




GAFAG

Brief Company Introduction

**EU-Japan Partnering Support Mission
in the Space Sector - Networking Seminar**

Rainer Fockelmann, GAF AG
Tokyo 2015, March 9th

Basic facts:

- Private sector company, headquarters located in Munich, GERMANY 
- Founded in **1985, 30 years** of professional experience in applied earth observation
- Today ~200 staff members, one of the leading and largest EO-GI companies in Europe

Shareholder:



Specialised in:

- EO data reception, distribution and value adding
- Geo-information services and applications
- International technical assistance and consulting (>500 projects)



Implementation Large Projects - Overview

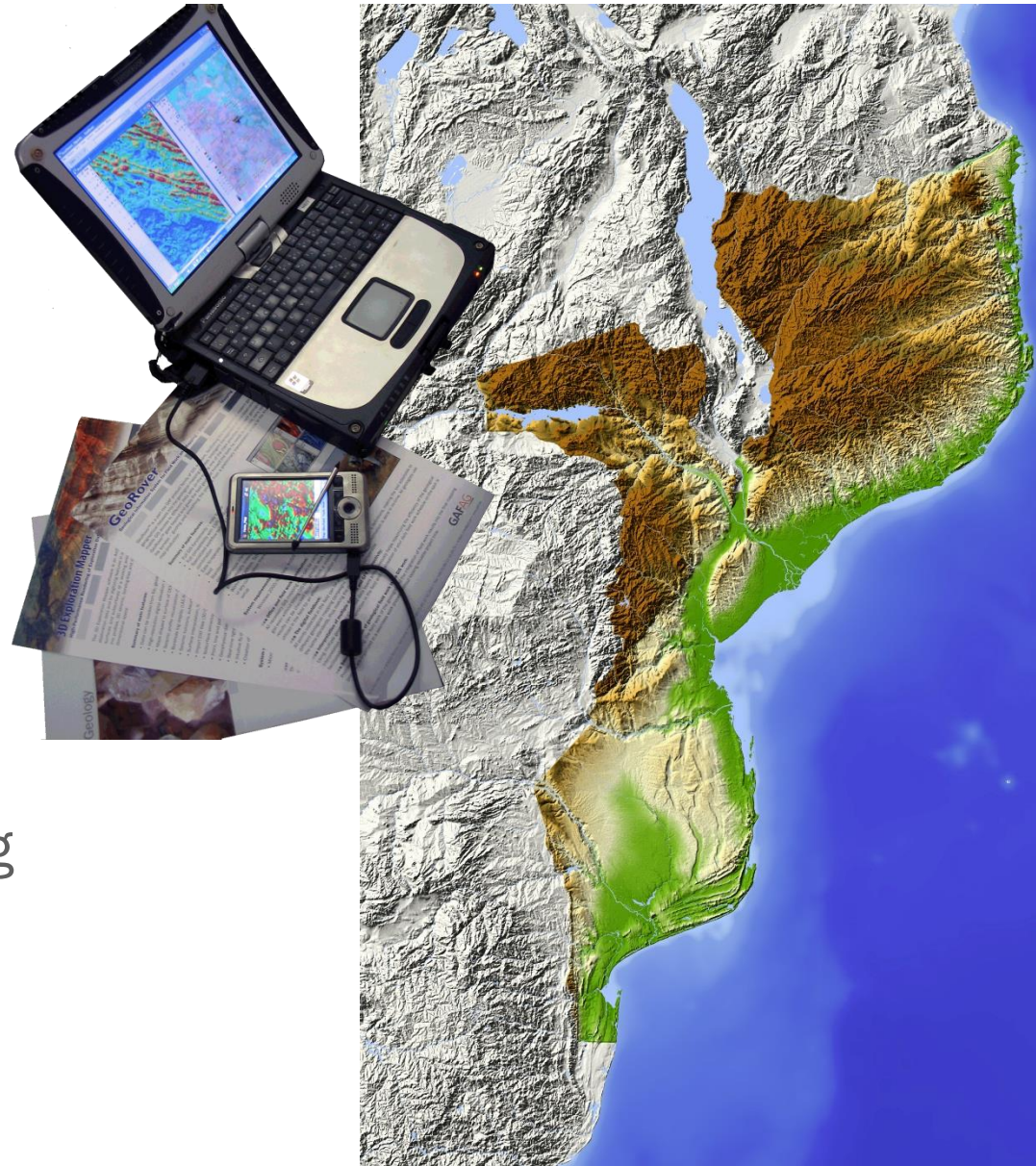


International network of Partner Companies and Technical Experts



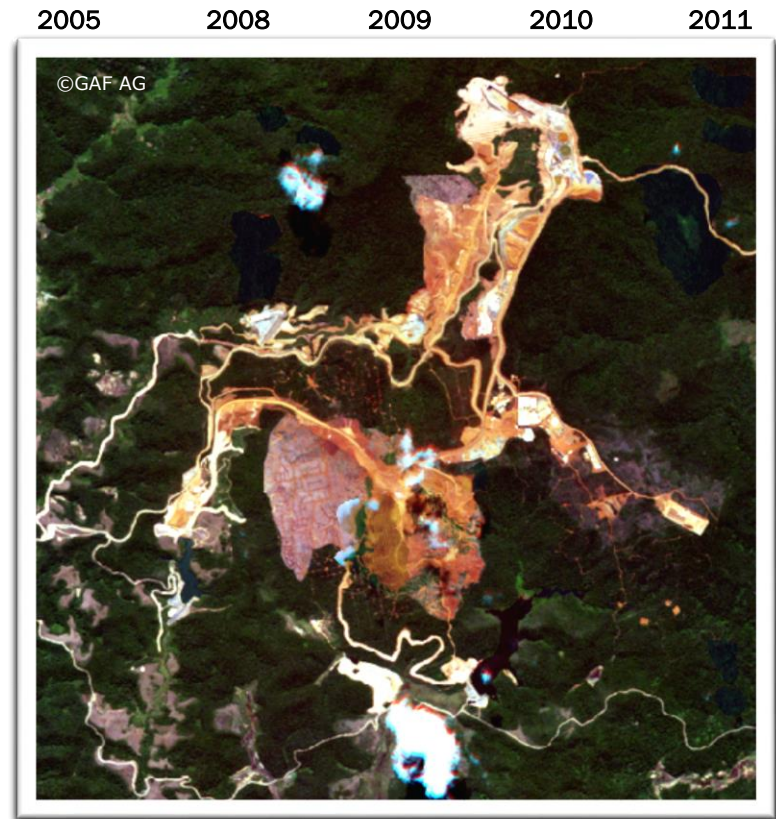
Services offered:

- Geo-Data Store
- Data Processing
- Information Systems
- Software Development
- Integrated Services
- Management Consulting



Project domains:

- Agriculture Policy
- Border Information
- Civil Security
- Coastal Zone/Marine
- Defense/Military Security
- Forestry Policy
- Land Management
- Mineral Sector
- Nature Resources
