AgroDataCube: A Big Open Data Collection for Agri-Food Applications

RDNL, UKB werkgroep 28 November 2018

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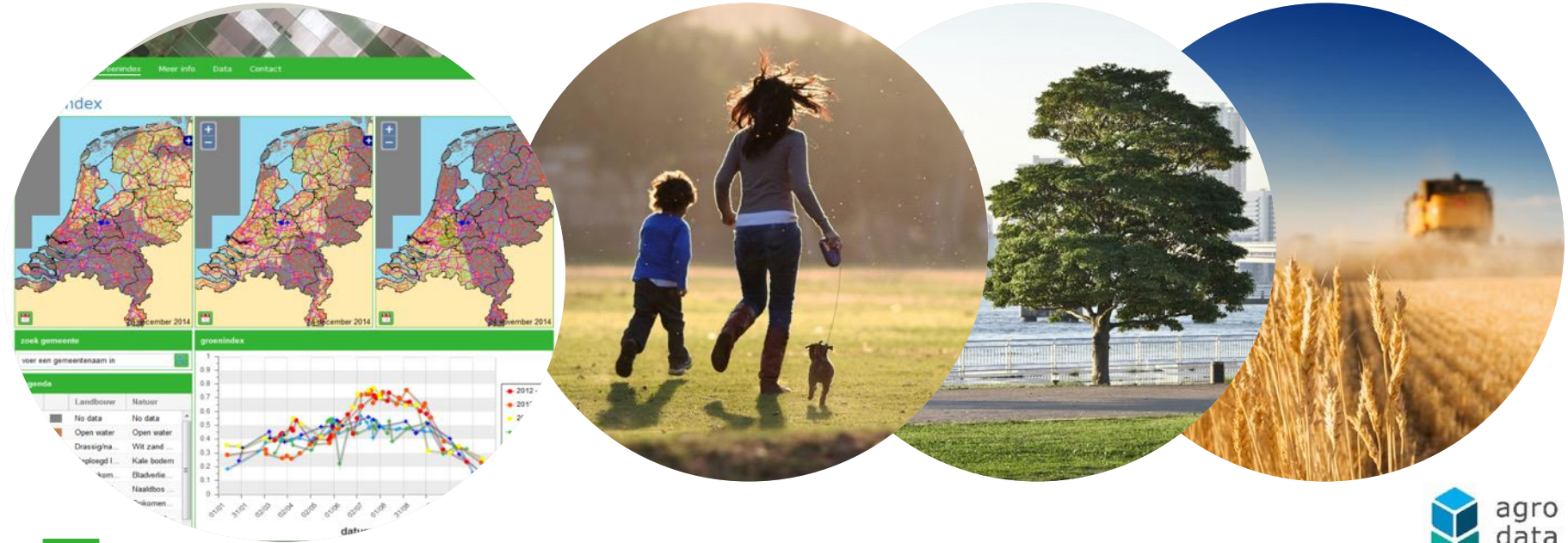
Wageningen Environmental Research, @wurcgi



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- WUR Data Management Support
- Lessons Learned / Recommendations

