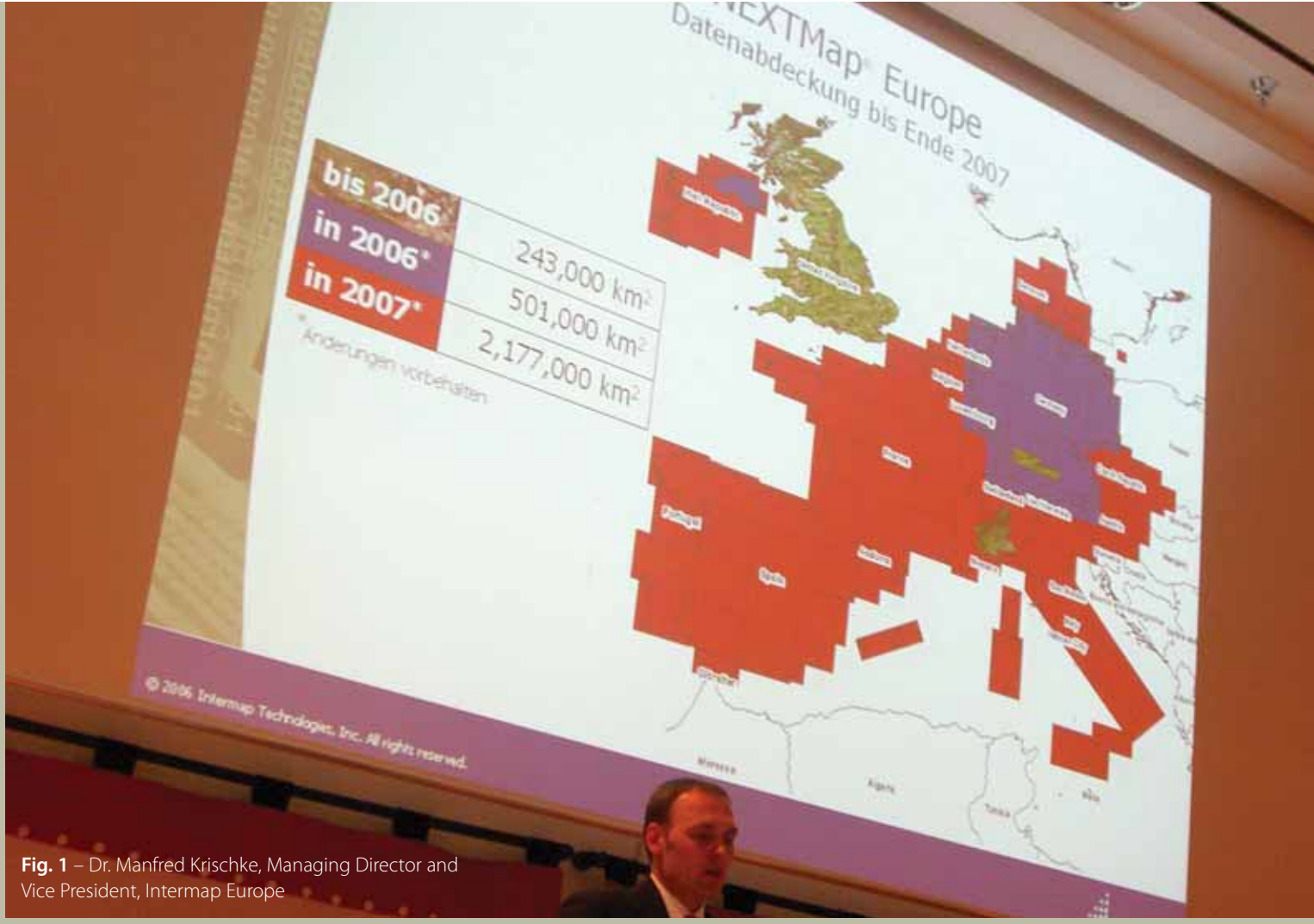

Fig. 1 – Dr. Manfred Krischke, Managing Director and Vice President, Intermap Europe

SEMINAR: INTERMAP TERRAINSCAPE - GERMANY

INTERMAP TECHNOLOGIES RECENTLY HELD A SEMINAR SERIES ENTITLED 'INTERMAP TERRAINSCAPE' IN WIESBADEN AND BERLIN GERMANY.

The company is well known in Europe, having developed the 'NEXTMap® Britain and NEXTMap® Deutschland projects as part of the company's ongoing NEXTMap® Europe program. When completed, the company will have collected precise 3D digital elevation and geometric datasets for most of Europe.

