AUTOMOTIVE TELEMATICS BULLETIN

SAMPLE ISSUE

An independent publication

Ford launch Telematics fleet solution

RADICAL MOVE BY OEM

Ford has become the first major vehicle manufacturer in Britain to offer a telematics fleet management package to its new vehicle customers. Not to be confused with *fordtelematics*, the control centre-based information and assistance package that is offered to buyers of new Mondeo and Focus models, Ford fleet telematics is geared towards the needs of delivery services.

Kathryn Lees, head of the telematics programme at Ford, has worked on Ford's programmes at various levels (from work within their light van division to being head of the marketing programme when Mondeo was launched in 1993) and is a firm believer in Ford's rôle as a market pioneer; "Ford were first to offer ABS braking to the mass market, and were the first to offer a driver airbag as standard. We see this [ford fleet telematics] as a development of that philosophy. Henry Ford democratised technology for the masses, and this is a natural development." She went on to explain that, thus far at least, telematics is a mystery to the average driver; although it is within the grasp and understanding of a relative élite... "It has not yet reached a level of awareness, of familiarity, with the general public."

So what prompted the move into a fleet logistics solution? According to Kathryn Lees, telematics provides a means of enhancing the efficiency and profitability of Ford's customer base. "We started to look at telematics some time ago" she explained "and evaluated all available solutions." Ford soon realised that whilst the telematics industry, in common with all new technologies, has more than its fair share of what could be described as 'vapour engineering' it could

also offer the bottom-line improvements that are constantly being sought by Ford fleet buyers.

The much-lauded Kaisan technique is one way of increasing the efficiency and profitability of businesses. Rooted in Japanese philosophy, Kaisan is geared to making small, progressive improvements, with a product or service being gradually refined and finessed until it gets better. This is by definition a deliberate process, and thus requires a lengthy timescale. 'If you take a thousand things and make them one percent more efficient, you soon begin to see benefits and improvements", explained Kathryn. The alternative is to enter what she describes as a step change, with a sudden, dramatic increase in productivity. This was the energy behind what we think of as the industrial revolution of the nineteenth century. That dramatic commercial change was driven by technology (essentially automation of spinning and weaving in the cotton and wool industries) and so it can be again with the transportation and logistics industries. This time the catalyst is likely to be telematics, but first the seeds of awareness need to be planted in the minds of fleet operators.

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Marketing is a commodity which has always been abundant within Ford, and this new venture will benefit from the full weight of almost a century's expertise. An intensive programme of meetings has led to the inception of a simple, straightforward plan which will enable even the most ardent technophobe to grasp the fundamental benefits of ford fleet telematics. Typical of the marketing thrust is that a rolling roadshow, already planned for the light commercial vehicle division of Ford to show the latest Transit models to its customers, will integrate fleet telematics. This will enable fleet buyers and managers to experience first-hand how the system works, being shown how the package can improve efficiency, security and thus cost-effectiveness. This will be augmented by a detailed and thorough training programme for participating dealers: "We won't be just sending out a marketing pack", explained Kathryn "Instead we'll be inviting dealership personnel to tailored training days, and make available specialist tutors who will, in turn, train dealer staff to be able to explain the benefits of the system to their customers, the fleet operators. They will show how they can use it as a tool within their own business." This, she added, will include explaining how those fleet operators can use the suite of technology to build their own businesses, proving to their clientéle that they will be able to offer such benefits as more detailed and specific delivery schedules, along with dramatically increased levels of security.

Ford's fleet telematics solution is a comprehensive suite of management tools aimed initially at delivery services and other fleet users of light vans. It is expected to eventually integrate with fordtelematics, the company's consumer service

The system has been designed around the retro-fit black box, but in the fullness of time it is expected that the hardware will be line-fitted to all new Ford commercial vehicles. This follows the pattern being developed within Ford's car building operations, and forms a plank of their long-term pan-European strategy. "But there will always, or at least for the foreseeable future there will be, a rôle for retro-fit systems", added Kathryn. Amongst the examples cited are cross-brand fleets where operators might wish to expand the system usage into non-Ford products, and fleet managers who wish to use ford fleet telematics as the core of a system which takes in trucks and cars as well as light delivery vehicles.

Ford narrowed down an initial list of some 20 possible service and hardware suppliers, eventually working more closely with a handful of established and valid options. The company then undertook a pilot project, with a controlled number of customers drawn in to help test out the various systems. This resulted in the decision to go with Thales as technology partner in the programme.

Thales—whose own fleet management package is marketed under the Orchid brand in Europe and South Africa—offered several advantages over rival products. Firstly it is based around a proven and flexible 'black box' which combines Global Positioning Satellite-based location sensing, data processing and communications hardware in a simple-to-fit unit. The GSM digital communications card within the box is a dual-band piece, but can be upgraded to allow tri-band, GPRS and UMTS (packet data and third generation 'universal' services respectively) systems integration on demand. More significantly, Thales, which combines the former Thomson and Racal businesses, is sufficiently big to deal with the anticipated sudden growth in requirements. Finally, it offers a comprehensive and proven range of future-proof protocols to get data from the vehicles and onto the desks of fleet management operatives. In short, the company is big enough to handle any problems that Ford might throw at it.

The period of evaluation and pilot testing was hugely instructive: "Whichever way we looked at it, and bear in mind we kept scaling down and down until the benefits were minimised, we became convinced that fleet management telematics was the way to go."

In its initial form the ford fleet telematics package is a straightforward means of tracking the whereabouts of vehicles linked to the control centre. The complexity of software is such that real-time locations and progress can be

Brands within the Premier Auto Group such as Jaguar and Volvo are expected to be wrapped into the scheme—eventually

compared to predetermined schedules, allowing updates of delivery whenever time-sensitive issues are involved. With increased reliance on just-in-time deliveries, the value of this feature cannot be underestimated.

The system software allows vehicle progress to be used in conjunction with maps, enabling route planning to be optimised. At present there is no provision or real-time traffic information to be overlaid, but this is apparently in the process of being added, to allow diversions to be programmed when necessary.

Other benefits of the system which appeal to fleet managers are a capability for time-stamping journeys (allowing driver working hours to be monitored accurately) and for vehicle journey mileages to be accurately monitored. "One of the benefits of this feature is that vehicles used on high-mileage routes can be exchanged periodically for those used on shorter routes. This will help balance out vehicle mileages and optimise residual mileage on disposal", explained Kathryn Lees.

By the time that you take into account the security issue (remote tracking of stolen vehicles) and the way that gathered data can be quickly integrated into other common PC data analysis and management packages, the argument in favour of ford fleet telematics becomes a compelling one. And from the end-user point of view, it comes complete with the security blanket that a Ford-branded product provides.

At present fordtelematics and ford fleet telematics are disparate applications of fundamentally similar technologies. Both are location-based, making use of the GPS system to provide location fixes, but there the similarities end. The challenge facing Ford is to marry up these two into a single business entity—possibly along with the similarly isolated work on telematics packages being carried out by Ford brands Jaguar, Land Rover, Lincoln and Volvo. But that is an issue which will take much longer to resolve. ■

www.fordvans.co.uk/fleettelematics

NEWS SHORTS

Bosch has disposed of its automotive lock and entry systems. Subject to governmental approval, from November 1, 2002, the Brose Group will take over the lock system activities of Robert Bosch. The lock system group encompasses locks and all mechanical operating components including electronic automobile lock systems. It operates in Germany, Chechnya, South Korea, the US and Portugal.

Brose are expected to continue developing automobile systems in partnership with Bosch, possibly including unique driver identification technology; this will integrate with second-generation telematics packages. Turnover for 2002 is anticipated to reach €220 million.

Trafficlink, the privately owned British traffic information provider whose primary rival is Centrica's AA Traffic, has appointed media sales house Emap Advertising to manage its sales side. The move is likely to result in advertisers or sponsors being linked to each traffic bulletin broadcast on local radio stations. At present Trafficlink not only provides Emap's 18 regional UK stations with traffic information but also the Chrysalis Radio group. It isn't all good news for Trafficlink, though; it recently lost its valuable contract with GWR, another major station operator, to the AA.

