

Bundesministerium Klimaschutz, Umwelt, Energie, Mobilität, Innovation und Technologie



The developments described are carried out within the AI4Trees research project funded by the Austrian Research Promotion Agency (FFG) in the frame of the Research, Technology & Innovation (RTI) initiative "AI for Green".

limate Charge is significantly influencing forest growth and forest head adms to the situation where the traditional forest growth models cannot b

of climate-sensifive single tree growth models and unbiased biodiversities that can be quantified with limited resources on large areas.

Derivation of single tree growth models, which are sensitive to climate change, azardous disturbance, and human intervention in forest ecosystems.



llenge

/lair

Project Goal.









Climate Change is significantly influencing forest growth and forest health leading to the situation where the traditional forest growth models cannot be

Main of allenges Lack, of climate-sensitive single tree growth models and unblaced biodiversity indicates that can be quantified with limited resources on large areas.

Project Goal. Derivation of single tree growth models, which are sensitive to climate change, hazardous disturbance, and human intervention in forest ecosystems.











AI4Trees – High Level View



AI4Trees – Data and Model



Model for mapping of high- and low-frequency features for growth modelling

Reproducible data-centric AI process Explainable error analysis

Physiological tree processes & interactions

between growth and climate

Bayesian learning strategies Gaussian processess

Continuous labelling and data quality check



Long-time datasets on ecological and climatic parameters

5-yearly Data (low frequency)

Stand characteristic

carbon segregation



















Satellite Data





Data Collection – ICP Forests, Tree Growth Data



Institut für Ökologie

Data Collection – Terrestrial Laser Scanning

Data courtesy: Umweltdata GmbH











Thank you!

AI4Trees Consortium refiz.duro@ait.ac.at









Bundesministerium Klimaschutz, Umwelt, Energie, Mobilität, Innovation und Technologie



FFG

Forschung wirkt



The developments described are carried out within the AI4Trees research project funded by the Austrian Research Promotion Agency (FFG) in the frame of the Research, Technology & Innovation (RTI) initiative "AI for Green".