

GAFAG
an e-GEOS (ASI / Telespazio) Company

 **AgroSuite**

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

Peter Navratil

Geospatial World Forum

Rotterdam , 21.04.2023



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

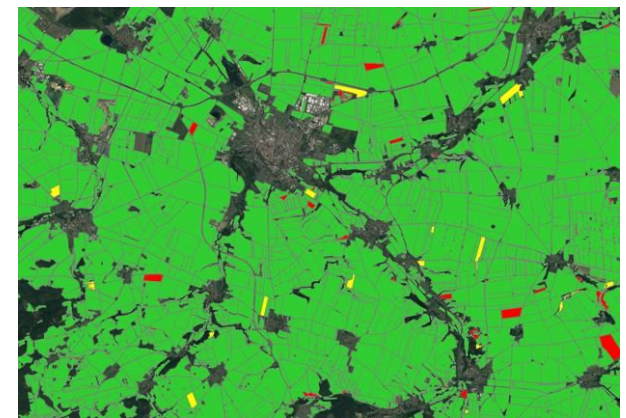
EU CAP



LPIS



Monitoring



LaFIS® – Geoinformation Systems for Agricultural Administrations

What?

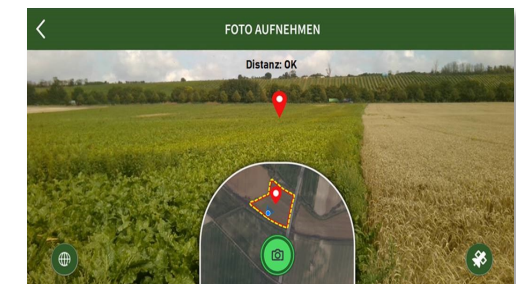
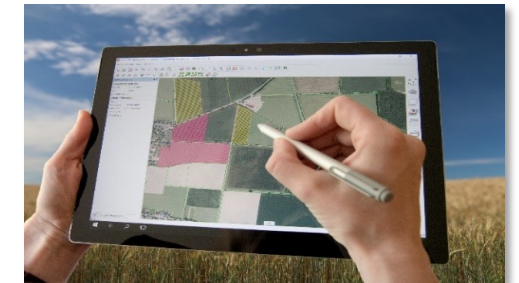
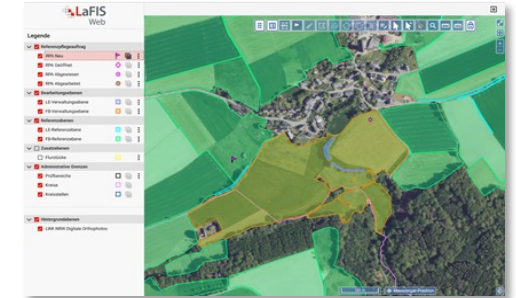
- Tailored administrative GIS solutions for the mandatory inclusion of GIS technologies in the Common Agricultural Policy (IACS-GIS)
- Management of the Land Parcel Identification System (LPIS) and on-site inspections including monitoring results

