

Your journey starts here





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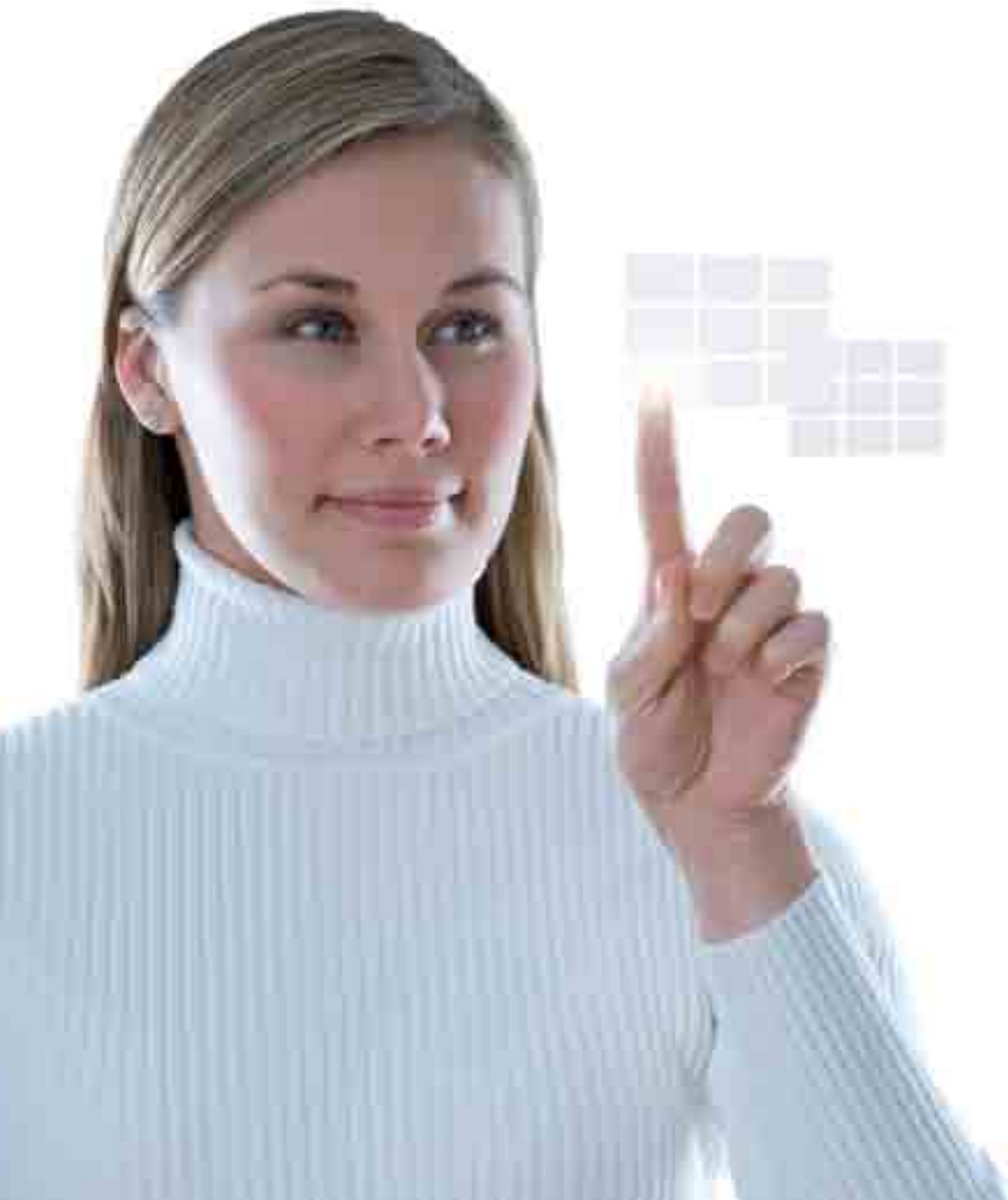
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What's critical to your business? Transport. Which means moving yourself, your goods and your people safely and efficiently, time after time. So your business keeps running at its best. But we know the pressure is on to use the most environmentally-friendly methods possible. That means transportation systems that are sustainable – working across channels and around congestion.

This takes a new kind of intelligence. The clever thinking to get you moving, like:

Not expanding transport networks – but managing them better

Making public transport first choice for travel not last

Introducing cleaner technologies – that are friendly to our environment and more efficient

This journey to more intelligent transport systems is just starting. Here, we'll show you some of the latest discoveries that are powering us along and changing the way we work and travel. Like using road pricing to balance demand. Or real-time information for smarter logistics. Or smart cards to help smooth passenger flows and lower costs. Enjoy the ride with us.

