

Smart, sustainable growth
Recommendations for Belgium's
economic recovery





Smart, sustainable growth: Recommendations for Belgium's economic recovery

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Preface

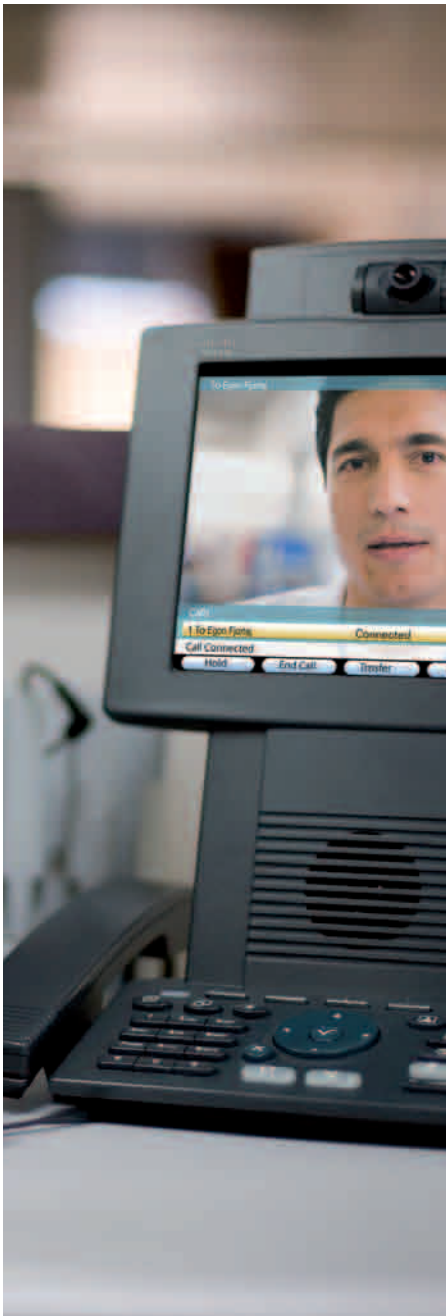
The current economy situation is marked by uncertainty. The lack of confidence is holding companies and their revenues to ransom. The International Monetary Fund has predicted that the world economy will shrink in 2009 by 1.9% thus representing the worst crisis since the Second World War. In the last quarter of 2008, our own National Accounts Institute recorded the largest drop in Gross Domestic Product since 1980. However, the crisis has not only hit in Belgium and Europe. Companies across the world are struggling to keep their heads above water. Even after the first quarter of this year, there are no clear signs of immediate improvement.

Governments are intervening everywhere to help companies and stimulate employment. The European Union, for example, and the United States have approved recovery plans aimed at getting their respective economies out of the slump. Virtually every EU member state has also devised its own plan to kick start the economy again. Likewise, the federal government is implementing extensive measures to offer financial and fiscal assistance to Belgian companies, the primary goals of which are to secure credit for businesses and generate greater job security.

At regional level, Flanders and Wallonia will most likely be investing millions of euros in more efficient educational infrastructure, better roads and public transport.

This fast-track approach of the various governments, including the accelerated assistance for major banks, has been positively received by the majority of Belgian entrepreneurs.





“Smart investments in tomorrow’s skills and technologies will accelerate Europe’s drive under the Lisbon Strategy to become a dynamic low-carbon economy for the 21st century. If Europe acts decisively to implement this Recovery Plan, we can get back on a path of sustainable growth.”

José Manuel Barroso
President of the European Commission
European Economic Recovery Plan, December 2008

In contrast to the EU and the US, however, an essential agenda item is missing from the Belgian, Walloon and Flemish recovery plans: informatization. Fast information technology and communications infrastructure is of critical importance to growth, innovation and final job creation in our knowledge-based society. Few people realize that informatization finally pays economic but also social and environmental dividends. In the meantime, on federal level, a start has been made to raise the broadband infrastructure to a higher level. There have also been a number of interesting initiatives, e.g. in terms of the far-reaching use of the electronic identity card.

If we do indeed want to secure our future in these difficult times, we must commit to diversification and innovation via new applications and services. Governments must stimulate innovation at business, public, social and community levels. In times of crisis, the pace of change is rapid and new possibilities rise to the surface on a regular basis. It is these changes that will ultimately form the basis for recovery.

In this document, we demonstrate that information technology – and fast broadband internet in particular – forms the motor of a smart, sustainable economy. Further informatization will help the government, big business and the multiple Belgian SMEs cut operational costs, work more efficiently, stimulate innovation and prepare for sustainable growth, which is ultimately in the interests of all Belgians.

