03

ENKORE Cluster Deliverable

CLUSTER WEB PORTAL AND VISUAL IDENTITY

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I. Cluster Web Portal

1. Introduction

Using digital tools, the cluster carries out communication and dissemination activities online. ENKORE's online presence includes this website. The ENKORE website was created as a resource for communicating information about the cluster and increasing the range of each individual project, providing an overview of news, events, and results. During the cluster's duration, the website might expand in its functionality, depending on emerging needs. The content will expand as information becomes available. The domain <https://enkore-cluster.eu> was reserved by empirica.

The website is hosted by the service provider Alfahosting GmbH in Germany with GDPR compliant servers located in Germany. The content was created using the content management system WordPress. The website was developed by the EDC-MASLD project and its partner empirica. The site is written in English language. The site supports HyperText Transfer Protocol Secure (https). The web pages were published in August 2024.

2. Structure

As of its release, the ENKORE website contains the following pages:

- About
 - Cluster overview
 - Working groups
 - Endocrine Disrupting Chemicals
- News
- Events
- Contact

2.1 About

The page has no content and is not directly linked in the menu. It only exists for the hierarchical structure of the website.

2.1.1 Cluster Overview

ENKORE is a cluster of five research projects from the call **HORIZON-HLTH-2023-ENVHLTH-02-03 "Health impacts of endocrine-disrupting chemicals: bridging science-policy gaps by addressing persistent scientific uncertainties"**. The cluster aims to optimise synergies, strengthen collaboration, avoid overlaps and increase the impact of the individual projects.

These 5 EU projects are working on assessing the health impacts of endocrine disrupting chemicals:

EDC-MASLD

EDC-MASLD investigates the impact of environmental exposure to EDCs on the internal exposome (metabolome, gut microbiome, epigenome, proteome, immunome) and the degree of liver damage in MASLD – the condition of excessive accumulation of liver fat unrelated to alcohol intake, ranging from simple steatosis to metabolic dysfunction-associated steatohepatitis. EDC-MASLD is particularly focused on interactions between EDC exposure, sex, genotype, diet, socioeconomic and lifestyle factors, via the



data and bio-samples available in the unique European NAFLD Registry, comprising over 9,000 patients with histologically characterised MASLD.

<https://edc-masld.eu>

ENDOMIX

The ENDOMIX project addresses the urgent need to understand the true impact of endocrine disrupting chemicals (EDCs) on human health to inform regulators and advise citizens. ENDOMIX tackles this challenge by investigating associations and causality between EDCs and adverse health outcomes, focusing on exposure to multiple EDCs during life course including windows of susceptibility and making use of already existing robust data from multiple European cohorts. The knowledge generated will be disseminated to the scientific community, provide a thorough new evidence base for policy making and will reach citizens to raise awareness about the risks of EDC exposure.

<https://endomix.eu/>

HYPIEND

HYPIEND is one of the first projects to study EDCs effects on the hypothalamus-pituitary axis using a multidisciplinary approach, including preclinical models and two European-wide clinical studies. The findings will be used to delineate interventional strategies for minimizing EDC exposure and consequences on the neuroendocrine system in pregnant and breastfeeding women and perinatal and pre-pubertal children.

<https://hypiend.eu/>

MERLON

The MERLON project aims to improve our knowledge on how EDC exposures at critical life stages impacts sex development and reproductive health, with a goal to improve on available tools for EDC identification. It brings together world-leading experts in endocrinology, chemical safety assessment, developmental and molecular biology, epidemiology, toxicogenomics, toxicokinetics modelling, regulatory toxicology, and psychology to tackle to investigate EDC-mediated effects on sexual development, providing human data on the role of EDC exposure during fetal development and changes in mini-puberty, connecting to puberty, reproductive function, and gender incongruence.

