“THE RECOVERY WILL BE.... DIGITAL"

"A synopsis of digital measures to stimulate short-term economic growth in Europe"

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A Special Report from DIGITALEUROPE

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TABLE OF CONTENTS

1. INTRODUCTION

Calls for a coordinated and global response to the current economic crisis have lead to various meetings of world financial and political leaders, and many papers have been produced suggesting actions and measures to take.

However, most attention is focussed on what the US Administration and the EU intend to do to tackle the crisis. Each has presented a "recovery" plan/package. In the EU, several Member States have also produced their own national plans. Collectively, they reflect the real state of capacity to act and the different visions of the new governance of the economy.

This paper presents a brief analysis of the US and EU packages, along with a number of national packages. However, before entering into any analysis, it is important to a stress few key caveats:

First, consider the real political weight and power of the EU and the US. President Obama enjoys an extremely high rate of approval and can count on a strong democratic majority in Congress. Moreover, his Administration has not yet passed the psychological threshold of the first 100 days in office. By contrast, the European Commission is nearing the end of its mandate and the destiny of this collège is not yet known due to the uncertainty linked to a new Irish Referendum.

Secondly, the two legislative processes have a completely different nature and speed. Congress has just approved the US package. Yet despite the swift action of the Commission in adopting its Recovery Plan in November 2008, it is not yet clear when the European Parliament will discuss the proposed measures. Discussion will not take place before the end of March at the earliest.

Finally, the US Government has direct control of its budget and could directly implement most of its decisions through its federal agencies. By contrast, the EU budget is fixed until 2013, so all additional resources must be funded within the current envelope. The implementation of the adopted measures will therefore be mainly left to National authorities. Some Member States have already started or adopted National Plans and in some cases it is not possible to identify a common denominator among the different Plans.

2. SOME KEY DATA ON DIGITAL TECHNOLOGY IN EUROPE

Digital technology[*] plays a pivotal role for most of the EU policies for knowledge and innovation, growth and jobs, and sustainable development. New technologies are the tools to foster knowledge creation and to help to tackle some of the most relevant challenges which our societies and economies are facing, such as ageing and inclusion, the move to lower carbon emissions and higher energy efficiency.

Digital technology provides the necessary infrastructures underpinning economic growth, which contribute to more than 40% of our overall productivity growth. The digital technology world market has reached €2 000 billion, and is currently growing at around 4% per year. Europe's digital technology market represents 34%[1], and the size of the digital technology sector in Europe represents 4.5% of EU aggregate GDP and even more if the value added of digital in other sectors is also accounted for[2].

[*] For the purpose of this paper, the term 'digital technology' refers to the information and communications technology (ICT) and consumer electronics sectors

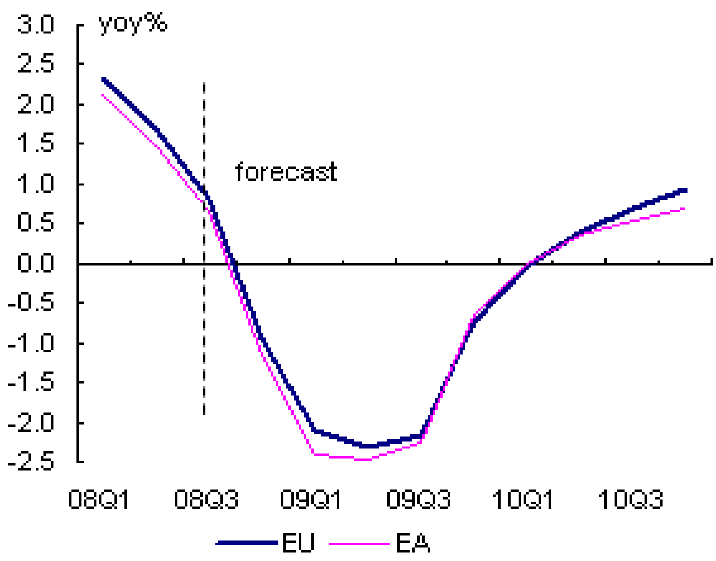
[1] IDATE, 'DigiWorld Yearbook 2007'.

[2] European Competitiveness Report 2006; European Information Technology Observatory 2006

The importance of DIGITAL TECHNOLOGY to economic and social change is reflected in R&D and innovation budgets worldwide, where DIGITAL TECHNOLOGY typically represents more than 30% of the total research effort. The DIGITAL sector is very R&D-intensive, with companies spending 10-20% of their turnover on R&D — because they know that an in-house research capability is essential to be able to assimilate technology and exploit it to economic advantage.

The ICT sector is also the main driving force of R&D in Europe. In the EU, DIGITAL research accounts for a third of all research employment, more than a quarter of all private R&D spending, and more than a fifth of all patents, a share that has risen considerably over the last fifteen years. Moreover, DIGITAL research also takes place in other industries, such as in so-called embedded computing systems. Even so, EU lags far behind when it comes to DIGITAL R&D investments with a gap of almost half in research spending with both the US and Japan[3].

EU and euro area growth profile



3. DIGITAL TECHNOLOGY AND THE CRISIS

The financial crisis is entering a new phase of global economic slowdown; the latest economic forecasts paint a bleak picture of close to zero growth rates and risks of further contraction in 2009[4].
Global economic activity dramatically weakened in the last quarter of 2008. Both hard and soft data indicate that this weakening is likely to continue or worsen in 2009 – at least in the first half of the year- before the impact of the massive macroeconomic policy easing gains traction.