## THE CASE FOR INTELLIGENT TRANSPORT SYSTEMS

The future of the global economy depends on transport. As cities account for more economic power over time, transport in those cities becomes increasingly vital – and demand is growing by the day.

Yet transport comes with problems. It accounts for 30% of our energy consumption. And it's one of the main – and fastest growing – sources of CO<sub>2</sub> emissions today.

On the one hand, our economies need transport to thrive. On the other, it's putting our climate in jeopardy.

### THE FACTS

#### The significance of cities

Over time, cities are accounting for more of the world's population. Increasingly, 'megacities' (with a population of more than 10 million people) are springing up across the globe. Often, their economic power is larger than that of many countries.



#### The importance of urban transport

Cities are the engine room of the global economy and the need for transport in those cities is exploding. Freight transport growth has outpaced economic growth. And this all poses a huge threat to the region's progress towards Kyoto targets. Yet the economic significance of the transport industry is startling:

- 20% of European GDP
- €1,000 billion income
- 10 million jobs
- 30% of total energy consumption

#### The environmental impact

Urbanisation, motorisation, population growth and shifts in population density all contribute towards increased traffic. Yet transport is the fastest growing source of greenhouse gases in the EU. More traffic also means more congestion, which slashes the efficiency of transport – and increases travel time, fuel consumption and emissions.

The environmental impact of transport and congestion is startling:

## TRANSPORT

**30%** of the EU's total energy consumption

**28%** of CO<sub>2</sub> emissions in Europe

## URBAN TRANSPORT

**40%** of CO<sub>2</sub> emissions from road transport

**70%** of other pollutants from transport

## ROAD

**84%** of the EU's total transport emissions

## GOING UP

**23%** increase in emissions since 1990

**47%** increase in emissions since 1985

## RAIL

**5** times more efficient than cars

**70%** less energy than air transport

**80%** less air pollution

## THE SOLUTION

### Intelligent transport systems

We have to be smart about transportation. We need to make it cleaner and more fuel efficient. And we need to shift more of the traffic from our roads and skies onto our railways.

Intelligent Transport Systems can make public transport more appealing – improving ticketing, passenger information and cutting journey times. And encouraging more people to choose buses, trains and trams over cars.

Intelligent transport systems can help us cut CO<sub>2</sub>, congestion and our dependence on fuel. We need to combine them with better access control, smarter ticketing systems. Together, they make it possible to move more people and goods – safely – while still cutting our emissions and energy use.

## WHEN CO-OPERATION BEATS COMPETITION

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There's no one-way street when it comes to choosing how best to transport goods or passengers. The most efficient way is a mix – road with rail, sea or sky.

Which demands the intelligent transport systems to help us make smarter choices about the routes we take and the ways we travel. So we can easily move between different forms of transport.

This is co-modality. And it's the way forward.

Co-operation replacing competition between transport modes. Delivering the convenience customers and passengers want. Leaving operators to concentrate on improving their services to increase freight loads or reduce empty seats.

Which means changes for us all – operators and passengers – that will come through greater expectations, new government policies and more regulation.



## SMART CHOICES

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Co-modality is coming to freight transport, which is well-positioned to make the move thanks to standardisation initially in (sea) containers. These make it simpler, safer and quicker to move freight between rail, ship and truck. This approach is driven by three factors: regulation, the move to rail and the hunt for greater efficiency and cost reduction.

### REGULATION

#### Sharing the burden

Creating industry-standard agreements makes load sharing easier – so containers are fuller.

### THE MOVE TO RAIL

#### Keeping deliveries on track

This global consumer goods company is moving deliveries from road to rail on the first and last mile of the transport chain. By using cleaner transport the company aims to save 70,000 tons of CO<sub>2</sub> annually.

#### Ins and outs of environmentally-friendly transport

Controlling how goods arrive at your distribution centre is relatively simple. How they leave is more difficult as outbound traffic depends completely on customers' orders. This leading sportswear manufacturer load shares with a global consumer firm – using a variety of transport modes – without compromising flexibility, reliability, security or timelines.

#### Laying tracks for a green future

As the most environmentally-friendly mode of transport, this global furnishing store chain has always had a natural preference for rail. So it is founding its own rail company – creating its own transport corridors around Europe.

### EFFICIENCY

#### Off-road vehicles

Through greater fuel efficiency, better route planning and working closely together, a U.S. transport partnership expects to:

- Save up to 150 million barrels of fuel per year
- Cut up to 66 million metric tons of CO<sub>2</sub> emissions and 200,000 tons of NO<sub>2</sub> emissions – equivalent to taking 12 million cars off the road.