Smartnav, the Trafficmaster-Motorola joint development providing offboard navigation*, has been adopted by Britain's Royal Automobile Club. Branded RAC Live, the service requires the car to be equipped with the complete Smartnav package of GPS receiver and processor unit, together with mobile phone and handsfree. Pricing follows the Trafficmaster model of £399 for the system plus installation, and a choice of annual or whole-life subscription. There is also a no-rental option with an 89p per minute call charge.
www.rac.co.uk/live
*see page 14 of this issue for full details of the package

Australian technology company **QuikTrak Networks**—whose more arcane products include transponder tags to keep track of the whereabouts of crocodiles in the Outback—has opened a London office to springboard expansion of its European operations.

Amongst its earliest contracts is a scheme to integrate transponder tags into cash transit boxes. The system requires a network of tag readers (currently under construction in Greater London, with other main routes being served in the near future) which will allow the location and direction of tagged boxes to be quickly detected. The incorporation of QuikTrak technology into the cash box will be the first time a cash box can be tracked and located wherever it is in use. The initial contract is with Spinnaker International, which has over 70% of the world market for intelligent cash boxes. QuikTrak is also active in mainland Europe, with an established office in Holland.
www.quiktrak.co.uk
www.quicktrak.nl

TELEMATICS – THE WAY FORWARD

Jonathan Loretto, Mobile Commerce Leader with Cap Gemini Ernst & Young, comments on where the profit lies in telematics

The $1.6 billion answer lies within the matching of technologies to three principle groups of customer

Telematics is capturing the public imagination with the latest cars being advertised with celebrities such as Ed Harris and Thierry Henry demonstrating on-board consumer technologies including email, navigation, brake-by-wire and even DVD players. These adverts reflect the push by the OEMs to increase consumer interest in an area that they are spending more than $1.6 billion a year on developing.

We are currently at the very early stages in the development of first generation telematics, a technology-driven marketplace that unites the driving experience, with wireless telecommunications, computers, digital content and intelligent devices. As this new marketplace opens up and expands, the question many telematics companies are asking is where they should concentrate their development efforts to attract the most profitable customers. The $1.6 billion answer lies within the matching of technologies to three principle groups of customer:

- **Consumers** *(The public)*
- **Small fleet** *(Logistics and distribution fleets)*
- **Large fleet** *(Logistics and distribution fleets)*

The Telematics services and products can be grouped into five major areas:

Life-critical—technologies that manage those aspects of the vehicle that are critical to the preservation of the occupants, such as X-by-wire, collision control systems, engine management, etc.

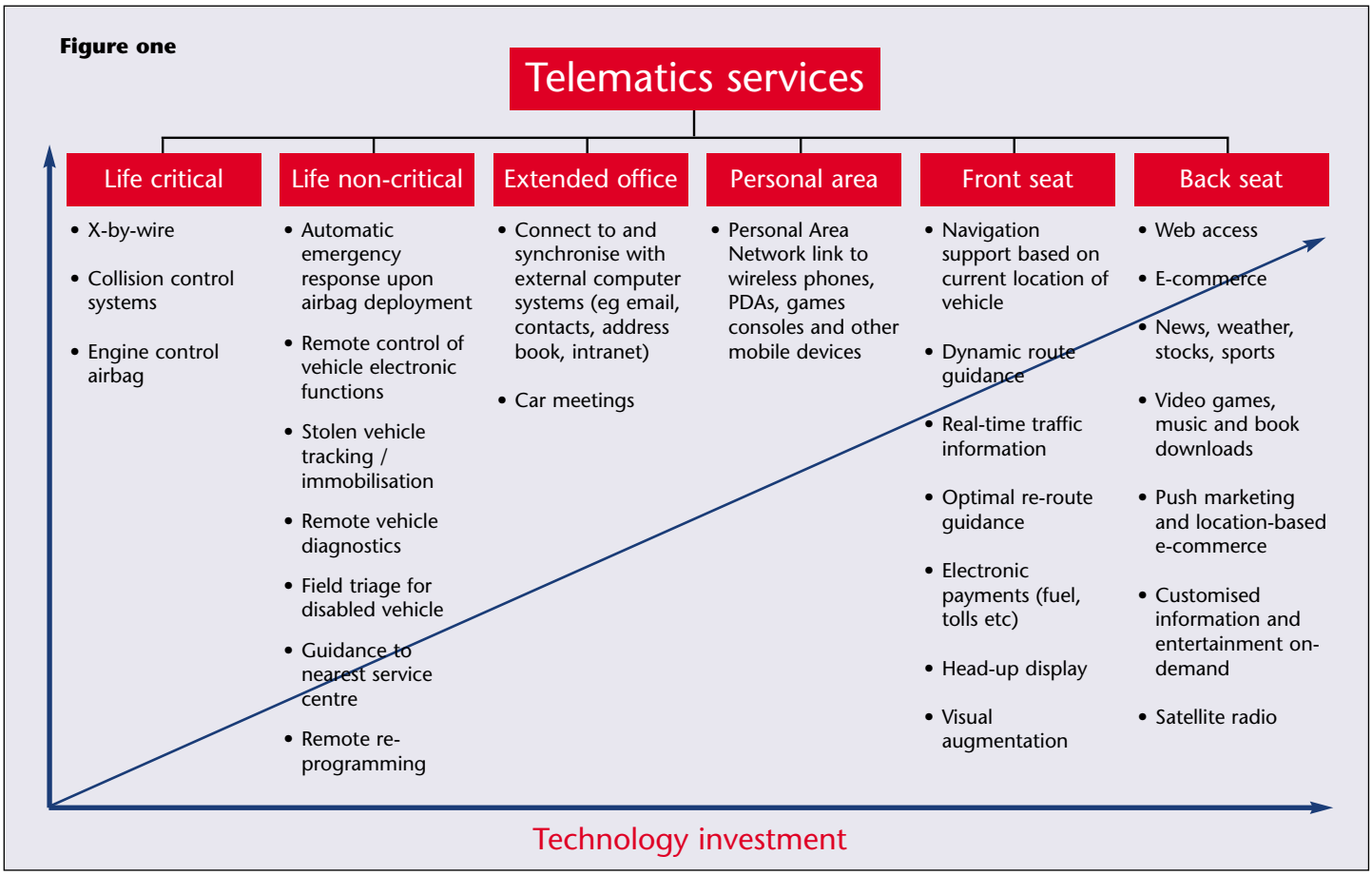
Life non-critical—systems that manage those non-critical systems in the car e.g. airbag deployed sensor, tracker, alarm, remote control devices, etc.

Front seat—the myriad of systems which directly interact with the driver of the vehicle e.g. navigation, dynamic route guidance, heads up display, etc.

Back seat—what is popularly referred to as 'Infotainment.' These technologies and services cover: Internet, email, movies (DVD or streamed), music (CD or streamed), gaming, etc.

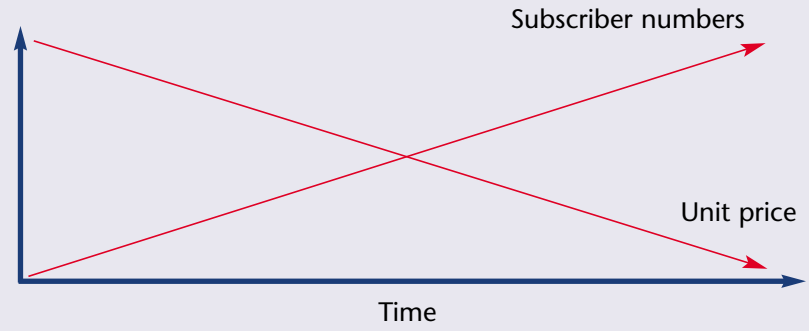
Roaming—Covers the technology that for various reasons needs to be mobile to enable

Figure one



Source: Cap Gemini Ernst & Young

Figure two



Source: Cap Gemini Ernst & Young

transfer of information from the vehicle e.g. on-board gaming to portable game boy, or on-board navigation to PDA.

Life-critical and non-critical are natural vehicle enhancements by the OEM. These telematics products provide manufacturing efficiencies and a lighter, more responsive and economical vehicle for customers. These areas tend to be ignored by the external market and analyst, who prefer to concentrate on the later three 'consumer' telematics and services.