- Water Management



Example Mining in Madagascar

Product Features:

- VHRO data (spatial resolution <1m)
- 3D product
- Flight animation
- Produced entirely from EO data – no additional data from the ground needed

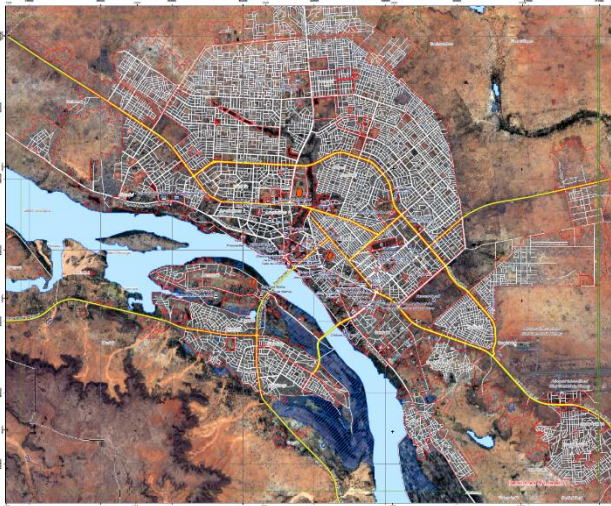


Tri-Stereo DSM Example Armenia – Flight over downtown Yerevan

Example: Emergence

Project: Copernicus Emergency

- Global application
- EO data delivery: 24/7
- Multi-sensor approach
- Thematic map delivery
- Operational Service



GUIDE number: 10-217-0466/13-7-14-1
 Address ID: ERM2-058
 Product: ERM2-058-03

Tacloban City - PHILIPPINES
 Typhoon HAIYAN - 08/11/2013
 Reference Map - Detail 03
 Publication date: 10/10/2013

Cerographic information
 Scale: 1:2000
 UTM Zone 49 Q
 Map Coordinate System: WGS 1984 UTM Zone 59Q
 Gridlines: WGS 84 geographic coordinates

Legend

General Information	Hydrology	Transportation
<ul style="list-style-type: none"> Point of Interest Settlements: <ul style="list-style-type: none"> Proposed Plans Non-formal Informal Informal Religious 	<ul style="list-style-type: none"> Coastline Canal Canal 	<ul style="list-style-type: none"> Bridge Primary Road Local Road