<https://merlon.dtu.dk/>

NEMESIS

NEMESIS addresses the adverse metabolic effects of EDCs through a multidisciplinary approach and responds to unmet regulatory needs regarding EDCs. NEMESIS aims to elucidate the mechanisms and dose-dependency of metabolic disruption by EDCs and their mixtures in liver and pancreas as well as their effects on gut microbiota through in silico, in vitro, in vivo, epidemiological and systems biology approaches. The consortium will support risk assessment by improving regulatory testing guidelines by incorporating metabolic endpoints and developing AOPs and IATAs. Engagement with citizens and stakeholders ensures effective risk communication and maximizes the impact of NEMESIS on policy development.

<https://www.nemesis-project.eu/>



2.1.2 Working Groups

The ENKORE cluster was established in January 2024. Since its formation, the cluster has set up three working groups (WGs) with a special thematic focus to explore and exploit synergies and prevent redundancies among the participating projects. These WGs focus on key areas of shared interest: science-to-policy translation, data analysis, and communication and dissemination. Each WG is led by specific projects, with active participation from all other projects in the cluster.

WG1: Science translation for policy and practice

The Science translation for policy and practice Working Group aims to synthesise the findings and recommendations developed by the individual cluster projects and develop joint policy briefs and recommendations in alignment with EU policies and strategic priorities.

Specific objectives of the WG:

- Compiling and integrating research findings of the cluster projects into clear, actionable policy recommendations
- Tracking and analysing current policy trends
- Creating and distributing joint policy briefs and reports to inform decision-makers and the public about key findings and recommendation to promote the adoption of policies based on robust scientific evidence regarding EDCs

Contact: Marie Louise Holmer (mlou@food.dtu.dk) (MERLON)

WG2: Data analysis/management and protection

The Data Analysis Working Group focuses on developing and applying advanced data analysis techniques, ensuring high standards in data management, and protecting sensitive information within ENKORE and across the five participating projects.

Specific objectives of the WG:

- Exchanging best practice approaches to data analysis techniques to extract meaningful insights on EDC-related health effects
- Discussing and evaluating data management solutions to maintain high data quality, accuracy, and reliability across all projects
- Providing instructions for data interoperability and facilitating exchange
- Developing a common data management plan for the cluster activities

Contact: Matej Oresic (matej.oresic@oru.se) (EDC-MASLD)

WG3 Communication and Dissemination

The ENKORE Communication and Dissemination Working Group is dedicated to effectively sharing the cluster's common findings and activities with diverse audiences. The WG defines the dissemination and communication strategy of the cluster and coordinates its implementation in alignment with the cluster coordinators.

Specific objectives of the WG:

- Raising awareness of the cluster and the participating projects and their aims, outcomes, and societal impacts



- Sharing knowledge about the health effects of EDCs
- Promoting results of the cluster and the individual projects to ensure uptake by relevant stakeholders
- Informing policy and decision-making processes by highlighting project findings and recommendations

Contact: Katharina Krischak (kkrischak@eibir.org) (ENDOMIX)

2.1.3 Endocrine Disrupting Chemicals

The endocrine system is a vital network of glands and organs responsible for producing hormones that regulate essential biological processes, including growth, fertility, and reproduction. Endocrine Disrupting Chemicals (EDCs) are substances that can interfere with this system, leading to potential health issues.

What are EDCs?

EDCs are natural or synthetic chemicals that can mimic, block, or interfere with the body's hormones. These chemicals can be found in various sources and can enter the body through breathing, eating, drinking, or skin absorption. Some EDCs act as "hormone mimics," while others block natural hormones or alter the body's ability to produce, release, or eliminate hormones. Continuous exposure to EDCs disrupts the delicate balance of the endocrine system.

The Impact of EDCs on Health

EDCs are linked to a range of health problems. They are known to cause cancers, infertility, reproductive health issues, diabetes, obesity, and thyroid disorders. Recent decades have seen a rise in reproductive health disorders and a decline in fertility rates, which may be connected to increased exposure to EDCs.

EDCs and Metabolism

EDCs can disrupt lipid and glucose metabolism in organs like the liver, pancreas, and gut. This disruption can lead to metabolic diseases such as obesity, non-alcoholic fatty liver disease, and type 2 diabetes. EDCs can act directly by interacting with hormone receptors or indirectly by altering the epigenome. Early-life exposure to EDCs can reprogram metabolic processes, potentially leading to lifelong and even transgenerational health effects.