These consumer areas are inspiring the analysts and industry pundits to predict high growth and large revenue prizes for those with the 'first mover advantage' or 'the Killer Application'. This is rather worrying as these phrases and terms have a certain ring of familiarity around them. They were the buzzwords of the late-nineties and of the Internet Dot.com revolution, a period of time when market share and subscriber numbers momentarily out-weighed the need for profit, and set many companies on the road to financial ruin.

So will telematics be another flash in the technology-led pan?

Currently the major players in the marketplace are investing large sums of money in research and product and service development in consumer facing telematics initiatives. It is interesting to note that the telematics market is gearing itself up to develop products and services aimed at primarily the same client group that destroyed so many Dot.coms. So will telematics be another flash in the technology-led pan?

It could be, if the current strategies are not reviewed. But why is this consumer-led strategy wrong? After all, in Europe there are over 18 countries with a population of approximately 650 million people, driving over 100 million cars, whereas the large and small fleet businesses number only in the hundreds of thousands.

The consumer numbers certainly make interesting reading, however when the full picture is appreciated only then can the true value of the customer be compared.

Both large and small fleet companies require services that increase efficiencies, productivity and safety whilst reducing costs and waste. These requirements are addressed by the Life critical, Life non-critical and front seat services which need to provide far greater detail than any consumer systems. For example, navigation systems for fleet may need to have the facility to navigate to a specific house or feature such as a gas main, where as on consumer systems it is sufficient to be able to navigate to a road. The hardware deployed in fleet will also be quite different.

Firstly, it will be standard for the company, and secondly it will provide the basic service that the business needs. Thirdly it will be a robust functional black box and finally a fleet company could run over a thousand vehicles all with the same hardware and services. The back-end control systems will require major development but this will pale in comparison to the size and complexity of the systems required to manage the consumer services.

By comparison the consumer telematics services cover the complete list of service possibilities, with the requirement to integrate with external non-telematics systems. The consumer will be able to select the various dealer technology and service options, to make each vehicle unique. The vehicle owner may also feel the need to add, change or update various components of the telematics service or technology to further customise the vehicle to their requirements. Unlike businesses, consumers will expect someone else to support customisation and to allow them to transfer any telematics profiles between vehicles. Also, the range of possible entertainment and information services will be immense for consumers, e.g. Internet, digital music, digital TV, DVD, streaming video, local based information, concierge and gaming.

The breadth of these services require a massive investment in technology and infrastructure for every single country, but when you consider the international implications: cultural, language, law, social backgrounds and individual tastes, needs, desires, likes and dislikes, the complexity of the delivery is compounded. Once you overlay the numerous options for payment of these services from transactional, 'pay as you go', monthly, yearly or lifetime contracts a further level of sophistication is required.

There are also the service providers to be considered, who provide the content. This is shown by the investment profile diagram (figure one on page four) demonstrating the level of investment required for each of the groups of telematics services.

Sun Microsystems CTO Greg Papadopoulos once said building the new third generation of mobile phones "may be the most complex job

For a Telematics Service Provider the route is clear

humanity has ever faced" which was true at the time. However integrating the third generation of phones systems together for intra- and inter-country delivery of a wide range of converged digital services and content to a high-speed vehicle, will take this complexity to new levels. So what is the best method to evolve a mobile solution in the current market?

Mobile Phone companies have been very successful in the deployment and development of their analogue and GSM networks. When in the early nineties the mobile phone companies launched their services it was primarily businesses that purchased handsets for key personnel. As businesses realised over a period of time, the value of these devices fell as purchasing volumes increased, pushing down unit prices, to the point where consumers could start to enter the market (see figure two on page five).

Businesses led the way for the mobile phone market and initially subsidised the building of the infrastructure so that the consumer mass market could enter a number of years later. Business also allowed the mobile phone companies to develop their systems and services in a smaller, simpler B2B ecosystem, before the event of the more complex and dynamic (B2C) consumer market.

Telematics can take a similar path using businesses to build the revenue streams and justify the business cases for the development of the infrastructures and services. The first phase could deliver core Fleet services like Route guidance, Dynamic re-scheduling, GPS Tracking, and Vehicle monitoring as well as maintenance management. As the large and small fleet markets grow and the infrastructure develops, some of the fleet services could be extended with minimum re-development for use in the consumer market.

The second phase would be to continue development of fleet services while developing additional consumer specific services with a much longer return on investment, than fleet services. The aim of this approach will be to build a revenue base from large and small fleet customers.

This revenue can then drive the extension of the infrastructure, the development of the service and the customer support. It will also provide time for some of the more complex issues in consumer telematics (Digital Content Provision) to be resolved.

For a Telematics Service Provider the route is clear; if they wish to learn from the past mistake of the Dot.com years they must develop their service initially for the business market, to guarantee a solid revenue stream. Failure to do so could be fatal. ■

Hy-wire is a global product. Styled by Turin's Stile Bertone

HYWIRE ACT

GM's technology showcase car

General Motors has announced its latest concept vehicle Hy-wire. Created as a working demonstration of GM's progress in hydrogen fuel cell propulsion and of drive-by-wire technology, Hy-wire is a global product. Styled by Turin's *Stile Bertone* working to a brief drawn up by GM Detroit, the vehicle uses drive-by-wire technology developed in Sweden and Holland by SKF Group, and a hydrogen fuel cell propulsion system created in GM's research facility at Mainz-Kastel, Germany.

The provision of full drive-by-wire capability allows the vehicle to be readily integrated into future automatic highway packages

What sets this vehicle apart from previous GM concept vehicles is its primary control centre; in place of the usual steering wheel, pedal block and gear shifter system is an aircraft-style control cluster with central screen. Acceleration, braking and steering are all handled by hand controls, and speed, route guidance and other primary functions are all provided within the cluster. Audio, cabin temperature and other controls are on a secondary panel situated in the centre of the vehicle. The provision of full drive-by-wire capability allows the vehicle to be readily integrated into future automatic highway packages. The main control cluster can be quickly swung from one side of the cabin to the other, allowing a single model to be built for both left- and right-hand road use. The power unit, which is housed under the floor, is rated at 94kw. Three fuel cells, each pressurised to 350 bar, provide power for an electrical motor which drives the front wheels.

One of the advantages of the packaging is the deep front screen, which allows the driver to place the vehicle accurately when parking.

Unlike many concept cars this is styled to be readily acceptable to today's drivers. This suggests that a production version of the car would be achievable. ■

WIRELESS PAYMENT

IBM and paybox.net join forces

As organisations seek to incorporate wireless transactions into their multi-channel payment strategy, they need to build fully integrated, secure and scalable mobile payment platforms

In a move which could unlock the thorny issue of how telematics service providers can bill for on-demand multimedia downloads, IBM Global Services and m-Payment provider, paybox.net have announced a joint initiative to drive m-commerce through an integration of systems and an expansion of services.

IBM Global Services will combine its wireless e-business consulting, services and integration capabilities with paybox's mobile payment solutions. This collaboration unlocks m-commerce potential through innovations that include wireless vending machine payments and retail point-of-purchase solutions.

Adding this wide range of point-of-sale outlets to paybox's existing person-to-person, on-line, mobile and conventional payment solutions, IBM and paybox will enable even more everyday transactions to be securely initiated and authorised from wireless devices.

paybox.net AG is an innovative service provider based in Frankfurt, which in May 2000 developed and introduced a worldwide mass-marketable payment method by mobile phone.

Providing wireless operators and retail, finance and banking organisations with a range of robust, reliable and convenient m-commerce services, the joint offerings will be based on an integration of paybox applications with IBM's WebSphere platform and IBM retail solutions. paybox mobile payment can be easily integrated into the service portfolio of banks and wireless network operators.

"As organisations seek to incorporate wireless transactions into their multi-channel payment strategy, they need to build fully integrated, secure and scalable mobile payment platforms", said Dr Martin Mähler, Director, Wireless e-business at IBM Global Services, Central Region. He went on to explain that: "The combination of IBM's leadership in wireless consulting and integration services along with paybox's application and payment processing expertise is a big step forward in maximising the value of companies' existing e-business investments and providing a key building block to enable business transformation."

Core aspects of the agreement include the joint development of mobile payment applications, the distribution of existing paybox services and activities designed to gain new licensing partners, opening up new m-commerce markets.

"This collaboration with IBM not only enhances support for both of our existing customers but this co-operation is also a significant step forward for international m-Payment and its vital role in future business strategies", stated the paybox Chief Marketing Officer, Peter Seipp.

