Latvia – Your ICT Partner in Europe

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LATVIJAS INVESTĪCIJU UN ATTĪSTĪBAS AĞENTŪRA LATVIAN INVESTMENT AND DEVELOPMENT AGENCY



INTRODUCTION

Latvia, a European Union (EU) member country since 2004, is located at the crossroads of northern and eastern Europe, on the east coast of the Baltic Sea. The Republic of Latvia is bordered by Estonia to the north, Russia and Belarus to the east and Lithuania to the south, and has a maritime border with Sweden to the west. Other neighbouring countries include Finland, Poland, Denmark and Germany. It is this strategic location that has been the major influence on Latvia's diverse historical and cultural experiences. To this day, that location continues to have a major bearing on Latvia's economic success.

Latvia is one of Europe's best economic performers and one of the most active members of the economic zone surrounding the Baltic Sea. Economic growth in Latvia has been achieved under the conditions of a stable macroeconomic environment.

Key facts

Political system International membership	Republic, parliamentary democracy Member of EU and NATO since 2004				
	Member of WTO since 1998				
Capital	Riga (population almost 1 million), the largest city in Latvia and the Baltic States				
Population (2004)	2.308million				
Area	64 589km ² with 498km of coastline				
Language	Latvian (official); English, Russian, and German widely spoken				
Time zone	GMT+2hrs				
Currency	1 'Lats' (LVL) = 100 'santims' = 1.422872 EUR (pegged to EUR since 2005)				

Latvia's most substantial advantage lies in our well-qualified and skilled human resources – our people, their knowledge and understanding of the region and the European business mentality, and their broad linguistic abilities. Latvia's government has undertaken to encourage intensive utilisation of knowledge and high technologies. Its stated priorities are the development of knowledge-intensive sectors and the growth of products with high added value, as well as transition from a labour-intensive economy to a knowledge-based economy to best utilise the skilled workforce.



BUSINESS ENVIRONMENT

Macroeconomic Development

Latvia can be pleased that it has experienced one of the fastest rates of economic growth in the EU in recent years. Reforms carried out during the last decade have strengthened the private sector, investment continues to increase strongly thereby promoting the modernisation of manufacturing and movement to new technologies. Accession to the EU has had a particularly positive effect on economic development and has strengthened confidence that growth will remain sustainable in the future. The EU is Latvia's main trading partner and Latvian legislation is harmonised with EU regulatory requirements.

GDP annual growth (billions EUR, f - forecast)



Source: Ministry of Economics, Republic of Latvia

At the end of 2003, foreign direct investment (FDI) stock in Latvia amounted to 1775.3million LVL or 28.1% of GDP and the volume of FDI inflow in the last three years equalled on average 10% of fixed investment.

Corporate Taxation in Latvia



Tax-to GDP ratios in European countries in 2003 (%)

Source: Eurostat, 01.2005

- Latvia's overall tax burden (including total amount of taxes and social security contributions) is one of the lowest in the EU. In 2003 the tax-to-GDP ratio in Latvia was 29.1% (the average tax burden across all 25 EU countries was 41.5% in the same period)
- The Corporate Tax rate was reduced to 15% in 2004 (compared to an average of 31% in EU-15)
- Tax incentives in Special Economic Zones (SEZs)

Start-up and Doing Business

- Company registration procedures in Latvia are fast and streamlined, allowing for the establishment of a business within as little as two business days
- Preferential work and residence permit formalities for key company personnel
- Location, establishment and local networking guidance provided by the Latvian Investment and Development Agency, regional development agencies and local authorities
- The government has developed state support programs, co-financed from EU structural funds, for enterprises registered in Latvia.



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Economic activity related to the production of ICT goods and services made up around 6% of GDP in 2003.

In the manufacture of office machinery and computers, the value-added created in 2003 was 0.1% of GDP. Computers for domestic consumption are mainly imported and in 2003 those imports increased by 9.9% over 2002, but export volume, although almost ten times smaller than import, increased by 10.7%. Foreign investors have also shown interest in the development of this sector in Latvia.

The value-added in computers and related activities in 2003 reached some 0.9% of GDP. Export in 2003 was 22% higher than in 2002, but imports grew even more – by 24.4%. Software development easily makes up the largest share of this sector – approximately 75%.

The value-added in telecommunications reached 4.4% of GDP in 2003, which is also the year the market was liberalised. Growth is encouraged by the rapidly increasing number of permanent Internet users and mobile telephone users. The growing popularity of electronic payments is also very important for the development of this sector.

The most significant changes are in turnover which has risen rapidly at more than 20% average growth per year.



