POTENTIAL FOR THE DIGITAL ECONOMY IN TH BALTIC STATES; some observations

DEEDS

Digital Economy: Policies Exchange and Development for SMEs,

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Preface

This discussion paper looks at the development of the digital economy in the Baltic states within the perspective of the European integration. The limited scope of it has called for a number of short cuts that have been furthered by data availability limitations.

Though it is common to treat the Baltic states within a singular framework this is increasingly difficult in an area like the digital economy. The factual situation diverges largely between the three countries. A radical characterisation of their status representing different development strategies and achievements could rather be in place. As will be explained below Estonia is a world leader in certain aspects of digital government and close to being one in supply of digital services in some areas already. Latvia and Lithuania face different challenges, featuring more the transition economy problems.

Another dimension of difficulty is generated by the fact that the governments do not see too much in common with regard to policy co-operation. Maybe the Estonian government is the most outspoken in this respect. Thus, policy advice does not fit into a singular framework. Enterprises active in the area may have adopted different strategies to cover all of the Baltic market. The limitations of common policy implementation in all three states should be at least carefully analysed before final advice is given.

The author of this text features further important bottlenecks with regard to a balanced treatment of all the three countries. He has field work experience from Lithuania as a Phare economic adviser in 1999-2000 but was never given an opportunity to work directly with Information Society strategies. Not that he would not have suggested such work that being his regular field of work in Finland. Contacts with Estonia are more practical for the Finnish civil service and developments there are covered by Finnish media relatively well. The substance is of a different nature than one generated while advising the Lithuanian government in enterprise policy. This leaves Latvia in a shadow. The time, the IT and the information available on-line did not permit for a full coverage of the Latvian policies. Fully aware of the hazards, it is assumed here that the digital economy and the main challenges faced in Latvia are relatively similar to those in Lithuania. Certainly Latvia has not advanced beyond Estonia in any of the areas discusses whereas it may be somewhat but not substantially behind Lithuania as discussed in conjunction with the McConnell report below.

For the purpose of this brief orientation paper the terms Information Society, Digital Economy, electronic business and ICT use are used as loose synonyms. Most of the aspects of the Information Society or the eGovernment or Information Society at large are thought to be instrumental for electronic business, the main topic of this paper.

The paper places a strong emphasis on national innovation systems and industrial policy. It is believed that ultimately efficient markets, competitiveness based on innovation rather than cost advantages only and policies supporting these are the cornerstones of the knowledge-based European economy into which the Baltic countries are integrating. In transition countries this is not normally readily accepted within the daily struggles with cash flows and restructuring problems in enterprises. But a sustainable knowledge economy can only emerge when companies find it rewarding enough to invest into the ICT tools and integrate it into their normal business operations and strategies. The internal market is bound to make this imperative felt everywhere, rather sooner than later.

The focus is on the promotion of the Digital Economy in the Baltic countries. It is believed that this question can be addressed separately from the formal accession process. It should be safe enough an assumption that all the Baltic countries are within the eligibility of joining the eEurope+ initiative and its GoDigital dimension, and that all the three states would indeed accede to the Union within the medium term.

The paper will introduce briefly a model considered adequate for the promotion of the digital economy in general. Then some of the key components of such a model are discussed in turn. Then the penetration of the ICT is introduced. A Lithuanian and an Estonian policy approach is presented, featuring quite different models. Finally some policy challenges are discussed.

CREATION OF eBUSINESS OPPORTUNITIES IN THE BALTIC COUNTRIES

We shall attempt to place the Baltic countries into a framework similar to that used in most EU countries in promotion of ebusiness within the national economies. Even if there are always conceptual and definitional differences they all normally involve a combination of the business framework conditions and direct promotional activities towards enterprises. The DEEDS project is expected to provide a conceptual framework for further analysis but it not available by the time of preparing this paper before the first DEEDS policy discussion meeting in May 2001.