This co-operation is expected to broaden the scope of mobile payment options; from the telematics service provider viewpoint this will allow pay-per-use options (on-demand navigation and infotainment, for instance) to be developed. IBM's reputation for proven computing infrastructure is already well known. paybox is less of a household name, but has the backing of Deutsche Bank, which owns a fifty percent share of the business.

paybox.net AG is an innovative service provider based in Frankfurt, which in May 2000 developed and introduced a worldwide mass-marketable payment method by mobile phone. With paybox, mobile phone users can easily send money to friends or co-workers at home and abroad, can conveniently pay bills, reload their prepaid mobile phone card around the clock, and securely make payments on the Internet as well as for taxis, restaurants, hotels, and an increasing number of other places. Lufthansa, Oracle, Compaq and Hewlett-are amongst its stategic partners in various programmes. In addition to Germany, paybox is also available in Sweden, Spain, Austria, and the UK. ■

www.ibm.com
www.paybox.net

GSM FRAUD

SIM cloning still a threat

The cloning of SIM cards is re-emerging as a significant threat to mobile operators' revenues it is claimed in a new report by Chorleywood Publications. It allows fraudsters to make anonymous, high-value calls for which the telecoms company cannot collect any revenue. In addition, in most instances of cloning, the operator will find it has substantial payments to make, either to roaming partners or premium rate service providers.

Unlike analogue networks, in which sensitive personal data is announced over the air and can be easily intercepted, GSM networks are protected by encryption algorithms. The algorithms serve to protect the radio signal between the mobile customer and the network, meaning that even if the signal was intercepted, it would be virtually impossible to decipher the information.

Earlier versions of the algorithms were compromised by fraudsters, who if given eight hours access to the SIM card and the correct equipment could clone a handset. The length of time taken for this process, plus the expense of the equipment required, has served as an

Despite this advance, many operators are choosing not to upgrade the algorithms they are using, either out of ignorance or as a misguided cost saving measure

effective deterrent and made other types of fraud more attractive. Worryingly, advances in technology mean that traditional cloning can be carried out in as little as four hours, using equipment bought on the black market for less than two hundred dollars.

The compromised algorithms have been superseded by new releases, the latest (A5/3) becoming publicly available from the GSM Association in the third quarter of 2002. The A5/3 algorithm will be used on GSM networks, but also for GPRS and EDGE services. It is based on an algorithm for 3rd Generation networks and paves the way for the evolution towards a secure UMTS network. Despite this advance, many operators are choosing not to upgrade the algorithms they are using, either out of ignorance or as a misguided cost saving measure. "Cloning of GSM handsets is rare, but it is getting easier and easier to carry out", says Daniel Winterbottom, author of Chorleywood Publications' new report *Minimising the Fraud Risk in Next Generation Networks*. "Operators who continue to use compromised algorithms will find that incidents of cloning on their network and the related losses will rise significantly".

The job of the fraudster has been made even easier by a recent discovery. The traditional methods of cloning have been replaced by a technique that can crack a SIM card within minutes of access to it. The power consumption of the SIM card is monitored whilst certain instructions are run through the circuit, allowing the data to be analysed and the SIM card cloned.

Although significant danger is represented by the cloning of handsets, the potential losses will increase massively as m-commerce applications become more commonplace. Users will be able to transfer money out of their bank accounts and make payments for goods and services through their handset. "Without careful planning, operators will find that their customers become the victims of huge losses and the liability for the loss will rest squarely on the telecom companies shoulders", says Winterbottom. ■

Siemens VDO, whose Kienzle brand has been one of the best-known within the trucking industry, anticipates being able to build a considerable amount of new business from this diktat

DIGITACHO

Siemens VDO expecting bonus from EU diktat

Long-awaited regulations regarding the introduction of digital tachographs have now been published in the *European Journal*.

Under the terms of the new regulations all truck operators throughout the European Community will be required to replace existing paper chart-based tachographs with digital models by August 2004. The change will initially be restricted to vehicles first registered after January 1st 1996 and weighing more than 12 tonnes; earlier and lighter vehicles are expected to be enveloped within the new regulation in the near future.

Siemens VDO, whose Kienzle brand has been one of the best-known within the trucking industry, anticipates being able to build a considerable amount of new business from this diktat. The company warns that a degree of training will be required: "Ideally operators will have an in-house trainer to provide training on an ongoing basis as more vehicles are equipped [with digital tachographs]. However, driver training is something that should not be undertaken for at least a year, by when training material and various courses will be more widely available."

Managing Director Nick Rendall added: "Providing operators are aware of the implications of the forthcoming changes and have planned the introduction into their business, the arrival of digital tachographs should be a straightforward process that should play its part in making roads safer and ensure that the transport industry operates on a more level playing field."

The system will require all drivers to apply for their own Smart Card, the flash memory unit which will record data relating to driving hours and vehicle usage from the in-vehicle digital system. This Smart Card will allow information to be integrated with telematics-based vehicle management programmes. This in turn will allow astute companies to plan journeys more efficiently, and ought, in theory at least, to have a lasting positive impact on ecological and asset management. ■

www.vdo-kienzle.co.uk

BOOMTIME

Cybit strike gold with Fleetstar

Cybit has announced it has taken £1 million of advance orders for Fleetstar-Online, the company's web-based fleet management solution. Evolved from the Trafficmaster-RAC joint venture Fleetstar, the system, which Cybit acquired early in 2002, is geared to meet the asset management needs of both SME and corporate customers. Comprising vehicle-

Using Smartnav will provide a number of benefits to drivers by helping to avoid congestion, offering SOS facilities and using the personal assistant services to make journeys easier

mounted black box GPS/GSM units and a web-linked computer software package, the system enables fleet managers to track vehicles in real-time. It also allows the generation of historical fleet management data, including exception reporting. These alert fleet managers to specific events such as unscheduled stops, excessive speeding or visits to unauthorised locations. Fleetstar-Online also integrates with Trafficmaster's new Smartnav telematics service to provide UK businesses with a powerful combined satellite navigation and fleet management offering that Cybit claim sets new standards in performance and cost-effectiveness.

Included in the list of clients placing orders for the 600 units are marquee provider Danco International plc, and Amdega, the global conservatory manufacturer.

"Fleetstar-Online is an important next step for Cybit, and I'm delighted that we've already received these initial orders", commented Cybit CEO, Richard Horsman. "With customers such as Danco and Amdega responding positively to our open platform telematics proposition, we're able to build on our success in providing proven telematics solutions to deliver web-based telematics and fleet management solutions that deliver real business benefits. In addition, as part of the early take-up for our new solution, we've already received a number of orders from customers looking to implement both Fleetstar-Online and Smartnav to address their satellite navigation and fleet management requirements."

"Using Smartnav will provide a number of benefits to our drivers by helping to avoid congestion, offering SOS facilities and using the personal assistant services to make their journey easier. Fleetstar-Online's exception reporting capabilities will also enable us to look carefully at our driving so that we can identify opportunities for improving performance and training needs for drivers", added Andy Tyas of Amdega.

Cybit provides a range of fleet management and telematics solutions, delivering an Internet-based software and support service to private motorists, vehicle fleet managers and commercial haulage operators. Cybit operates a number of telematics platforms, from end-to-end OEM solutions to its own generic platform, providing satellite tracking of mobile assets via street-level digital maps. This enables Cybit operators to obtain data and deliver services or assistance via wireless networks for safety critical events, accident or breakdown, as well as providing support if a vehicle is stolen, or a driver is late or lost. It has also recently launched the claimed industry first of an always-on GPRS system. ■

www.cybit.co.uk

VIVA!

MinorPlanet progress aided by Spanish government funding

MinorPlanet Spain has just received a European commission grant that will halve the cost to customers of installing their DCU VMI boxes. The grant, which will add €9m to Minorplanet's sales, comes after the CETM's (Spanish Confederation of the Transport of Goods) selection process decided MinorPlanet have the best and most advanced technology in Spain.

It is part of an initiative intended to greatly improve the productivity and efficiency of the Spanish transport industry. Since the deal was announced, MinorPlanet has received 900 of the 2,500 orders that are to be subsidised.

MinorPlanet has been operating in Spain for almost two years, and see this exercise as an important profile-raiser.