#### Floating round difficulties

A major container port is cutting congestion on a nearby motorway by transporting hundreds of thousands of containers by barge rather than by truck.



## Moving passengers forward

“We will keep London moving during the Games for everyone - for athletes, spectators and the general public. I want to see athletes competing not commuting, and spectators watching not waiting. This Transport Plan is the first step to making this vision a reality.”

Sebastian Coe,  
London 2012 Organising  
Committee Chair

Passengers often use more than one mode of transport. Which is why you can drive and park at major airports. Or take a train or bus to nearby cities. And find urban bus services to train and subway stations. It's all designed to reduce dependence on the car and sell the idea of public transport by making people more aware of it.

This is co-modal passenger transport. And it's the way forward for:

### SUSTAINABILITY

- Take the Eurostar train from London to Paris instead of flying and cut the CO<sub>2</sub> per passenger by... 90%. Probably more, as planes send CO<sub>2</sub> direct into the upper atmosphere. Which is more than twice as damaging as the same amount at ground level. In addition, thanks to off-setting, Eurostar journeys are carbon-neutral – at no additional cost to travellers. The company has also pledged to reduce its own emissions by 25% by 2012.
- Amsterdam is reducing the number of cars in the centre of the town – through parking and access control, supported by Park-and Ride and good public transport.
- Road pricing in Stockholm and Singapore means more money for public transport. And less congestion.
- Sustainability will be a winner at the London Olympics 2012. All spectators will be encouraged to travel to the Games by public transport, walking or cycling. A train every 15 seconds will serve the Park, with the rail system capable of carrying 240,000 people per hour.

Passenger transport has always been evolving:  
People switched from carriages to ferries at the edge of  
deep rivers

### IMPROVED ACCESS

- Make public transport more attractive, comfortable and convenient. Like Helsinki with better quality vehicles and lower fares. Or Scotland with greater information and easy payment schemes.
- High frequency connections into city centres are encouraging the use of public transport at airports serving Amsterdam, Paris and Stockholm.

### PEOPLE POWER

- Need the latest travel information? Ask a passenger. During the heavy rains in Mumbai, India in July 2009, the social network Twitter became travellers' main source of information. For such innovation to flourish it's important that transport is not over regulated.

## THE PRICE FOR FREE-FLOWING TRAFFIC

The way the world travels is constantly changing. 50 years ago fewer people owned cars, most used public transport. People chose to work, shop and socialise close to where they lived. There was no jostling for space on the roads.

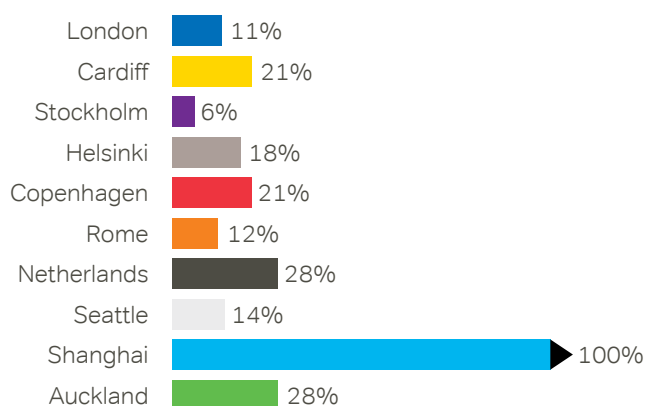
Unlike today, where travel is part of daily life. And will be for more and more of us as the number of people and jobs increases over the next 20 years.

The old solutions to meet growing demand for travel won't work anymore. Before if there were too many cars on the road, we could build more road. Now we've run out of road.

We can't build our way out of trouble. Nor invest heavily in public transport so more people use it. Most of us are still reluctant to give up the freedom of our own car for the limits of public transport.

Instead we have to improve the way we manage and run the road networks we have. Which typically means road pricing.

Estimated forecast growth rates in traffic for selected locations during the period 2006-2020



Source: Provided by contacts where not available in Transport Strategies. Estimates for London and Rome include impacts of current Road Pricing schemes. Growth forecast extrapolated/interpolated to 2020 where 2020 forecasts not available. World Review of Road Pricing Phase 2, Commission for Integrated Transport

### Road block-buster

Left unchecked, road jams can block economic growth. Charging people to use the roads – that is road pricing – is one practical way to combat congestion. It does so by using cost to balance supply and demand and encourage more people to use public transport.

This road to sustainable transport is being adopted in a number of cities. In Shanghai, for example, there's no unmanageable congestion. But they are still looking at road pricing to manage expected growth.

