INNOVATION RULES!

GEO:CONNEXION INTERNATIONAL LOOKS AT INNOVATION AND CONVERGENCE IN NAVIGATION AND LOCATION MARKETS

The last half of 2007 saw several mergers, acquisitions or content sharing agreements reached between the major players in the in-car and personal navigation device (PND) market places. These included the acquisition of Tele Atlas by TomTom, including the failed attempt by Garmin to outbid TomTom for secured access to Tele Atlas' road database content – a move that drove the value of Tele Atlas up from the initial 21.25 euro per share offered by TomTom in July to 30.00 euro per share in November. Then in October, Nokia offered US$78.00 per share for NAVTEQ common stock, in a move showing just how important one of the world's largest manufacturers of general purpose mobile phone equipment now viewed the location-based services industry, which includes both in-car and PND devices.

These signals reinforce the importance and value of access to different types of content to device (hardware) manufacturers forging innovative technology convergence. The fight between TomTom and Garmin over Tele Atlas' excellent road information database was not that surprising, given that these two hardware manufacturers desperately need access to road and traffic data in order drive primary markets for their devices. The move by Nokia was more surprising, signalling a determination to build in screen-based and/or voice-based location based services for Nokia's primarily communications oriented devices, with typically much smaller form factors than the TomTom, Garmin, NAVTEQ and related GPS-based mobile systems. The search for the "phone of the future" has already been supplanted by the "mobile device of the future" in which the phone function is just one of many capabilities – and one that is no longer sufficient to ensure success of such devices. The dividing line between intelligent (smart) phones, PDAs and PNDs is becoming ever more blurred, almost on a monthly basis – with serious ramifications for consumers planning to buy into this location-based information revolution, whether for personal use or as part of enterprise-wide corporate information infrastructure.

And the innovation doesn't stop with the 'usual suspects' from within the mobile devices industry, as evidence by launch of Google's 'My Location' service, which uses low-resolution location information (accurate to within only hundreds of meters of a cell phone user's true physical position) provided by monitoring cell phone users' positions within the cell phone infrastructure itself, rather than relying on GPS. This technology opens up a new layer of location-based service possibilities where 'near enough is good enough', and which creates new market possibilities for any number of mobile device manufacturers who wish to team up with Google – or the competing service(s) that will almost certainly sprout soon in answer to Google using either the same or related position-relevant technology – such as Plazes, which depends upon WiFi hotspots across major cities (see our 'Emerging Technology' section in this issue).

Although Google has demonstrated serious intentions regarding the location industry ever since launch of Google Maps and Google Earth, this interest is mirrored in similar moves from industry giant Microsoft and other key players in the ICT and Internet spheres. While not any sort of threat – today – to the accuracy needed for road navigation or even real personal navigation (to within metres, not hundreds of metres), the fact that actors as significant as Google and Microsoft are moving ever more surely into the location industry is bound to have important positive ramifications on growth figures for the value of that industry, which may then split into different sub-market places, dependent mainly on the degree of positional accuracy and timeliness provided by the different services or products.

INNOVATION AS MARKET DRIVER

As we noted in the last Market Watch, content and the services relating to continuous content update, position sharing and information dissemination are now key to the location-based market place. Innovative hardware is no longer sufficient to ensure success. Yet further innovation – and improvement - is required in a number of areas. These include:

- advances in power consumption performance, dependent upon new innovations in the mobile energy source industries, from batteries to micro fuel cells,
- location-finding ability, for example, inside buildings or the concrete canyons of modern city centres), using alternative technologies and techniques, not only GPS,
- always-on access to the Internet, via several mechanisms, including the expanding WiFi networks in many areas, often covering whole cities, but also in rural areas, often poorly served by the communications industry,
- increases in internal storage capacity and the ability to move content rapidly between mobile devices and external devices, and
- in the area of human-computer interface (HCI) design and implementation, where shrinking key pad real estate and small viewing screens cry out for more voice activated functionality, impinging directly on more advances needed in voice recognition technology, and even visual data representation technology, such as direct transmission of images to users' eyes, and
- yet more standardisation and harmonisation to permit rapid and hassle-free integration of interoperable data sources from across different media industry sectors, including more efficient handling of emerging digital rights management issues and technologies.

IMPACT OF CONVERGENCE

The sort of convergence we are seeing now in the burgeoning location-based services industry incorporates hardware innovation (as noted above), new deals on content – and on ways to improve quality and coverage of content, and its dissemination, using the mobile and other geospatial technologies – and on access to information via the Internet and its allied technologies, such as WiFi. More tie-ups between hardware manufacturers, content providers and Internet giants can be expected in the near future. These developments are leading to unexpected results, such as an increase in production in an otherwise sluggish semiconductor market, for mobile communication related chips.

Even further afield, but still related, are movements such as the 'Android' Open Handset Alliance Project that is creating an open source software stack for mobile devices including operating system, middleware and key applications, many of which are relevant to mobile services. Android is strongly backed by Google and already includes 'phone finder'.