The World Bank expects world trade to contract by 2.5% in 2009[5]. The EC anticipates world GDP growth to slow to a mere 0.7 percent, from an already low 3.3 percent in 2008. Growth may show some signs of improvement from the second half of 2009 on, and recover to around 2.75 percent in 2010.

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[3] Cfr http://www.oecd.org/document/24/0,3343,en_2649_201185_41707672_1_1_1_1,00.html
[4] http://ec.europa.eu/news/economy/081103_1_en.htm
[5] http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:22004555~pagePK:64257043~piPK:437376~theSitePK:4607,00.html

Europe is being hit hard and the outlook for the EU remains gloomy. A recent survey points to a further rapid deterioration in the economic situation and this is supported by the declines recently observed in industrial production and retail sales.

The downturn seems to be broad-based across Member States, although some countries are expected to face a stronger and protracted downswing than others – much depending on their exposure to the financial crisis and other country-specific factors.
Overall, real GDP in the EU is expected to fall sharply in 2009 (by about 2 percent), before recovering by 2010 to some ½ percent of growth. All demand components, except for government consumption and public investment, are being affected by the downturn[6].

In this context, the impact on the DIGITAL sector will translate into a less favourable outlook than in previous years, with deterioration of business and consumers' confidence, growth expected to be slower than in the past. DIGITAL forecast is also dependent on economic outlook for non-EU economies (Asia) with which trade in DIGITAL products and services is most intense. The expected impact is also on DIGITAL markets by segment (manufacturing sector hit harder than the service sector – telecom and software sectors proving more resilient despite important job losses) and on take-up (expected slowdown in broadband take-up, already visible in some countries, strengthening of the income effect).

4. PROPOSED EU ACTIONS

On 26 November 2008 the Commission announced a comprehensive European Economic Recovery Plan to help the EU economy recover from the crisis, which has two key pillars[7]:

➢ A major injection of purchasing power into the economy to boost demand and stimulate confidence. The Commission's Recovery Plan combines coordinated national action with EU policy measures in a mutually reinforcing way. It includes targeted and temporary fiscal stimulus of around 1.5% of EU GDP or 200 billion Euros, within both national budgets (around €170 billion, 1.2% of GDP) and EU and European Investment Bank budgets (around €30 billion, 0.3% of GDP). The Plan falls inside the Stability and Growth Pact (SGP), but it aims to use all of its flexibility.

➢ This fiscal stimulus and accompanying structural reforms are complemented by "smart investment" measures at both European and national level, with the priority being to preserve and create jobs now and in the future while accelerating the transition towards a knowledge-based and low carbon economy.

The Recovery Plan sets out a framework for how funds should be used to stimulate "green" investment in Europe's economies and boost energy efficiency. It proposes mobilising existing funds – including social and cohesion funds, where up to €6.3 billion of payments will be brought forward - to help unemployed people, and help with training and retraining. It aims to direct short-term action to reinforce long-term competitiveness, this will comprise a comprehensive plan of 'smart' investment in:

- Energy efficiency to create jobs and save energy
- Clean technologies to boost sectors like construction and automobiles in the low carbon markets of the future
- Infrastructure and inter-connection

[6] http://ec.europa.eu/economy_finance/publications/publication12486_en.pdf

[7] http://ec.europa.eu/commission_barroso/president/focus/credit_crunch/index_en.htm

A key part of the Commission Plan is a "smart mix" of regulation, R&D, national investment, Commission funding, European Investment Bank support and public private partnerships for forward looking investments in key sectors like cars and construction.

The Recovery Plan also includes proposals to stimulate labour markets and increase demand for energy efficient goods and services through innovative use of taxation.

It includes further concrete measures to help SMEs, as well as calling for rapid progress on the "Small Business Act" initiative already presented by the Commission. Finally, it states that the implementation of active inclusion and integrated flexicurity policies, focused on activation measures, re-training and skills upgrading, are essential to promote employability, ensure rapid re-integration into the labour market and avoid long-term unemployment[8].

1. New investments

The European Commission has also tabled last January a new set of proposals as part of the implementation of the Recovery Plan. The actions presented aim to revitalise the EU economy through investments in selected areas[9]:

- ✓ Energy: A total of 3.5 million € for investment in carbon capture and storage, offshore wind projects and gas and electricity interconnection projects.
- ✓ Broadband: 1 billion € to extend and upgrade high-speed internet in rural communities
- ✓ Tackling new challenges identified in the "health check" of the Common Agricultural Policies: Climate change, renewable energy, water management, biodiversity and dairy restructuring are the challenges and around 500 million € would initially be used to tackle them.

2. Digital technology research

The Recovery Plan includes public-private partnerships for research and development in three areas:

- ✓ The 'Factories of the Future' initiative with a total budget for R&D of 1.2 B€ (public and private).
- ✓ The 'Energy-Efficient Buildings' initiative with a total budget for R&D of 1 B€ (public and private).
- ✓ The 'Green Cars' initiative with a total budget of 5 B€ (public and private) including in addition to R&D, other expenditures such as procurement of innovations in this field.

The text of the Recovery Plan leaves a number of open points, such as a detailed definition of the work proposed, as at this stage, it only broadly defines the scope of the initiatives. Moreover, the very nature of the initiatives is not clear; the Plan promotes "partnerships between the public and private sector aiming at carrying out major infrastructure and research investments" but it does not specify precise measures, instruments and mechanisms for these initiatives or partnerships.