To succeed it needs people working together. Operators, stakeholders and authorities. Policies need to be put into practice. This demands a package of travel demand management (TDM) measures that include road pricing balanced by investment in public transport and highways.

And it becomes a virtuous circle. Road pricing schemes can raise significant revenues to invest in the transport network, such as more public transport.



## ON THE ROAD TO TRAVEL DEMAND MANAGEMENT

- Copenhagen, Helsinki, Rome, Barcelona and other cities are looking to introduce a range of Travel Demand Management measures that go further than simply road pricing
- Cardiff is introducing park-and-ride schemes and incentives to get more people walking and cycling
- Prague has restricted zones in the city centre and is building the city's ring road to allow alternative routes when road pricing is introduced
- Stockholm improved public transport services before introducing road charging

## DOES ROAD PRICING WORK?

Yes. Successful travel demand management includes:

**Singapore:** Road pricing has been operating successfully since 1975. Electronic road pricing (ERP) was introduced in 1988. The ERP scheme reduced traffic by around 13% and increased average speeds by up to 20%.

**London:** The Central London Congestion Charging scheme has reduced traffic up to 24% and congestion up to 30%. It also raised over £290 million for reinvestment in transport in the first three years of operation.

**Stockholm:** A six-month trial of road pricing was followed by a referendum on making it permanent. Overall, 51% of residents voted for long-term road pricing scheme, with support varying between the city and suburbs.

**Norway:** In Trondheim, a road pricing system operated between 1991 and 2005 and reduced traffic by up to 10% – although the main aim was to raise funds.

**UK:** A road pricing scheme in London and a much smaller one in Durham has made the UK an experienced player in road pricing. The Department for Transport (DfT) research shows how road charging can help make better use of road capacity. The agency also introduced the Transport Innovation Fund (TIF). This requires local authorities to introduce a congestion charge in order to access additional funds for other transport initiatives. This has had a mixed reception. A TIF-scheme was turned down in a referendum in Manchester but is now being pursued by Cambridge council.

### How far we've travelled

Road-pricing schemes typically cover areas, like London and Singapore, rather than a stretch of road, like toll roads or bridges. The aim is to:

- Get traffic flowing freely
- Ease congestion
- Prevent more car use
- Improve transport efficiency
- Be eco-friendly

No country has yet introduced a national road pricing system, although one is planned in the Netherlands. National road charging for lorries is running in Germany, Austria, Czech Republic and Switzerland, and is planned for Slovakia. Research shows it does change the road usage of haulage firms.

### Road pricing technology

Road pricing schemes depend heavily on new technology. Currently, there are three main ones involved:

#### Global positioning systems (GPS)

GPS is the best option for distance-based charging over large areas. The earliest that it can be used for passenger cars is 2012. The Netherlands is looking to at a national scheme. Seattle has trialled it locally and Copenhagen is studying the option.

#### Tag and Beacon technology or Dedicated Short Range Communications (DSRC)

DSRC is two-way communication between your vehicle and a roadside beacon. It has the advantage that it is reliable, quick to implement and already well-tested. However, a tag is needed in every vehicle, which is expensive if you have a large fleet. Because of the cost, tag-based systems are usually combined with video-based systems for charging less frequent travellers. Such systems are currently running in Austria, Czech Republic, and many other areas in the world.

#### Automatic Number Plate Recognition (ANPR)

Cameras identify vehicles and read number plates. Both London and Stockholm have shown how well they work. They are less costly to run than DSRC-based systems if special care is taken in the recognition and validation process.

### Are we there yet?

By their very nature road charging schemes must capture information from thousands of devices. Extend that nationally and imagine the amount of data that has to be processed and turned into useful information.

In the Netherlands, the focus is on a reliable scheme, affordably priced. Costs will reduce further as technology advances.

Tag and Beacon technology is on trial for Transport for London (TfL). In addition to technology for the charging system, there needs to be effective enforcement to encourage compliance. In London, Stockholm and Singapore, charging schemes are enforced with ANPR cameras. The Netherlands are expecting to use GPS-based technology with ANPR and DSRC communication.



## Trading places

### ON ROUTE TO BETTER LOGISTICS

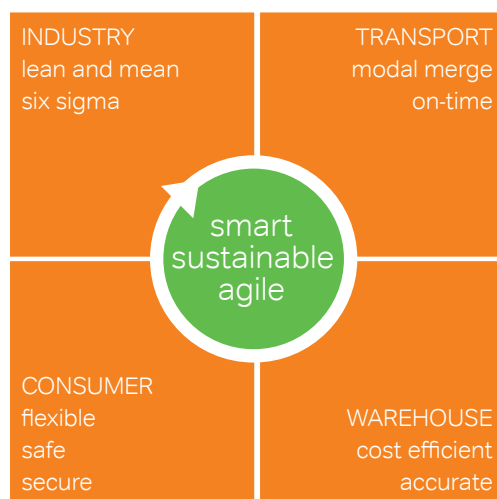
Global trading makes the world smaller. And the logistics task larger. Your company needs to adapt and work together with customers and suppliers in new ways. So your goods get to market faster. At lower cost. Pleasing your customers and still being a friend to the environment.