Benefits

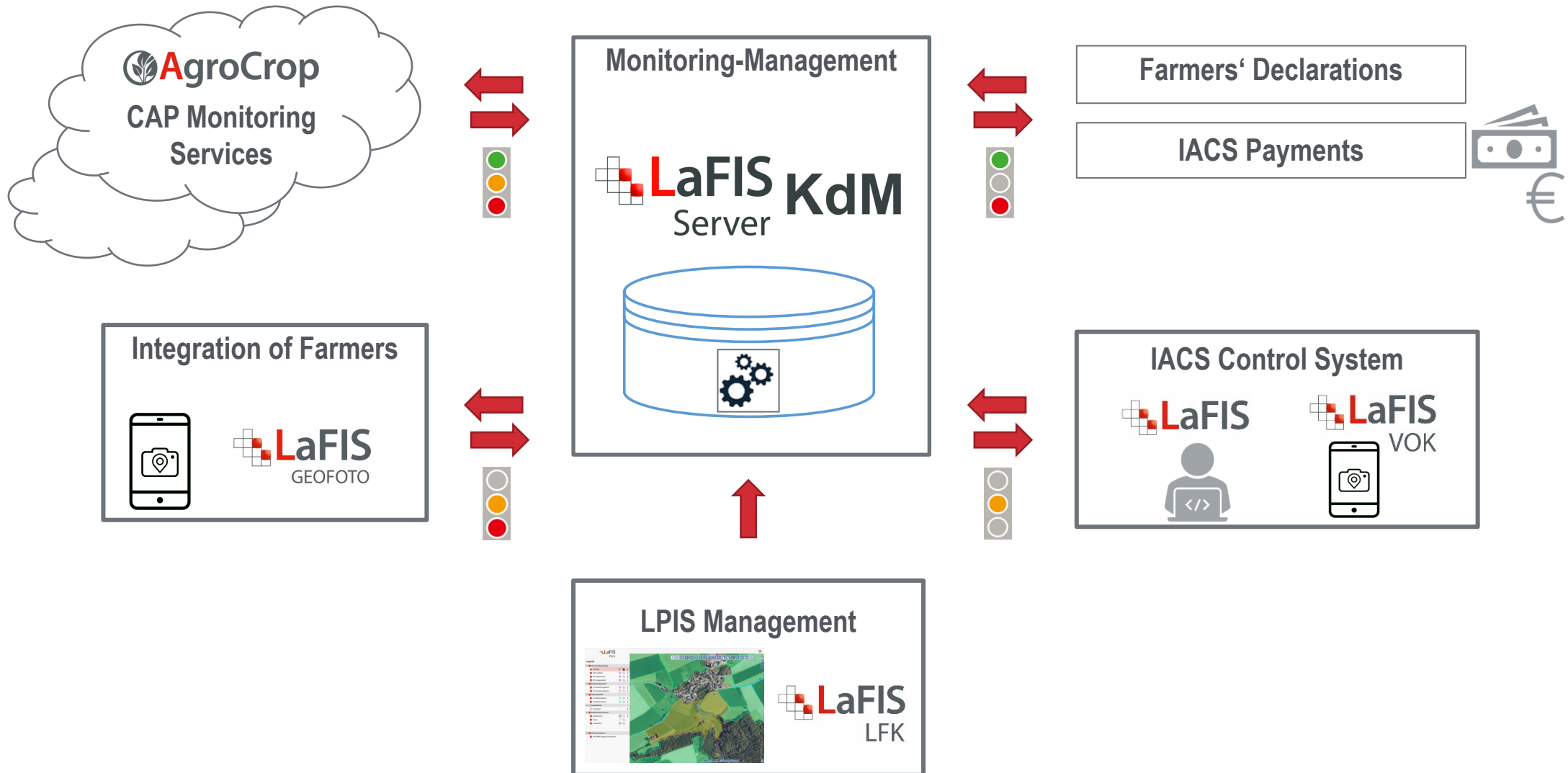
- Compliance with the applicable legislations and standards
- Various platforms: online and offline desktop clients, web client and apps
- Customized solutions

Challenges

- Adaptation to continuous changes in the respective EU regulations, national implementations and individual customer requirements



