Regionalization, Regeneration and Actions – New Topics of SOILAssist

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New Topics of SOILAssist

Second study area in Hohenschulen
- Soil types: Luvisol, stagnic Luvisol, Cambisol, Histosol
- Soil texture: loamy sand, sandy loam, sandy clay loam, loam

Regionalization
- UAV-crop signal analyses → crop height / density / indices and compaction pattern analyses
- Upscaling – from field to regional scale → using satellite data free of charge

3D laser scanning
- High-precision 3D laser scans, aerial images, multispectral data
- Storage of large scale information from multi-modal, heterogeneous sources
- Development of a 3D semantic environment representation

Planning system to optimize field traffic
- Connecting the planning system with the environment representation
- Iterating and evaluate different scenarios (e.g. storage clamp points)
- Propose changes of the daily work routine in order to optimize time, fuel consumption or soil protection

Regeneration of soil compaction
- Periodic soil investigation to assess the potential of regeneration of soil compaction under real farm conditions

"Greening" of headlands
- Parts of the headlands with clover-grass
- Increasing the stability against mechanical load
- Turning of machinery on "classic" and "greened" headlands

Linking natural science indicators with socio-economic indicators
- Gathering data about soil management, compaction and economic effects for a number of farms to derive more general correlations
- Involvement of farmers / stakeholder groups
- Practice check
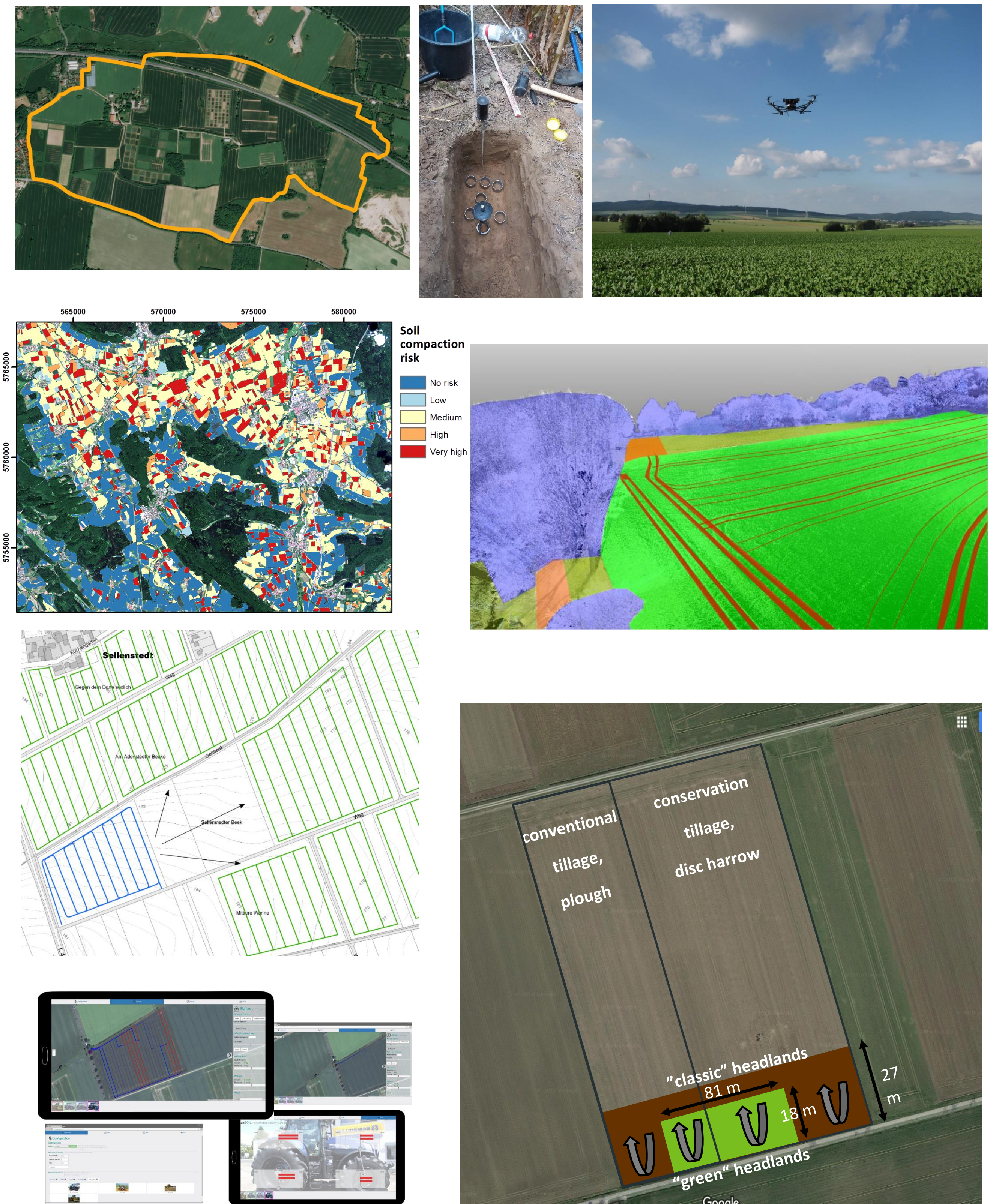
Main Topics of SOILAssist

BonaRes SOILAssist

- On-board assistance system for soil protection
- Decision matrix trafficability to support decision making of farmers for a foresighted planning
- Recommendations for farmers, extensionists and political consultancy
- Socio-economic assessment of different management options

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