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AGREEMENT

Intermap Technologies announced an agreement with **Magellan** to provide outdoor map content products for Magellan's line of handheld GPS devices. Intermap's AccuTerra™ map products will provide users with outdoor-specific map data for the contiguous 48 states and Hawaii. Intermap is creating consumer mapping products using Magellan's Solution Developer Kit (MSDK) MapCreator software. MSDK is a 3rd-party development toolkit that enables licensees to develop world-class mapping products and software enhancement to enhance Magellan's GPS product line offerings. MSDK-derived content products are compatible with both GPS devices and VantagePoint desktop software.
www.intermap.com / www.magellan.com

ACQUISITION

Cybit announced the acquisition of **Amatics Limited**, a leading UK-based telematics service provider specialising in the local authority and utilities markets. The acquisition strengthens Cybit's position as a leading European telematics vendor. The company will now track in excess of 40,000 vehicles for approximately 1500 customers, with a strong established presence within the public sector. Cybit will integrate Amatics' market expertise to help create a specialist division with a focus on utilities and the public sector, where there is set to be a significant increase in demand for fleet and asset management solutions. Amatics primary focus is on telematics for light goods vehicles; many of its customers integrate telematics into their internal infrastructure, including customised GIS applications for systems such as gritting and gully emptying.
www.cybit.co.uk

PEOPLE

Optech Incorporated, a provider of advanced lidar survey instruments, announced today that it has appointed **Glenn Farrington** as General Manager of Airborne Survey Products. This new position gathers the company's existing ALTM, Gemini and SHOALS airborne survey systems into a single business unit, providing a better focus of expertise and strengthening the overall team as new airborne products are introduced. Glenn holds a M.Sc. from York University and has been with Optech for nine years in a variety of roles within the former Terrestrial Division, including Field Manager and Deputy Director of Operations. In his new role he will be responsible for managing all aspects of Optech's Airborne Survey Products, ensuring that this core line of business meets customer requirements and overall success within Optech's expanding product offerings.
www.optech.ca

ACQUISITION

Microsoft Corp. has acquired **Multimap**, one of the leading online mapping services in the world. The acquisition gives Microsoft a powerful new location and mapping technology to complement existing offerings such as Virtual Earth, Live Search, Windows Live services, MSN and the aQuantive advertising platform, with future integration potential for a range of other Microsoft products and platforms. Terms of the deal were not disclosed. Multimap provides a publicly available personal mapping service at www.multimap.com, as well as a range of integrated business services. Multimap will operate as a wholly owned subsidiary of Microsoft, as part of the Virtual Earth and Search teams in the Online Services Group. The acquisition is the latest in a series of moves as Microsoft seeks to expand its online services to deliver software, services, and premium content and applications to consumers and businesses.
www.microsoft.com / www.multimap.com

AGREEMENT

Harris Corporation, supplier of commercial, government and defence communications systems and geospatial solutions, extended its agreement to distribute **Intermap Technologies Corp**'s high-resolution digital elevation and orthorectified radar images. Harris' ImageLinks Program is a leader in providing products and technology that enable effective management and control of geospatial-based information. Using in-house proprietary technology for image processing, they solve problems that can be better explained and solved visually with images. Their advanced technology manages pixels that represent information that is both visible and invisible to the human eye, combining enhanced pixels with terrain data elements to create image-based information that is more effective for decision-making for commercial and government GIS professionals. Intermap's 3D digital elevation models, collected as part of their NEXTMap® countrywide mapping program, are effectively enabling these types of applications worldwide.
www.intermap.com

ORDERS

Wayfinder wins an additional order from a major handset manufacturer in the amount of SEK 22 million. The order is expected to be fully recognized as revenue during Q4 2007. Wayfinder will, as in previously communicated orders, provide the award winning Wayfinder Navigator software and services together with GPS receivers. Aligned with the preceding orders announced earlier this year the total order value now, in this particular partnership, reaches approximately 76 million SEK for 2007. About 60% of the order consists of hardware and 40% of services with a substantial potential for additional services to be delivered at a later point in time. The order includes Wayfinder Navigator 7 software and service and Wayfinder GPS receivers. Wayfinder Navigator 7 combines the best of GPS navigation with the convenience and functionality of a mobile phone.
www.wayfinder.com

EXPANSION

Leica Geosystems Geospatial Imaging announced opening of Leica Geosystems Geospatial Imaging India Private Limited, headquartered in Gurgaon (New Delhi), India. With a long-term perspective, Leica Geosystems' expanded presence in India strengthens its technical support and application services for customers in India. Initially employing staff in New Dehli, Hyderabad, Calcutta and Dehradun with a broad range of geospatial expertise, Leica Geosystems India will deploy technical support, business development, marketing, software development and professional services throughout the region, and will also build customized and localized geospatial solutions. Leica Geosystems' strong customer base in India's defense and security, base mapping, natural resource mapping, agriculture, urban planning, environmental and forestry industries will be further strengthened by the services and product offering of Leica Geosystems India. It will be the only company in India to sell and support Leica Geosystems' product portfolio in its entirety, including the products recently acquired from Acquis, ER Mapper and IONIC and those combining technologies implementing Service Oriented Architectures (SOA).
www.gi.leica-geosystems.com

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