EDCs and Liver Disease

Exposure to EDCs is particularly concerning regarding metabolic-associated fatty liver disease (MASLD). EDCs may reprogram liver metabolism during early life, promoting MASLD. They can exacerbate the effects of a high-fat diet, genetic predispositions, and lifestyle factors, acting as a "second hit" that advances liver damage. Some evidence suggests EDCs might also serve as the "first hit," compromising the liver's ability to handle over-nutrition and leading to more severe conditions like steatohepatitis and cirrhosis.

The Hypothalamic-Pituitary Axis and EDCs

The hypothalamic-pituitary axis, where the central nervous system and endocrine system converge, is particularly vulnerable to EDCs. This axis regulates critical hormones like thyroid-stimulating hormone (TSH), growth hormone, and oxytocin, which coordinate growth, lactation, and stress response. Disruption in this system can have profound effects on bodily functions and overall health.

Sources of EDCs

EDCs are pervasive and can be found in:



- Pesticides
- Clothing, furniture, paints, and electronics
- Food and beverages
- Food contact materials
- Plastics and plasticizers
- Personal care products
- Household cleaning products
- Children's toys
- Industrial chemicals

Regulatory and Research Efforts

The growing concern over EDCs has prompted significant research and regulatory efforts. [Projects in this cluster](#) specifically analyse EDC impacts various health outcomes. Reports, such as "Endocrine Disrupting Chemicals: Threats to Human Health" by the Endocrine Society, highlight the severe implications of EDC exposure. However, despite these efforts, the mechanisms of EDC action are still not fully understood, and the lack of detailed mechanistic data and predictive models poses challenges for risk assessment and regulation.

The European Commission's [Strategy on Endocrine Disruptors](#) was adapted in 2018 and has not been updated since. Various ongoing initiatives address the relationship between chemicals and health, for example, the [8th Environment Action Programme](#), the [Zero Pollution Action Plan](#), the [EU's chemicals strategy for sustainability towards a toxic-free environment](#), the [Regulation on the registration, evaluation, authorisation and restriction of chemicals \(REACH\)](#), the [Regulation on the Classification, Labelling and Packaging of Substances and Mixtures \(CLP\)](#), the [Cosmetic Products Regulation](#), and the [OECD's Revised Guidance Document 150 on Standardised Test Guidelines for Evaluating Chemicals for Endocrine Disruption](#).

EDCs represent a significant challenge to public health due to their ability to disrupt the endocrine system and contribute to a variety of health problems. Understanding and mitigating the effects of EDCs require continued research and comprehensive regulatory approaches to ensure the safety and well-being of current and future generations.

How ENKORE contributes

ENKORE brings together 5 different EU research projects which study different health impacts of EDCs. The cluster focuses on exploring and exploiting synergies between these projects from research questions to data analysis, and interoperability, to translating the science into policy by compiling findings and evidence and tracking the policy making process. For this, the cluster has established three [Working Groups](#).

2.2 News

The News page includes posts on:

- Cluster updates, including working group outcomes, policy briefs, fact sheets, presentations, other dissemination materials
- Upcoming cluster events
- Individual project updates, including outcomes, reports, policy briefs, fact sheets, deliverables (public), publications, other dissemination materials



- Upcoming project events

2.4 Events

The events page includes posts on:

- ENKORE's own events (conferences, workshops, seminars, etc.)
- Individual project events
- General events on EDCs

The information on a single event includes:

- Event name
- Event description (free text)
- Start date and time
- End date and time
- For events which span more than one day a "all day event" taxonomy is available
- Location (online, or address)
- Event website (if available)
- Event registration link (if available)

2.5 Contact

ENKORE coordination 2024: MERLON/ENDOMIX

- MERLON: Terje Svingen tesv@food.dtu.dk
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ENKORE communication:

Katharina Krischak kkrischak@eibir.org (ENDOMIX)

ENKORE projects:

- EDC-MASLD: Tuulia Hyötyläinen tuulia.hyotylainen@oru.se
- ENDOMIX: Ana Zenclussen ana.zenclussen@ufz.de
- NEMESIS: Jaana Rysä jaana.rysa@uef.fi
- MERLON: Terje Svingen tesv@food.dtu.dk, Project Manager Sofie Christiansen sochr@food.dtu.dk
- HYPIEND: Chiara Baudracco info@hypiend.eu / chiara.baudracco@eurecat.org



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THE ENKORE CLUSTER ON ENDOCRINE DISRUPTING CHEMICALS AND KNOWLEDGE ON HEALTH-RELATED EFFECTS

ENKORE is a cluster of five research projects from the call **HORIZON-HLTH-2023-ENWHLTH-02-03 "Health impacts of endocrine-disrupting chemicals: bridging science-policy gaps by addressing persistent scientific uncertainties"**. The cluster aims to optimise synergies, strengthen collaboration, avoid overlaps and increase the impact of the individual projects.



THE PROJECTS



[Find out more about the projects](#)

News

[ALL NEWS](#)

Launch and Kick-Off Meeting of the ENKORE Cluster in Brussels!

17 June 2024

The ENKORE Cluster had a successful launch on June 14, 2024 at the European Commission in Brussels. We had an incredible day of discussions, insights, and collaboration as we launch the ENKORE ...

[read more](#)

Events

[ALL EVENTS](#)

ENKORE Cluster Kick-Off Meeting

14 June 2024 – 14 June 2024

As part of the final EURION conference, the ENKORE cluster as its successor, is launching on June 14, 2024 at the European Commission in Brussels. ENKORE, which stands for Endocrine ...

[read more](#)

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Funded by the European Union

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Screenshot of the ENKORE website



3. Additional and future content

Additional and future content can include:

- A “Results” / “Resources” page that features the following sub-pages and content:
 - Presentations (public presentations from ENKORE cluster meetings or workshops)
 - Publications (from all projects)
 - Reports (Summary reports from cluster meetings and workshops)
 - Policy briefs (outputs from WG2)
 - Newsletters
- The ENKORE factsheet or brochure, to be featured under the “About” page or “Results”/“Resources” once it is available

4. Conclusion

The ENKORE Cluster is using state-of-the-art technology and functions as the main information source for the public during the project’s lifetime. In the future, additional functions can be made available whenever needed for the purpose of communication and dissemination.

II. Joint Visual Identity

1. Introduction

This document serves as a comprehensive resource for all cluster projects, providing them with the necessary materials and guidelines to effectively promote the ENKORE cluster. The document contains a range of items, including branding guidelines, templates for presentations and social media, and more. The goal of this document is to streamline the visual identity of the cluster among all involved parties.

2. Visual identity

2.1 Cluster name and acronym

At the start of the clustering activities, the coordinators of the five cluster projects agreed on the cluster name and acronym. The name was chosen to describe the joint aim of the projects and therefore the cluster: “Endocrine disrupting chemicals and knowledge on health-related effects”. Since the idea was to provide a sense of continuation of the cluster’s predecessor, the EURION cluster, the acronym ENKORE was chosen.

2.2 Branding guidelines

The ENKORE cluster visual identity plays a crucial role in maintaining a consistent and professional image across all communication materials. To ensure that all projects of the cluster adhere to the same design principles, a set of branding guidelines has been developed. These guidelines cover various aspects of the cluster’s visual identity, including logo usage, typography, colour palette, and other design elements. By following the branding guidelines, partners can ensure that all ENKORE-related materials are easily recognizable and convey a unified message.

2.3 Logo usage

A professional, custom-made logo was prepared for the ENKORE cluster. It is an essential component of the cluster’s visual identity.

This section outlines the proper use of the logo, including placement, sizing, and any restrictions on altering its design. By adhering to these guidelines, partners can ensure that the logo is used consistently across all communication materials.

2.4 Colours

The ENKORE logo was designed to incorporate the primary colours of each project within the cluster. The logo is available in a full colourway, which is to be used whenever possible and legible. Whenever the logo is used, it should be surrounded with clear space to ensure its visibility and impact. No graphic elements of any kind should invade this zone. The minimum whitespace surrounding the logo should be 50% of the logo’s vertical height of the typography, at all sides.