Turnover of enterprises by ICT activity (millions EUR)

Source: Central Statistical Bureau of Latvia (CSB)

Foreign investment projects in Latvian ICT sector



Enterprises involved in ICT activity (at the end of year)

The increase in numbers of employees has remained relatively stable with 5.2% annual growth over recent years and actual employee numbers exceeded 20 000 at the end of 2003.

The successful growth of the ICT sector is founded mainly on ICT service activities which make up 93.6% of turnover for the whole industry. The highest share of this comes from the telecommunications and software development sectors so these will be covered in more detail.

At the end of 2003, accumulated foreign direct investment in the sector amounted to 13.9million LVL. Several foreign investment projects have been established in Latvia's ICT sector.

Software Industry

The main areas of specialisation for Latvian enterprises are: software development and reengineering, information system design, development and implementation, the introduction of enterprise resource planning systems, implementation of stateof-the-art Internet B2B solutions, development of computerised software tools, development of payment card systems, and localisation of imported software.

Tilts Communications A/S (Denmark)	Acquisition of the national fixed telecommunications, IT & IS provider Lattelekom						
Tele 2 Aktiebolag (Sweden)	Acquisition of a locally-established mobile operator; mobile & fixed telecoms, internet services						
Telia Aktiebolag (Sweden)	Shares in the mobile market leader; internet & data networking services						
Microsoft (USA)	Sales and customer service, HQ for the Baltic States						
Exigen Group, Inc. (USA)	Acquisition of a local software house SWH Tehnologija and DATI; business process software development for the financial, communications and public sectors						
TietoEnator Financial Solutions (Finland/Sweden)	Acquisition of a Latvian software house; software development of banking solutions and POC/POS systems						

Source: Latvian Investment and Development Agency (LIDA)

These companies are operating successfuly, having growing turnover and profit. Average turnover and profit per employee in the software industry significantly exceeds the averages for the overall Latvian economy. This proves that this is a highly productive and developing sector and that expansion of it will have substantial benefits for the Latvian economy.

More than 70% of companies in the sector operate with high added-value, especially in software development, training services, integration services and consultancy. The development of these companies is in line with the aims of the "United strategy for Latvia's economy" – promoting the development of companies with high added-value.

In 2004, a study was carried out and data collected from 24 Latvia-based software companies – development and integration companies, retailers and all major distributors. For half of the respondents turnover in 2003 was above 2 million LVL. Most of the respondent companies made a profit in 2003. The major part of turnover is concentrated in wholesale, where added value is relatively low. The next largest turnover is in software development, where added value is very high. This sector is made up with a mixture of locally-held (50%) and wholly foreignowned (33%), with the rest being joint ventures.





Software development

IT software / hardware reselling

Software solutions (developed by 3rd parties) integration
IT training services

IT software / hardware maintenance and support services
Distribution (resale to IT companies and IT professionals)

Source: Latvian Information and Communication Technology Association (LICTA), 2004 The major local ICT service organisations have collaborated to form the Latvian IS Cluster. The latest data on the results achieved by IS Cluster member companies show that initial goals are being reached successfully and that growth indicators have been increasing year on year.

The volume share of small and home office or individual buyers is insignificant. 98% of turnover is within the B2B sector, a figure that conforms to the average percentage across Eastern Europe. Usage of IT by small and medium enterprises in Latvia is still lower than the EU average and therefore has a high growth potential.

Electronic Communications

The entire electronic communications sector was opened up to competition in January 2003. In October 2004 Latvia adopted a new Law on Electronic Communications that ensures conformance with the EU regulatory framework.

More than 300 companies have declared their intent to participate in the electronic communications market (many companies are already licensed for several types of services). The number of companies licensed to operate public networks in Latvia is currently the highest (per capita) in the EU.

Competition has already pushed tariffs down and expanded the range of services available. When new pricing schedules were announced in 2004, customers gained the option of choosing tariffs to suit their needs. Internet prices were also reduced, and that combined with an increase in availability, led to a 64% increase in DSL connections during the first nine months of 2004. Cooperation between companies also continues to improve, as shown by 29 new inter-connection agreements (making 58 agreements in all).

Figures show that the progress rate of newcomers in Latvia is higher than the EU15 average level after market liberalisation, and in line with the most successful EU15 countries.

	IS cluster's tu	rnover (LVL)	Growth rate				
	2003 (estimated)	2002 (audited)	Turnover increase 2003/2002	%	Average weighted growth, 2003/2002		
Turnover (LVL)	46.741.347	43.352.157	3.389.190	7.82%	12.23%		

Growth indicators for the IS Cluster (2003 - estimated)

Source: LICTA, 2004



Electronic communications can be considered a profitable business – 7.8% of accumulated foreign direct investment has been made in this sector. Lattelekom, the incumbent fixed telecoms operator, as well as LMT and TELE2, the country's two largest mobile phone companies, posted Latvia's highest profitability indicators - 19.4%, 32.5% and 26.5% respectively in 2003.