Pol Vanbiervliet
GENERAL MANAGER CISCO BELGIUM



Broadband internet is about our prosperity and our well-being

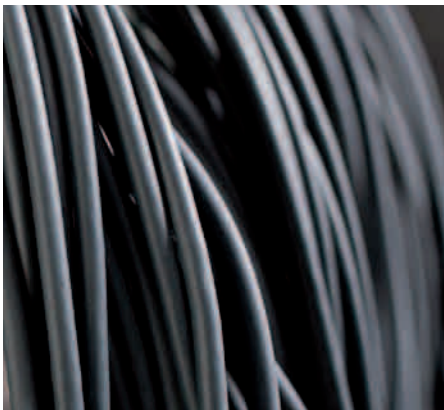
Over the past few months, governments, economists and advisors have compiled working documents containing the most important areas for giving the economy a positive impulse. Among the many proposals for renewed growth around the world, investment in broadband internet is a common theme. National and international statistics and studies prove that broadband penetration has a positive impact on a country's GDP. Belgium must take an active part in this evolution. We were once a leader in cable-based internet and, indeed, are the inventors of ADSL.

Our report 'Belgium 2.0: recommendations for a flourishing information society' already stipulated what the Federal Planning Bureau (FPB) had calculated. At least half of the growth in productivity over the past thirty years is a direct consequence of investments in informatization. In light of this, it is disconcerting that, among other initiatives, an increase in broadband internet capacity does not form part of Belgium's recovery plans. In this context it is recommended to aim at a minimum capacity of 50 Mbps. In many countries, such as South Korea, that figure is the norm but not in Belgium.

The World Bank has investigated the correlation between fast broadband and the GDP of 120 countries. On average, GDP rose by 1.2% between 1980 and 2006 for every 10% increase in broadband penetration. In developing countries, the impact was almost 2% on GDP. That is more than any other investment. Broadband internet is about our welfare, our well-being and our environment.

The internet as a fourth, universal utility alongside water, gas and electricity is not far off. In Estonia, access to the internet has been a civil right for nearly a decade. More powerful infrastructure ensures smoother collaboration, quicker decision-making, greater mobility and a better work-life balance for employees. Informatization offers organizations better means to improve services for citizens and customers.

Economic success has always been dependent on good infrastructure to transport people, goods and electricity efficiently. Broadband has now become the most important infrastructure: high-speed internet is the yardstick of economic effectiveness. Over the past few years, Belgium has continued to occupy a place in the top twenty among the majority of comparative studies on broadband penetration. It cannot be denied that Belgian operators have made significant efforts. However, the latest figures show that other European countries are widening the gap.



“I look on helplessly as we slip further down the lists of broadband giants year after year. As a director of a broadband institute, it’s no joyride.”

Wim De Waele
General Manager Interdisciplinary Institute for Broadband Technology (IBBT), De Tijd, 26 March 2009

With a wide penetration, however, Belgium is assured of access to standard internet services. However, HSTs are not travelling at full speed on our internet railways just yet. Video is adopting an increasingly important place within the global infrastructure, which demands a comparable increase in capacity. With the next generation of ‘ubiquitous’ internet now upon us, more capacity is needed for high definition multimedia and innovative Belgian internet services. If we do not want to miss the boat, we have to reinforce our infrastructure in order to guarantee symmetric access with equal upload and download capacity.

Belgacom, Telenet and VOO have earned worldwide recognition with interactive television. And with image technology company EVS in Liège, HDTV specialists Alfacam in Antwerp, the VRT’s Medialab, Cisco’s Service Provider Video Technology Group in Kortrijk and many other companies, Belgium possesses a unique and advanced body of knowledge in modern video technology. That knowledge needs to be further developed to attract potential foreign investment. Why shouldn’t we be leading the way with fast, symmetric internet connections for high definition applications? What possibilities would we then create for innovation, with new products and services for the health-care sector, education, sports, telecom, etc.? The time is ripe for governments and the private sector to join forces and tackle this challenge together.

Neighbouring Luxembourg is the fastest riser on the ICT development index

If there is one European country that has made targeted investments in access to and the use of IT, it is Luxembourg. The Grand Duchy has namely booked the strongest growth in the International Telecommunication Union’s (ITU) recent ICT development index. Luxembourg recently implemented a comprehensive informatization policy and in so doing jumped 14 places to come in at seventh on the index.

Placing informatization high on the list of priorities has resulted in such projects as the ‘Hotcity’ network which provides Luxembourg and Esch-sur-Alzette with city-wide wireless internet. It contributes to a mobile broadband penetration of 43%, the highest figure in the EU and third only to Japan and South Korea worldwide.

