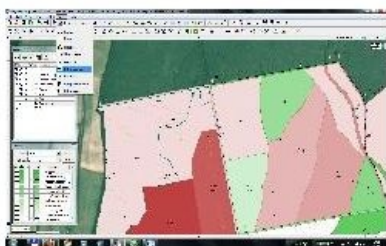


DIGITERRA

Fast GIS for Farm and Forest



The need for geospatial display of forest areas encouraged three freshly graduated forest engineers fifteen years ago to pioneer the production of GIS-based software applications for this specific sector. In contrast to slowly growing forests, the Hungarian firm DigiTerra Information Services Ltd quickly burgeoned, becoming a market leader in agro-geoinformation. The new goal is worldwide sales expansion.

Garage to GIS Producer

DigiTerra Information Services Ltd, headquartered in Budapest, is a private company owned by the founder members. Based on their professional knowledge as forest engineers and a common interest in software programming, they got together as undergraduates to develop a GIS

Founders and owners at graduation (from left to right): Gyula Eöry; Balázs Nyull, managing director; and Dr. Kornél Czimmer.

application which they called DigiTerra - Digital Earth. This was the cradle for a garage company founded in 1996. The first business-driven task was preparation of a digital forestry map, followed by GIS-based production management software for forestry companies. In the beginning, circumstances were more than favourable: start-up in a niche market without competitors. Subsequent years saw the development of innovative, tailor-made GIS applications for agriculture, environmental services, property management and government organisations.

In contrast to competitor software products, DigiTerra applications are based on the revelation that all important farming processes in forestry or agriculture are connected to spatial registry. As a result, each unique development project is based on digital maps; business processes are linked tightly to their geographical relations. For about the last five years the company has concentrated on the development of out-of-the-box GIS applications to be distributed worldwide by reseller partners. In fifteen years DigiTerra has evolved from a friendship into a company currently employing a total of eighteen staff, 70% of which are R&D experts, software developers and GIS engineers.

Digital forestry map, classified by tree species.

Staying in Balance

GPS measurement in a selected polygon.

DigiTerra has a balanced product structure which allows the company to maintain solid operations and protect itself from rapid economic change. About half of total turnover results from unique development projects and a comprehensive GIS-based ERP application developed for forestry companies. Differing legal backgrounds of neighbouring countries has meant that these applications have been sold in Hungary only. The remainder of turnover comes from local and international sales of DigiTerra Explorer, an out-of-the-box mobile GIS software product.

Desktop/mobile Combo

The company has been involved in some noteworthy projects, one being a 'Land Parcel Identification System'. This was necessitated by Hungary joining the EU and having to prepare a comprehensive GIS system in order to manage agricultural subsidies linked to parcels. The software displays digital maps recorded by remote sensing and supports customer service workflow by browsing the geographical data, completing registration forms and printing individual maps for each customer. Before paying area-based agricultural subsidies to farmers, a government organisation checks whether the size of parcels specified on the application form matches reality.

UK moorland restoration project.

The DigiTerra combination of desktop and mobile GIS software allows local surveyors each morning to receive a data package from the central database with information about the area to be checked that day. Maps and all necessary information are displayed on a mobile computer with GPS receiver, enabling surveyors to carry out their daily work. The results of measurements are uploaded to the central

database by the end of the day and subsidies paid or rejected based on these control measurements.

Ragweed

Mobile GIS software in use. The 'Ragweed Information System' concerns the eponymous wild plant, widespread and dangerous in that it causes allergic reactions. In order to decrease the level of human allergy, the Hungarian government decided to set up a GIS-based protection system. In the first stage, affected areas will be detected using remote sensing, and then field surveyors will localise the plant using GPS measurements. Finally, the plant will be exterminated and the owners of affected parcels made to pay a penalty. Again the desktop/mobile combo means local maps based on remote sensing can be distributed to surveyors, making available to them all necessary information on their PDAs with GPS receivers. During fieldwork they verify the presence of ragweed and measure the affected area. Collected data will be transferred to a centralised database connected to the property registration system. The official process of exterminating the ragweed will be carried out based on this information.

Out-of-the-box GIS

The company's main out-of-the-box GIS application is DigiTerra Explorer, a mobile GIS and field mapping software comparable with ESRI's ArcPad. The DigiTerra product has been sold worldwide through reseller partners and used by thousands of government and private customers since 2000. The current version 6, introduced at Intergeo 2009, is available in three functionally structured editions to meet the needs of different customer groups. The software is equipped with a graphical engine for fast processing of large raster and vector files, also on mobile devices, offering device-independent use through delivery on SD-card. DigiTerra Explorer is also integrated with a laser range-finder, a cable locator and camera, and adjustable data-collection sheets without programming. The main user groups for this software are farmers, foresters, field surveyors, public utility companies, geographers and archaeologists.

Reaching the World

International recognition has been increasing since 2007, when DigiTerra concluded a distribution agreement with Magellan, now Ashtech, resulting in DigiTerra Explorer becoming available on the international distribution network of this large GPS producing partner. The co-operation has been followed by further development agreements with Topcon and Trimble, so that now handheld GPS receivers from these two big producers are fully supported by our software. From a sales point of view, several dealers for these hardware manufacturers have widened their product portfolio to include DigiTerra Explorer, and this year we are conducting negotiations with Leica with the aim of making their handheld receivers too fully compatible with DigiTerra Explorer.

Looking Forward

Revenue growth is expected from increased international market penetration through value-added reseller partners. DigiTerra is also on the lookout for new partners with specific knowledge in any sector using field survey in which it is necessary to consult individual companies, prepare customised data collections sheets or maps, deliver tailored solutions in larger GIS projects, and train and support customers. At a global level, working with knowledgeable partners is extremely important for future success. At the same time, we strive to maintain existing corporate values. According to managing director Balázs Nyull, DigiTerra software products are recognised as highly efficient tools in vector and raster geoinformatics. All applications are built of bricks containing a reliable and still flexible GIS engine that is our exclusive intellectual property. Producing high-quality solutions is not enough to succeed in the long term. There are some other factors that are indispensable to growth and improvement, such as the complementary skills of key co-workers (forestry plus GIS plus business), the human factor (talent, commitment, persistence), and innovative and competitive products. R&D, he says, should move ahead faster than the rate at which competitors are able to develop products.

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