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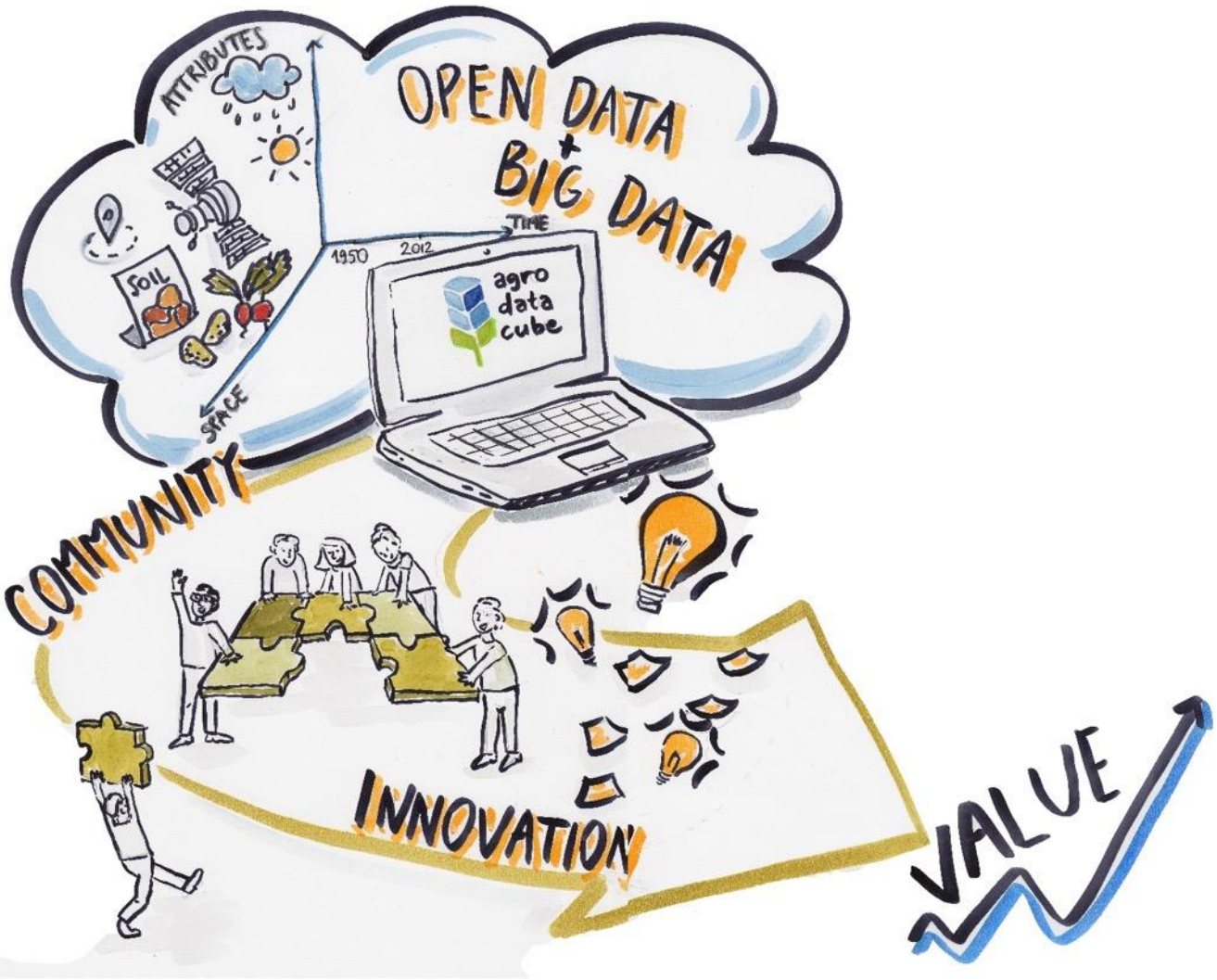

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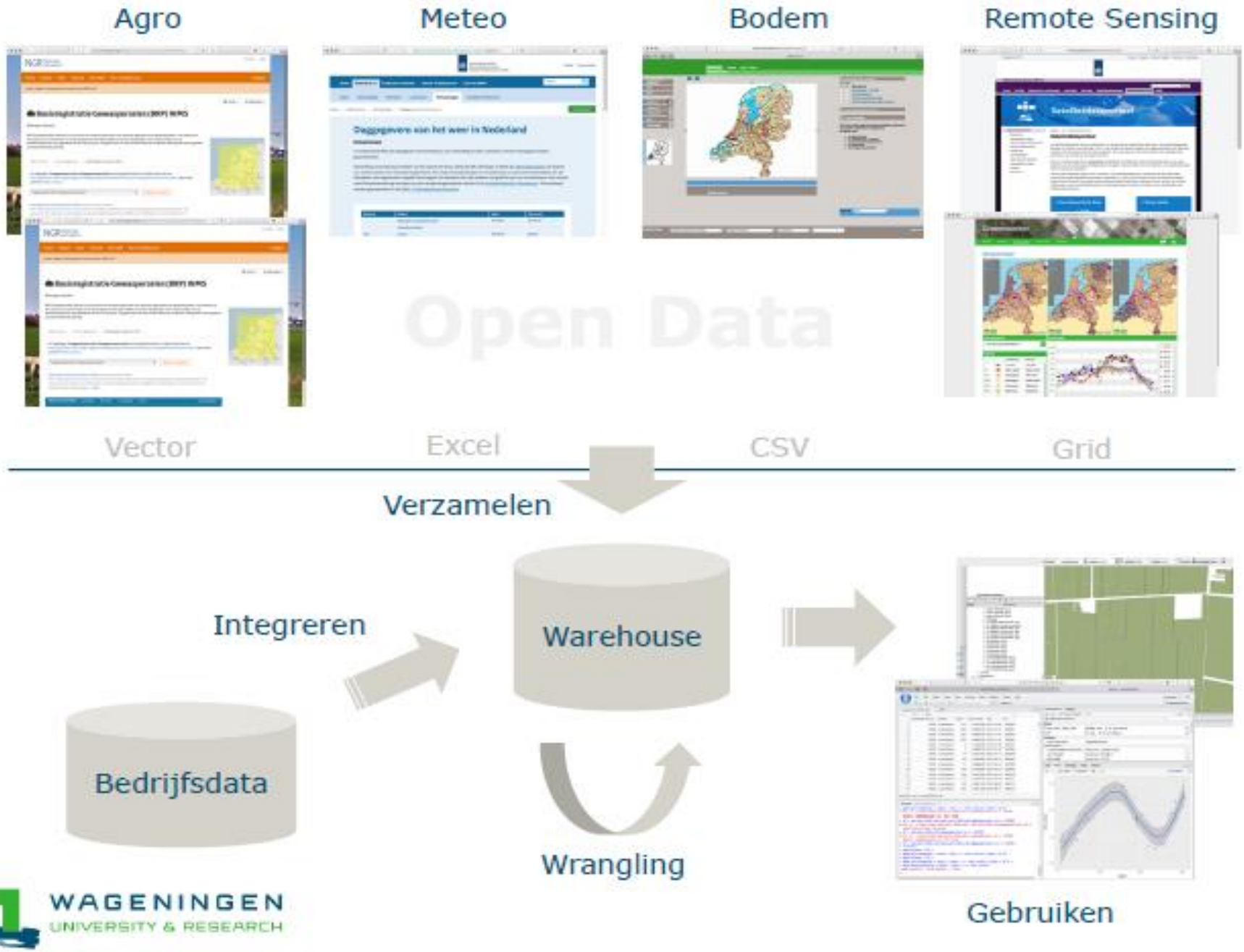