In addition, Luxembourg has undertaken considerable efforts to close the digital gap. 80% of households now have a computer compared with 53% five years ago. The internet, moreover, is accessible to three quarters of families, an increase of 35%. In so doing, Luxembourg has succeeded in closing the gap with the top 20 in one bound. The increase in internet access, moreover, is in parallel with the average income of Luxembourgers. Both have grown by 13%, thus leading to a wider increase in wealth and increased purchasing power.

Thanks to a fibre optic network launched by the national telecom operator P&T in 2007 which links the country to its neighbours, international broadband has increased to 3.5 terabit per second. In 2002, the maximum capacity amounted to 1.5 gigabit per second or around 2000 times slower.

The EU's recovery plan: investments in fibre optics and mobile internet

Europe is going to accelerate its investments in infrastructure with special attention to environmentally-friendly transport systems, high-speed IT networks, interconnections for energy management and European research facilities. These accelerated investments will not only aid the construction sector which faces difficulties in all member states. They will also have a positive effect on Europe's sustainable growth. The EU has its sights set on innovation in all sectors. The Commission proposes to free up €5 billion for wind parks, better gas connections, the storage of CO₂ and infrastructure for broadband internet. The Commission adds to this that member states promote competitive investments in fibre optic networks. The Commission also encourages a broader offering of mobile broadband internet. At the end of March 2009, European government leaders approved this proposal. Belgium has received a budget of €110 million to improve the transit of gas in our country. An increase in broadband capacity, however, is not on the agenda.





Trial project in Kortrijk

One interesting initiative is the 'fibre to the home' fibre optic network proposed for installation in the Kortrijk suburb of Overleie. All houses in a renovation project are to be connected to the network and have access to a high capacity symmetric internet connection. The Board of Directors of IWT Flanders will be considering the case this summer. The intention is to make Kortrijk a trial case for evaluating the practical usability of high definition video applications. In collaboration with Howest College, the latest generation in online computer games will also be tested. Other possibilities currently in the planning phase include HD television, interactive entertainment and large-scale video conferencing for, e.g., education, training and home care.

Mobile internet by percentage of households in the EU and Norway in 2007
(sources: Eurostat and for Austria: extrapolation based on Statistik Austria)

Country/Economy	% Households
Latvia	29
Slovenia	24
Norway	23
Lithuania	22
Slovakia	18
Austria	14
Denmark	12
Portugal	10
Germany	9
Italy	7
Poland	6
Sweden	6
Cyprus	5
Finland	5
France	5
Luxembourg	4
Hungary	3
Estonia	2
United Kingdom	2
Belgium	1
Bulgaria	1
Greece	1
Ireland	1
Malta	1
Netherlands	1
Romania	1
Spain	1
Czech Republic	0



Switching to a sustainable economy

Worldwide, almost \$3 trillion are being invested to clear the way for immediate growth, recovery and a sustainable reinforcement of the economy. Economic recovery and challenges such as climate change, energy management, education, population ageing and mobility all go hand in hand.

Our governments have to manage our scarce resources to build a sustainable economy, stimulate entrepreneurship and encourage new sectors and services that will play an important role in the recovery of the economy. Targeted investments in intelligent technologies for sustainable mobility, infrastructure, education, SMEs, healthcare (e-health), energy and other initiatives can help reduce both operational costs and our ecological footprint. They lead directly to new jobs and better government services. Indirectly, they create a platform for creativity, innovation and renewed, more sustainable prosperity for Belgium. Governmental policy must capitalize on these social innovations.

The World Economic Forum (WEF) points to the importance of knowledge networks where governments, enterprises and citizens work together in taking the right decisions for our future. Markets shift rapidly in the integrated world economy. Sharing knowledge with everyone is critical, according to the WEF, to boost our competitiveness. The same applies to correct and targeted investment in growth and prosperity. In the final chapter of this document (see p. 14), we provide a number of recommendations to support Belgium with these social challenges.

The European Commission has calculated that every euro invested in research and innovation yields seven euros in the long term. Which is why Germany, Sweden and others are tackling the recession with extra investments in knowledge and education.



Swedes can claim up to 50% of telecom investments on tax

As part of its recovery plan, the Swedish government is offering tax concessions for renovation works carried out in residential houses. The tax break also applies to the installation of cables for IT, telecom and electricity. Half of this investment, up to a maximum of €10 000, can be deducted from the family income. Based on the Swedish rate of income tax, the government effectively reimburses up to 35% of the cost of installing broadband internet at home, usually via fibre optic cable. With this investment in social innovation, the government hopes to involve citizens more closely in the information society and the general recovery.