The target areas in the three initiatives are important applicationn fields of DIGITAL and are amongst the drivers of DIGITAL TECHNOLOGY development. The role of DIGITAL in the three initiatives could be summarised as follows:

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8 http://ec.europa.eu/news/economy/081127_1_en.htm

9 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52009DC0036:EN:NOT

- ✓ Factories of the Future: DIGITAL is at the heart of innovation in modern manufacturing and provides essential tools to face today's industrial challenges such as increasingly globalised and networked production sites and operations, more agile and reactive factories, lower carbon emissions and energy efficiency as well as optimised design, manufacturing and business processes.
- ✓ Energy-Efficient Buildings: DIGITAL helps reduce energy consumption and enhance energy efficiency in buildings through, for example, better control mechanisms and better lighting systems.
- ✓ Green Cars: "Electrification" of cars is the main focus of this initiative.

3. Digital infrastructures

According to a recent study, broadband development could contribute to **the creation of around 1 million jobs in Europe and to a broadband-related growth of the economic activity of 850 billion € between 2006 and 2015[10].**

The overall objective proposed by the EC is to reach "broadband for all" by 2010.
The proposal is to place the additional 1 billion € funding under Rural Development and the new Rural Development regulation foresees three types of investment:

- Creation of new broadband infrastructure including backhaul facilities (e.g. fixed, terrestrial wireless, satellite-based or combination of technologies)
- Upgrade of existing broadband infrastructure
- Laying down passive broadband infrastructure (e.g.: civil engineering works such as ducts, and other network elements such as dark fibre, etc.) also in synergy with other infrastructures (energy, transport, water, sewerage networks etc.).

The extra billion would be channelled through the so-called measure 321 “Basic services for the economy and rural population” under Rural Development and the investment would complement work already under way to develop broadband through cohesion policy, building on existing work in several rural areas.

This initiative will also be accompanied by a new EU broadband strategy designed to provide a framework for action for the development of broadband across the European Union. To succeed there is the need for coordination between national and regional authorities, support the "pooling" of infrastructures to use them to best effect, and exchange best practices. It is believed that if well coordinated, the right mix of rural development, DIGITAL /broadband policy and structural funds can avoid duplication and can generate the leverage needed to make a real difference[11].

4. Possible lessons/consequences

Recent reports, the one released by ITU above all[12], highlight the impact on the DIGITAL sector of the current crisis. It is extremely likely that the crisis will produce a change in the current industrial order, with an acceleration of convergence being an early impact. New business models and new players could emerge and the capacity of investing would be the key for survival. Despite credit being less available and more expensive, it is possible to find financing thanks to the new role taken by several governments through their economic and financial package to stimulate the economy.

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[10] Micus study, "The impact of broadband on growth and productivity", available at http://ec.europa.eu/information_society/eeurope/i2010/docs/benchmarking/broadband_impact_2008.pdf

[11] *http://ec.europa.eu/information_society/eeurope/i2010/index_en.htm*

[12] *http://www.itu.int/osg/csd/emerging_trends/crisis/index.html*

A transition to Next-Generation Networks is likely to bring a new transformation to the industry (media and content providers, network operators, etc) due to the way in which innovative new services could be delivered, by carrying voice, data and media services simultaneously. Yet this transition is seriously hampered by the crisis. Credit is less abundant and investments in infrastructures have been cancelled. Consumer demand has also been adversely affected and demand for new and alternative services remains uncertain. As an immediate reaction, only investments in fundamental services are being made and the rollout of NGN is delayed; this may create the opportunity for new technologies to emerge, however, it is unclear at this stage whether this would really happen.

The direct role taken by several Governments could help to find the financing needed to resume the projects linked to NGN. Given the role of DIGITAL as pervasive technology through the whole economy and its driving role to enable economic growth, those investments could bring benefits to whole economic productivity and efficiency[13].

5. THE NATIONAL ACTIONS

The responses of the various Member States have been not being coordinated, each of them choosing its own strategy. A first analysis carried out by the European Commission on some of the plans put forward has highlighted the following[14]:

Many Member States are providing tax cuts and consumption stimuli, which will most likely be saved rather than consumed[15]. The Dutch and German plans are better, stimulating private and public investments and providing very few consumption-directed measures. However, those measures will not be enough – the latest forecast has worsened lately, for the whole EU as well as for the Netherlands. Additionally, public investments in “hard” and “soft” infrastructure and private investments in research and development have to be increased. It can be accomplished by advancing already-planned investments in roads, bridges, and railroads, but one could also think of investments in research institutes and universities[16]. Stimulus can be generated by tax breaks for R&D, which guarantees more long-term growth (see Annex I)[17].

6. DIGITAL NATIONAL MEASURES

Investing in high-speed Internet access seems to be one of most common and favourite strategies among Member States.

In the plans presented by the UK, Germany, Spain, Portugal and Finland are measures to expand broadband access and to improve connection. Others such as France, Hungary and Ireland are working on separate broadband measures.