And all these changes come at a time when many logistics companies are facing:

- Information systems and processes that have grown more complex over the years
- Vast amounts of information spread over multiple systems
- Even more information residing outside information systems
- Incomplete view of the supply chain, at best
- Strong resistance to integration with partners

To succeed you need sustainable solutions that deal with three key trends driving the market: globalisation, technology and consolidation.

### THE SUPPLY CHAIN OF 2020



### GLOBALISATION

The route to globalisation was the introduction of the sea container in 1956 – first of the new wave of efficient, low-cost transport. Today, it means always improving performance to be better than the competition, which is worldwide. When manufacturing on the other side of the world you also need excellent logistics to be sure your products get to the customer in time.

### TECHNOLOGY

IT plays a massive role in managing logistics. Inside or outside your company. You can invest in new technologies; the preferable route though is to make the most of your existing investments. Using under-worked systems, combined with innovation to improve and reorganise your supply chain, builds the best foundation for the future.

## CONSOLIDATION

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Supply chain management is very different from the past. The days of working in isolation are gone. In the new world, we are all part of a much larger mix of businesses with common interests – set around customers and products, locally and globally. And we now have the systems and smart logistics in place to share our vision and skills with our partners.

## SMART MOVES IN LOGISTICS

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There are seven key steps necessary to move from ‘old school’ logistics to “new school” smart logistics:

### 1 Act, don't react

If you share information all along your supply chain you can act rather than react. Which brings remarkable efficiencies. Every link in the chain gives you feedback so you can predict demand and adjust resources, on-the-fly. This can be done just-in-time or in-your-time. You cut costs, your customers are happier – and you're proactive, not reactive.

### 2 Smart collaboration

In the past, everyone took care of their own optimisation, for the simple reason that you know how best to organise your own business. But now you have to deal with customers' operations. 10 o'clock might be your 'optimal' time to arrive at a customer's site; but not if they are only available after 10:30. The same problems can arise within your own business if one part is optimised, but not another. Optimisation involves smart collaboration with everyone – your people, business partners and competitors.

### 3 Planning for the real-time

In the old order, planning usually happened well before anything was done. Which didn't leave any room for the unexpected. With the new order, smart technologies can develop intelligent supply chain systems. So everyone works together however complex the chain. The unforeseen is managed like any everyday event. Plans can change on-the-fly and be communicated across the supply chain, in (near) real time.

### 4 Going with the flow

Charting supply chain flows was traditionally a one-off – with no room for adjustment. That has changed. With the Internet, supply chain management now integrates people, processes and technologies in real-time. So smart network design makes moving stock around much simpler to do.

### 5 Balancing cost and customer service

In tough markets supply chain management has had to evolve. No longer is cost the only issue. So too is customer service. Low costs have to balance with keeping the customer happy. Which means fast delivery, products tailored to your customers and new products reaching the market quicker.

### 6 Information sharing for better decision-making

Innovative systems mean that everyone in the supply chain can instantly share any information they have – databases, forecasts, inventory and capacity plans, product information, financial data and just about anything else. Globally, 24x7x365, with 100% accuracy. So they can make more effective decisions, wherever they are in the chain.



“We can’t solve problems by using the same kind of thinking we used when we created them”

Albert Einstein

#### 7 Information to drive more business

Today’s best companies capitalise on information systems that permit real-time, simultaneous use of supply chain data. So customers, with web-enabled services, and partners alike have access to critical information that drives more business.

### HOW SMART IS YOUR PLANNING?

Consider this... a sale is made. The sales rep enters the order of 1250 pieces into the organisation’s ERP system. Delivery is 2 months, 4 days and 12 hours from now. Then the delivery date or quantity changes. Which generates a lot of unnecessary fire fighting; either because the system does not allow changes or because processes are not in place.

To deal with this most companies invest in fire-fighting systems. There is a smarter approach. Keep track of changes that affect (un)certainty and update systems accordingly. Planning is then a constant flow of information which can be more easily predicted.

### INNOVATION – OLD AND NEW

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Putting intelligence into logistics involves innovation. This is not just new technology but new ways of getting the most from existing technology.