All Germany to have broadband by 2010

Germany will inject a total of €82 billion in its economy, which includes investments in national broadband infrastructure. All regions will be connected by 2010 via broadband internet. By 2014, at least three quarters of all households are to be equipped with transfer speeds of 50 megabits per second. By 2018, all Germans will be able to surf the internet at that speed. Such downstream speeds will enable, for instance, long distance education or remote medical consultations by video.



Brescia was prepared for tough times

The Italian region of Lombardia connected some 79 suburbs around the city of Brescia with a high-speed and wireless computer network, connected schools and libraries and modernized local government departments. In so doing, the Northern Italian region aimed to prepare itself for tougher times in the industrial sector, traditionally a major employer in the region. With the introduction of new business processes, Brescia has aimed to increase the productivity of employees, bridge the digital gap via broadband access for the whole region and share government services via an intranet with regional and rural towns. It is expected that the government investment of €2 million will result in financial benefits of no less than €139 million for the government and private sectors.

Amsterdam vs. London and Munich for digital title

Amsterdam is installing 400,000 'fibre to the home' connections in collaboration with local service providers. As a result, households and businesses will have powerful connections at their disposal enabling video services, among other applications. Amsterdam today, more than London and Munich, is a prime European knowledge centre for new media. The city sees new businesses appearing on a regular basis offering innovative services. The city has consequently achieved its goal of stimulating the local knowledge economy.



Freeing up government funds for investment

Via the XL fund, the Flemish Government invests in growth companies with a view to halting the downward spiral. In addition, it also intervenes to improve credit guarantees for SMEs and large organizations. The Walloon Regional Government's Marshall plan involves the provision of subsidies in order to assist companies. These investment programmes are slowly coming into full effect.

By working efficiently, new projects are likely to take off quicker than is currently the case. Both Flanders and Wallonia recognize that simple and efficient procedures are necessary to avoid delays. This is why the simplification and standardization of procedures must be high on the agenda. Administrative simplification will lead to smoother government service provision, thus reducing the level of investment necessary. In turn, the government is given more breathing room for other initiatives. The Belgian governments have, after all, had to dig deep into their own pockets for the re-launch plans which has had an impact on available budgets.

With well functioning bodies such as the Crosspoint Bank, EASI-WAL (E-Administration and Simplification) and the Flemish Regulatory Management Unit, Belgium is making an effort to simplify the respective administrative procedures. This notwithstanding, government services are not automated enough. The Walloon Region has placed around 150 forms online but only a dozen or so allow citizens to follow the complete administrative process from beginning to end. For all other documents, the intervention of a civil servant is required.

The Belgian programmes for administrative simplification have been overly focused on transactions. Now is the time to take the next step: namely to tackle the collaboration between the various government departments and their interaction with businesses and individuals. New web 2.0 technologies such as online forums enable the government to interact with citizens and businesses intelligently. In a federalized state such as Belgium, there is always room to increase the efficiency of collaboration between the various levels of government. The forum in preparation for the Belgian European Presidency in 2010 was, for instance, a step in the right direction. And the fact that the federal minister responsible for ICT shares most of these opinions gives us hope for the future.



This gain in efficiency can be further maximized through the better management of buildings, IT and energy. With a single network for telecom, video and data communication, governments can not only lower the infrastructure costs of their buildings but also reduce their operational costs as well. This becomes even more important given that construction only represents one quarter of the total cost of a building, the remainder being taken up by management and maintenance.

Smarter energy and space management can save governments money and help further reduce their CO₂ emissions. Through the management of heating, video security, air conditioning and lighting and placing telephones and other energy-consuming devices on an intelligent computer network, building managers have access to a more complete overview of their energy consumption. They can ensure that lighting is automatically dimmed when a room is empty or that telephones are completely switched off at night.

The US government could save 40% on building management costs through better office space management, the closure of certain offices and the expansion of teleworking programmes. The European quarter in Brussels is also being completely renewed in order to create a more suitable workspace, reduce traffic congestion and make buildings more energy efficient. A group around the French town planner and architect, de Portzamparc is currently working on plans to renovate 400,000 m² of office space at the European Commission.

Other possibilities involve, for instance, the simplification of the prison system and interrogations. A large format video conferencing system linking the 32 Belgian prisons and the seven principal courts would earn itself back in less than a year thanks to savings in transport and security. The same system could also be expanded in time to include a number of hospitals for relatively basic medical examinations and to maintain remote contact with family members.

Organizations that invest in smart buildings save up to 25% on cabling, subcontractors, installation costs and equipment, calculates Cisco's Internet Business Solutions Group (IBSG). Through a reduction in energy consumption and maintenance, associated costs also decrease by 25%. Imagine the impact this could have on a city such as Brussels, with its multiple government buildings from local to international level!