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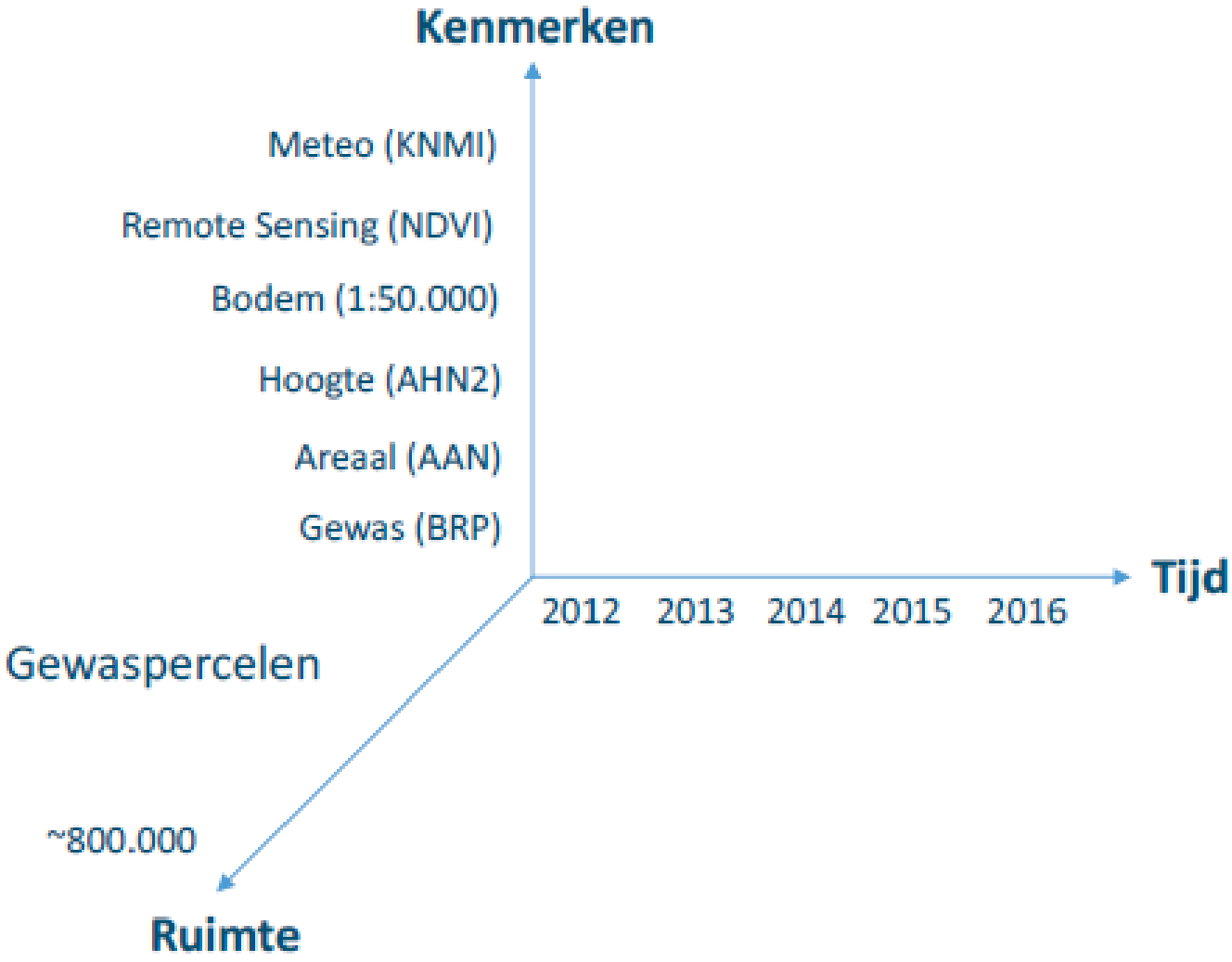