These government tasks should be kept separate of the enterprise strategies. Such a model is presented in detail in annex 1. We note here that the core activities for the government lay with improving the operating environment for enterprises, and the innovation system and market mechanisms in particular. When targeting the competence of SME's within the digital economy the government's own example in form of digital services and projects contributing directly to the advancement of ecompetences in enterprises is considered a priority. Finally, it is imperative that entrepreneurial strategies are understood as cornerstones of the competitiveness of enterprises. The governments should show restraint in provision of business models in a fashion that could undermine the central role of unique strategies and the entrepreneurial commitment needed for them.

I FRAMEWORK CONDITIONS

1.1. THE GENERAL BUSINESS ENVIRONMENT

The emergence of private business operators is to a large extent dependent on the quality of the institutions and rules created by the government. Here we may just note in summary form the following EBRD assessment of the three countries in terms of the progress in transition:

	ENTERPRISES			MARKETS, TRADE			FINANCIAL	
	Large scale privatisation	Small scale privatisation	Governance & restructuring	Price liberalisation	Trade& forex system	Competition policy	Banking & interest rate liberalisation	Securities & non-banking
Estonia	4	4+	3	3	4+	3-	4-	3
Latvia	3	4+	3-	3	4+	2+	3	2+
Lithuania	3	4+	3-	3	4	3-	3	3

Scale: 1 little progress-4+ standards of advanced industrial countries,
Source EBRD Transition Report 2000.

It is assumed here that readers are familiar with the annual Commission reports reflecting the different pace of gaining recognition of meeting the Copenhagen accession criteria. The situation could be summarized with the observation that the Lithuanian government was rather upset about the

Commission statement of not meeting the functioning market economy criteria in as late as in 1999 when that status had been given previously to Estonia and to Latvia in 1999.

It should also be stated that an observer with an industrial competitiveness policy background had to conclude that the policy guidance given to the applicant countries has been overtly macro stability oriented at the expense of investment and growth promotion. This means that even when scoring high in the macro level analysis there is a long way to go reach a de facto functioning market economy level. Competition, innovation and upgrading or supply chain equilibrium where some degree of reasonable balance between technology and service provider's and user's bargaining power would make itself felt. As will be suggested below the business sector does not fully follow the same incentive and financial conditions systems that are familiar in most of the EU, urging enterprises to monitor their performance, outsource, invest and educate, establish their well defined position within the industry value chain, particularly important in the digital economy.

1.2. BASIC WEAKNESSES OF THE LITHUANIAN (AND BALTIC,WITH CERTAIN CONDITIONS) INNOVATION SYSTEM

All the Baltic countries have strong industrial and R&D traditions in electronics and machinery industries. Lithuania was a leading exporter of both military and consumer electronics with indigenous semiconductor manufacturing, Latvia was specializing in i.a. telephony.

Most of this has collapsed in Lithuania with TV component manufacturing representing the main large scale operation. In Estonia an important part of the military electronics manufacturing has been successfully converted into civil manufacturing. One company, Elcoteq Network is assembling i.a. mobile telephones for leading brands, employing some 3.400 persons and accounting for a large share of Estonian exports. Elcoteq is the leading European independent electronic manufacturing service (EMS) provider, servicing some 40 of the leading OEM brands. The presence of Elcoteq in Estonia also contributes to the explanation of the exceptional foreign trade/GDP ratio of Estonia, that ratio being some 200 %.

Early transition saw the role of traders to the Eastern markets emerge in all Baltic states. For Lithuania software, hardware and system development for i.a. banking systems exports to Russia and Belarus were promising markets in mid-1990s. An emerging soft ware industry, with main orientation still to the neighboring and more shielded markets is one of the most competitive sectors

in all Baltic countries. Relatively advanced academic R&D institutions remain in all Baltic states. Like in all transition countries the sustainability of this work faces severe generation gaps between the aging holders of the posts and the new generation being blocked to advance and the financial weaknesses. The younger generation is understandably considering foreign opportunities and serious brain drain effects prevail.

INNOVATION FINANCING ENVIRONMENT

Burdens of the past with no direct financial markets and the recent banking crisis undermine the banking sector confidence. In Lithuania and Latvia traces of soft financing conditions imposed by government and carried out by government banks are still in tacit memory. Practically no venture capital markets have developed. Low cash-flows of all enterprise sectors limit self-financing of innovations. Poor competition in banking sector allow price-taking for new entrants instead of contributing substantially to finance supply conditions.