With greater intelligence in the electricity and computer networks of government buildings, schools, hospitals and retirement homes, whole countries, regions and cities will be able to reap more sustainable benefits from their recovery plans. Consolidating IT and computer centres and maximizing the efficiency of energy use, digital communications and teleworking will free up more resources which governments can then assign to other, priority investments. The money saved and jobs created will form the foundations for sustainable growth in the Belgian economy.

Half a billion euro extra in the French treasury thanks to better government administration

By further automating, for example, annual tax returns, the French government has succeeded in collecting around €500 million more in taxes. When citizens today receive their tax return form, it is already half filled in. If anything is unclear, citizens can contact a government employee via www.impots.gouv.fr (click-to-contact), who can guide them through the electronic process online via co-browsing. Cisco's IBSG group has calculated that thanks to the improved collaboration, the French state stands to gain around €7.8 million while producing 86 kiloton less CO₂. The French Ministry for Sustainable Development was recently established with a view to encouraging greater citizen participation in government projects while realizing rapid and sizeable cost savings. Belgium's Tax-on-Web system also fills in the majority of the data in advance. Tax payers also have access to various wizards to fill in the remaining sections. In 2008, one million Belgians already made use of the system.

Cisco's new offices: a green approach

Cisco has transformed a number of its establishments into green offices, doing away with fixed work stations while creating more meeting rooms. Employees can choose any work station and from there log onto the company network and the telephone system. In such new offices, around 40% less office space is required and 55% less ICT infrastructure.

TelePresence video conferencing systems have been in use for two years now and have saved Cisco around \$275 million in travel and productivity costs. The company has also produced some 105 kiloton less CO₂ as a result. Cisco now possesses over 400 TelePresence meeting rooms in 150 cities. On average, they are used for 5 hours a day. A total of 275,000 meetings have been conducted using the system.



Recommendations for Belgium

The federal, Flemish and Walloon governments have earmarked significant budgets in their recovery and other plans for the optimization of our education infrastructure, our roads and public transport. Alongside its 'Restore Confidence' re-launch plan, the Flemish government has also adopted the 'School Invest' plan in the fight against recession. Flanders is financing €1 billion in education buildings, alongside another €600 million for new roads and €700 million for public transport.

Should we spend these large investments as in the past or are we better off taking the opportunity to make our roads, buildings and busses smarter? In comparison with infrastructure costs for railways and motorways, the investment in video, network and tracing technology is minimal. The returns, however, are many times the initial investment. A study conducted by American think tank ITIF (Information Technology and Innovation Foundation) has proven that investments in digital technology have a far greater impact on employment, productivity and innovation than measures aimed at boosting consumption.

Education

Technological and economic hurdles have retarded Belgium's ability to train our knowledge employees in a more targeted fashion. Nevertheless, several praiseworthy initiatives have been launched, such as electronic school boards in, among others, Jette, Chaudfontaine and Assebroek. However, if we simply continue to replace traditional educational material with digital devices, you cannot expect a large rate of use. We need new ways of stimulating exercises better, managing different tasks together, sharing knowledge and insights and making better use of multimedia.

Digital school boards or interactive whiteboards are not only a new way of projecting presentations or videos on a large screen. When connected to the internet, they can also be used in interschool learning groups. For example, for the sharing of computer screens and documents or for video conferencing. The internet is more than just access to knowledge and websites: it is the ultimate medium to connect our education community and share knowledge in an interactive way.

Finland, Portugal and Germany also make giant leaps

Germany has earmarked €6.5 billion for improvements to educational infrastructure and energy efficiency in schools. In Portugal, the government is planning to equip every high school classroom with fixed and wireless internet access. The Minister for Education Maria de Lurdes Rodrigues' plan includes the provision of communication infrastructure for all schools aimed at modernizing education processes and improving teaching methods. The project is part of a broader ICT reform project known as the Technology Plan. The aim of the plan is to give Portugal an active place in the knowledge society of the next generations. One million students and teachers will have access to e-learning, broadband internet and laptops at very low prices. The schools themselves are to be equipped with video surveillance systems for enhanced security.

In the interests of our economy, future and well-being, we should also be looking to take similar initiatives. In order to provide Belgian students with the same resources as their Portuguese and other European counterparts, we need to equip our schools not only with wireless internet in every classroom but also fibre optic networks that allow for speeds of at least 100 megabits per second.

Such infrastructure would permit, for example, interclass and interschool debates via video conferencing. It has been proven that students who discuss their curriculum with each other generally perform better. The acquisition of knowledge takes place in a social atmosphere via discussions and interaction, via social learning, to use education jargon. In Belgium we still have a rather rational, Cartesian view of education. The Flemish vision policy document on the future of secondary education makes it hard to break away from that view. The current form of education is not suited to educating the information worker of the future. The motto of the new context of social learning is, "We participate, therefore we are". Scholarship in the 21st century is the art of learning from each other and continuing to learn. A communication network that connects every school and every student at home has to support that.