Based in Leeds, UK and part-owned by GE Capital, MinorPlanet has built itself into a substantial force by concentrating exclusively on commercial vehicle telematics applications—its management has been content to leave the car market to associate company NavTrak. ■

www.minorplanet.com

BLUETOOTH

CSR launches bluetooth chipset for auto industry

So confident are CSR of the effectiveness of this new chip that they are claiming that it will become the first killer application for automotive Bluetooth

Cambridge Silicon radio (CSR) have launched a suitcase of tools for systems developers geared specifically to automotive applications.

At the heart of the package is CSR's new BlueCore2-External microchip, developed to provide an interface between mobile devices—most commonly the personal phone—and a car's in-built hands-free system. So confident are CSR of the effectiveness of this new chip that they are claiming that it will become the first killer application for automotive Bluetooth.

CSR are able to provide systems designers with everything that they need to develop a fully featured Bluetooth handsfree system; reference design, circuit descriptions, and all software, including the embedded Bluetooth stack. The chip, which has been tested effective at a temperature range from -40°C to +85°C, is profiled to run in external flash memory, but the circuit design is "easily converted to a ROM-based single chip solution", according to the company.

Bluetooth is set to become the *de facto* industry standard for wireless in-car communications

Luke D'Arcy of CSR explained that "Bluetooth is set to become the *de facto* industry standard for wireless in-car communications. CSR is the first Bluetooth Silicon manufacturer to show a commitment to this market by providing software for the handsfree profile, and guaranteeing performance over the full in-cabin automotive temperature range. By choosing CSR, manufacturers will be able to come to market more quickly with a high quality, low cost product capable of standing up to the rigours of the automotive environment."

"BlueCore is a silicon engine driving the Bluetooth market", he added. "Now in its second generation with lower power consumption and increased operating range, BlueCore continues to present the market with the smallest and lowest cost solution for Bluetooth-enabling products."

CSR see this product as the vanguard of a range which will extend to specific solutions for vehicle diagnostics, video and music streaming. The company is already working with a wide range of companies, from Microsoft to Motorola.

Bluetooth, a close-range closed-link radio system working in the 2.4gHz frequency range, has been developed by the telecoms industry as a means of linking handsets with other devices (such as computers, handsfree kits and automotive environments) and is already starting to appear in mobile phones, such as the Sony Ericsson T68i and Nokia 7650. The Compaq H3870 Personal Digital Organiser (PDA) is another mobile device equipped with Bluetooth chipset; this, theoretically at least, will be able to interface with any car-mounted display screen and on-board computer system running Windows CE for Automotive operating system.

Whilst critics argue that the addition of Bluetooth to a car is yet another layer of information, its proponents argue that driver safety can be enhanced, by allowing the seamless use of handsfree operation (ultimately with voice-activated in-vehicle systems) without the need to consciously synchronise address books, contact lists and the rest. ■

www.csr.com

SAT-COMMS

Satamatics enters US marketplace with Inmarsat D+package

Satamatics is the sole source in the US for telematics services utilising the Inmarsat D+ system

Satamatics, the British-based business which has established itself as a global operator of satellite-based telematics information services, has gone live with its service in the US market. The move follows Federal Communications Commission (FCC) authorisation to provide mobile satellite services across the US.

With this authority in place, Satamatics has completed its launch strategy for the Americas to fulfil the early market interest and take advantage of the strong potential for rapid growth. Satamatics is the sole source in the US for telematics services utilising the Inmarsat D+ system. Satamatics works in conjunction with a number of specialist Application Service Providers to develop a package of options for fleet management and other telematics applications. Using satellite communications rather than land-based telephone systems allows Satamatics to offer a broader portfolio than most; on its list are asset tracking and tracing for marine and land transport, remote management for the water, oil and gas industries, and security safety monitoring for remote premises and personnel.

Satamatics Ltd is the only telematics organisation capable of providing access to the Inmarsat D+ satellite network from within all the Americas, giving them an opportunity of enormous value

In preparation for its US market entry, the company opened and staffed its regional base, Satamatics Americas, in Ocala, Florida. In addition, Nick Smith was brought in to head up the sales and distribution in South America. Based in Caracas, Venezuela, Smith has a long track record in the telematics industry, with extensive experience across both North and South America. Satamatics Americas is targeting asset tracking and security monitoring for land and marine logistics, and monitoring applications for oil and gas pipelines.

Peter Chisholm, CEO of Satamatics Ltd, commented: "It was a strategic imperative for us to penetrate the US market. It has been a massive undertaking, with many months of hard work, but has secured us a unique market position. We are the only telematics organisation capable of providing access to the Inmarsat D+ satellite network from within all the Americas, giving us an opportunity of enormous value."

"We foresee potential sales of the order of many thousands of satellite terminals within the first year alone, addressing numerous SCADA applications, as well as asset tracking and tracing. Through our affordable, flat-rate charging structure, we can demonstrate strong commercial benefits to large numbers of business and industry sectors, including smaller companies and operators. Our market position is further strengthened by our unique ability to offer D+ satellite coverage within the Pacific Ocean Region—a factor of critical importance for the Americas."

Michael Butler, managing director of Inmarsat Ltd, commented: "This announcement represents a significant proof-point for Satamatics, a fast-growing Inmarsat Alliance Partner and an important global player in the telematics industry. Satamatics' entry into the US market successfully demonstrates that the company is achieving precisely what it has set out to do. It can truly claim to offer seamless global coverage for our D+ solution, across the continents and oceans."

"Satamatics is successfully highlighting the effectiveness of D+ by providing comprehensive and highly affordable telematics services, and is driving the market penetration of this technology. We are fully supportive of Satamatics' endeavours to open up this service in an important new marketplace for Inmarsat." ■

www.satamatics.com

TRAFFIC

Telcontar launches new Java-based traffic info utility

By using Traffic Manager with Telcontar's Drill-Down Server software platform, location-based service providers will now be able to quickly add traffic capabilities to their applications

Telcontar has launched Traffic Manager, a new product that seamlessly integrates real-time traffic flow and incident information with existing applications and location-based services.

By using Traffic Manager with Telcontar's Drill-Down Server software platform, location-based service providers will now be able to quickly add traffic capabilities to their applications. This will enable such new operations as the automatic re-routing of vehicles around traffic jams, the visual display of traffic conditions, the integration of real-time traffic with vehicle navigation systems, and the creation of new traffic applications for mobile phones and PDA users. Early customers of the Traffic Manager include hand-held navigation systems brand Pharos, and an as-yet unnamed global 3G mobile network operator.

"The average commuter in the United States and Europe spends almost 50% of their commute stuck in traffic", said Eric Carlson, president and CEO of Telcontar. "Many city drivers spend even

more, and the business costs of traffic for professionals such as taxi or delivery drivers nationwide may very well be measured in billions of dollars per year. The current radio traffic bulletins help somewhat, but they are not specific or timely enough to be truly useful. There's a clear need for location-based service providers to arm their clients with the ability to avoid traffic problems on the road and get to their intended destination in a timely manner."

Jeff Curtis, executive vice-president of Pharos Inc., an early customer of Traffic Manager, agrees. "In response to building customer demand, Pharos is committed to adding new traffic capabilities to our hand-held navigation products as well as developing new traffic-oriented location-based services. We believe that traffic information services will emerge as a complete LBS market segment in the near future."

Traffic Manager will ship later this month, initially in the US for use with Tele Atlas/Smartroute and TrafficCast traffic data

"Traffic Manager has the ability to support multiple traffic data feeds. This is crucial because no single vendor today has traffic information for the entire United States or European markets", said David Wood, senior vice president of marketing for Telcontar. "By using Traffic Manager and the Drill Down Server, LBS suppliers will be able to address more geographic markets than they could reach otherwise, and they have the freedom to pick their data feed vendors or even change suppliers if required."

Traffic Manager will ship later this month, initially in the US for use with Tele Atlas/Smartroute and TrafficCast traffic data. Coverage for traffic incidents and construction is supported for more than 100 cities and flow-based traffic coverage is provided for more than 20 cities. Future releases of Traffic Manager will support European traffic feeds, and additional US-based traffic feeds.

