Innovative Earth Observation Solutions in Support to the Governmental and Insurance Sectors

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Company Overview

Basic facts:
• Private sector company, located in Munich (headquarters) and Neustrelitz (branch)
• More than 35 years of expertise in geo-information services
• Today ~ 230 staff members
• Demand driven & Data & Technology agnostic

Specialised in:
• EO data reception, distribution, processing
• Value adding and data analytics
• Geo-information software, services and solutions
• International project consulting in > 100 countries
AgroSuite – Modular and flexible Solutions for Sustainable Agriculture

- Supporting Governments with the European Common Agricultural Policy
- Accurate Yield Estimation, even under Extreme Events
- High-resolution historic and current Soil Moisture at different Soil depths
- Novel Insurance Product Design to reduce Production Risk
- Risk Assessments and Portfolio Monitoring in Insurance and Finance
Supporting Governments with the Implementation of the European Common Agricultural Policy

- EU CAP supports 7 million farmers with ~€60 billion subsidy payments / year
- Established Control System (IACS) with incremental utilisation of Remote Sensing
- CAP2023: Reformation, modernization and optimization of the system
- Continuous and comprehensive monitoring of all applications and parcels
LaFIS® – Geoinformation Systems for Agricultural Administrations

What?

• Tailored administrative GIS solutions for the mandatory inclusion of GIS technologies in the Common Agricultural Policy (IACS-GIS)

• Management of the Land Parcel Identification System (LPIS) and on-site inspections including monitoring results

Benefits

• Compliance with the applicable legislations and standards

• Various platforms: online and offline desktop clients, web client and apps

• Customized solutions

Challenges

• Adaptation to continuous changes in the respective EU regulations, national implementations and individual customer requirements
GAF Products and Services for CAP 2023

- AgroCrop
  - CAP Monitoring Services

- Integration of Farmers
  - LaFIS GEOFOTO

- Monitoring-Management
  - LaFIS KdM

- Farmers' Declarations
  - IACS Payments

- IACS Control System
  - LaFIS VOK

- LPIS Management
  - LaFIS LFK
AgroCrop – European Common Agricultural Policy Monitoring Scenarios

- Crop Classification
- Agricultural Activity
- Minimum Activity
- Grassland Conversion
- Catch Crops
- Ploughing, Sowing & Harvest
- Grassland Mowing Detection
- Detection of Ineligible Area
- Homogeneity
- Land Use Change
- Fallow Land Management
- Harvest of EFA-Nitrogen Fixing Crops
- Compliance with Greening Obligations
- Stripe Distinction

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AgroYield – Reliable & Robust Yield Modeling

Strengths

• Accurate, flexible and cost-efficient Yield Modeling approach
• Scalability to crops and regions

State of the Art

• Combines different Machine Learning models into a sophisticated model
• Data sources: Remote Sensing, Weather, Soil and further Datasets

Benefits

• Loss Estimation, with Yield Estimates up to 1-2 Months prior to harvest
• Reliable detection of Yield Variation, even under Extreme Events
• Higher Precision in Loss Assessment
Global Demand for Soil Moisture Data with high Spatial, Temporal and Vertical Resolution

Tailored Soil- and Crop-specific Modelling Process targeting the full rootzone (0-100 cm depth)

Builds upon global research coupling top-notch Process-based and Machine Learning Disaggregation Models

AgroSoil is the first Soil Moisture product to provide full-rootzone Soil Moisture at high Spatial Resolution
AgroFin® – Flexible Index Insurance Product Design

What?
• AgroFin is a flexible tool for analysing and designing Index Insurance Products based on EO and Weather Data

How?
• Provides direct access to a variety of global EO-based Underlyings
• Flexible interface for Index Insurance cover design
• State-of-the-art Risk Assessment methodology

For Whom?
• Agriculture and Financial Sectors
• Public Sector
AgroView® – Tailored Insurance Support

Crop Health Monitoring
Satellite-based index to monitor crop (Health, Stress and Acreage)

Weather Monitoring
Satellite-based Rainfall & IMD gridded data are integrated

Drought Monitoring
Meteorological Drought and Agricultural Drought

Reports & Alerts
Automated Client-wise fortnightly Portfolio Report and Alerts

Manpower Management
Deploy Ground Manpower to Area of Concern

Loss Estimation
Current year Crop Status & comparison to past years
AgroSuite – In a Nutshell

• State-of-the-Art Earth Observation and Geospatial Analytics
• Global Applicability
• Scalability
• High Adaptability to User and Market Requirements
• Fully Cloud-based for Reliability, Performance and Cost-efficiency