GAF Products and Services for CAP 2023



AgroCrop – 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

AgroYield – Reliable & Robust Yield Modeling

Strengths

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

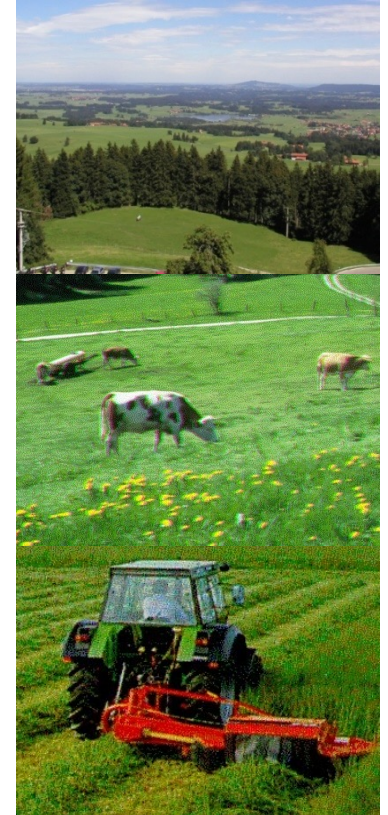
State of the Art

- 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

Patent Pending



AgroSoil – Global & Accurate Soil Moisture Analytics



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?

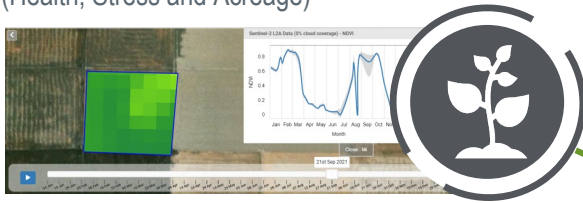
- Agriculture and Financial Sectors
- Public Sector



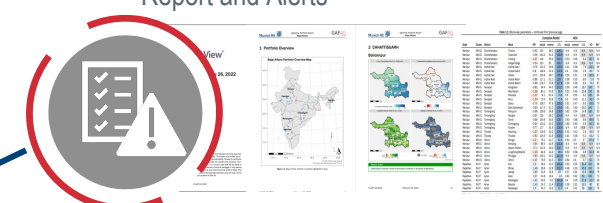
AgroView® – Tailored Insurance Support

AgroView®

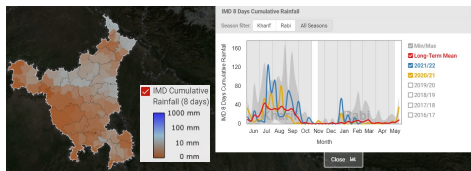
Crop Health Monitoring
Satellite-based index to monitor crop
(Health, Stress and Acreage)



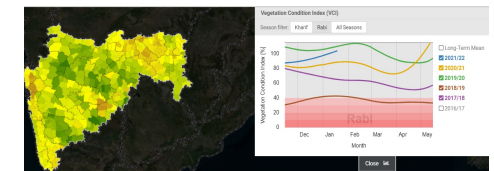
Reports & Alerts
Automated Client-wise fortnightly Portfolio
Report and Alerts



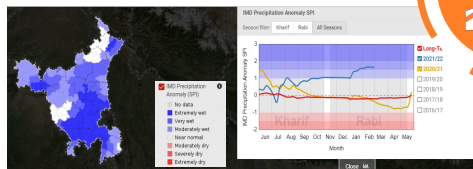
Weather Monitoring
Satellite-based Rainfall & IMD gridded data
are integrated



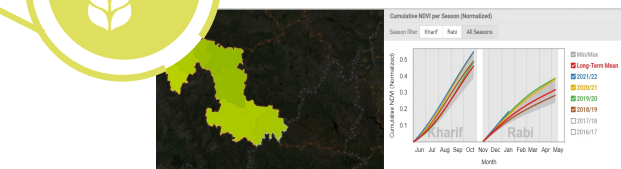
Manpower Management
Deploy Ground Manpower to Area of
Concern



Drought Monitoring
Meteorological Drought
and Agricultural Drought



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



GAFAG

an e-GEOS (ASI / Telespazio) Company

GAF AG – Arnulfstr. 199 – 80634 Munich – Germany

 info@gaf.de

 gaf.de

 [@GAF_Munich](https://twitter.com/GAF_Munich)

Peter Navratil

Project Manager - Agricultural Information
Systems and AgroSuite

T +49 89 121 528 704

peter.navratil@gaf.de

Dr. Axel Relin

Head of Unit - Agricultural Information Systems

T +49 89 121 528 19

axel.relin@gaf.de