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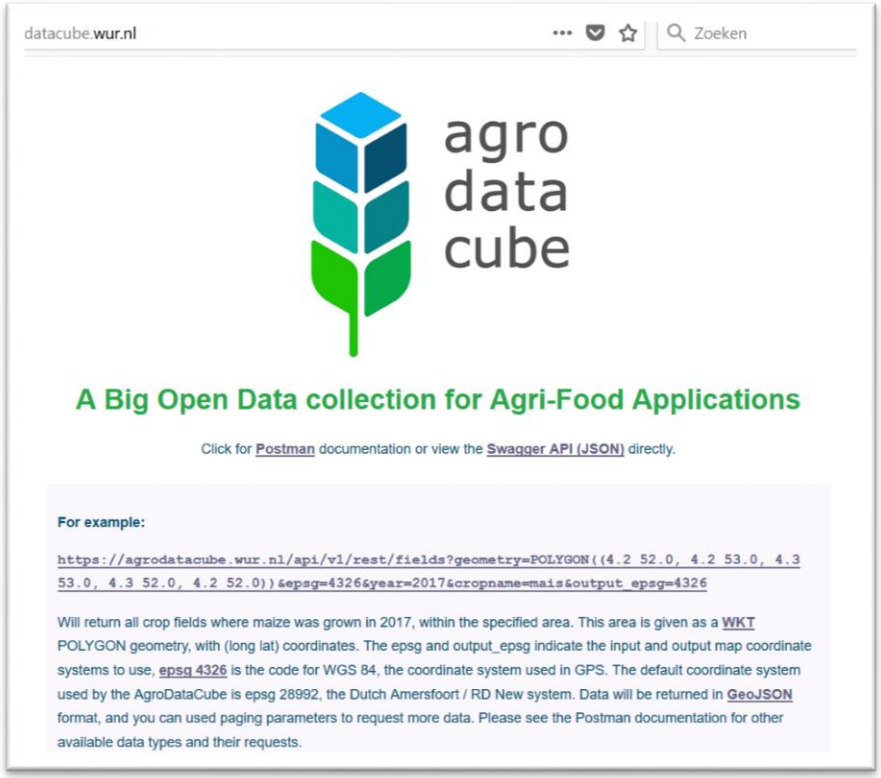
Technology Perspective AgroDataCube

- Brings together many open data sources available in the Netherlands;
- has consistent time series and geographical units from 2012 to the current year;
- is available through an open source API;
- with Postman documentation, meta-data and shared coding examples on GitHub.



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Community Perspective AgroDataCube

- Activates the community of developers to further improve it as a collective public good;
- has been used in several hackathons and development sprints as common reference point on data;
- has achieved over 900 users in 10 months;
- is used by private sector, governmental bodies and research projects.

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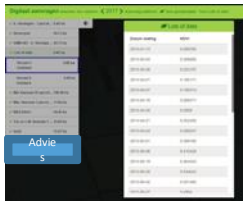
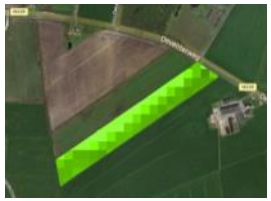
lots-of-data

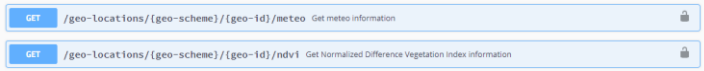
JoinData
The Future of Smart Farming



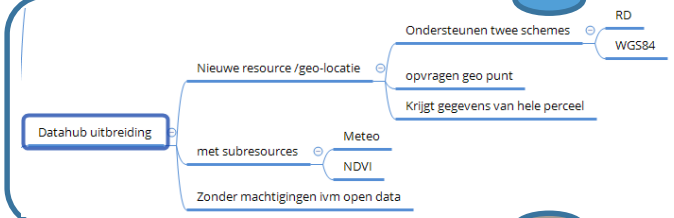


akkerweb.