Exposure within the detail AOI 03

Estimated population	inhabitants	12923
Settlements		
Educational	No.	20
Industrial	No.	50
Institutional	No.	3
Religious	No.	5
Residential	No.	1273
Transportation		
Primary roads	km	2.9
Local roads	km	6.7
Bridges	km	3
Land use - Land Cover		
Grassland	ha	7.9
Woodland	ha	3.4

Map Production
 The content of this map is based on Copernicus Sentinel-1A SAR data. The map is produced by the Copernicus Emergency Response Group (ERG) using the Copernicus Emergency Response Group (ERG) software. The map is produced by the Copernicus Emergency Response Group (ERG) using the Copernicus Emergency Response Group (ERG) software. The map is produced by the Copernicus Emergency Response Group (ERG) using the Copernicus Emergency Response Group (ERG) software.



Map Information
 In the map, the area of interest is highlighted in red. The map is produced by the Copernicus Emergency Response Group (ERG) using the Copernicus Emergency Response Group (ERG) software. The map is produced by the Copernicus Emergency Response Group (ERG) using the Copernicus Emergency Response Group (ERG) software.

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Data Sources
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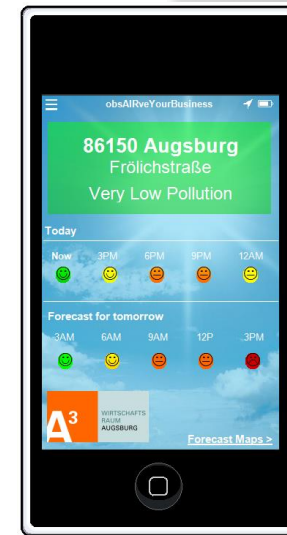
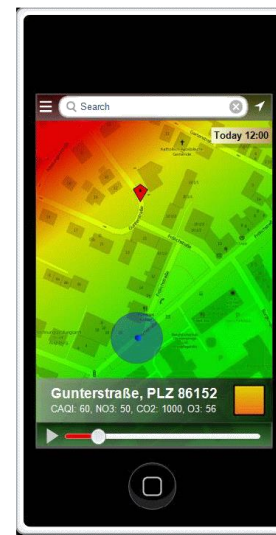
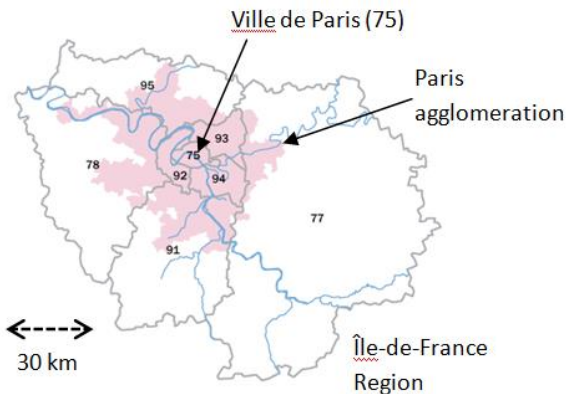
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Example: Air Quality Downstream Service