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[13] www.itu.int/crisis2009/

[14] http://www.europarl.europa.eu/committees/econ_home_en.htm

[15] Cfr: http://ec.europa.eu/economy_finance/thematic_articles/article10982_en.htm
[16] http://ec.europa.eu/commission_barroso/president/pdf/press_20090304_annx_en.pdf

[17]Cfr:"Banking Rescue and Economic Recovery Plans in the Netherlands and Other EU Member States
http://feweb.uvt.nl/pdf/news_februari_2009_2.pdf

All those plans built on the works done in recent months and the current crisis has accelerated the importance given by national governments to lead on telecommunication infrastructures. The majority of these plans intend to improve or expand connections to rural areas where they currently are unavailable. And they highlight a range of economic benefits, based on some the national studies.

For instance, Ireland claims its "national broadband scheme" would directly create 170 jobs. In Germany, "universal provision of efficient broadband connections and the construction of next-generation networks are a prerequisite for a return to growth and increased prosperity."

The UK plan promotes innovation and considers technology, as a driver of service innovation, has been the key driver in the performance of DIGITAL and the rapid growth of the Internet. The UK Government would help promote innovative applications of technology by ensuring the broadband infrastructure can handle media rich services; and the ability of firms, in a globally competitive market, to respond quickly with innovative offerings requires them to have the systems and skills to do so (see Annex II).

7. THE AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009

Signed by President Obama on the 17th February 2009, the Plan has the global aim of "*Making supplemental appropriations for job preservation and creation, infrastructure investment, energy efficiency and science, assistance to the unemployed, and State and local fiscal stabilization, for the fiscal year ending September 30, 2009, and for other purposes*"[18].

The stimulus plan includes a combination of measures including tax cuts, additional spending on infrastructure and aid to those States, which are having their own budget difficulties and its main axes are:

- Immediate tax cuts of $1,000 per family
- Increased benefits and health care for the unemployed
- Computerising all health care records in five years
- Doubling investment in alternative energy and re-shaping energy grid
- Aid to states to help maintain vital services

The Plan has a total budget of about $787bn and it is relevant to highlight some of the investments announced:

HEADING + Total budget	**Direct DIGITAL relevance**
Healthcare Total: $147.7 billion	➢ $19 billion for health information technology
Education Total: $90.9 billion	➢ $650 million for educational technology
Supplemental investments Total: $15 billion	➢ $7.2 billion for complete *broadband* and *wireless* *Internet* access

[18] http://www.recovery.gov/

Energy Total: $49.7 billion	➢ $11 billion funding for an electric smart grid ➢ $6.3 billion for state and local governments to make investments in energy efficiency ➢ $6 billion for renewable energy and electric transmission technologies loan guarantees ➢ $4.5 billion for the Office of Electricity and Energy Reliability to modernize national electrical grid and smart grid. ➢ $3.4 billion for carbon capture experiments ➢ $2.5 billion for energy efficiency research ➢ $2 billion for manufacturing of advanced car battery (traction) systems and components. ➢ $400 million for electric vehicle technologies

Strong impulse is given to a major series of investment in digital infrastructure to boost the economy. The goal is to provide a short-term stimulus, while ensuring job creation, and to ensure a sustainable long term grown of the economy.

On the digital relevance and impact, the ITIF[19] provides a detailed analysis and estimate of the short-term jobs impacts of directing investment in three areas aiming at improving the digital economy: broadband networks, the smart grid, and health IT. ITIF finds that investments in America's digital infrastructure will foster significant job creation in the short run. Specifically, an additional investment of $30 billion in America's IT network infrastructure in 2009 will create approximately 949,000 U.S. jobs.

It has been estimated that that a $50 billion additional investment in the smart grid over five years would create 238,745 new jobs. Doubling the investment to $100 billion over five years would create 477,490 new jobs. It is possible that there will be a $3 billion increase in the federal IT budget for 2009.

Most of the money foreseen in the US Plan is allocated for the fiscal year 2009, but there will be a severe political pressure to spend all the money as quick as possible. The Administration has also announced an unprecedented effort to scrutinise how and how fast the money will be spent. A dedicated website has been set up to enable all Americans (or anybody with an internet connection) to closely follow in real time how the stimulus funds will be allocated and spent.