Uitbreiding User Interface Akkerweb



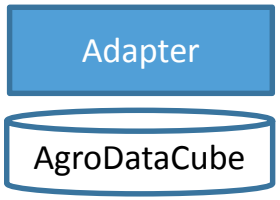
Uitbreiding koppelvlak en geïntegreerd



JoinData

Uitbreiding DataHub

Uitbreiding koppelvlak en geïntegreerd



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Adapter geschreven op AgroDataCube

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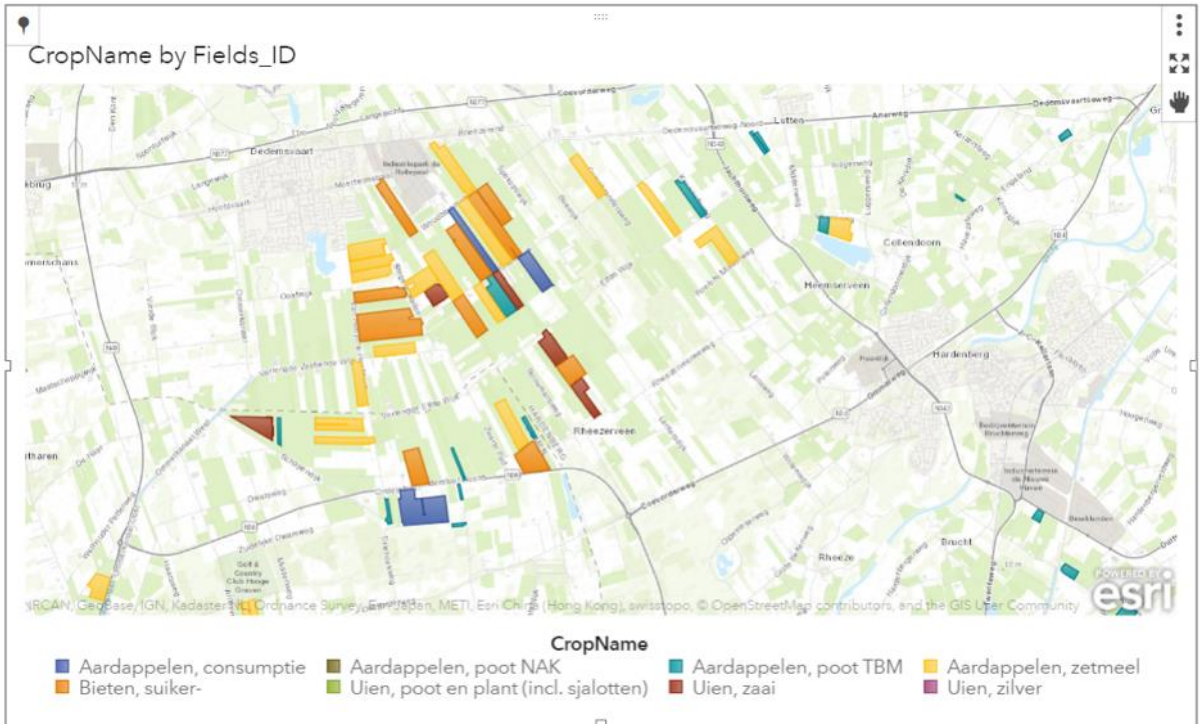
Crop Emergence Analysis with SAS

In this project, we aim to find relevant factors effecting crop emergence for onions, sugar-beets and potatoes in the Netherlands covering multiple years using advanced analytics techniques such as Random Forest and Gradient Boosting.