More than technology It involves creative ways of organising your people and the way they work, through:

- Smart automated planning – so you can match up what you do and do it well
- Smart coordination of what you do – with cooperation all along the supply chain to revolutionise operations
- Smart use of all your data – whether it’s real-time, historic, as-you-planned-it or from sensors
- Smart, on-the-fly sourcing – across modes
- Smart integration – with back-office and front-office working as one

## LOGICA HELPS YOU BRIDGE THE GAP...

and make the move to new school logistics; smart logistics with consulting services, custom build software/SaaS, off the shelf software. We optimise and redesign supply chains; in order to improve service to the customer, improve throughput times, and reduce operating costs. Meanwhile, we contribute to sustainability through smart gathering and usage of available information and existing systems and the application of smart logistics concepts.

Old School	New School
Reactive	Proactive
Isolated optimisation	Optimisation is the result of multi-level coordination and cooperation
Plan, replan, never look back	Plan, replan, real-time replanning and control, continuous learning
Static flow design solely at strategic level	Network design at strategic level and continuous dynamic rerouting of flows
Sole cost focus	Balanced trade-off between low costs / high customer service / sustainability
Traditional inflexible systems	Flexible distributed service-based solutions and flexible integrated centralised solutions
Isolated use of information	Intensive utilisation and enrichment of information



## INFORMATION UNLIMITED

Information is everywhere. As are smart devices: ranging from navigation systems, to smart phones, sensor networks and more. As a result, decisions can be made anytime, anywhere.

Organisations will change. Large monolithic systems will be replaced with services that combine local intelligence with networked intelligence. On the Cloud and off.

## LEAVE YOUR CAR AT HOME

Rapid urbanisation in Europe is making public transport increasingly popular. Why are people using it?

- To avoid traffic jams on the roads – behaviour that's supported by governments
- To meet their increasing need for mobility

Rail/underground use grows at 8% year-on-year. In 2006/07 that meant 1.2 billion passenger journeys.

## Ticket to ride

### THE SHIFT TO ELECTRONIC TICKETING

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Already the most advanced in the world, the European transportation market is still changing rapidly. Novel ways to manage traffic are being investigated to see if they are viable – and will last. And we're being encouraged, by the EU among others, to use public transport. Which is more attractive for both passengers and operators through advanced payment systems, like electronic ticketing:

#### Security

Electronic ticketing reduces fraud. From passengers and staff. Encryption technology makes sure that data can't be copied or altered. So fraud prevention costs are lower. And there are other less direct benefits. Tickets have a longer life. They can store both high-values (say, an annual rail pass or airline ticket) as well as low-values (bus/metro day or single tickets) securely.

#### Convenience

Passengers love the speed and convenience of e-tickets. There is no more fumbling for cash, counting change, or checking they have enough money. As a result there's less delay at entry gates. Overall travel time is less.

Operators also profit. The flow of passengers is smoother and faster. Cash handling is easier and less risky. Staff can be used more effectively and costs are lower.

#### Interoperability

As electronic ticketing technology uses industry-wide standards it is easy and low cost to run. Like user-friendly smart cards that can be used securely for everything from cash transactions to ticketing. They tie in with other e-government systems, while easing congestion and passenger flows, and making sure you have the high-quality back office information you need.

#### Integration

Major cities, worldwide, are using integrated ticketing solutions for public transport. They make travel easier and more convenient. Actual ticket purchases will be much less frequent. The same ticket can be used across different types of transport. Which helps encourage the use of public transport. At the same time services run faster as there are fewer cash transactions and less time is spent at bus stops or in station queues.

### ON THE METROPOLITAN LINE

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A truly integrated transport system includes a rapid transit rail spine, feeder bus services and connections for pedestrians, cycles and vehicles. It opens up the metropolitan region to people who have no transport, and encourages those who do to choose alternative transport.



## TRAVELLING SMART

Smart cards offer better payment systems for all. They are at the heart of many of the new schemes for improving transport – like road pricing, simpler ticketing and better passenger information.

The smart card is in essence a microchip embedded in a credit card-sized piece of plastic. This chip is the ‘brain’ of the card. It can read, write and store data – securely.

Reusable, smart cards can hold credit or subscription details, information about the card holder and even small programs. Travellers can pay to top up their card at a variety of outlets (typically stations, newsagents and small corner shops).

Used with intelligent transponders, smart cards can pay tolls, congestion charges and parking fees from vehicles as they travel along. It opens up a whole new market for ‘value-added services’ like route planning, parking reservations, and so on.