Foreign dominance in the banking sector is growing rapidly and new technologies are introduced. Estonia is showing the lead and some limited venture capital products have entered the market. The IT sector is benefiting of this development, as discussed below.

In Lithuania, economic policy is still largely stabilization oriented. Recently, the Central Bank wanted to raise the capital adequacy ratio of banks from 10 to 12 % instead of the BIS 8 % capital adequacy requirement, another demonstration of insensitivity to enterprise financing and upgrading needs. After the interest rates returned from the Russian crisis induced levels to normal levels reducing the spread, the Lithuanian banks have increasingly placed reserves abroad rather than in the domestic markets and credit level in relation to GDP has lowered. It is to be established whether this is more a supply or demand side problem.

CO-OPERATION BETWEEN THE PARTIES OF THE INNOVATION SYSTEM

The general tendency of poor links between enterprises is still visible in all three Baltic states. In the old system this was not needed. After the restoration of the independence the larger enterprises responded with maintaining or even increasing their own in-house service provision facilities. There is not much of industrial clusters or filieres present. There is a substantial gap with regard to business services availability, and a tendency not to entrust such service providers. Outsourcing is relatively underdeveloped.

The same holds true for the links between enterprises and universities and state academic institutions that do not have a tradition of co-operation. Academic institutions have been relatively successful in maintaining their independence and resourcing. Thus, contract research and application of research findings have been modest in the public sector research institutions and entrepreneurial spin-offs are equally rare.

Government bodies do not have a converging view on the innovations, neither. The education system and the industrial policy bodies do not meet. Consequently, there are serious institutional gaps in the innovation system. Co-ordination bodies are missing, no national technology programmes exist but on paper and international co-operation is plagued by this.

INNOVATION POLICY APPROACHES

National innovation policies are normally the response to the gaps in the markets. In the Baltic countries there is a prevalence of material vs. immaterial investment and consequently, hardware prevails over software and organisational innovation. Supply-side orientation of innovations places the focus on the invention end of the chain and efficient diffusion of technology is not promoted. With regard to future policy orientation there is a tendency towards technology adoption and a lesser role for indigenous R&D. This may be difficult to conceive given the current situation as presented above and in the longer term it may run a risk of discontinuing original research.

Today IPR policy not firmly established. Computer software piracy rate in both Lithuania and Latvia has been estimated at 75 %. The EU acquis implementation requires the government to adopt strict measures but the policy message calling for preferences given to technology adoption rather that development cause confusion. Some leading policy makers have called for some general transition of the international IPR regime during certain transition years but the EU accession discussions have quietened these calls.

All the Baltic states are awakening to the situation. A look at the statistics confirms the need for action. The Baltic countries account amongst the least developed with regard to R&D expenditure at round 0,5 % of the GDP, as shown in the annex. Particularly, the enterprise financing is absolutely and proportionately very low. Compared with the tacit agreement amongst the OECD countries indicating that the public share of the R&D be optimally somewhere between 30-40 % the under-performance of Baltic business sector is manifest.

Potentially the Estonian financial markets and innovation financing is developing with a lead of international financing. Work needs to be intensified if it is accepted that reaching a top position in the knowledge based economy calls for indigenous efforts and not mere adoption or replicating.

With regard to Lithuania there was a particular effort worth reporting by the competent authority for attracting foreign investment, the Lithuanian Development Agency. LDA wanted to introduce tax bonuses or other incentives for R&D in order to promote an innovation based business environment. To the dismay of the promoters in turned out that the tax system did not allow for full deductibility of R&D expenditure in corporate profit taxation. Instead, enterprises were allowed to depreciate the R&D expenditure during three years after it had been entered as an asset in their balance sheet. This process may have given the right signal with regard to the nature of R&D as a long term investment. It did not give the enterprises an incentive for investment, however. Secondly, it leads to a systematic under-valuation of R&D in statistics. Enterprises frequently enter their R&D as production or customer service expenses in order to have full deductibility. Accordingly, there are reports of enterprises e.g. in the electronics industry reporting no R&D activity but employing several dozen of Ph.Ds in some intelligent company function.