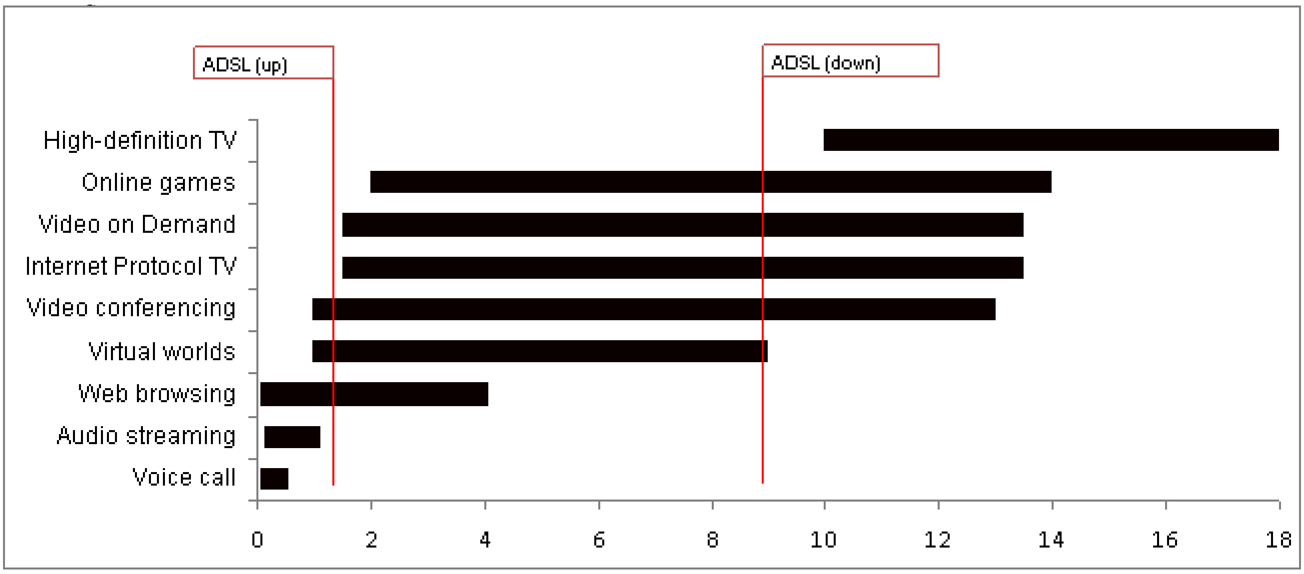
8. CONCLUSION

In the current financial and economical crisis, vision and courage are needed more than ever. It is essential to now lay down the fundamentals of the new economy, to start to invest now to build for recovery and growth. This is particularly true for the digital sector that could bring benefits to the whole economy, boosting innovation, productivity and competitiveness, while enabling a suitable growth. Digital technology, because its pervasiveness and cutting across the economy, could be the key factor to kick-start the "engine" as it has enabled economic growth in the past. New partnerships have to be built and new business models may be required. However, it is clear that Member State governments have a decisive role to play, especially when private investments may not be a realistic option at this stage. Europe could build on the current crisis to build a new leadership.

19 http://www.itif.org/files/roadtorecovery.pdf

The planned broadband networks and the rollout of NGN could boost the digital economy and encourage the demand for new services and products. A truly single digital European market, where interoperable digital services are widely available, could bring immediate benefits to European business which should be leading the race to the "Future of Internet" The US Administration seems already planning the future and a new governance for the economy, Europe must not miss this opportunity[20].

Flags	ADSL (up)	ADSL (down)	
Unit: Mbit/s	1,6	9	As of Oct, 2007



OECD

Note: Horizontal bars represent approximate ranges of bandwidth requirements for 2008 and will increase; only minimum values are explicitly defined. Maximum requirements are open-ended (indicated by shading). Flags mark advertised average ADSL speeds in OECD countries (around 9 Mbit/s for ADSL downloads; 1.6 Mbit/s for uploads in early 2008) are explicitly defined. Maximum requirements are open-ended (indicated by shading). Flags mark advertised average

20 http://ec.europa.eu/commission_barroso/president/pdf/press_20090304_en.pdf

ANNEX I

Source: European Commission

Country and measures	*Budget consequences*
Germany	
Recovery plan • Tax cuts in depreciation, travel costs deductibility for commuters, special designations for families • Investments in infrastructure, housing; structural programs for specific regions • Credit to SMEs, CO2-savings and energy-efficient innovation by companies *Financial sector* • Loan guarantees, recapitalisations or equity support, and assumptions of risky assets • Equity support with conditions similar to those in the Netherlands • Several banks applied for loan guarantees, limited attention for capital support	• € 50 billion in total for the recovery plan • € 470 billion for the financial sector, of which € 400 billion consists of guarantees subject to uncertainty. • Given its strong fiscal position, Germany should face a balanced budget with the recovery plan. • The financial rescue plan's short-term fiscal impact could be large, but with low interest rates, high dividends, and capital gains from privatisation, government debt should not increase over the medium term.
France	
Recovery plan • Fund investment projects in automobiles, housing, construction (i.e. infrastructure and public facilities) and public debt • SMEs will get tax breaks • Unemployed persons will be retrained • Rescuing the automobile industry *Financial sector* • Recapitalisation and buying up troubled banks' assets by a state-owned company • Credit guarantees for the medium term, to stimulate financing for businesses (especially SMEs)	• € 26 billion for the recovery plan and another € 6 billion for the automobile industry • € 360 billion for the financial sector, of which € 320 billion is guarantees. • The recovery plan will *raise the deficit* to 4% of GDP, despite the economic benefits. • Government debt would rise to 67.5% of GDP, mainly due to the financial sector plan.

United Kingdom	
Recovery plan • Reduction in VAT • Postponing corporate tax increase, and small firms can defer payments • Advancing investments in housing, energy, infrastructure, and schools • Home owners' support package • Guarantee 50% of small and medium-sized firm lending up to £ 20 billion. *Financial sector* • Nationalisations of Northern Rock and Bradford & Bingley • Large stakes in RBS and Lloyds Banking Group • Bank recapitalisation for Tier One capital • Special liquidity scheme: short-term swap of illiquid assets for T-Bills • Additional debt guarantees • Buying up assets and guarantee some top-rated asset-backed securities.	• Initially £ 20 for the recovery plan; additional guarantees for firm lending (but these do not immediately materialise) • Additionally, £ 94.4 billion is used to bail out Northern Rock, £ 51 billion for Bradford & Bingley, £ 50 billion for recapitalisation, and £ 450 billion in guarantees. • The newly announced plan can costs up to an additional £ 50 billion in buying assets and even more in guarantees. • *Total debt* is expected to rise from 41.2% to 48.2% in 2009, increasing after that. The fiscal deficit increases from 5.4% to 8.1% but decreases after 2009.
Belgium	
Recovery plan • Tax cuts including lower VAT on construction, delaying VAT payments for companies and energy rebates for households • Higher unemployment benefit • Food and energy vouchers for workers • Credit guarantees for SMEs • Accelerating infrastructure projects *Financial sector* • Nationalisation of Fortis, which has been partly sold to BNP Paribas • Capital injections for Dexia and KBC Bank • Stabilising the interbank market • Borrowing guarantee	• € 2 billion for the recovery package • € 19.9 billion for bank bail-outs and guarantees, and a further € 90 billion for guarantees in the interbank market and liabilities and assets guarantees • Total impact on the fiscal deficit will be -2.6% in 2008 and balanced in 2009. • Public debt will have increased from 84.9% to 88.3% by end of 2008, well above the SGP limit.