Since 1999, the Finnish government has therefore upheld a policy aimed at transforming education in classrooms into open and lifelong learning. Older unemployed not only find work quicker thanks to the system. Finland also clears the path for innovation, entrepreneurship and scientific research. As a result, Finland is still the laboratory of the European knowledge society, good for a place in the top six on the Network Readiness Index of the WEF and INSEAD, and that for some eight years now. Furthermore, the country has also set itself the goal of providing every citizen with a 100 megabits per second connection before 2015 with public support for subscriptions that are not commercially viable.



Roads and public transport

Our country has an extensive road network and is consequently an important cross-roads in Western Europe. The number of vehicles is increasing and our roads, as a result, are clogging up. A study published in April 2009 by the Federal Planning Bureau estimates that the number of passenger kilometres in 2030 will be approximately 30% higher in comparison with 2005. (Transit) cargo traffic will increase by some 60%. In addition, 60% of the jobs in Brussels are taken up by non-Brussels inhabitants, with long commuter traffic jams as a result. For these reasons, mobility, traffic and transport in Belgium are in urgent need of improvement by:

- optimizing commuter traffic and reducing congestion
- reducing the impact of inefficient mobility on the environment and our economy
- bringing demand (*transport*) and supply (*users*) in closer contact with one another.

Optimizing commuter traffic

Singapore has committed itself to preventing traffic congestion with the use of modern communication infrastructure and intelligent ICT applications. Every car is equipped with a so-called RFID chip which registers how often drivers enter the city during peak hours. Entering the city a few times a week is free, after that there is a fee. The system encourages drivers to avoid traffic jams or to use other means of transport. The information transmitted by the chip via the wireless networks can be further used to map traffic streams and for dynamic traffic guidance. How many cars could be kept out of the Brussels tunnels via such a system?

Teleworking also has a positive influence on commuter traffic, among other things by distributing traffic flows more evenly. More and more governments, including those in Belgium, offer their employees flexible working hours. Already in 2005, 19% of all American government employees worked from alternative work stations. A study carried out by the VUB in 2006 on behalf of the Flemish Minister for Mobility estimates that by 2016, teleworking could generate savings of up to €3 billion thanks to reduced transport and office costs. That is approximately equivalent to the investment needed to provide all Flemish households with a fibre to the home or fibre optic connection.

Amsterdam has found an answer to the 21st century mobility problem. In collaboration with a number of private concerns, the city is building several smart work centres on the outskirts of the city. These centres combine the possibilities of teleworking with the communication infrastructure of an office. The city hopes to provide commuters with easy access to modern ICT technologies such as Cisco TelePresence, but also neighbourhood services such as childcare and banking. Following the success of the pilot project in two centres, the city is considering extending the project to include some fifteen smart work centres. Although not all professions qualify for teleworking, Belgium needs to be ambitious in defining teleworking targets. A 20% reduction in commuter traffic is not an unrealistic goal. Cisco has carried out a survey of its employees on the impact of teleworking. On average, Cisco employees work 1.7 days per week at home. 70% of the time gained from not having to commute is spent on professional activities, the remaining 30% on private activities. For Cisco, the benefits are impressive. First and foremost in an economic sense because the time gained is good for some \$277 million annually. But employee satisfaction also increases with a positive impact on Cisco's attractiveness as an employer. Due in part to this high level of employee satisfaction, Cisco was named Belgian employer of the year in 2008. Cisco employees remain in contact via secure computer connections and can take part in video meetings via the internet (web conferencing). Thanks to such systems as unified communications, where all means of communication are integrated, teleworkers can see which of their colleagues are available and vice versa. Employees gain up to half an hour per day by contacting people at the right time via the right medium. These benefits are there for the picking.



Increasing efficiency

In the context of the Connected Urban Development programme led by Cisco, a number of world cities have pledged to reduce their ecological footprint through informatization and improving urban infrastructure. For instance, Hamburg, one of the seven cities in the programme, collects detailed information about traffic and public transport within a radius of 40 to 50km around the city. By integrating and analysing this data, the city is able to steer people through traffic much easier with the help of various means of communication. Afterwards, the city can measure the evolution of traffic and respond better to changing needs. This will also enable the city to target investments in roads and infrastructure better.

Also in the context of Connected Urban Development, San Francisco has developed a 'Connected Bus' system in collaboration with Cisco. The bus is connected with the internet and is in constant contact with the local transport company. Passengers on the bus have access to a number of smart screens that display information about traffic and, for example, connections with other bus lines. The passengers themselves also have access to the internet. The buses are also powered by a hybrid and thus ecological engine.