The economic operators and government policy makers may not have a picture equivalent of those in the EU of the importance of R&D and innovation as sources of competitive advantages. The investment conditions may not be the optimal ones with regard to availability of capital. Even if capital were available there is a risk that the physical hardware takes precedence. This is bound to have major impact on the use of ICT. Furthermore, there is a chronic need business service providers, including innovation related services. The general business environment does not seem to be particularly conducive of rapid ICT uptake, owing both to financial capacity and to enterprise management shortcomings.

2. ICT BUSINESS ENVIRONMENT IN THE BALTICS

GENERAL RANKING

In summary form the McConnell 2000 report Global E-Readiness Summary from August 2000 puts the Baltic countries in a rather favorable situation with regard to the five criteria of E-Readiness.

	Connectivity	E-Leadership	Information Security	Human Capital	E-Business Climate
Estonia	2	1	2	1	1
Latvia	3	3	2	2	2
Lithuania	2	2	2	2	2
Greece	2	3	2	2	3
Taiwan	2	1	2	1	1
Spain	2	2	2	2	2

McConnell International August 2000

The symbols indicate the following: 1: the majority of conditions are suitable to the conduct of e-business and e-government, 2: improvement needed in the conditions necessary to support e-business and e-government, 3: substantial improvement needed in the conditions necessary to support e-business and e-government. The three levels are further nuanced with signs indicating recent improvement trends. Both the full table and the resume of the content of the indicators is given in annex.

For the sake of our study here it is worth observing that although Latvia scores low in the first two criteria, connectivity and E-leadership it has won an upward move indicator in them as well as in the latter two, human capital and E-Business Climate. Thus, it may be adequate to conclude that the difference between Latvia and Lithuania is not that large. For reference, some EU member states and Taiwan are added to the table. It is easy to conclude that according to McConnell the Baltic states would seem to be in the vicinity of those countries with regard to the E-Readiness indicator, with Estonia tying the top pole amongst the 42 countries studied.

GENERAL LEGISLATIVE APPROACH

The Baltic states adopted a rather liberal attitude towards the regulation of the new technology and markets. Quite obviously the political culture was rather cautious in all three states towards any measures to control the information and communication markets so as to draw a difference with the past. The American Electronic Freedom Foundation (EFF) in its report published in 1998 considered that the Baltic countries were all eager to promote their emerging ebusiness sectors. According to the EFF the governments were concerned so as not to impede the development that they considered favorable at that time. Perhaps typically for an American analysis they then noted that the models

sought after in all three countries were based on examples adopted from the Nordic countries, and the emerging EU Internet policy being gradually mirrored in the Baltics. One might note that at the time of the study issues like export and use of encryption products were at the forefront between the EU and the US, Finland potentially profiling as the most liberal country whereas the US policy was not a particularly market driven.

COMPETITION AND PRIVATIZATION

A closer look at the hard fact may give a different picture. The privatization of the state telecommunication companies has been a major challenge for all the three governments. The privatizations brought important financial resources to the ailing budgets. They were conducted early and not within the perspective of the European integration. For obvious reasons the foreign investors were facing substantial investment needs and enterprise restructuring was eminent in every country. Consequently, the investors' demands for a certain monopoly period to carry out the investment were met with understanding. Later, the situation has changed due to i.a. the development of the Internet.

This has happened most markedly in Latvia, were the fixed line monopoly has been guaranteed until year 2013. The Government has realized that this is too long and there is currently a dispute settlement process whereby a compensation amount should be established for the abolishment of the monopoly rights before the time agreed in the privatization agreement.

A somewhat similar pressure is present in Lithuania where the providers of Internet services are challenging the legal monopoly of the Lietuvos Telekomas. Even state institutions have signed contracts with service providers breaching the existing law and the rights of the monopoly to last until 2003.

