



Sustainable Agriculture through ICT innovation

EFITA – WCCA – CIGR 2013 Conference, TORINO, Italy

Workshop: Public-private partnerships in agribusiness – Integration of IT and cooperation of org-structures

Technology integration and stakeholder cooperation – a must for a successful ICT implementation in agriculture-, forestry-, environment- and natural-risk-management

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Keywords: Agriculture, forestry, environment, natural risk-management, technology integration, stakeholder cooperation, public and private, precision farming, smart farming,

Introduction

We at PROGIS have been developing and maintaining an object oriented GIS (Geographic information systems) called WinGIS with about thirty applications for agriculture – forestry - environment and natural risk-management. Further we provide consultancy for customers within these sectors and developed stakeholder integrating business models supported by technology and its integration. They support the need for the measurable benefit of all participants and support the cooperation with technology partners, university partners and other public and private stakeholders of the complex chains to create a “SAFER” – Sustainable Agriculture Forestry Environment Risk-management business model.

Farmers can support food production, environmental caretaking and the management of natural risks but need better advice supported by integrative geospatial technologies and stakeholder cooperation!

About the important need of this we quote *Dr. Abdil Kalam, former President of India and Space Technology Expert*: “We need to explore, how geospatial technology can help the bottom of the pyramid. Creating a sustainable development model for the 3 billion rural people involves linking data, information exchange and proper dissemination.” (*) Since several years, we at PROGIS are doing a lateral thinker job within the Geospatial Industry with the focus to support farmers, foresters, environmental care-taking and the management of natural risks; and we supported the farmers within a so called bottom up approach.



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The main problems we assessed during these years was the non-ability of the top organizations – in many cases the governments but also powerful private industries – to support this target as with all new technologies the first objective is always: “How can I consolidate, protect and increase my and my organization’s position?” Charity begins at home!

Material and Methods

A map alone is too less

As agriculture, forestry, environment and natural risk are one of the most complex markets within the GIS sector one has to understand the needs of the different chain partners within these markets. A map alone is too less and does not help. Having our own GIS, the first very fast and powerful object oriented GIS with its own development environment that allows programmers to easily link their db-concepts to maps we focused on that world where we have been coming from – from a consultancy office focusing on agriculture – forestry- environment and natural risk-management.

Cooperation of chain-partners is a must

When *Prof. Dasgupta, Geospatial World Magazine* recommends “*In particular the earth observation industry has to find out why it remains the preserve of governments. Short term quick fixes are not the answer. It remains some out-of-the box thinking. These technologies (big data analysis, cloud, mobile devices) require a rethinking of deployment and application strategies in SDI but most governments are continuing to support older technologies and models.*” an out-of-the-box thinking, is exactly what we at PROGIS did - this to understand the integrated sectors with all their complex details since years.

Business practice transformation – public or private – must become a permanent process

When I recently read the statement of the *CEO of Trimble Steve Berghund*, “*The question I keep asking myself is with all of this technology, have we really taken the steps forward that we should have? Simply being faster and simply being cheaper is not enough. The idea is to use the technology and to be transformational and be better than we have been before*”, so we did exactly that what he was asking for! Why did we this and not others, we always have been asked?



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Stakeholder cooperation and technology integration creates highest ROIs

Very early after starting PROGIS we integrated technology genres like GIS, cartography, remotes sensing, GPS, mobile devices and much more but we did not only integrate them as *Ola Rollen, the CEO of Hexagon was asking for*: “Technology genres like cartography, remotes sensing, GIS and GPS are growing individually but they need to come together to create geospatial music.” We had to understand the detailed needs of all chain partners, the public and the private ones of all the sectors that should be integrated too.

Results / Conclusion

We have to analyze and respect the ownership of information

If *Kapil Sibal, the Union Minister for Communication and IT in India is asking for* - “basic essential data which emerges from Planet Earth must be available free of cost to anybody who wishes to use it. This is one thing that needs to be agreed upon if we really want to make use of data in a sustainable way” – we have to start thinking which data are owned by whom, who is responsible for the collection and what is private and what is public and what has a social responsibility. As long as these basic questions are not streamlined also on an international level as we need cross border data later, we will not be able to get out all benefits of the technologies of today and tomorrow that could result. Our answer is a concept for a trust center.

Public and private cooperation – Who is David and who is Goliath?

When *Paul Cheung, Director UN Statistics Division is asking for* “Governments and private sector should work together to make accurate, authoritative, reliable geospatial information readily available to support national, regional and global development.”, we have for the start of this to define some principal rules as asked above and we have also to accept that the farmer – farmers are missing in the a.m. list - as the bottom up responsible element knows in many cases more about his small local piece of land.



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Technology alone is too less – we all have to cooperate better

Also when the *Google CTA Michael Jones mentioned recently “Countries are increasingly being mapped by their people. Phone is becoming the computer of tomorrow.”* Technology alone will be too less! We have to change, significantly, fast, in-depth and we have to start tomorrow. Farmers, foresters, environmental experts and natural risk experts together with all chain-partners within these sectors have to support integrated concepts and the public administration as well as the up till today too silent science has also to support these targets.

(*) Cursive written either from personal knowing the author or from Geospatial World Magazine, 12/2012

References:

References are several thousand WINGIS customers worldwide, hundred thousands of WINMap-LT customers, more than thousand customers of DokuPlant and hundreds of users of applications like ForestOffice, Land consolidation, ENVIROffice in total more than 40 countries as well as some significant large customers where the overall model was already implemented



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