Java-based and J2EE compliant, Telcontar describes the module as a Drill-Down Server that will provide customers with a scaleable solution ideal for high-transaction environments. In initial form it interfaces with the BEA Weblogic Application Server and Oracle 9i Database. Support for additional application servers and databases will be added in future releases. ■

www.telcontar.com

BLUETOOTH

Visteon enables Bluetooth solution for BMW

The voice-controlled system will allow BMW drivers wireless and hands-free use of mobile phones, proximity interfacing the hand-held phone with a hard-wired hands-free kit fitted to the car

Visteon Corporation has joined forces with BMW "to create innovative electronic technologies for passenger cars." One of Visteon's first projects will be to supply its Wireless Interface Module based on Bluetooth technology for in-car mobile phone integration.

The voice-controlled system will allow BMW drivers wireless and hands-free use of mobile phones, proximity interfacing the hand-held phone with a hard-wired hands-free kit fitted to the car. This technology will be on the market from September 2002 and the modules will be available as optional extras for all current BMW X5, BMW 3-series and 5-series cars. Drivers will be able to use any Bluetooth-equipped mobile phone.

"With this programme and by signing a development contract for further future technologies, BMW has documented the faith it has in Visteon", explained Dr. Marlis Basili-Hartmann, Visteon's Global Account Manager for the BMW Group. "We are committed to underpinning our business relations with BMW both now and in the future by supplying innovative, high quality systems and technologies and also by offering excellent customer service." ■

www.visteon.com

BRIEF TEST

Mitsubishi OEM option navigation

Mitsubishi's navigation package was one the first to make use of DVD (Digital Versatile Disc) as a mapping and data storage medium. The advantage of DVD is that it can hold up to ten times the data of a standard 74mb Compact Disc; in practical terms this means a single disc being able to carry data on most of Europe. This is infinitely preferable to having to carry separate discs for each country.

The system is fast—a 32bit RISC processor is at the heart of the system—and is equipped with a bright, clean, wide-format (16:9) screen. Map matching of the display is excellent, and the voice commands are clean and clear. The system is, however, fiddly to operate.

Firstly, all inputs are made via a remote unit which lives in a holster mounted on the left of the centre console. Accessing the initial 'easy' menu allows the driver to either input a new address, or to draw up a pre-stored destination. The system will then select the route and begin turn-by-turn guidance, with a female voice providing instruction in good time for each junction to be negotiated. In the event of an instruction being ignored or missed, the system recalculates quickly; as far as possible it tries to maintain forward progress, suggesting a U-turn only when there is no other option.

The system is fast—a 32bit RISC processor is at the heart of the system—and is equipped with a bright, clean wide-format (16:9) screen

The other major complaint the system attracts is that it cannot be over-ridden once a journey is in progress; it is required to park the vehicle and switch off the engine for any changes to be made. The rationale is one of road safety—a driver cannot be concentrating on the road if he is messing with the navigation system—but there is no account made for the common situation where a passenger is able to control a system whilst the driver carries on controlling the rest of the vehicle.

To get the best from the navigation package it is advisable to spend a little time in the advanced menu section, setting preferences so that the route will follow the choice of the driver; it can be set for primary routes, maximum use of motorways, fastest or shortest routes.

The mapping disc we were using, although the latest edition, failed to take into account junction priority changes that were made in my home city some 18 months ago. With a replacement disc costing in excess of £240 this is likely to be a major issue; having already paid out more than £2,400 for the system to be added to the specification of a £27,000 Shogun. Having out-of-date data is likely to be a matter of considerable annoyance to drivers.

If the mapping data was more current and something was done to allow a passenger to reset the system in mid-journey, the Mitsubishi system would be right up there with the best

The package that came fitted to the test Shogun has additional functions besides navigation; pressing an on-console switch allows the screen to display fuel mileage and radio tuning information. When the system is in navigation mode but is not actually routing the driver, the screen display shows a map of the surrounding area at whatever scale the user dictates.

If the mapping data was more current and something was done to allow a passenger to reset the system in mid-journey, the Mitsubishi system would be right up there with the best. ■

Mitsubishi's navigation system is programmed via the hand-held remote control and has a neatly integrated screen. Navigation menu sequencing is logical and quick—an hierarchical menu guides you through route planning.

SMART NAVIGATION

Trafficmaster and Motorola join forces to create an offboard navigation package

Trafficmaster has broken cover with the world's first offboard navigation package

So, Trafficmaster has broken cover with the world's first offboard navigation package.

At first glance, it suggests thoughts of their system being a smart development of the existing Yeoman offboard navigation package.

Both, for instance, are operator-based services, both are initially exclusive to the UK marketplace, and both are fighting in the same business user battleground. But peel away the packaging and differences emerge.

All that the driver sees is a neat little button mounted somewhere convenient—the precise location will be determined by the vehicle into which it is mounted. Press it once and a voice emerges through the stereo system to inform the user that Smartnav is about to connect with the control centre. Seconds later an operator comes on the line, gives his or her name and asks what can be done to help. The majority of drivers, according to Trafficmaster, simply require directional guidance.

Giving the destination address is sufficient to allow the operator to produce a route—the control centre is already aware of the driver's location, thanks to two-way telematics technology—and within seconds a complete datastring has been transmitted to the vehicle. As the journey is undertaken this datastring is called off as a set of voice instructions, with each approaching change of direction being flagged a few hundred metres in advance. This sounds exactly like any installed disc-based navigation system, and will be a familiar experience to anyone who has used satellite navigation. At present there is no screen, but Trafficmaster are planning to introduce an icon display screen by the end of 2002.

The Trafficmaster Smartnav, in contrast, requires only the location package and a communications platform

The fundamentals of the system, though, are completely different to a standard navigation system, and also differ from Yeoman's VoxNav package. A standard navigation system requires a CD (or increasingly a DVD) reader, a location package of GPS (Global Positioning System) with speed and direction sensing inputs, a computer which integrates the data, and a display screen. The Trafficmaster Smartnav, in contrast, requires only the location package and a communications platform. These have been provided by Trafficmaster's technology partner Motorola ISGC. Everything else is held off-board, at Trafficmaster's impressive Cranfield headquarters. There is one other vital difference; most navigation systems (VDO Dayton products excepted) are insular, and have no capacity for integrating information on traffic problems.

As might be expected, the provision of traffic information is a core element of Smartnav. The suggested route that is transmitted to the vehicle takes into account not just existing traffic problems drawn from the company's blue posts and other acquired sources, but also draws on Trafficmaster's battery of historic data to provide high quality predictive information.

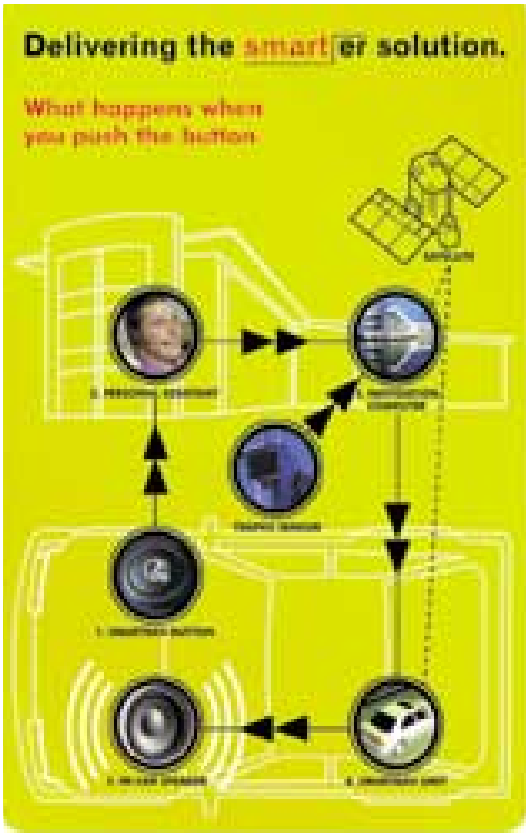
If, for example, a suggested route involves passing through the Gravely Hill Intersection west of Birmingham at peak hours, the operator will organise an alternative route. Similarly, if during the course of a journey a problem emerges ahead of the driver he or she will be contacted, and offered an alternative route. The driver, incidentally, has the opportunity to predetermine parameters for journeys via a dedicated website. So if he or she prefers not to use minor roads as a detour, then this will be taken into account when rerouting.