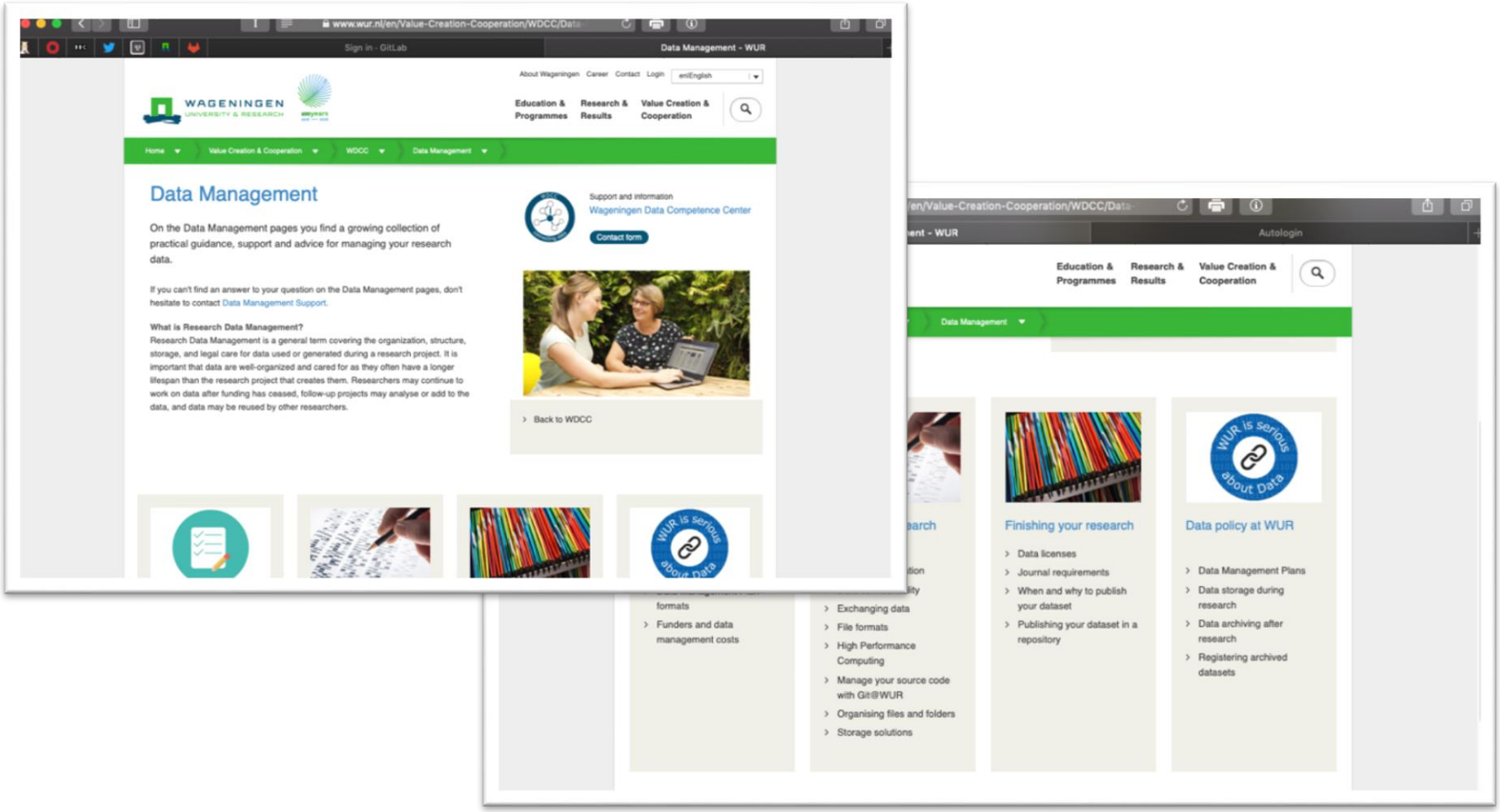
With AgroDataCube, relevant and rich information about multiple ten thousands of fields can be accessed and crossed with:

- Soil information
- Meteorology data
- Information from Actueel Hoogtebestand data

to infer non linear and linear patterns effecting crop emergence for these crops.