Spain	
Recovery plan • Public infrastructure investments, environmental projects and investment in R&D • Stimulus for the auto industry • Credit provision to SMEs • Income tax deduction • Extension of housing construction support • Abolition of wealth tax *Financial sector* • Buy up healthy assets to provide liquidity • Provide bank debt guarantees • Enlarge deposit insurance coverage	• € 50 billion for the recovery plan. • € 250 billion for the financial sector, of which € 200 billion consists of guarantees • The Spanish government intends to fund mainly by debt, making the impact on the deficit fairly small • Since many measures are contingent, the impact on debt is not big; coming from a low debt position, the 60% SGP limit will only be reached if everything materialises

General measures	Specific measures
The Netherlands Increasing labour market flexibility, stimulating export, guarantees for company loans, housing and health care	
Germany Infrastructure investments, credit guarantees, depreciation tax cuts for companies	Deductibility for commuters, special family designations, relief for specific regions and energy innovations
France Promote construction (infrastructure and public facilities)	Aim at saving the automobile industry, social housing, very small companies, retraining unemployed in specific areas
UK Advancing public investments in housing, energy, infrastructure; lending guarantees for firms	VAT reduction, postponing corporate tax increase, homeowners' support packages.
Belgium Accelerating infrastructure projects, credit guarantees for SMEs	Tax cuts: lower VAT on construction, delayed VAT payments & energy rebates. Higher unemployment benefits, vouchers.
Spain Investments in public infrastructure, environment and R&D; support for housing construction.	Auto industry stimulus, income tax deduction, credit provision to SMEs, abolition of wealth tax.

ANNEX II

National measures of relevance to ICT

Easing labour market transitions (training, placement, other job-search help)

- (BG) Adoption of Life Long Learning Strategy – undertaken. Improve incentives to ensure higher quality of labour force; implemented, October 2008

Easing financing constraints for businesses/SMEs

- (CZ) Allocation of CZK 600 million for investment incentives for projects of technology centres
- (HU)More favourable conditions for small-scale technology development subsidies (higher subsidy, broader beneficiary circle, higher intensity of support)
- (SE) Stronger measures for the automotive industry: State loan guarantees for 'greening'. The Government will request the Riksdag's authority to provide state credit guarantees to companies in the automotive cluster for raising loans in the European Investment Bank for conversion to green technology. The credit guarantees can total a maximum of SEK 20 billion, to be pledged against adequate security and with fees that reflect the market under normal market conditions. Proposals presented by the Alliance Government on the 11-12-08; follow-up by end of January by the Riksdag that have to approve the bill.
- (AT) For 2009 and 2010 annually € 105 million in investment incentives; € 500 million in additional credit volume in subsidised credit (partly EIF money); € 400 million in state guarantees for the AWS (Austria Wirtschaftsservice; a government bank to grant low-interest loans to SMEs), especially for projects targeted at energy efficiency.
- (NL) Easing of depreciation rules amounting to about € 2billion in 2009 and 2010. This entails a maximum of 50% in 2009 and 50% in 2010. The arbitrary or accelerated depreciation 2009 is applicable to both corporate- and income tax liable entrepreneurs and applies to all business assets with the exception of housing, industrial buildings, earth-, road- and water infrastructure, private vehicles, immaterial fixed assets (including software) and cultural assets (including trees and livestock). The measure is thus applicable to, amongst others, trucks, delivery vans, computers, machinery and installations. In total, this measure provides a liquidity impulse to the business sector of 1.75 billion euro over 2009 and 2010.

Household subsidy for certain type of goods/services

- (LU) Subventions étatiques en faveur de la "consommation verte": Aides financières pour voitures économes en carburant et d'appareils électroménagers réfrigérants à basse consommation d'énergie (A++)

Physical infrastructure

- (UK) Introducing a green stimulus by ensuring part of the fiscal stimulus supports low-carbon growth and jobs by accelerating £535 million of capital spending on energy efficiency, rail transport, and adaptation measures. 76,000 low-income households will benefit earlier from better heating and energy efficiency, up to 200 new rail carriages will be delivered earlier and 27,000 homes will benefit sooner from flood defences.
- (PL) Increasing public and private investment in telecommunication infrastructure
- (LU) Dépenses d'investissement: Les entreprises publiques des Postes & Télécommunications et Luxconnect prévoient d'intensifier en 2009 leurs programmes d'investissement, notamment dans le contexte du déploiement des infrastructures de télécommunications (Fiber to the home, raccordement en fibres optiques des zones industrielles) et des infrastructures dans le domaine des technologies de l'information et de la communication (connectivité internationale et centres d'hébergement).
- Pour l'année 2009, les investissements supplémentaires en matière de construction d'autoroutes de

l'information se chiffrent à environ 36 mio. €

Sector-specific demand support

- (FR) Creation of green zero-interest-loans to construct and renovate buildings respecting energy-efficiency.

