

**UC2 Prefilled application, 31 March 2021**

✓ Overall timeline and current status:

UC2	2019					2020					2021					2022									
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
	Design					Development					Single MS testing					Multi MS testing, further development					Pan-Europe testing, further development				



Multi Member State testing in Spain Castilla y Leon, further preparation in Lithuania for 2021 claim year

✓ Components already available:

- UC2 preliminary parcel boundary automatic delineation tool source code (Python scripts and/or Jupyter Notebook) and instructions on how to run the script is available in NIVA Gitlab repository (currently accessible only to NIVA partners) [https://gitlab.com/nivaeu/uc2\\_fielddelineation](https://gitlab.com/nivaeu/uc2_fielddelineation)
- UC2 robotic process automation tool – robotframework.org white paper on tool usage for Paying agency purpose is available in [https://gitlab.com/nivaeu/uc2\\_robotframework](https://gitlab.com/nivaeu/uc2_robotframework)
- UC2 crop type analysis of the Sen4CAP Lithuania pilot results – crop type algorithm results in shapefile from 2020 claim year review document is available in NIVA SharePoint repository (only to NIVA partners) [link](#)

✓ Further development and improvement plans

After the preliminary parcel boundary automatic delineation results in shape file analysis in Lithuania the further preparation for 2021 claim year is continued by technical partner Sinergise team. First results for 2021 will be generated based on the Sentinel S2 images from March 10<sup>th</sup> till April 10<sup>th</sup> and it is planned to add these data in the Lithuanian geo spatial aid application system as a new layer. Based on preliminary boundary layer farmers could visually check their parcels and avoid bad declaration.



Example of automatically delineated preliminary parcels in Lithuania

Automatically generated results in shape file also generated for whole Castilla y Leon region in Spain. The main challenges to deal with are small parcels, prediction of grasslands, bushlands and tree plantations due to lack of boundaries of these parcels. Also, there are some “noisy” entries in the built -up areas and it could be removed during data pre-processing.

After robotic process automation tool selection and replication of existing process in Lithuania the further data source has been identified. Data from the Lithuanian state forest service webpage robotization process is under analysis. Main idea is to automatically copy necessary data from webpage to paying agency database without expensive integration and use this data as prefilled information for Natura 2000 fields.

After analysis of the Sen4CAP Lithuania pilot crop type results first insights were made. It would be feasible at the beginning of the declaration perform preliminary checks and control declaration of: permanent grasslands on arable land, winter crops with other crops, winter rape with other crops. Further analysis of Sen4CAP results is continued to find gaps, concrete examples-benefits, quantities of false declarations and summarize findings if the data provide benefits in the beginning and during declaration period as preliminary crop type.

- ✓ More information about creation of the preliminary parcel boundary automatic delineation tool in article - <https://medium.com/sentinel-hub/parcel-boundary-detection-for-cap-2a316a77d2f6>  
Map with automatically generated parcels - <http://parcelio.sentinel-hub.com/>