The creation of the regulatory authority has been a very slow process and the telecom companies have had to assume the functions that normally would be considered ones of the Independent Regulatory Authority. In such a situation the telecom operators have not received the legal protection of the Government but the competent ministries have advised the companies to bring the breaches to the courts. The companies have not considered the legal certainty strong enough to engage such actions in the politically sensitive issues but are trying to fight in other means. It is clear that the monopoly companies are not very popular due to the need to restructure the markets, tariffs etc. On the other hand, these companies have undertaken the most important technology investments in these countries.

With regard to the GSM markets the situation is more competitive and there are several operators in the markets in all the Baltic countries. Foreign competition will undoubtedly increase and there are already investments that indicate that the markets are considered attractive even in the presence of the strong position of the incumbent operators. These are also substantially adding to their service offer and new technologies are brought to the market.

With regard to the introduction of the acquis communautaire Estonia was to first one to satisfy the criteria. Lithuania has gained speed after a late start according to the Commission whereas in Latvia in particular the telecommunication law has advanced very slowly, highlighting the political sensitivity of the sector. Overall, the accession mechanism will eventually bring all the three states into line and it is the general business environment and strategies over and beyond the legislation that will become the crucial factors.

PENETRATION OF ICT

There are some difficulties with regard to the comparability of statistics, in particular as most recent data was sought after. The following have been collected from a number of sources including the statements of the telecom operators.

	ESTONIA	LATVIA	LITHUANIA
Weekly Internet users, end 2000	220.000	150.000	120.000
Main phonelines end 2000	36 %	31 %	32 %
Digitalisation rate end 2000	71 %	52 %	47 %

Estonia is clearly the leader with these statistics. The relevance of traditional fixed line technology will decline over the near future. A look at the mobile phone penetration given in the annex demonstrates that Estonia has already caught up with the EU average and in this indicator the other Baltic countries are not trailing substantially behind, demonstrating the result of favorable access, cost and trend factors.

SIZE OF THE MARKET

The ICT markets have grown rapidly in all the Baltic markets. The share of IT of GDP in Lithuania has been estimated at 2,2 % in 1997 whilst it was of the order of 2,8, % in Estonia. In absolute terms this represents of course a more modest sum, being estimated at 50 euro/citizen in Lithuania.

The dot.com boom never hit the Baltic states so there has not been a dot.com crisis. The B2C markets are very marginal, representing according to MicroLink less that 1 million euros monthly. The total permanent internet community of some 0,6 million is expected to grow by 50 % this year with the growth coming mainly from Lithuania. With regard to the B2B sector it is estimated that some 10.000 companies have today a broadband connection. The volumes of transactions are dominated by the banking sector where the daily transactions reach some 60 million euros. For Latvia it has been estimated that the real B2B market could develop progressively to reach from the current level equaling some 10 million to some 50 million euros by 2003 and similar tendencies have been registered for Lithuania.

The poor financing situation of the enterprise sector limits investment into ICT. Software specialists are relatively skeptical about the development of the business culture in this respect as well apart from that in Estonia. On the other hand, system vendors like MicroLink indicate that investments less than 100.000 euros have generated successful business models in early adopter enterprises across the Baltics, success being measured with investment payback time indicators.

4. CURRENT GOVERNMENT ICT POLICIES

4.1 THE STRATEGIC PLAN OF INFORMATION SOCIETY IN LITHUANIA

We noted that the McConnell report did not think that there would be much leadership with regard to the digital economy development in Lithuania. A look at the currently ongoing activities should complete the picture offered by that report.

The Government of Lithuania is drafting an information society strategy these very weeks. This is of course induced by the demands from the EU to prepare for the eEurope+.

The history of Information Society development in Lithuania is full of different actors and disputes of competence. The last years of the 1990s were influenced by the decision to merge the Ministry for Communications with that of Transport, and more importantly, by the delegation of the IS affairs to the Ministry for Public Administration Reform and Local Administration. This latter was again eliminated by the current government at the beginning of its legislature and IS was transferred to the Ministry of Interior.

