1 Describe the organizational context

Names	Wim-Peter Dirks, Julian Kremers, Thomas Oosterhuis, Sam Vellekoop
Date	17-05-2018
Chair group	Geo-Information Science and Remote Sensing (GRS)
GRS-supervisor	Arend Ligtenberg
Start date of project	15-05-2018
File name of DMP	RGIC_8_DMP_IDV.docx

2 Give a short description of your project

Title	Construct an online tree data sharing application and evaluate tree parameter extraction from TLS. The case of trees in the Reinick area, the Netherlands.
Abstract	Data collection is both a time and capital-intensive process. However, data is essential for making informed decisions, conducting studies and performing analyses. Trees are valuable to many different stakeholders in a multitude of ways. Data of individual trees is needed to decide on, study, and analyse individual trees. Many data is collected every year, but there is no data sharing and collection application for the many different types of data. This results in segmented data sets, which are difficult to obtain, combine and thus use. The combination of different data sources increases the value of the data. Furthermore, the ease of adding new data and updating existing data ensures the relevance of the data. Currently there is an online tree registry, Boomregister.nl, but this only contains 2-D spatial data and has no possibilities for adding additional data. The objective of this project is to construct a data-sharing platform for trees, where everyone is free use the existing data and add new data. In addition, a small validation study will be performed to see if it is possible to extract a number of tree parameters from TLS. First, existing data sources of the area will be gathered and combined, namely the AHN2 and TOP10NL. AHN2 will provide a 3-D base map and TOP10NL contains information about buildings, rivers, and infrastructure. They will be combined into one base map for the project. For validation and 3-D model construction of individual trees, data will be gathered in the Reinick area. This includes TLS, RGB-images, tree height, canopy width, and DBH of a number of trees. This data will be combined and added to an online portal. This portal should be openly accessible, and it should be possible to add data to the database. The Reinick area will be visualised as a 3-D basemap. Individual trees can be clicked, and will then show a 3-D model and its data.

3 Define data management roles

Roles	
Who is **collecting** the data?	All team members (Wim-Peter Dirks, Julian Kremers, Thomas Oosterhuis, Sam Vellekoop)
Who is **analysing** the data?	All team members (Wim-Peter Dirks, Julian Kremers, Thomas Oosterhuis, Sam Vellekoop)
Other	Thomas will provide the forms for the physical tree properties.
What is the role of the **supervisor?**	Supervision of the IDV project, no data collection/analysis/storage

4 Give an overview of expected type of project data, software choices, data size & growth

Data stage	**Specification of type of project data**	**Software choice**	**Data size/growth**
Source data	LiDAR point cloud (own production)	ArcGIS [.las]	2 GB
	Photos for photogrammetry (own production)	Agisoft Photoscan/ArcGIS [.jpg]	500 MB
	AHN2 DTM raster	ArcGIS [.tif]	300 MB
	AHN2 point cloud	ArcGIS [.las]	40 MB
	Ground truth data (tree height, canopy width and trunk circumference) (own production)	Excel [.csv]	10 MB
	Tree location data (GNSS) (own production)	ArcGIS [.gpx]	10 MB
Result data	Individually segmented trees	ArcGIS [.las]	1 GB
	Photogrammetry dense point cloud	Agisoft Photoscan/ArcGIS [.oct]	1 GB
Models/code			

5 Short term storage solutions

Data stage	**Storage location**	**Backup procedures**
Source data	Individual laptops of team members, ground truth and tree location data also on paper	Stored on multiple laptops, additionally on an external HDD
Result data	Individual laptops of team members	Stored on multiple laptops, additionally on an external HDD
Models/code	Individual laptops of team members	

6 Structuring your data and information

For all data, the prefix “RGIC8_” will be used. Furthermore, we will use the CamelCase naming conventions. The data will receive an additional prefix (after the “RGIC8_”), indicating the processing step. Git(Lab) will be used as the version control system.

7 Documentation and metadata

For metadata, the ISO 19139 Geographic information Metadata XML schema implementation will be used.

8 Sharing and ownership

Sharing and ownership	**(With) who(m), what and how?**
Data **sharing** • Do you expect that others may be interested in re-using your data? Do you have plans to share your data with these parties? • How are you going to make sure your data files will be accessible after you leave the department? • Who will take care of your data?	Yes, we expect that the gathered data will be shared with other researchers in the future. They can access the data through ArcGIS online.
Data **ownership** • Any funder’s requirements to share your data, or to impose an embargo? • Are there agreements on how the data will be used and shared within your group or with other parties involved in this project? (outside your group or outside Wageningen UR)	Aside from the data produced in the project, the data follows the licence under which it has been published.
Privacy • Are there privacy or security issues, and if there are, how are you dealing with them?	There are no privacy or security issues to deal with in our project.

9 Long term storage

The results of the project might have value for long-term storage. Publishing the results through ArcGIS online will provide long-term storage.