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2.5 Typography

Typography plays a significant role in maintaining a consistent visual identity for the ENKORE cluster. This section provides details on the typefaces, font sizes, and font styles that should be used in cluster materials, as well as any recommended usage for headings, subheadings, and body text.

For deliverables and milestones reports, Helvetica is the chosen typography.






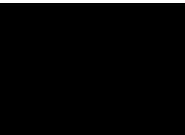
Font sizes should be selected for optimal legibility and not condensed.

Increased font weights should be used for emphasis, together with a colour emphasis.

2.6 Colour palette

The ENKORE cluster's colour palette consists of a set of primary and secondary colours that have been carefully chosen to represent the cluster's values and goals. This section outlines the specific colour codes (HEX, RGB and CMYK) for each colour in the palette and provides guidelines on how to apply these colours to various communication materials.

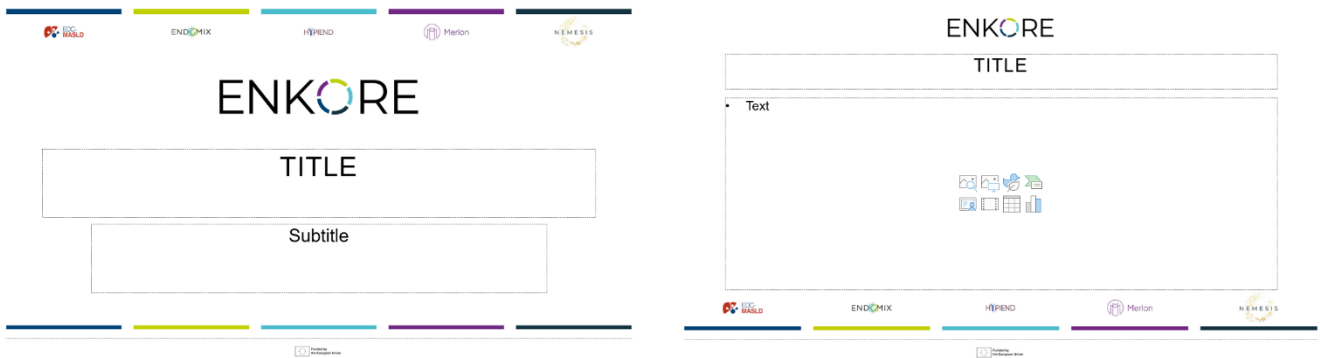
Based on the logo, the following colour palette was developed for the cluster:

Colour	Dark Blue	Green	Light Blue	Purple	Dark Slate Blue	Black
Swatch						
HEX	#004377	#C1D008	#4BBCCE	#722983	#143441	#000000
RGB	0, 67, 119	193, 208, 8	75, 188, 206	114, 41, 131	20, 52, 65	0, 0, 0
CMYK	100%, 44%, 0%, 53%	7%, 0%, 96%, 18%	64%, 9%, 0%, 19%	13%, 69%, 0%, 49%	69%, 20%, 0%, 75%	0%, 0%, 0%, 100%
Comment	Primary colour for headlines in templates. This colour represents EDC-MASLD	Secondary colour for headlines in templates. This colour represents ENDOMIX	Subordinate headlines in templates. This colour represents HYPIEND	Colour used in tables in templates. This colour represents Merlon	This colour represents NEMESIS.	Colour used for the font in templates and website

2.7 Templates

A PowerPoint template has been developed for use by all cluster projects. This template includes pre-designed slide layouts, typography, and colour schemes that adhere to the cluster's branding guidelines:





ENKORE PowerPoint Template

Additionally, uniform word templates were prepared for ENKORE reports and deliverables:



ENKORE Word Template

All templates are available for all members of the Communication and Dissemination WG in the file archive on Google Drive and have been shared with the project coordinators.