So far as the in-vehicle hardware is concerned, the stripped-down nature of the Smartnav package ensures both lower hardware costs and correspondingly lower installation charges; the hardware package is retailing at £500 (€800) with an additional £100 or so for typical installation prices. Most cars and vans should be able to have the system fitted within two hours.

The routes are sent as a numerical string of code which relates to location information stored on the Smartnav system, and a transfer takes only a couple of seconds. All communication costs are handled by Trafficmaster, with 0_2 (the former BT Cellnet) providing the cellular communications infrastructure. The cost of these calls is passed back to the end user in one of two ways; the driver either pays a per-call flat rate of £0.89 (€1.46), or opts to pay a flat annual fee. Initially this is set at £120 (€195) per annum, with discounts available for booking the service for two or more years. A life-of-contract package of £350 guarantees use of the service for four years with no additional costs.

Trafficmaster's expectation is that they will gradually take over from fixed (what they describe as autonomous) navigation packages: "I can see a place for both autonomous and off-

It is clear that Trafficmaster's Smartnav signals the beginning of a new era in the company's activities



board systems", explained Trafficmaster founder and CEO David Martell "but expect that ten years hence navigation will be essentially voice-based." He went on to suggest that he sees his company's system being adopted widely. But then he would say that; Martell needs a product that will inspire the marketplace, and reverse the negative attitude that city brokers and analysts have shown towards Trafficmaster's stock market value.

The OEMs are already queuing up to take the Smartnav package

The OEMs are already queuing up to take the Smartnav package. Or to at least give serious consideration to integrating it with their existing systems. DaimlerChrysler and Citroën were just two of the names mentioned at the system launch event, and there were veiled suggestions that others are joining in negotiations.

Motorola see Smartnav as a key tool in their armoury to create seamless location-based services to individuals, to provide a joined-up connection between home, office, car and pedestrian

Mike Bordelon, who headed up a development team from Motorola's Phoenix laboratories and worked in England on the project, confirmed that they are using their status to get in front of manufacturers: "We are looking to offer this to OEMs—but we will also be offering it to wireless users." He continued by saying that Motorola see Smartnav as a key tool in their armoury to create seamless location-based services to individuals, to provide a joined-up connection between home, office, car and pedestrian. "We are looking to make this system ubiquitous", he concluded.

In its launch form the system provides every caller with what is described as a 'Personal Assistant', somebody at the other end of the phone whenever the Smartnav button is pressed. Initially there is a group of 15 individuals based at Trafficmaster, but spare capacity means that this can be extended to a total of fifty personnel; full shifts will be scheduled to provide round-the-clock service, and Trafficmaster anticipates that each will be able to answer up to two calls a minute.

However the cost factors of having a room full of people suggest that careful planning of staff rosters will be required for the system to become truly profitable. The main reason for having live operators rather than some form of automated service is that Trafficmaster anticipates increasing use of the service for concierge services; the provision of hotel and restaurant bookings, for instance.

So far as emergency call-out services are concerned, these are at present offered on a manual-activation only basis; if the vehicle breaks down the driver presses the button and the Smartnav operator then calls in the roadside rescue service of the driver's choice. In the fullness of time, Trafficmaster anticipate the system being able to provide automatic accident notification; this is likely to be linked to the vehicle's airbag deployment system. Once again this is being facilitated by Motorola, who have the electronics sub-assembly capability (either directly or through technology partners such as Visteon and Delphi) to be able to mesh the components of such a service together without compromising vehicle integrity.

It is clear that Trafficmaster's Smartnav signals the beginning of a new era in the company's activities. This is the first real indicator of their working relationship with Motorola (who are a shareholder in Trafficmaster plc, the holding company) and it is expected that further developments will roll out over the next couple of years. There are two drivers to this programme; Motorola need to continue developing markets for their microprocessor products, and Trafficmaster have a similar need to create new markets for their traffic information. The pan-European nature of both businesses gives the new venture a marked advantage over rivals; not least is the potential to wrap the product straight into new cars via Motorola's considerable contacts with motor manufacturers. ■

OPINION

The market for traffic information

ABOUT Automotive predict that it can only be a matter of time before Trafficlink (formerly Metro Networks) and Itis will formally join forces

The British traffic information market has a wide number of outlets, but three major providers are all vying for supremacy. This is leading to a depression of the marketplace (the basic Keynesian model of oversupply equalling flattened prices) and it is becoming increasingly clear that there is room for only one major player. But who is going to devour whom?

ABOUT Automotive predict that it can only be a matter of time before Trafficlink (formerly Metro Networks) and Itis will formally join forces. These companies are already in an unofficial alliance, the former supplying the latter with journalistic data (making calls to and taking calls from a variety of sources such as the police, local authorities and ordinary motorists) for Itis's RDS-TMC (Radio Data System Traffic Message Channel) service.

To the victor will be the spoils of a marketplace monopoly

Itis are advocates of Floating Vehicle Data (FVD) as a means of gathering information on real-time traffic congestion hotspots, but this is at present suffering from a lack of presence; it is all very well to consider that one long-distance truck or coach is worth 30 cars, but in practical terms FVD will only provide useful and valid data when it can meet critical mass; when there are at least ten or fifteen percent of vehicles on our main trunk roads feeding back data.

The ultimate key to success will be the avenues to market which are available to each player

Trafficmaster's approach has been to install thousands of roadside cameras, which capture vehicle identities and then analyse their rate of progress. They cover more than 8,000 miles of British trunk roads, and provide information on traffic flow—any interruptions are then investigated by journalistic means.

If our predictions about the alliance of Itis and Trafficlink are correct, they will be one side of the fence, and Trafficmaster will be on the other. There will then follow a battle for absolute supremacy, one taking over the other. To the victor will be the spoils of a marketplace monopoly—unless the Department of Trade and Industry decide that such a monopoly is against the public interest, and block any merger or take-over.

The financial structure is that two of the three existing players are public companies; Itis is listed on the Alternative Investment Market (AIM) whilst Trafficmaster has a main Stock Exchange Listing. Trafficlink is still in private hands, with more than a quarter of its shares held by Sand Aire Private Equity. The two listed companies are both suffering from depressed share values (Itis is down to around 13p per share at the point of writing, from a 52 week high of 58p, whilst Trafficmaster are at 24p from a high of 231p) which make both companies equally vulnerable to hostile bids.

With the might of Motorola and pan-European aspirations, Trafficmaster has the presence and market weight to emerge as the ultimate winner; its capitalisation of £98 million makes it a major force. This compares to a market value of about £13 million for Itis.

The ultimate key to success will be the avenues to market which are available to each player. In this respect it is Trafficlink which is the strongest; they count the majority of UK radio and television stations amongst their clients, supplying data on an own-brand basis. Even so, the company is still making a modest loss (its latest accounts lodged with Companies House show that in the year to the end of June 2001 it made a loss of £2,592). The ultimate business would be an alliance of all three, with a single strong identity; the information provision of Trafficlink, the RDS-TMC service of Itis and the market presence of Trafficmaster would make considerable sense to all. ■

DATA

Microsoft—more telematics applications

The company is using a combination of Pocket PCs and personal phones to provide real-time proof of delivery from its delivery drivers

Microsoft's BizTalk programme is easing into telematics applications. The software allows legacy protocols to be easily integrated within any Windows environment.

An early adopter of BizTalk is Emery Forwarding, an American company specialising in time-definite global transportation services. The company is using a combination of Pocket PCs and personal phones to provide real-time proof of delivery from its delivery drivers. Data is gathered at Emery's headquarters and then forwarded to its clientéle via whatever means is deemed most effective.

"Our customers wanted real-time data access and more proactive information about shipments, and we knew we needed a solution that could be implemented quickly and easily to solve this problem", said Ronald Berger of Emery. "Using BizTalk Server, we can easily integrate and leverage our legacy messaging systems into any format in which our customers choose to receive this mission-critical information. The Microsoft platform, including BizTalk Server and Pocket PC, offered all the proven enterprise technologies we needed to pull together such a comprehensive solution."

Historically, Emery has been able to collect information about shipments, but the information was locked up in legacy systems and proprietary messaging formats. Emery needed to move to a more flexible system, one that leveraged new Internet protocols, such as XML, and mobile technologies, in order to quickly build a mobile infrastructure that could collect shipping and delivery information for its customers in real time.