Energy efficiency

- (AT) Based on a comprehensive evaluation in 2005/06 the climate strategy was adapted and accentuated. The Climate Strategy 2008 - 2010 is based on a broad mix of various, mainly national measures (industry, thermal renovation of houses, an expansion of public transport, Heating and Cooling Network Expansion Act to achieve a long-term reduction in CO2 emissions of up to 3 million tonnes in the space of around 10 years), in order to foster the separation of growth and the use of fossil resources. Additionally, Austria uses the project related flexible mechanisms of the Kyoto Protocol.
- (LU) "Subventions étatiques en faveur de la "consommation verte": Elargissement du champ d'application du régime d'aides dans le contexte de l'utilisation rationnelle de l'énergie et de la promotion des énergies renouvelables (par exemple assainissement énergétique des immeubles, construction d'immeubles à performance énergétique élevée, installation solaire thermique, installation solaire photovoltaïque, chaudière à condensation)
- (SI) The National Energy Efficiency Action Plan 20082016 contains 29 different instruments, including: " efficient energy use measures that also include systems for the cogeneration of heat and power, and measures for the recovery of renewable energy; " financial instruments for promoting investments (subsidies, loans with a lower interest rate, etc.); " regulatory instruments (regulations for buildings, regulations on energy-efficient products); " information-provision and awareness-raising (promotional campaigns, energy advice network, energy audits, demonstration projects, informative energy bills), voluntary agreements, supply of energy services and the inclusion of energy efficiency and renewable energy sources in school teaching and study programmes, and the promotion of research, development and demonstration projects. The document also pays special attention to a series of measures (regulatory, financial incentives, changes to demand-side management) for improving energy efficiency in the public sector; these measures will, where appropriate, be supplemented by an Action Plan for the Greening of Public Procurement
- (AT) Set-up of a climate and energy fund in July 2007. The main emphasis of his work is on (i) R&D in the field of sustainable energy technologies and climate research; (ii) reduction of greenhouse gas emissions via improvement of public transport; (iii) support of innovation in the energy and environmental technologies and fostering international market penetration. In 2007 and 2008 a total of 200 Mio was spent.
- (BE) Flemish Region: Climate Plan. Increase of budget. The goal is to realise the planned greenhouse gas emission reduction potential. The plan has measures to reduce energy use in families, to increase the share of green energy in terms of gross domestic electricity consumption, to reduce energy use in families, biomass production, energy efficiency in industry and sustainable mobility.
- (EE) Investments for minimising the energy loss in heat transmission networks and district heating networks. Support for investments in producing biomass, bio-fuel and/or bio-energy in the agricultural sector. Support for developing and application of environmentally friendly energy production methods within the framework of Energy Technology Programme. Support for investments in constructing thermal and/or power plants and boiler plants that use renewable energy sources
- (IE) Low Carbon Homes Programme: In order to drive further improvement in the energy performance of new housing, and to move towards zero carbon homes, the Government launched a new grants programme in 2008. The Programme provides grants of up to 40% of eligible expenditure to developers to build homes with an energy performance coefficient less than 0.25 and a carbon dioxide performance coefficient less than 0.30. Homes built under the Programme will be at least 70% more energy efficient and produce at least 70% less carbon dioxide than homes built to 2005

standards and will have a Building Energy Rating (BER) of at least A2.

- (IE) Industry Support Programmes: A range of support programmes is offered to assist businesses, large and small, in being more energy efficient. The Energy Agreements Programme assists the largest energy users in working towards compliance with the Irish Energy Management Standard.
- (IE) Accelerated Capital Allowances for Energy Efficient Equipment: This Scheme of tax incentives was introduced in 2008 and allows companies to claim 100% of the capital cost of certain energy efficient plant and machinery against corporation tax in year of purchase. The Scheme currently covers 5 classes of technology and the Minister for Finance announced in the 2009 Budget that he would be extending the range of qualifying energy efficient equipment under the scheme.
- (ES) RENOVE/VIVIENDA Plan. Comprises three programmes to be implemented over the next four years: 1) Programme of aid to improve energy efficiency in buildings: 400,000 subsidies to improve energy efficiency in residential buildings, to improve installations and insulation of outer walls and windows. 2) Programme of aid to improve homes' accessibility and comfort: 100,000 subsidies to improve accessibility to common spaces in residential buildings; 3) Programme of loans to individuals to complement the funding for the previous two programmes.
- (IT) Institution of a Fund to increase the use of renewable energy and promoting energy efficiency. Monitor and reduction of GHG emissions and promotion of the production of electric energy from thermodynamic conversion of solar energy
- (MT) Incentives earmarked to promote energy conservation and to reduce emissions
- (BG) Improvement in the energy efficiency through revisions of legislation intended to encourage the introduction of energy-saving technologies in the production and households, in process of implementation. Implemented
- (UK) Energy efficiency and fuel bills measures. Increased energy efficiency obligations for energy suppliers (expected to cost additional £630m to March 2011), new/accelerated public spending on heating and energy efficiency in households at risk of fuel poverty (total £174m new spending and £50m spending accelerated, of which £150m forms part of wider capital stimulus), increased cold weather payments for winter 2008-09 (estimated to cost additional £16m)
- (PT) Improved energy efficiency of public buildings. The State will invest in solutions to improve the energy efficiency of a set of the most energy-consuming public buildings (hospitals, universities, law courts, offices of public services, etc.), which will galvanise the construction, metalwork and mechanical engineering and energy consultancy sectors, while also driving direct gains through the reduction of energy expenditure.
- (PT) Investment in energy metering networks. This measure aims to install intelligent energy metering systems in 10% of all domestic electricity consumers, allowing consumers to optimise consumption and cut energy costs, automating the management of the national grid and improving service quality, as well as fostering energy efficiency and environmental sustainability. This investment will permit the creation of an equipment-manufacturing cluster and it will heavily impact on the construction segment geared to electrical installation.
- (FR) Increasing the energy efficiency of buildings. France's objective is to reduce energy consumption of existing buildings by 38% between now and 2020.
- (LT) Measure 65. To implement energy saving measures in economic areas which would allow within 3 years starting from 2008 to reduce comparative end energy consumption by 1.5%

