



# THE EURO-GLOBAL PLATFORM FOR MECHANISM-BASED DRUG REPURPOSING

NEWSLETTER

NO. 1 – JANUARY 2023

Dear [colleague](#),

Welcome to REPO4EU's very [first newsletter](#) and thank you for your interest in our work! Below, you will find REPO4EU's core principles and milestones we have focused on these past 5 months since the project started.

Looking forward to a spectacularly successful 2023 letting our paths cross!

Harald Schmidt  
COO REPO4EU  
Maastricht University

## About REPO4EU

---

REPO4EU is the [Euro-Global Platform for Mechanism-Based Drug Repurposing](#), an ambitious initiative that we believe will usher in a profound change to medicine and patient benefit.

### Why drug repurposing?

Finding a new application for a drug that is already on the market reduces the time and costs of drug development. It allows us to prioritize patient benefit and safety, as most side effects are already known.

### Why mechanism-based?

Currently, most diseases are defined by symptoms in specific organs. There is no understanding of its molecular causes. This makes current approaches to drug development (and drug repurposing) risky and imprecise. Thus, our platform combines all legal and business requirements to repurpose a drug with world-class research to completely redefine diseases by their molecular causes, implementing precision diagnostics for patient selection and selecting the optimal drugs to treat the underlying cause.



---

## The road so far...



### Making connections at the start of our journey

Our coordination team organised a very successful [project kick-off in Maastricht](#), together with the [RExPO22 conference](#). We also met the [RepoOG](#) operating group of European national regulators on drug repurposing.

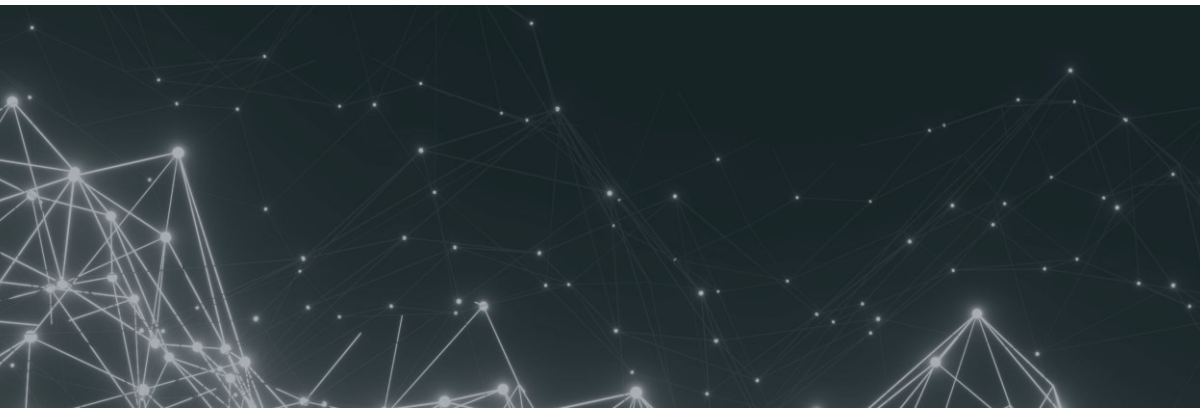
---

### Setting the stage for the future of drug repurposing

As part of the project's foundational work, we have started collecting [tools](#), [data sources](#) and [standards](#) relevant for drug repurposing for later prioritisation and open access. Similarly, and in order to streamline preclinical validation efforts, we have prepared an overview of [accessible data](#), [contacts](#) and [ethical requirements](#) to get access to samples stored at different European biobanks. This is essential to train our diagnostics platform technology.

In parallel, an [internal baseline technology readiness assessment](#) has already been initiated to start the build-up of [RepoScope](#), a unique database making repurposing-relevant patents and peer-reviewed papers from 2010 onwards available in a useful linked form.

---



---

## Real-world data-driven Artificial Intelligence

Our AI experts have developed a plan for a [generative statistical model](#) that can predict mechanistic disease subtype labels. The model can be trained in a semi-supervised way, using both labelled and unlabelled data. This technology will be applied in our upcoming REPO-HYPER clinical trial for [resistant hypertension](#).

---

## Unlocking the full potential of drug repurposing clinical trials

REPO4EU has produced [guidelines](#) for conducting an extended [freedom to operate \(FtO\) analysis](#) and analysed all intended clinical trials. REPO4EU mainly enables academics (the untapped resource) to perform and consider all relevant steps in drug repurposing up to conducting a clinical phase II (proof of concept) trial.

One of these trials ([REPO-HYPER](#)) will be conducted at the Karolinska Institutet, Stockholm. An inquiry has already been prepared to the Swedish component authority for this purpose.

---



### Ethics in the spotlight

To guarantee an [ethics-by-design](#) process, two surveys have been developed to map ethical and data protection issues. The pilot will be applied to REPO-HYPER, including the [data protection challenges](#) in Machine Learning-assisted patient screening.



### A new outlook on HTA

Our experts have started brainstorming on a [white paper](#) on [Health Technology Assessment \(HTA\) in drug repurposing](#). Feedback is now being collected to ensure a broader view from all stakeholders is adequately integrated within REPO4EU.



### Calling all stakeholders - REPO4EU is an open platform!

REPO4EU invites all key actors in drug repurposing to be part of our platform to ensure its inclusiveness and completeness. We are currently developing an [open publishing portal](#), archiving and journal structure for the entire community - our collection on [Drug Repurposing Research](#) publications on ScienceOpen is already live!

---

This year, we will also organize several [national events](#) to get in direct contact with local stakeholders. The first one is already underway: it will take place in sunny [Madrid](#) this March. And that's not all - many more exciting opportunities are on the horizon! National events in [Munich](#) and [Vienna](#) are in preparation. The upcoming [RExPO23](#) conference will be hosted in Stockholm... and a US edition of our RExPO series is coming in 2024.

Stay tuned - 2023 has just begun!