Using their Pocket PCs, Emery drivers enter information into their devices whenever they pick up or drop off a shipment, and that information is sent to Emery's legacy systems. Leveraging existing investments in its proprietary IBM MQSeries messaging system, Emery pulls that information together internally, picking it up with the BizTalk Adapter for MQSeries, and sends it to customers using BizTalk Server. The combination provides Emery with what it describes as the best economic solution because it incorporates existing technologies while moving the company toward a more flexible, standards-based solution using the Microsoft platform.

Using XML, SOAP and other core Internet transports and protocols, BizTalk Server unites EAI, B2B and business process management technology in a single product to allow companies to easily orchestrate Web services and rapidly build dynamic business processes that span applications, platforms and businesses.

"Emery saw an opportunity to engage more deeply with its customers and used Microsoft technology to provide it with the ability to turn opportunity into competitive advantage", said Dave Wascha, lead product manager for BizTalk Server at Microsoft. "This EAI solution demonstrates the inherent benefits of building with Microsoft's comprehensive platform for enterprise applications. Companies looking for a faster return on investment using dependable, Internet-based technologies are finding Microsoft to be the perfect fit." ■

www.microsoft.com

POWER

Analyst advocates 'two battery' cars

The emerging market for 42-volt automotive electrical systems stands poised for rapid growth, driven by the need for more sophisticated technology than that used in today's 14.2 operating voltage systems.

But analyst Frost & Sullivan suggests that the answer is for vehicles to be built with dual batteries, a 36v unit for primary circuits and a secondary 12v unit to handle chores not readily convertible to 42v operating systems. These include lighting circuits and instrumentation.

The report, entitled *Impact of 42-Volt Electrical Systems on North American Automobiles* discusses the likely impact of a transition to higher-voltage systems on alternators, starters, batteries and electronics.

Original-equipment demand for batteries, suggest F&S, is projected to rise from 15.3 million in 2002 to 18.1 million in 2008, as vehicles start carrying two batteries. Battery revenues should grow even more strongly because most of the extra demand will be for 36v batteries, which are more expensive.

Frost & Sullivan suggests that the answer is for vehicles to be built with dual batteries, a 36v unit for primary circuits and a secondary 12v unit to handle chores not readily convertible to 42v operating systems

42v electrical systems offer significant benefits such as additional onboard electrical applications, enhanced safety and environmental friendliness. These features make them attractive to automakers striving to deliver greater comfort and convenience to consumers.

"Adoption of the 42-volt standard will unleash changes that will impact vehicles over many years as automakers realise more and more possibilities", explained Frost & Sullivan Senior Industry Analyst Joerg Dittmer. "This developing market presents several opportunities for both new as well as established participants."

"All major suppliers of original-equipment starters, alternators and batteries are developing products for 42-volt vehicles because they cannot afford to be left behind when this technology catches on", said Dittmer. "Additionally, suppliers of electronic equipment, power steering systems, brake systems, wire harnesses, connectors and many other components are working to meet the challenges ahead."

Original-equipment demand for batteries, is projected to rise from 15.3 million in 2002 to 18.1 million in 2008

The need to initially retain two electrical systems—14-volt and 42-volt—will pose a challenge, as this is an expensive proposition. To overcome this and other unresolved technical difficulties, manufacturers must convince automakers of the potential benefits of 42-volt systems and invest substantially in research and development of new technology, which will pave the way for the transition to the 42-volt standard.

The weight penalty of installing a second battery is also likely to work against the concept of dual-voltage systems: car makers are constantly battling to reduce body weight, which suggests that designers are likely to be unreceptive to the notion of accommodating the penalty of five kilos of dead weight that a battery is likely to add.

"Benefits are likely to cause automakers to spread 42-volt technology across their vehicle lines more quickly, especially once costs of components begin to come down", added Dittmer.

What he seems to have disregarded is the use of step-down transformers, which manufacturers such as DaimlerChrysler and the Volkswagen Group are considering; these will integrate into 12v sub-assemblies and LANs.

This research is part of Frost & Sullivan's North American Automotive OEM Market Subscription, which extends to the medium- and heavy-duty speciality truck market and the North American automotive wire harness and connector market. ■

http://transportation.frost.com

EDITORI@L

3G telecoms—the viability debate rolls on

August is a time for navel contemplation. Not much happens in the worlds of commerce or politics during that month—the key players are all in Tuscany or Provence. One of the topics that has been subject to heavy scrutiny during this otherwise-quiet period is the much-vaunted Third Generation mobile telephone system, or 3G as it is known to its few remaining friends.

The big issue is deciding how far to go with 3G. It has started with an excited round of bidding for rights—more than €100 billion was splashed out in a period of just a few months for the key European markets, with the same handful of players diving deeper and deeper into a pool of borrowings to pay for what they considered vital licences. The result of this profligacy was a level of debt for the major mobile telecom operators that all but guaranteed they wouldn't be able to develop the required infrastructure for a year or more. It was rather like somebody who lives in a trailer home on the wrong side of town stretching every line of available credit and going out to buy himself a new Ferrari 575M—then not being able to afford so much as a tankful of fuel. The buzz-phrase of the industry, whenever any enquiry was made regarding the launch date of 3G services, was TQNY; Third Quarter Next Year. The carrot dangling ahead of a donkey, never quite being reached.

The fundamental reason behind the initial frenzy for 3G licences was the broadband capability that the new technology promised. In the same amount of time, up to 20 times as much data can be transmitted by 3G than could be achieved with today's GSM telephone systems. Which is great—but what hadn't occurred to the telecom companies was that only a tiny percentage of their existing customers would be interested in sending data. Most of those customers under the age of twenty are happy to be able to text their friends, and most of the older client base tend to make voice calls. What hasn't helped is the disclosure that supply of 3G-compliant handsets is limited, and they are likely to be expensive (thus requiring hefty subsidies) when they eventually make it though to the shops. Finally, there was the awful truth that infrastructure development was beset with problems, from the cost of installations through to waves of protest each time a suitable site was identified.

When they started to realise this, the telecom companies went into paroxysms of gloom, and this cloud has become increasingly dense throughout August. One industry analyst went as far as suggesting that the entire project should be abandoned, with the cash already spent written off as a bad idea.

Imagination, the ability to reach beyond the glaringly obvious into fresh arenas of thought, seems to be beyond the wit of telecom company marketers, though.

It seems, from the many stories that have proliferated recently, that the focus of attention is firmly on those people who are walking around in streets with pocket phones. These are the texters and the talkers, and whilst a tiny percentage might be encouraged to swap photos taken on their new Nokia 7650 or Sony Ericsson P800, the majority of walking customers just aren't that interested. But what the telecom companies keep overlooking is telematics—and the benefits that the wireless world of wheels can bring.

Most basic fleet management packages need only basic voice and text capability, but once you move beyond there and start exploring remote downloads of navigation routes, movies, and the like—services which are at present unavailable due to existing GSM and GPRS mobile phone protocols being too slow to be of use—then the case for the defence of third generation systems becomes a compelling one. The car makers and their sub-assembly suppliers are wholly in favour of offboard, rather than onboard, navigation and multimedia packages. The primary benefit of going offboard is the reduction in vehicle cost; replacing a navigation disc drive and a multimedia DVD with a single memory unit cuts both hardware and fitting costs dramatically. Add in a slice of the revenue stream from telematics service providers, and it's no wonder that DaimlerChrysler, Ford, General Motors and the rest are in favour of going offboard.

Unfortunately, part of the problem, part of the reason why the telecom companies are unable to grasp this concept, is the fundamental difference in lead times; whilst the car industry is geared to somewhere in the region of 42 months from concept to showroom, the telecom companies are used to the far snappier six to nine months that is typical of mobile phone handset manufacturing. It has been suggested that the difference in timescale is all it takes for the telecom companies to glaze over and lose interest.

The key to the ultimate success of 3G is return on investment. This is difficult to quantify. John Bernstein of analysts Silicon suggests that with some licences running for up to 20 years, then even if it takes half that time to get into the black it could still be worthwhile: "would significant returns on investment be deemed a failure if the money started pouring in after ten years? Hopefully not."

The remaining question is whether it is going to take the O_2s and Vodafones of this world ten years to realise that when their marketing people look out onto a motorway, then they are looking at a potential market they have yet to recognise. ■

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