Operating in the United States, Canada, Germany and Indonesia, Intermap also has offices in other countries around the world. The purpose of the Berlin seminar held in the new Canadian Embassy located at Potsdamer Platz and attended by *GEOconnexion International Magazine*, was to communicate with the geospatial community and identify potential applications for NextMap® Europe geospatial data. Discussions focused on the new European products Intermap is offering, and how they might be useful to those attending. Representatives from Intermap invited a number of guests from the Wiesbaden and Berlin regions who may not be familiar with all the products Intermap is developing. These meetings were an opportunity to share information about both Intermap and the recently completed NEXTMap® Deutschland data collection. Francois Gauthier, Minister Counsellor provided welcoming remarks and Bruno Wiest, Trade Commissioner for Science and Technology at the Embassy, introduced those in attendance.

Hugh MacKay, Director of Canadian and European Sales for Intermap, initiated the introduction by explaining that the company has been in the radar data collection and mapping business for more than 10 years. MacKay further elaborated on how its product offering has traditionally targeted larger companies in the insurance, communications and transmission (energy) sectors, and that the company is now involved in numerous other sectors across a varied range of applications.

The NEXTMap® program began in February of 2006 and data collection is anticipated to be completed by the end of 2008. Collected by LearJet 36 and KingAir T200 aircraft between 25 June and 27 October 2006, approximately 17,080 maps comprise the NEXTMap® Deutschland dataset. To collect the flight information, two aircraft crews with 10 people in total were used and another 100 or so personnel are engaged in processing the collected information. Core products include digital elevation products and ortho-rectified imageries (Fig. 1). It is estimated that 80% of the data is *'fit-for-purpose'* directly for federal, regional and local governments, as well as consumer and business applications, such as visualisation. The data also has application suitable for military use.

Previously, the company was involved in mapping the 5600 sq. km. for the Winter Olympics and a comparison by the French L'Institut Géographique National (IGN) of Intermap 1:25,000 scale products between radar and geometric techniques revealed high accuracy and precision – better than 1m elevation accuracy on flat lands and within 3m for mountainous regions. The company also offers 3D vector extraction for its products. Erich Hoppner of Intermap GmbH located in Munich spoke about the company having processed earlier Shuttle Radar Topographic

Mission (SRTM) data, as well, providing DTED 2 products for an area covering roughly 119.5 million km^2.

Matthias Bachman, Geocontent GmbH from Magdeburg discussed the issue of accuracy through the use of photogrammetry techniques and how the company is routinely achieving 5m accuracies. He indicated that about 25% German Lander are using the company's digital elevation models (DEMs). Frank Schwedler of E-PLUS Mobilefunk GmBH provided an interesting presentation discussing how telecommunications companies are using the company-wide '*E-Vision*' and EPOS Tool for planning network installations and locations. Highly accurate elevation data is useful for this purpose, enabling optimum location and ensuring proper wave propagation based on the company's developed models and algorithms. From base stations to micro-cells, such planning can result in considerable savings while increasing signal quality. Also mentioned, and not often considered, was the concept of 'changing landscapes' - new buildings and other objects entering into pre-planned space at a later date.

Hermann Hahn of the State of Niedersachsen indicated that about 18% of that state had been laser scanned in June 2006, and that a resolution of 12.5 m produced an 0.5 m accuracy with vegetation and based on Gauss-Kruger - UTM and using SCOP++. The state, he noted, divides the mapped areas into 4 sectors.

As Hugh McKay summed up, it can be confusing sometimes to understand which type of data is useful for *'my application.'* Dr. Manfred

FIG. 2 – Hugh MacKay, Director of Canadian and European Sales Intermap

Krischke, managing director at Intermap Europe, indicated the current work across Europe originates from the NEXTMap® Britain results, where the proof of concept was developed and built. Current efforts include enabling a variety of innovative applications in the insurance and automotive sectors. "The flood and insurance market are growing in Europe. Since the first recent floods, Europeans are now experiencing more widely flooded areas and need localised data for protection and emergency purposes," he says. Indeed, some of the current work was not possible until recently. Richard Smolenski, vice president of sales at Intermap said, "a convergence of technologies, particularly in terms of automotive technologies, processing power, and display technologies, have led increasing onboard processing and higher public expectations such as 3-D representations of data." This is one of the reasons why such applications as Advanced Driver Assistance is being developed. "Advanced Driver Assistance is an automotive application whereby vehicle headlights track topography (based on DTM), thus areas on the road are always lit as headlights adapt," he said.

Both Smolenski and Krischke point out that there are 80,000 combined deaths a year from vehicle-related accidents in North America and Europe, and that a 50% reduction in fatalities may be possible using these technologies. Querying both individuals about the challenges that Intermap faces, each responded in a similar manner. "Intermap is experiencing significant growth internationally and has recently added two aircraft to its fleet. The scale of the work involved is large and the cycle from time of capture to re-flight and re-capture is about 3-5 years," thus the volume of work is large and continuous. Both indicate that Terrainscapes Seminars such as these help to build capacity and provide an opportunity for other businesses to build upon the high quality data Intermap has collected.

The future looks bright for Intermap. Applications are growing and within the near future several parts of the world, including Europe, will have one complete homogenous digital elevation data set of high resolution for a broad array of applications.