On all material, electronic or printed (conference presentations, publications, information material, media relations, social media, patent applications), the EU emblem is displayed, and the EU funding is acknowledged. When displayed in association with the logos of the cluster project, the emblem is displayed as visibly as the other logos.

3. ENKORE online presence

3.1 Cluster website

The ENKORE cluster website, enkore-cluster.eu, has been developed as the main public-facing online presence for the cluster.

Currently, it contains the most important information about the cluster and efforts were made to keep the information understandable for the general public.

All future public deliverables and reports, press items and other dissemination material will be made available for download on the website.

The website is a constantly changing and evolving platform. The initial release provides basic functionality and information, but this will change over the course of the cluster. This also means that the overall look of the website can change, and the order of pages and information will be tweaked and finetuned as well. For more details about the website, please refer to the deliverable available on the common web-portal.

For the website design, the following banner was designed:



3.2 Social media

In addition to the cluster website, an online presence for the ENKORE cluster has been established on social media. Currently, this includes an [X profile](#) and a [LinkedIn showcase page](#). The partners will use social media platforms, such as X and LinkedIn, to raise awareness and disseminate information on the cluster's work.

It is expected from the projects to use consistently the hashtag #ENKORE on X and LinkedIn accounts for recognizability of the cluster. Furthermore, it is advised to use the following hashtags in acknowledgement of the EU's funding to the project: #HorizonEU, #HorizonEurope and #EUfunded.



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Additional hashtags to consider for posts include keywords associated with the ENKORE cluster and its objectives, such as #EDCResearch, #HealthResearch, #EnvironmentalHealth, #EUHealth, #EUEnvironment, #PublicHealth, #ResearchEU, #ScienceEU. In the future, specific hashtags can be developed to highlight the cluster's outcomes or events as necessary.

Social media activities will, where possible, tie in with relevant European or global events such as the World Health Day (April 7), the European Hormone Day (April 24), International Day of Immunology (April 29).



Social media cards were created for the ENKORE kick-off meeting and to provide information about the cluster



ENKORE ENKORE Cluster
63 Followers
2mo •

Exciting news: Launch and Kick-Off Meeting of the ENKORE Cluster in Brussels!

We are having an incredible day of discussions, insights, and collaboration as we launch the ENKORE cluster at the [European Commission](#) in Brussels, focusing on the critical issue of endocrine-disrupting chemicals (EDCs) and their impact on human health.

ENKORE, which stands for Endocrine Disrupting Chemicals and Knowledge on Health-Related Effects, brings together five pioneering research projects dedicated to understanding and mitigating the impact of EDCs on human health.

The knowledge shared within the ENKORE cluster will significantly shape our approach to managing and mitigating the risks associated with EDCs. We are excited about the road ahead and the potential to make meaningful changes in public health policies and awareness.

A big thank you to the #EURION cluster and all the experts, researchers, and participants contributing to today's event. Let's continue to work together to protect our health and environment from the risks of endocrine disruptors.

#ENKORE #EURION #EDCResearch #PublicHealth #Toxicology #Innovation #PolicyMaking #HealthAwareness #EUFunded #HorizonEU

European Health and Digital Executive Agency (HaDEA) | EU Science, Research and Innovation | DTU - Technical University of Denmark | Helmholtz Centre for Environmental Research (UFZ) | Örebro University | EURECAT | University of Eastern Finland



ENKORE cluster kick-off meeting post on LinkedIn, with 2,048 impressions by August 19th, 2024

Templates for social media posts have been prepared as well. Examples can be seen below. The open design files are available to the cluster through the Working Group on dissemination and communication.





Social media templates for LinkedIn and X

4. Conclusion

The ENKORE cluster has established a clear and strong visual identity. All cluster projects were actively engaged in taking the decisions for the visual identity. This document provides a unified framework to support the consistent and effective promotion of the ENKORE cluster across all associated projects. By adhering to the branding guidelines, using the provided templates, and following the outlined recommendations, all projects can contribute to a cohesive visual identity that reflects the core values and objectives of the cluster. As we move forward, the materials and guidelines within this document will serve as a key resource, ensuring that our collective efforts are aligned, and our message remains clear and consistent.