R&D and innovation

- (EE) Support early-stage equity capital investments to alleviate the capital requirements of research- and technology-intensive start-up enterprises
- (EE) Launch and implement the research and development programme for Estonian biotechnologies, Launch and implement the research and development programme for Estonian information and communication technologies, Implement the national research and development programme for Estonian energy technologies, Launch and implement a programme of updating the infrastructure of research and development institutions and higher education necessary, Launch a support programme to develop the equipment and technologies necessary for the production of agricultural products and non-wood forest products

- (EE) Support for the development of environmentally friendly transport technologies
- (LV) To develop and implement state support programme "Support for Development of New Products and Technologies". The goal is to support development of new products, services or technological processes and strengthening as well as the protection of industrial property rights. Support will be provided to enterprises for industrial research up to 70% of the referable costs within the framework of the measure, as well as up to 45% of the referable costs for designing works and strengthening of industrial property.
- (LT) Measure 19. To establish and develop five integrated science, study and business centres (valleys). They aim at concentrating physical and human resources, fostering science-business interactions and contributing to the restructuring of public research institutes. In particular, several large scientific centres are being created: in Sauletekis Valley, Institute of physics and technology; in Santara, Institute of life sciences. Structural Funds finance this restructuration plan. The Valleys would thus link universities, institutes and companies in science-industry clusters strategically. It is foreseen that investments in the first Valleys will start in 2008-09.
- (GR) Funding for innovative business activities to facilitate the creation of new technology-based firms from academic and research organisations. PRAXE A (non obligatory): provides seed capital for the preparation of the entrepreneurial establishments (spin-offs) of research organisations (business plan to tackle the lack of private funding to new innovative enterprises and to encourage researchers and new graduates, including PhD holders, towards entrepreneurship. In addition, it aims to provide incentives to PROs for utilizing RTD results for commercial PHASE 1: The implementation/monitoring of projects is to be completed by end of 2008. GSRT, based on the experience gained and the outcomes of both the mid-term evaluation and the recent assessment of PRAXE A, decided to give further priority to this initiatve
- (GR) Hellenic Technology Clusters Initiative (Corallia). Creation of a supporting programme for research and development to enterprises throughout the country. The programme aims to facilitate the formation and advancement of innovation clusters in knowledge-intensive and exports-oriented technology segments. "Phase 0 (2005): Initial clusters mapping, assessment and policy decision. Phase 1 (2006-2008): Pilot implementation in the Microelectronics and Embedded Systems sector, continuous clusters benchmarking and assessment of other sectors, implementation of c
- (CZ) A technological Agency will be established for the field of applied research by 2010
- (AT) Research and Development: Additional 50 Mio. Euro in 2009 and 2010, two thirds for research relevant for economy and business (33 mio. for automotive industry), one third for updating university equipment.
- (SI) 1. Measures to slow down the impact of the crisis on enterprises: (i) subsidies for investment in new technologies (undertaken) and (ii) subsidies for R&D investment in companies (undertaken). Final program year 2011. The measure will be enhanced in 2009 with an additional 35 mio EUR available, partly financed by reprioritization within the ministry. (ii) The measure will be enhanced in 2009 with an additional 50 mio EUR available, partly financed by reprioritization within the ministry.
- (SI) 3. Measures to improve growth potential of the economy and its resiliency: (i) Acquisition of new research equipment by universities and institutes (ii) Subsidy to encourage enhanced patent delivery by universities and institutes (iii) subsidy to encourage university researchers to better link with the private sector. Undertaken and adoption in December 08. The measure targets undertakings which have underperformed in terms of R&D investment and will enable the universities and other non-profit state-owned undertakings and institutes to modernise their research equipment and thus enable better growth opportunities. Focused on 2009-2011 period.
- (FR) Stepping up sustainable development research. The national research effort will be strongly increased by rallying clusters behind themes like climate change, energy, or transport. The State plans to invest 1 billion before 2012.
- (IT) Industria 2015. Fund for competitiveness and development - Industrial technological innovation. The goal is to promote projects for industrial innovation and requalification of SME's in 5 areas of technological innovation.

- (IT) Strengthening industrial competitiveness by enhancing patent and trademarks institutions and procedures and reinforcing protection against fraud and counterfeiting
- (IT) Institution of a Fund to finance the measures for achieving the Kyoto Protocol's objectives for the years 2007-2009 (to develop & enhance use of high-efficiency industrial motors and the production of electricity, heat and refrigeration via small co-generators).

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