### WILL WHAT'S SMART TODAY BE SMART TOMORROW?

There are two main types of smart card chips:

**Memory-only chips** – with secure storage space

**Microprocessor chips** – which, in addition to memory, have processors (like a PC). These can handle data as well as run small programs.

To work even faster, some newer smart card chips have dedicated co-processors to handle complex security routines.

### KEEPING THE CUSTOMER SATISFIED

Customers like the speed and flexibility of smarter payments. They are also more rewarding. They can store additional information on who customers are, where they go and how they like to pay. Which gives operators a better understanding of what customers really want. Which enables them to build customer loyalty and reward programmes that keep users happy. Just as airline and fuel-vending companies already do.



## SMART TECHNOLOGY

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Your customers want to travel seamlessly. With one ticket that's valid across different types of transport. And with all operators involved. So there's no delay in moving from car to train to boat to plane - unless unavoidable. In which case passengers have the real-time information to let them know what's going on.

Most passengers already have the smart technology to keep them moving – their mobile phone. Now their travelling companion can be put to greater use.

In the 1990s, smart card-based SIMs for mobile phones meant they could be used as smart cards. This led to a major boom across Europe. Today Near Field Communications (NFC) can turn mobiles into contactless smart cards and terminals.

## TRAVEL, YOUR WAY

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With contactless NFC technology there is a short wireless communication between the mobile phone and a nearby reader. The system reads the user's identity, where and when their journey started and ended. Then it works out the cost and takes payment according to the information stored on the mobile.

Currently these readers are 'proximity' sensors at station entry and exit points, linked to a fixed network. Eventually, these too will be wireless.

It opens up a whole new world of possibilities. Above all it makes public transport more attractive to users. One ticket can be used across different transport channels. Buying a ticket is simple and convenient. Payment is faster. Boarding times quicker.

Go beyond simple transport schemes and link them to other local authority schemes. So card holders have access to more services, like leisure centres, parking and so on.

Services can be tailored to precise locations. Users can be tracked down in emergencies if their mobile has Global Positioning System (GPS) support. Even without GPS, many mobile base stations can accurately track a user's location through their mobiles. These geo-location features mean passengers can access 'context aware' information – such as seeing where the nearest metro station is.

Using the intelligence of phones and global navigation satellite services it's possible to work out automatically when someone is making a chargeable journey. Real-time positioning information shows how and when passengers are using public transport. So operators get an unparalleled view of where travellers are going, when and how often. They can then deliver the services customers want.

## CO-OPERATING TO GET THINGS MOVING

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Making transport smarter takes new technologies. Like smart dust. Wireless networks of tiny sensors (motes) that can detect movements and environmental information. They can pass on information about where transport assets are – and how they are performing.

So whether it's car, plane, train or boat they can travel more efficiently. Such large-scale projects involve co-operation across borders. Which is where ITS helps. By bringing together more intelligent transport systems, advanced communication and emerging geo-spatial location-based services. This needs:

- Technical knowledge – bringing long-term changes with short-term returns.
- Political support – that's decisive and visionary
- A co-ordinated approach – like the ITS Action Plan from the European Commission, which encourages operators to work together
- Advanced systems – delivering real-time information. Created by a mix of innovation, new business models, greater cooperation, know how and IT.
- Open access to innovation – for everyone, like using Twitter during the Mumbai floods. Innovation that's only possible if there's no unnecessary barrier to creativity.

It's a big task. But once achieved ITS can support a more sustainable society. Where cleaner, more efficient transport drives the economy. And makes it easy to choose how we want to travel and where.



## Join us, on our journey

We've started on the journey to smarter transportation. We've gone a long way to realising the potential ITS offers for change – both in transport and in the way we do business.

Smart transportation is joined up. And has to be managed in an integrated way. However large-scale the operation. Which needs the sort of expert knowledge that we have.

Like getting the data to inform decision-making. Processing it. Sharing it. Making sense of it. We have deep roots in telecommunication technology. We are an acknowledged world leader in many aspects of mobile messaging and the technologies behind Intelligent Transport Systems. Like:

- Telematics
- Fixed and wireless telecommunications
- ID management
- Large-scale transaction processing

We combine our knowledge of ITS technologies with our experience in the transport sector to provide end-to-end solutions. Robust, reliable and secure – so you are perfectly placed to work with your partners and stakeholders.

Using our consultancy skills we'll help you specify your system, design it and join it to your existing networks. Then we can continue to run and manage it for you. We'll blend the lessons we have learnt globally from big transport projects, with our unique local delivery.

And we'll go beyond technology alone to provide a sustainable solution. Which helps you change the way we work – to work smarter together and get the right return on investment. Now and in the future.



