



# The LIFE-VERMEER Project in a nutshell

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# The LIFE VERMEER project

Start date: 9-2017

End date: 4-2022



Integrating **VEGA**, **ToxRead**, **MERLIN-Expo**, and **ERICA** in a platform for risk assessment and substitution of risky substances

- Towards substitution:**
1. Identification of the risky substances
  2. Identification of possible substitutes
  3. Application to **6** case studies



# Beneficiaries

- Coordinating beneficiary:

- ✓ *Istituto di Ricerche Farmacologiche Mario Negri IRCCS*

- Associated beneficiaries

- ✓ *Angel Consulting SAS*

- ✓ *Federal Institute for Risk Assessment (BfR)*

- ✓ *Electricité de France (EDF)*

- ✓ *ÅF Making Future.*

- ✓ *Institut National de L'Environnement Industriel et de risques (INERIS)*

- ✓ *KODE srl*

- ✓ *SC Sviluppo Chimica S.p.a*

- ✓ *SCIENSANO*





# Problems for substitutions

- Multitask problem
- Multiple perspectives: **adverse** properties and **functional** use
- **Adverse properties:** related to both hazard and exposure, *public* and *private* context
- **Functional use:** specific industrial interest



# VERMEER: the context

- **VERMEER:** adverse aspects, not functional uses; only one case study as proof of principle
- **Strong reference to in silico models:** no need of tests, experiments, multiple endpoints





# Problems in the use of in silico models

- Lack of single system for hazard and exposure
- Lack of Official Guidance
- Models availability: where to find “my” model”
- Models redundancy: which model should I use?
- Integration of the results (Weight of evidence): how to solve conflict?
- Interpretation of the results: applicability domain, documentation...
- Easiness of the tools: a tool for the purpose



# The solution

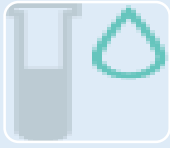
- Reference to **VEGA** and **MERLIN-Expo** (**ECHA, EFSA**)
- **One-shop** system, specific for target (FCM, cosmetics, etc.)
- **Multiple models wrapped** for hazard and exposure
- Weight of evidence implemented
- Interpretation of the results: applicability domain, documentation, uncertainty
- Easiness of the tool: **Sphera Tools**, a living platform



# The Case studies



*Food Contact Materials*



*Biocides*



*Oil fractions*



*Solvents*



*Dispersants*



*Cosmetics*



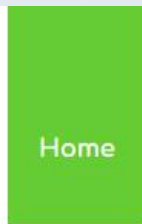


# The strategic view

- The **Sphera Tools** are focused on specific case studies
- Past approach: collections of models for separate endpoints
- **New vision:** the ontology is much closer to the real application: clusters of tools for a specific purpose
- **Common system** for industry and authorities, for assessment of adverse characteristics
- **Regulatory framework and thresholds** in the system
- Functional use to be inserted in ToxEraser



<https://www.life-sphera.eu/>



Software Developers Contacts



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## A new software system for cosmetics

Within the LIFE VERMEER project, a new software system for cosmetics has been designed allowing an overall evaluation of cosmetic ingredients and providing detailed investigation of cosmetics risk scenarios.



# Today and future steps



- The **Sphera Tools** exist. They are for risk assessment. A common system for authorities and industry



- **ToxEraser** is for substitution: it opens the door

- It is up to industry to continue the journey
- The same IT system should be used: for the risk and for the beneficial properties



thanks!