Finally the Parliament SEIMAS has attempted to take a lead in the field and an active Committee has been established. The preparations for the eEurope+ are now directed from that body, with advisors of both the President and Prime Minister as well as the private sector association, Infobalt, promoting the issue rapidly. However, recently there has been discussion of creation of additional government bodies, and the content or definition of the IS has been a source of discrepancy. The concrete task of advancing the digital competencies of SMEs or electronic commerce there does not seem to belong to an existing competent body with a clear mandate to prepare policy in the field. Let it be said that the author has on numerous occasions indicated to the Ministry for National Economy in Lithuania that normally it is the ministry responsible for industry and enterprise that takes an active role in such an area. This has not been disputed by that body but numerous other tasks and competence developed according to them are used as bottlenecks for assumption of such a role. Let us note that that ministry in Lithuania still comprises of the veterans of the old Gosplan and Ministry of Heavy Industry to a large extent.

The delegation of authority has not halted the preparations for a strategic plan, however. Similarly, a eGovernment concept paper has been adopted by the Government. The weak link beyond doubt in both documents is the vagueness with regard to financing of the activities. One has to understand that the Lithuanian state budgeting system is still rather a treasury kind where the Ministry of Finance typically denies supplementary financing for government adopted plans. The responsibility for financing is returned to the regular budgets for each institution where reprioritising of tasks is difficult. The end result of slow progress, an inability to recruit new talent.

The earlier eGovernment plan was based to a large extent on the idea that enterprises would develop digital service products and would be able to charge for their use, thus receiving an incentive to invest. The goal was that by the year 2005 all government services would be available digitally. The more recent IS strategy document has gone into greater detail with regard to financing needs and time tables. The source of financing is still unclear, though. Below the main priorities and the available details that have permeated the language barriers of the strategic plan are introduced:

Priorities, their content, timetable and estimated budget in litas, 4 litai equalling 1 USD.

1. ICT skills for citizens

Schools, budget 288 mLT, completion by 2004

- 95 % of pupils ICT skills tested
- 1 PC/10 pupils
- 90 % of education workers pass ICT skills test
- Foreign training modules and 10 experiments

Students, scholars, cultural workers, 40 mLT by 2004

- Access to GEANT
- Connectivity between Litnet and Geant up to 155 Mbps

Scientists

- Availability of free software, 2001, 0,2 mLT, by 2004

Distance studies, 3 mLT, by 2002

- Establishment of an institution, 18 modules, 100 trainers trained

Libraries to give access to citizens, 27 mLT, by 2004

- Webpages, software, data bases and epublications

Internet access in public centres, 2004 12 mLT

Pilot digital society in a city or municipality, 2 mLT, 2004

Adherence to international, EU and national standards, 0,2 mLT 2002

Public awareness creation, 2,5 mLT by end 2002

- 80 % of citizens aware of development of information society

Total budget for priority 1: 376 mLT

2. eGovernment

Legal framework incl. 8 acts of secondary legislation, methodological orders for system design and security, 0,4 mLT, 2002

International funding secured, 3,3, mLT 2002

- National RTD coordination agency created

RTD promotion fund created

Training of officials in RTD funding management

Communication of existing funding

Integral state registry system, 46 mLT, 2004

160 state registries are integrated

Electronic identity for citizens, 20 mLT, 2003

Qualifications for civil servants and teachers. 0,3 mLT, 2003

Information and data management system, 7 mLT, 2004

3 data interchange standards

Provision of government information to citizens, 6 mLT, 2004

Citizen portal

Integrated data network, 98 mLT, 2004

Improved services through an alternative government tele network

Public health data portal, 0,5 mLT, 2004

Total budget for priority 2: 181 mLT

3. eCommerce

Electronic signature and epayments, 5 mLT, 2002

Council for certification

Centers

Law on edocument authentity

eSignature use by government

Tax and customs epayment for citizens and enterprises 20 mLT, 2004

Promotion of eCommerce, 0,3 mLT, 2001

Creation of favourable environment

Legal acts

Promotion

Promotion of competition in telecom and computing, 2002 8,5 mLT

Citizens right to choose service provider

Promotion of wireless and alternative systems

Business incubators to support development of ICT, 18 mLT

Improved business opportunities, 0 LT, 2001

International treaties signed to advance foreign trade development

and public information source use

Total budget for priority 3: 52 mLT

4. Culture and language

Automatic translation, identification and synthesis development

Lithuanization of man-computer software,7 mLT, 2004

Promotion of information of Lithuanian culture and language, 12 mLT,2004

Total budget for priority 4: 19 mLT

Total budget for all priorities: 628 m LT equalling 157 mUSD.