## TRAVEL WITH A PIONEER

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We have worked on some of the most advanced intelligent transport systems in the world.

From road and rail user-charging, to smart logistics, e-ticketing, information sharing and more:

- Distance-based charging schemes – with variable tariffs, for journeys in busy places at busy times.
- International road pricing projects – building them from end-to-end.
- Traditional toll collection schemes – in Austria, Ireland and the Czech Republic.
- Satellite navigation and information systems – creating new possibilities for road-pricing and location-based services.



## A CLEAR WAY AHEAD

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We are involved in leading the industry. In this world and outside it:

- Space – working on the Galileo satellite navigation and information system builds on our broader expertise in space technology: for instance our software onboard the European Space Agency Rosetta probe will help it circle and land on a comet one billion kilometres from earth.
- Pioneering ITS communities – in the UK, Sweden and the Netherlands.
- As a key member of ERTICO – the public/private partnership for ITS in Europe.
- Working with the World Road Association (PIARC) to create best practice for developed and developing countries.
- Supporting IBEC, the International Benefits, Evaluation and Costs (of ITS) group, which promotes sound evaluation of ITS and sharing of results.
- Participating in European and national future shaping R&D projects such as among others C-Vis, iTravel, Euridice, SPITS and EcoMove.

## SPECIFIC DEVELOPMENTS THAT LOGICA IS INVOLVED IN ALL SUPPORT THE MOVE TOWARDS MORE SUSTAINABLE MOBILITY

Area	Benefits	Examples of solutions
Dynamic traffic management	Pioneering, accurate, real time and historic traffic information to enable advanced traffic management and long term planning. This not only improves traffic flows but also feeds into billing systems.	Galileo location-based services including large-scale billing/ payment clearing systems and mobile messaging.
Infrastructure charging	Real time, free-flow road tolling or distance-based road charging that help to reduce bottleneck and optimise the infrastructure usage.	<b>Smart Parking</b>  Enables cities to manage vehicle parking in an efficient, flexible and smart way while reducing traffic congestion and fuel consumption at the same time.
Smart travel	Innovative and cost-effective solutions for ticket sales, distribution and access control.	<b>Smart Travel</b>  Utilises the potential of contactless technology in the media landscape to open up innovative and interactive channels for service providers and passengers.
Smart logistics	Smart logistics is the answer to the challenges and complications modern enterprises have to face. As such it helps your company make the shift from “old school” to “new school” logistics. It is the answer to improve customer service, throughput times, and reduce operating costs; and all this in a sustainable manner.	<b>Euridice</b>  A European Union project in which we pioneer the future of smart cargo networks, including the various challenges around the business and public policy aspects of freight transport.
Eco-mobility	New technologies that encourage eco-driving and assess the emissions footprint in supply chains. Businesses run more efficiently, lower costs and reduce their environmental impact.	<b>EMO</b>  A safe, secure, efficient and reliable system for monitoring vehicular emissions in real time. Helps alter driving styles and patterns to reduce emissions.

Levinson, M. (2006).

The Box - How the shipping container made the world smaller and the world economy bigger. Princeton, New Jersey, Princeton University Press.

Treacy, M. and F. Wiersema (1995).

The Discipline of Market Leaders. Boston, HarperCollins Publishers.

Fingar, P. (2006).

Extreme Competition: Innovation and the Great 21st Century Business Reformation, Meghan-Kiffer Press.

Agatz, N.A.H. (2009).

Demand Management in e-fulfilment. Erasmus Research Institute of Management (ERIM), dissertation, Rotterdam.

Moonen, H.M. (2009).

Multi-Agent Systems for Transportation Planning and Coordination. Erasmus Research Institute of Management (ERIM), dissertation, Rotterdam.

Milojicic, D. (2004).

Microsoft's Jim Gray on Computing's Breakthroughs, Lessons, and Future. IEEE Distributed Systems Online 5(1).

Carr, N. G. (2003).

IT doesn't matter. Harvard Business Review 81:5, pp. 41-49.

Thomas Jr, C. R. and F. Seibel (1999).

Adaptive cargo at Southwest Airlines. The 4th Annual Colloquium on the Application of Complex Adaptive Systems to Business (Ernst & Young), July, 25-27.

(2008) Logica White Paper – Sustainable Transport.

(2007) MidTerm Review European Commission Transport Policy. (2009) World Economic Forum Annual Meeting Report.

(July 2009) INSEAD Knowledge, Roadmap to sustainable transport. (2008) Siemens Report Complete Mobility – Megacity trends. (December 2008) EU ITS Action Plan, DG TREN.

COM (2009) 490/5, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Action Plan on Urban Mobility, Draft

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