WUR Data Management Support



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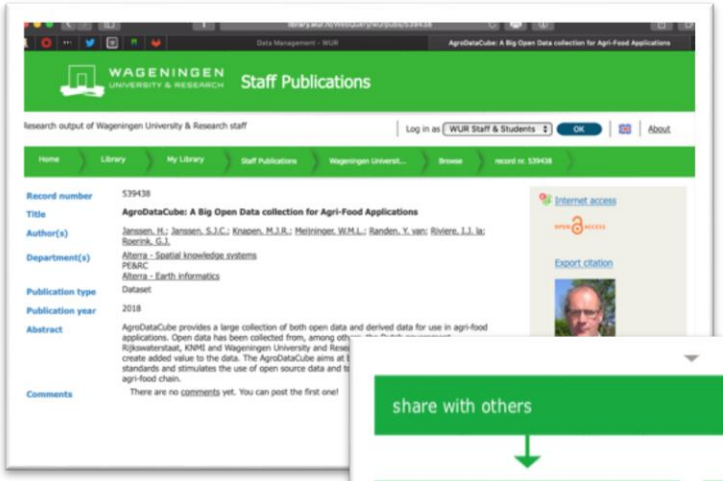
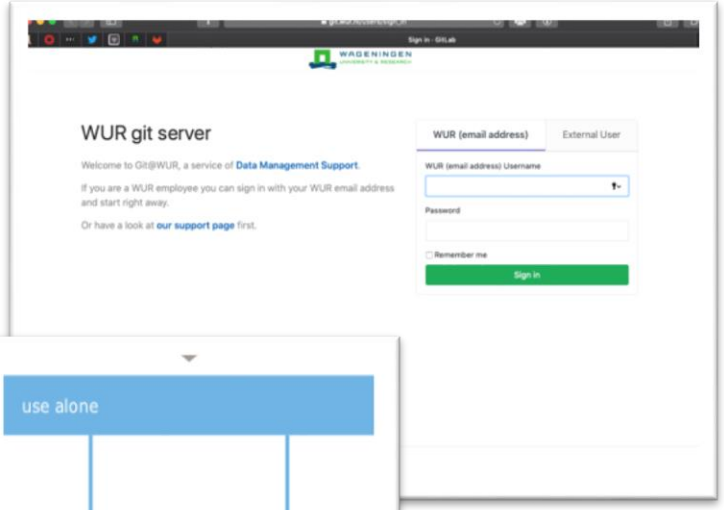
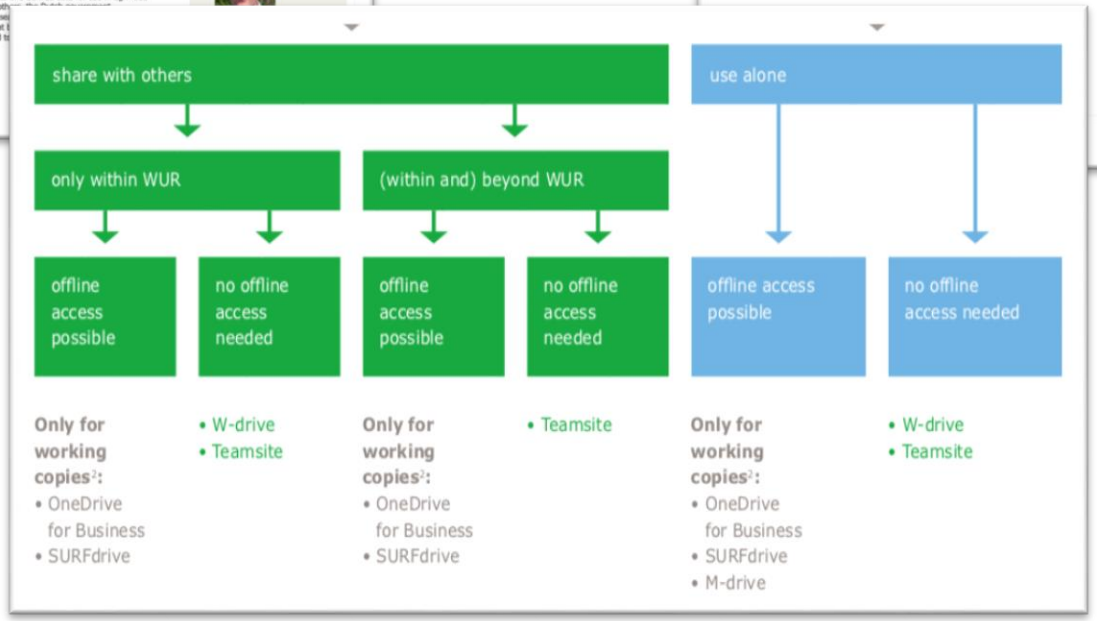
Digital Object Identifier (DOI)