4.2 THE ESTONIAN PRIVATE IS INITIATIVE

A tangible sign of the public-private partnership approach in Estonia is the Look@World project launched by a number of larger private sector enterprises. The construction is rather unique and it is believed that an introduction to the project could serve as a model of general interest or source of inspiration. The presented material stems from the main initiator, Hansabank, a Swedish-owned Estonian bank. The bank is also active in Latvia and Lithuania and has a sizable share of the Baltic financial services' market.

Hansabank is a frontrunner in e-commerce applications in the Baltics. It has 20 % or close to 200.000 customers using e-payments. It also claims that 95 % of its transactions are performed through internet or ATM terminals. It is considered by Finnish experts in some respects world leader in its ability to develop and launch new solutions and services at a very rapid pace. Some of the reasons behind this are its recent Unix platform, the fact that the core functions are based on a multiple currency solution, created at a time when the official economy was running with roubles and the real economy with D-marks and dollars. There are rumours that world class novelty mobile banking services will be launched shortly.

The bank was motivated by the fact that further growth of the economy and consequently its business was hampered by the limited diffusion of the Internet. Other enterprises shared the view and joined

the operation. It was also felt that the enterprise sector should devote more attention to the development of the business environment after the government had adopted a liberal policy. The government decision to abolish taxation on reinvested corporate profits called for something in exchange in form of the Look@world project.

The public sector welcomed the initiative. It should be remembered that the Estonian government has consistently promoted ICT also with its own deeds. The Government meetings are conducted online in a paperless environment with each minister operating his or her own computer terminal. Voting results and adoption of decisions are immediately accessible for citizens. This system is a world leader in the application of ICT in government, of course.

In the Look-project together the some 10 private sector enterprises were able to raise capital or in kind commitments worth of 250 m EEK (17 m euro) to be spent over the lapse of three years. IBM and Oracle feature among the foreign contributors. Other main players include Eesti Telecom, Microlink, the main Baltic IT house and others.

The **mission** of the project is to raise the quality of life and competitiveness of the country within Europe by supporting the use of the Internet. The **means** are improving the access, improvement of public and private sector service quality and availability over the net and promotion of the Internet as a channel for information. The **stated objective** is to bypass Finland in Internet penetration in three years.

The aim is to make the entire value chain of the Estonian economy more effective and induce an increase of a few percent of the GDP growth (the text does not allow to conclude what exactly is meant by this). The benefits will be accruing to those offering their services over the net and those purchasing these services, i.e. the whole society.

The project is to establish a foundation that is to guide the co-ordination work. The first step is to carry out an analysis of the tasks for both the private and the public sector. Ensuing action is to concentrate on gaps falling outside the planned activities of either party. At this stage already the private parties make a number of concrete commitments including:

- Provision of Public Access Internet Points across Estonia and assistance to central and local government to make their services available over the net
- Encouragement of larger companies to offer access to the Internet to all of their employees
- Interest compensation for financing of hardware

- Improved access to the net and quality of services development
- Hardware and software discounts
- Training support
- The other international enterprise also promises international marketing support for components developed during the project work

4.3 THE LATVIAN IT-INITIATIVE

The Latvian Prime Minister has activated the Latvian Information Society policy. This was clearly demonstrated during the Baltic IT&T Forum in Riga recently. Further, Latvia has adopted an active international role in the field and plans to hold a major ministerial meeting next autumn.

The priorities set for this effort are available only in a rather general way. Strong government involvement and government promoted cultural and linguistic measures seem to be at the forefront of the effort. It is somewhat unclear to what extent the initiative will be able to mobilise business support and will look at ways to promote the digital economy in a direct way.
The Latvian government has also recently published its plan with regard to innovation and technology policy. In that document the dangers of falling permanently behind not only the EU but also the neighbouring countries is introduced. It seems that activities are emerging, and opportunity for company participation are appearing.