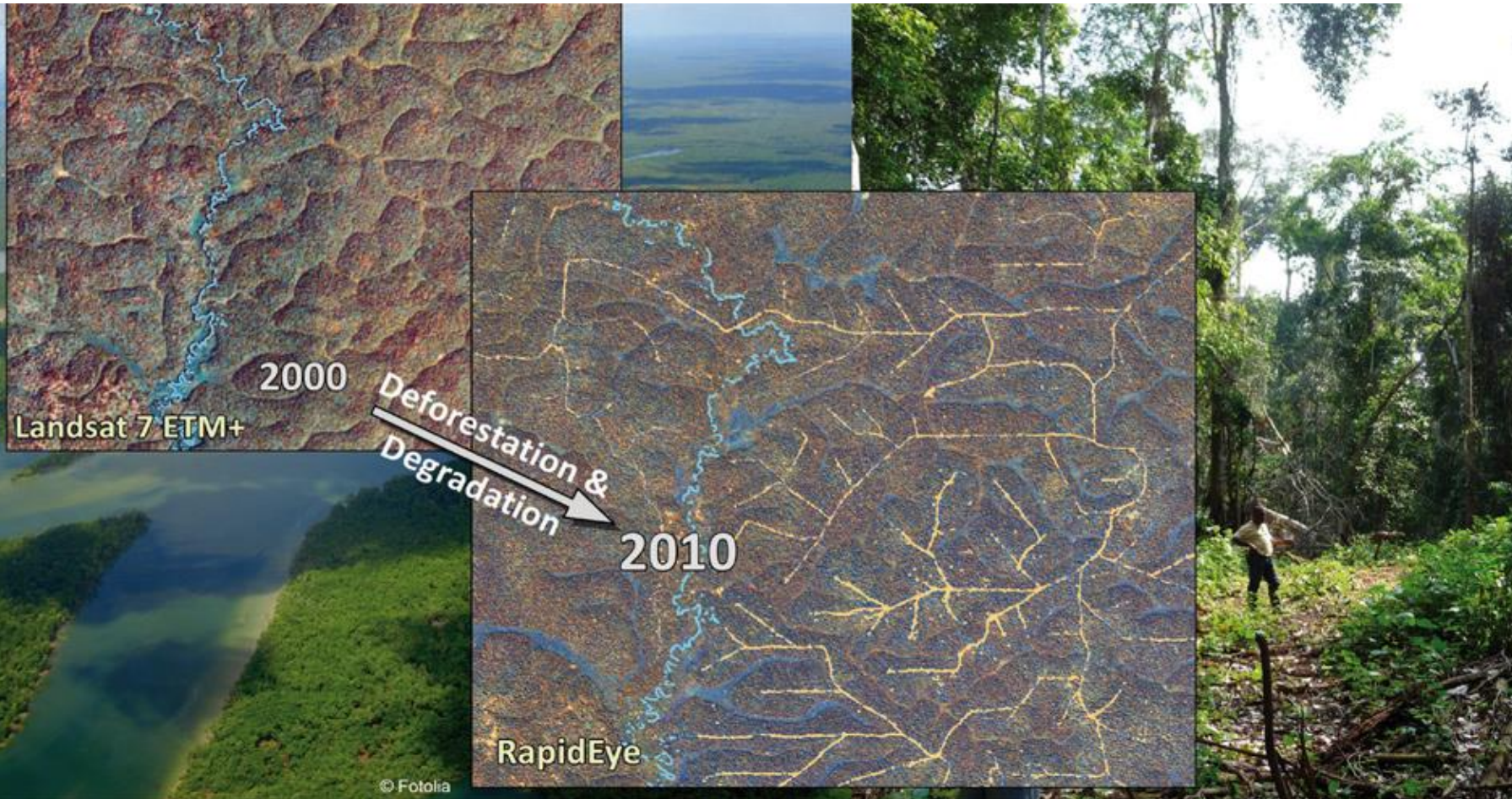
Project:



- Copernicus air quality downstream service
- Air quality information for Paris (France)
- Ease-to-use information on O3, NO2, PM10
- Local information (grid resolution 50*50m)
- Mobile Application:  



Deforestation & forest degradation due to timber exploitation – Eastern Cameroon



Development of pre-operational EO-based Methods for Improved Forest Cover Change Mapping and Degradation / Direct Biomass Estimations in the REDD Framework



EO Data	Forest Cover Mapping	Forest Cover Change Mapping	Degradation Mapping	Direct Biomass Assessment
<ul style="list-style-type: none"> • RapidEye • TerraSAR-X • Landsat • Spot 4/5 • COSMO Skymed • ALOS PALSAR 	<ul style="list-style-type: none"> • 3 points in time (1990, 2000 & 2010) • MMU= 1ha • Accuracy >95% 	<ul style="list-style-type: none"> • MMU \geq 1ha • Change areas classified into IPCC compliant Land Use Classes 	<ul style="list-style-type: none"> • Time series analysis • Detection of forest roads, skid trails, logging gaps, logging decks 	<ul style="list-style-type: none"> • Biomass Map • 25 m pixel resolution • Continuous values up to ~150 t/ha
	<p>Landsat TM4, 04.02.1989</p>	<p>Landsat ETM, 06.04.2001</p>	<p>Landsat 1990</p> <p>Landsat 2000</p> <p>RapidEye 2010</p>	

Highly interested in:

- **Climate Change/REDD:** Seeking for partnerships with Japanese companies to extend project activities in Asia and other regions
- **Consulting/Technical Assistance projects:** Cooperation in developing countries in order to serve Multi-lateral Development Banks such as Asian Development Bank or World Bank
- Earth Observation data: Enlargement of **Japanese EO data portfolio** (by including new/upcoming Japanese sensors) for data reselling/distribution to other regions
- EO data application on **mobile devices** (transfer of business models to Europe or to Japan)
- **Expansion of products and services** together with Japanese partners, such as Copernicus Downstream Services, Air Quality Monitoring, Emergency Mapping...



Thank you very much
for your attention!

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