Demand seeks supply

Carpooling has already been around for a while. However, it has as yet failed to make a real breakthrough despite the attractive tax breaks and commercial carpooling websites such as Cambio. There is a traditional boundary of trust related to driving with 'strangers'. The internet can offer a solution to this problem. Social network sites feed a sense of community and can help break that boundary of trust. The region around the Italian city of Brescia (see p. 10) works with such a social network in combination with GPS localization for real time ridesharing. This is just one simple way of bringing drivers and passengers in contact with one another. Every passenger is one less car on the roads.

The UK also proves that you can reduce traffic in the city with a simple website such as www.yourparkingspace.co.uk. The website enables users to find parking space in the vicinity of their next destination faster. Up to 30% of city traffic consists of cars driving around looking for a parking space. Based on dynamic signs, intelligent chips and digital signage (a central management system for administering digital screens), drivers can be guided quickly to available parking space. These technologies are already used in stadiums for smoother spectator flows. It could also be used to activate the smog alarm and to designate other variable maximum speeds. Because isn't the current way of working by switching traffic signs rather inefficient?

Cisco is convinced that technological innovations can help Belgium develop a more integrated approach to transport and mobility problems. The above-mentioned projects demonstrate that technology can help organize traffic, reduce air pollution and inform users about cheaper and greener alternatives. With sophisticated sensors and high-speed networks, we are able to gather and use information immediately.





Energy

Kyoto has spurred us all to think greener and has prompted some praiseworthy political initiatives such as tax breaks for energy efficient materials. Energy providers are also starting to think greener, with sustainable sources of energy. However, a 'green gap' continues to widen between consumers and energy suppliers: the electricity grid is not optimized for a new form of energy management. Most electricity networks were built when primary energy was still relatively cheap. The reliability of the network is guaranteed by overcapacity, with mono-directional circuits from electricity plants to consumers.

To tackle energy management intelligently, we need more information about electricity traffic, consumption and the grids themselves. Today, even in Belgium, information is only being gathered about high and mid voltage grids. However, grid management has become a lot more complex, partly because of the arrival of renewable energy. By integrating ICT in the electricity grid it will be possible to gather more information. Automation will simplify its management. Such a smart grid scans the entire distribution grid from the transmission point and gives a broader overview of the grid. This allows unresolved issues to be identified quicker and automatically reduces the number of expensive interruptions. Because one has a better insight into which equipment is needed when, it is also possible to map the lifespan of network equipment better.

Energy companies will also have a better insight into demand and supply, allowing them to deploy resources more efficiently. Thanks to the better distribution and adjustment of current by smart grids, such companies also stand to gain up to 30% in capacity on the grid. This translates into 39% reductions in CO₂ emissions at the plants. Alongside smart grids, smart meters can also reduce the energy consumption of families and companies, even out peak periods and encourage the use of renewable energy. A pilot project involving 6,600 apartments in Oklahoma City in the like-named American state has shown that residents adapt their energy habits after installing such smart meters and thermostats which display the price of continued consumption. And that is a more than welcome fact given that the demand for electrical energy is expected to increase by 82% by 2030. Families from the pilot project realized an average reduction of their annual energy bill of 10%. On a large scale, the US could reduce its energy peaks by 15%. That is around 100 gigawatts in total, a saving of 100 large combined cycle power plants over 20 years or \$200 billion. The net effect is equivalent to removing 30 million cars from the roads. Smarter energy management has an unmistakable impact on our environment.

Investments in smart grids became part of Barack Obama's presidential campaign early on. He claims that these investments will overtake alternative energies in 2009. Grid optimization is one of the cornerstones of Obama's stimulus plan.

So let us here in Belgium start to optimize our electricity plants and offer tax incentives for private investment in intelligent electricity grids. For here, too, the benefits are ripe for the picking.





Aging population

The impact of the aging population on healthcare could hit Belgium harder than anywhere else in the world. A survey of the health benefit fund CM shows, in addition, that 98% of the active population prefer not to go to a retirement home later in life. We will have to organize our provision of care as well as possible so we can live at home longer. We are therefore in need of a degree of social innovation for better elderly care, simpler autonomous living, remote diagnosis and home care. Again, the technology sector offers all the means to answer these questions.

Thanks to telecare systems, it is no longer necessary to travel for every medical consultation. The Scottish government launched a telecare programme in April 2007 for the remote provision of healthcare. In a year's time, the reduction in house calls resulted in savings of £1.79 million. At the same time, some 1220 hospital admissions were avoided, good for some £3.34 million or 20% of the total savings. Almost 8000 people took part in the project. Still in Scotland, the Scottish Centre for Telehealth tested Cisco's HealthPresence systems. The latter medical video system brings patient and doctor into contact via the internet. Which, among other things, simplifies consultations by foreign specialists.

