FACULTY OF CIVIL AND ENVIRONMENTAL ENGINEERING
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Interreg Danube Region
Tethys
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An open database tool for collection of concentration data from multiple environmental matrices to support inventorying of emissions to surface waters

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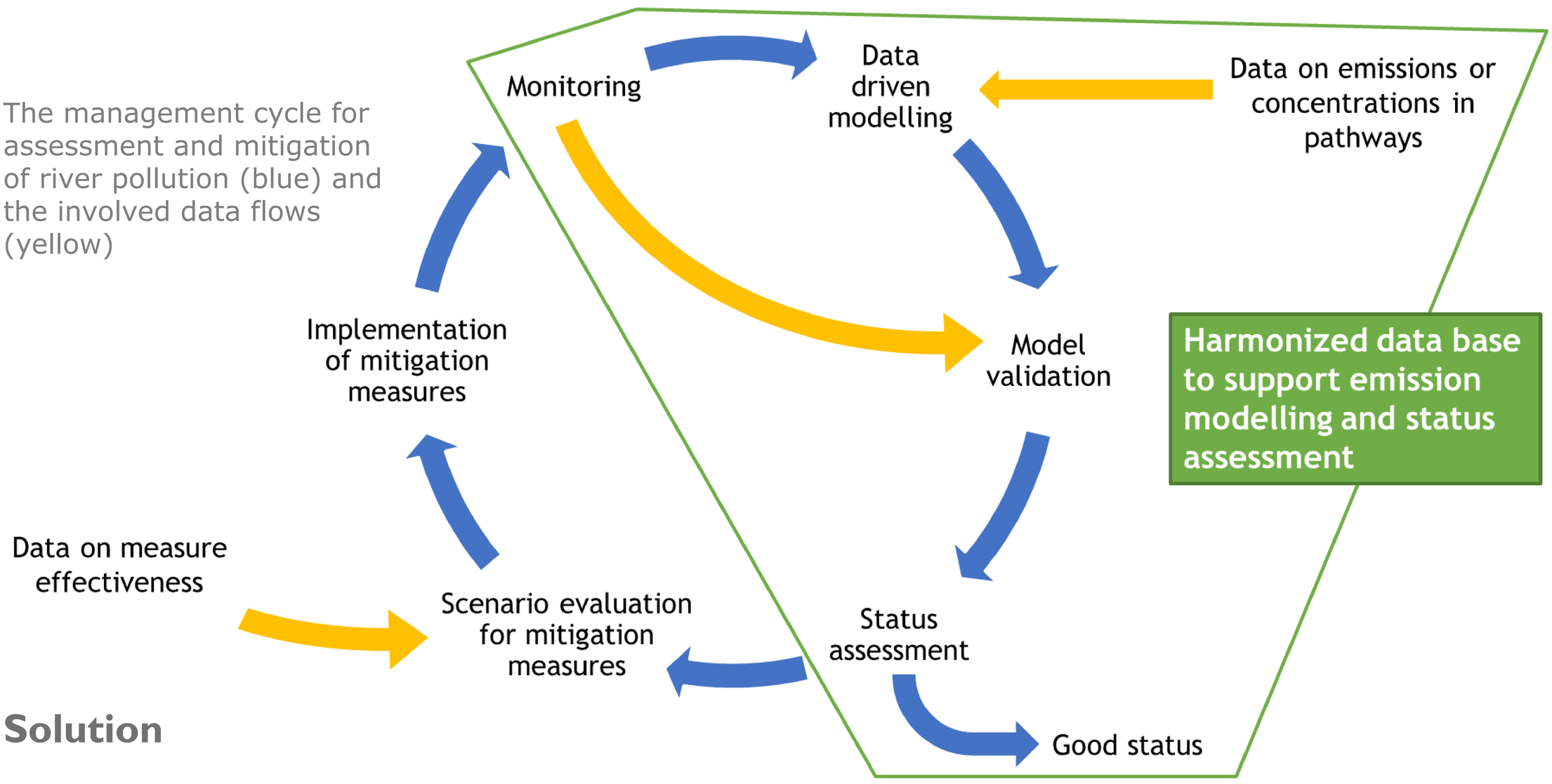
Problem Statement

Inventorying of substance emissions to surface waters requires a solid, quality assured data base on concentration in surface waters and emission pathways, like e.g. wastewater, stormwater runoff, eroded soil, atmospheric deposition.
A tool for collecting, quality checking and storing such data was missing.

The management cycle for assessment and mitigation of river pollution (blue) and the involved data flows (yellow)



Solution

- **Database based on PostgreSQL**
  - **PostgreSQL is an open source, freely available and powerful database management system**
  - **Two-layer structure to deliver data in dedicated structures for different purposes**
  - **Use of PostgreSQL role management, to control rights for data access and modification**
  - **Automation of documentation and data traceability by means of PostgreSQL functionality**
- **Use of DBeaver as graphical user interface. DBeaver is also an open-source tool, freely available in the community edition. Any other interface compatible with PostgreSQL is possible**
- **Opportunity to store a wide range of meta data alongside the data enabling scientific investigation of opportunities for data extrapolation**
- **Use of controlled vocabularies to assure data harmonization**
- **Development of additional tools in other software frameworks, e.g. the PET tool (see presentation by S. Osten), an R-Shiny application for data checking and evaluation**

Get the tool:

https://gitlab.tuwien.ac.at/e226-1-working-group-river-basin-management/tethys/tethys-db-schema