



## OneHealth surveillance

The *Wageningen Common Data Solutions (WCDS)* programme is striving to connect use cases from Wageningen University & Research (WUR) research institutes to the research data management infrastructure for FAIR Data. Open source tools such as iRODS and Yoda are used for this purpose. WCDS is funded by the Ministry of LVNV for two years with a budget of 2 million euro.

In the project *OneHealth surveillance*, we enhanced the remote disclosure of decentralised genomic data resources for foodborne pathogens, facilitating an environment for optimal sharing and integration of One-Health surveillance.

### Technical results

We launched our own dedicated iRODS server for our genomic data. To make sure that this server can be queried, we arranged accompanying metadata in RDF structure.

The iRODS infrastructure has shown to be of added value to us, mainly since it is easily linked to 'cold' storage and the command line interface.

### Current limitations for further improvement

We will improve on working with the iRODS infrastructure by adding more genomics data of statutory tasks. Current limitations, all out of scope for this project, are the connection to the high-performance computer Annuna and how to connect to outside servers, such as the database from RIVM.

### Additional developments and implementations planned

The project will continue mainly in filling the server with actual data. We will invest in developing various bioinformatic pipelines to analyse and visualise the data on the fly. In addition, it would be interesting to see what the options are of using the native database of iRODS or if it is possible to link this to the RDF database we created.

### Key outcomes

- Key outcome was a dedicated server that runs and has our data in, and much needed experience in how to set-up and build the server, including metadata management. We first focus on using this blueprint for other types of data within WBVR and WFSR. WBVR will primarily focus on notifiable disease data.
  - The scientific value of the project is that data will become more FAIR and thus potentially have more impact, for example in the OneHealth domain.
  - The project has also fostered collaboration and interdisciplinarity at WUR. WBVR and WFSR have jointly (re)defined some standards for the field of genomics. For example, which metadata should be archived for improved FAIR data.
  - It has been decided within WBVR that further implementations will be financed from a central project at department level. This ensures that the server continues to run even when projects end.
  - We are actively in dialogue with our research data manager about how to embed the project outcomes in the data management strategy on business unit level.
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Primary focus is on genomics data.

- We have applied for statutory funding (WOT). The project has been granted; this includes the use of the prototype (iRODS infrastructure) built within this project.

## Reflections

A gold standard is not yet found. Therefore, a lot of time needs to be invested in determining the best approach. New possible options are still being developed. Thus, the solution we developed might still be an intermediate solution.

At organisational level, it will be a challenge to show the added value of FAIR and a dedicated server as long-term investment.

As for genomics data, we are the experts in our business unit. We are embedding the project results in the organisation. Next to this, we are actively working on adjacent cases of other data types.

## Project takeaway

Focus more on the 'why' compared to the 'how'. Our primary approach was technical: gaining knowledge and experience for implementation. However, the most important aspect in retrospect was to convince the departmental head and management to think of a long-term solution outside this project.

## Recommendations

- Be entrepreneurial: just go for it and learn by doing.
- Develop better policy: data on its own is useless, by making data fair and attaching metadata, it becomes valuable.
- Plan (plenary) meetings at an early stage, so that more people will attend. Keep the focus on 'operational' level to implement new solutions bottom-up. This creates a lot of commitment.

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