Belgium's standard of medical care is among the best in Europe. With video-based interaction systems, we have the opportunity to expand the country's medical knowledge centre internationally as well. It could be a striking demonstration project during Belgium's upcoming European presidency in the second half of 2010. Closer to home, video technology could help keep care and associated costs in better balance, thus compensating for the investments needed for a continuous connectivity via high speed internet.

“Europe's changing demographic composition can also present an opportunity for the development of products and services geared to the needs of older people. New technologies can be developed to allow older people to stay autonomous and live longer in their own homes, to transform the delivery of care, inter alia personalizing services in response to patients' unique needs and preferences. Investment in education, research and development will yield potentially large returns in the future and should not be cut during the crisis.”

European Commission
“2009 Ageing Report”, 29 April 2009



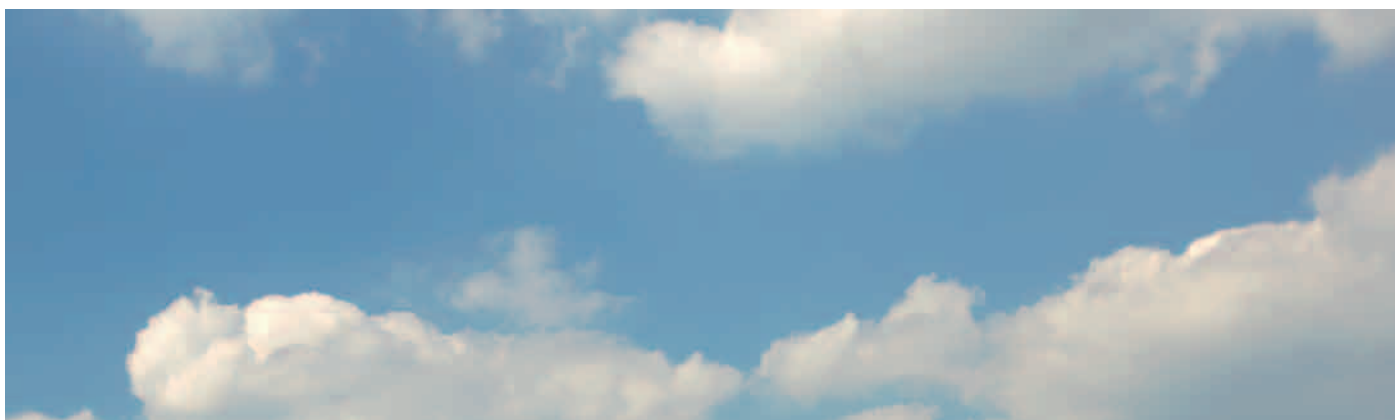


Conclusion

Via an initial series of crisis measures, governments have primarily helped our banks, taken over toxic loans and tried to prevent the disappearance of large employers. These measures demanded a well thought out approach with a rapid impact on the economy and employment. At the same time, governments have also developed long-term plans for the sustainable recovery of the economy.

Cisco is of the opinion that such Keynesian recovery plans do not sufficiently take the theories of the economist Schumpeter into account. The latter claims that continuous technological innovation is the source of economic growth. It would in fact be terrible not to consider the crisis as an opportunity. Technology offers all the tools to respond efficiently to such challenges as climate change, ageing and globalization. These evolutions have a marked impact on our prosperity and our well-being.

High speed broadband has become a basic social and economic necessity in Europe. It gives SMEs the resources they need to grow, schools a platform for better education, healthcare and elderly care more mobility and is a source for the development of new, creative services and enterprises. As such it is more than just a stimulus for our economy. It also offers sustainable alternatives for employment, free time, education and urbanization. Broadband digitizes a large number of process interventions and brings information to the people, rather than vice versa, as is too often the case in our current society. Moreover, it also offers the means to develop more energy efficient transport, industry and building management and thus meet our environmental targets.



This document contains Cisco's vision on smart, environmentally friendly, sustainable economic growth and recovery through innovation. The above chapters present numerous examples of their economic, social and ecological impact. Our recommendations for more technological intelligence in schools, traffic, public transport, energy grids and care institutions can be carried out via the respective recovery plans. "Smart, sustainable growth: recommendations for Belgium's economic recovery" is also a source for future plans. Innovative network technology forms the foundations of a sustainable economy. Informatization must be part of every solution, every measure and must prepare Belgium for economic recovery. The manufacturers are ready, the federal government is preparing initiatives, and the road to innovation is open.