GitLab





(Typical) Research Data Storage

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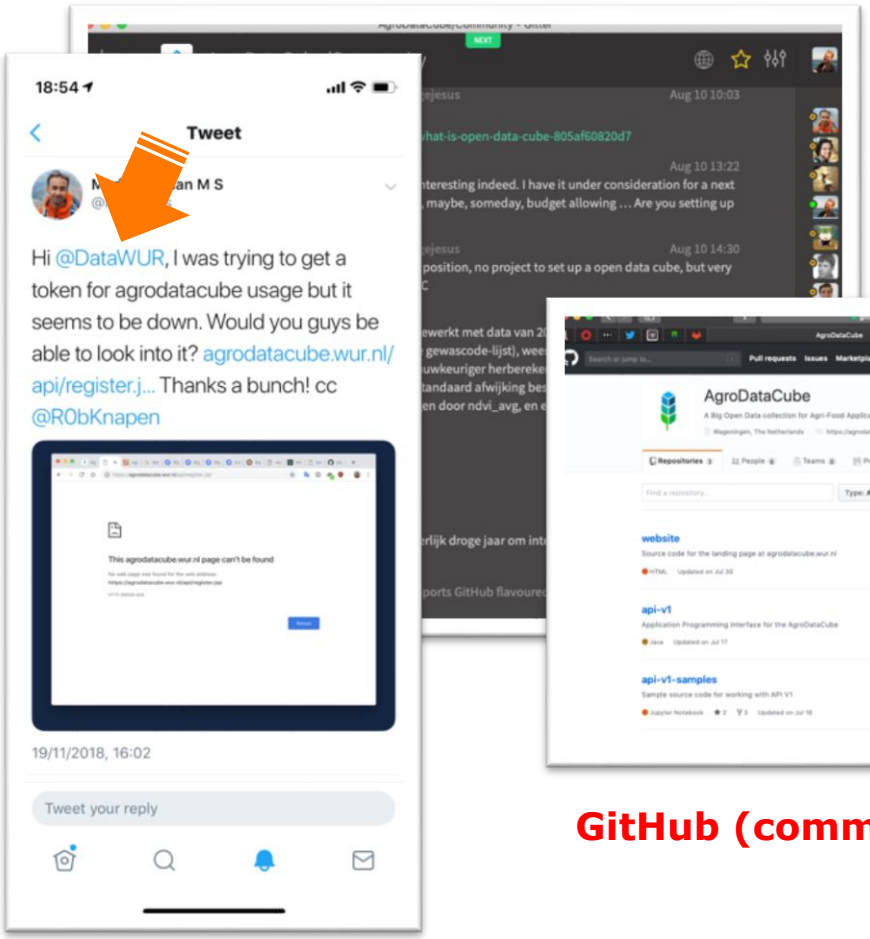
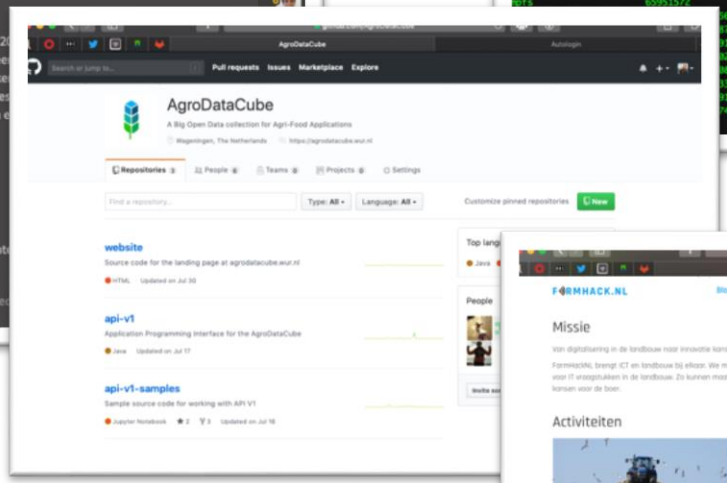
Do-It-Yourself (DIY)

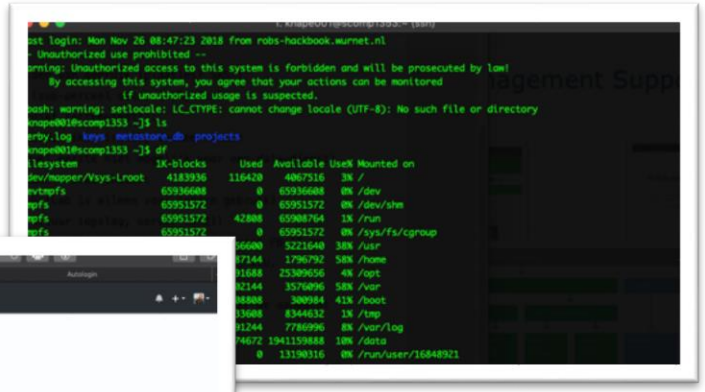


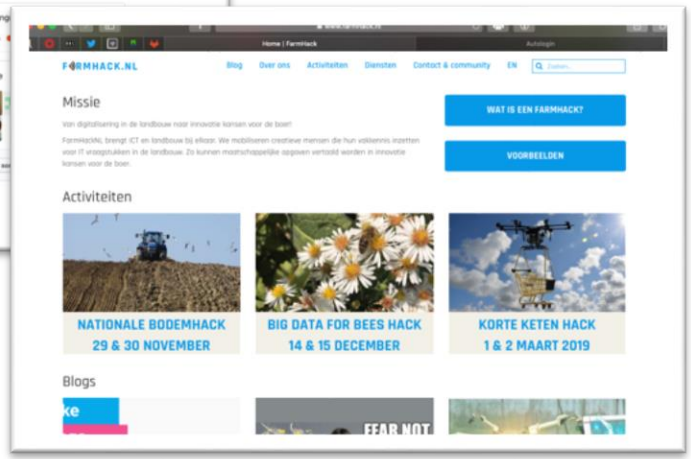
Support



GitHub (community)

Server, storage management (FB-IT)





Hackathons

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Lessons Learned / Recommendations

- Be practical about FAIR, consider it beyond the scientific domain. Ontology engineering can take forever.

- Focus on publishing data (including algorithms), even in a less perfect way, so that reuse can start. Only then the practical problems will become visible and can be addressed (iteratively).

- The benefits of FAIR are only achieved when data is actually reused by others. That is when innovation can start. It requires more than data storage and publishing. For example: updates, APIs, communities, licensing.

Thank you!

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