5. CONCLUSIONS

This discussion paper has looked first at the general business environment of the Baltic states. There are differences but also serious structural weaknesses and urgent needs to upgrade. The governments have not succeeded in adoption of a convincing business promotion policy that would cover all the aspects of the operating environment in a horizontal fashion. Similarly, the policy environment has not been very conducive for innovation. The development of the digital economy in the Baltic countries has suffered from these weaknesses. However, the business culture in Estonia seems to have many different characteristics. The liberal policy of the government is receiving support at least from some of the more modern sectors.

The development of an Information Society is a demanding task for a transition economy with very limited resources. The prime objective should be the mobilisation of the private sector. This has been successfully managed in Estonia whereas the approach may have been somewhat unrealistic with

regard to financing and involvement of the enterprises in Latvia and Lithuania. In these countries the incumbent telecommunication operators play still a decisive role with regard to larger projects. Their position is not the easiest as restructuring of tariffs makes them unpopular and investment needs are numerous.

New technology is penetrating the markets in readily usable consumer applications like mobile phones. With regard to increased Internet use and ecommerce the low household income level will remain prohibitive for a long time to come. Casual observations indicate strong institutional ICT cultures, in universities, the public administration and some advanced enterprises. It is likely that these will be the critical channels for further penetration, in particular the SMEs.

The Estonian example is an international benchmark and should be followed closely. It is not clear to what extent companies in Estonia that are still financially weak have been able to turn ICT investment into productive use. This generic lack of demonstration effect in all of Europe is a critical one. For the other Baltic states there is ample general example in Estonia, though.

It is equally unclear to what extent the top-down adoption of the eEurope+ will generate genuine action in the Baltic states. With regard to legislation the accession process already provides a sound mechanism for legislative adoption. The IS being a strategic process to be carried out at national level is a different challenge. The administrative skills will be put under quite some pressure in those countries where the IS process has not started from within by now.

In all the transition economies there is a tendency amongst the governments to produce strategies and make statements that are not delivered. This is also demonstrated by the SWOT analysis made by the Council of the Baltic Sea States and the European Commission. It further underlines the difference of ambitions that we also discussed.

SWOT ANALYSIS OF IS READINESS AND CO-OPERATION IN THE BALTIC SEA STATES

Strengths	**Weaknesses**
• Heavy investments in knowledge and strong workforce potential • Strong political, private sector, and R&D interest • Supporting geographical and climatic conditions	• Lack of common interests in the region • Limited manpower in IT • Only political push? • Lack of interoperable legal basis • Fragmented market • Multilingual area

• Strong R&D potential • ICT penetration and competence • Experience in eGovernment	• CBSS and governments have limited capabilities • Digital divide

Opportunities	**Risks/threats**
• Activities and ideas that create synergy at the Northern level • Finding the common interests for creating win-win situations • ICT - engine of economic growth • Co-operation between private and private sector and R&D • Co-operation within a multiagent environment • The Northern eDimension trademark	• No real activities • Endless planning • Lack of funding • • Digital gap widening

Source: European Commission/Council of the Baltic Sea States, May 2001 Steering Committee Meeting.

The enterprise use of ICT will inevitably be the backbone of the digital economy in the Baltic states. Electronic business will emerge amongst the value chains of the leading internationally competitive companies. Clusterisation or networking still in their infancy offer good potential. It is most likely that once these enterprises realise the full value of the digital economy and are ready to invest into the technology and the re-engineering of their company functions the supply of the ICT services will emerge as well. The leading western consultancy and software companies have a presence in these markets and given an increasing demand will be able to offer the services needed.

Like in all economies affordable and neutral services for SMEs are not as easily available from the markets. The emergency of the innovation support system and indigenous business service sectors are of crucial importance in the Baltic states. In all of them there are private organisations that are well aware of this general need even if representing mostly the supply of technology and service companies.

General awareness of the concrete benefits of digital tools and services will emerge along the penetration of some specific service products. Ebanking is a good candidate for this. Three arguments speak for it: strong presence of foreign companies and their tested technology and applications experience, poor overall traditional banking service efficiency and the easily demonstrated benefits of new digital services in this context.