Share of telecommunications market by numbers of users (for mobile – contract and pre-paid cards included)



Source: Telecommunications Association of Latvia, 2004

Lattelekom is the most experienced electronic communications operator in Latvia, providing basic telecommunications, data transmission, Internet and contact centre services, as well as integrated telecommunications and IT solutions, and business process outsourcing services. Over the last ten years the company has invested more than EUR 700 million in modernising its fixed telecommunications network in Latvia. Lattelekom also provides services to customers in Lithuania, Estonia, Sweden and Finland.

Currently other operators are able to sign agreements and provide international and domestic long distance

Annual % increase in mobile users (June 2003-June 2004)

calls to Lattelekom network subscribers by means of carrier selection or pre-selection.

From April 2005 other operators will be able to sign agreements and also provide local calls and calls to mobile networks to Lattelekom network subscribers by means of carrier selection or pre-selection.

The demand for mobile communications services

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in causing such dynamic growth in the numbers of users. Latvia experienced the second highest increase of mobile phone users in Europe last year. At the end of 2004, mobile penetration had reached 67%.

The two largest mobile operators are LMT and TELE2, but newcomers virtual operator ZetCOM and new CDMA technology player Triatel have also had an impact on the market.

LMT is the first and the mobile network operator in Latvia, providing high quality service and the most extensive network coverage in the country (more than 97% of the country and also in the number of people who have access from their place of residence). LMT has operated since 1992 and has the strongest position on the Latvian market. The company achieved about 17% increase in revenue and 32% growth in its number of users during 2003.

TELE2, a subsidiary of one of the biggest mobile operators in Europe - Swedish company TELE2 AB purchased local mobile operator Baltkom GSM in 2000. In 2003, they attained rapid development with about 32% growth of revenue and a 45% increase in users.

The rapid development of Internet services, growth in the number of Internet service providers and users resulted in about 45% annual increase of ISPs' turnover.

Total international ISP internet capacity has grown more than ten times during the last three years and continued rapid growth is forecast for the next few years.



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Total international ISP international capacity growth, Mb/s. f – forecast



The telecommunications market has shifted dramatically in Latvia during the past 5-6 years. The introduction of rapidly evolving mobile technology together with a total upgrade of the fixed network from the old analogue to a modern digital one, have given Latvia a very good starting position for moving ahead quickly. I have seen large, complex projects being delivered in time because of the contribution of very skilled and very motivated individuals keen to demonstrate their abilities and commitment. This, together with the attractive total cost level, produce an environment with good development opportunities for the fast-moving telecoms and IT-industries, both locally and abroad.



Erik Hallberg

Senior Vice President, TeliaSonera (owner of Lattelekom) Norway, Denmark and Baltic countries Responsible for TeliaSonera Baltic Countries

Information Society

Latvia's government has announced that the development of an information society is a priority for the country. Supervision of the IT sector has been allocated to a designated Minister for Special Assignments for Electronic Government and his secretariat. Currently the secretariat's main goals are to increase Latvia's competitiveness, the development of plan to implement e-signatures, and the implementation of electronic purchase procedures for public sector procurement. New legislation is being developed to bring Latvia into line with EU directives on introducing effective anti-piracy mechanisms.

An "Information society and e-government investment programme for 2005-2009" has been developed and 41 project proposals have been submitted with 18 of them already gaining support (total sum 15.8 million EUR).

The project Latvia@world was designed to accelerate the development of an Information Society and attain a critical mass of Internet users. It aims to assist Latvia's population to overcome the digital divide, stimulate regional development and promote access to public and private business services that are available through the Internet.

A workgroup, consisting of government and Latvian Information Technology and Communication Association (LICTA) representatives, has been created and is working on regulations to reduce taxes for hardware, software and Internet connections obtained for household usage in order to encourage and increase the utilisation of computers in households by giving ordinary people the opportunity to purchase cheap hardware and software.

The "Light network" project foresees development of a unified state, municipal and other public library information system. As the outcome of this project, everybody in Latvia should have access to a modern library with at least five computerised workplaces, to the unified library information system, electronic catalogues and other digitalised information and the option to order and borrow books from other libraries within a short time period.



In February 2005, Latvian Prime Minister Aigars Kalvitis and Bill Gates, the President of *Microsoft* signed an agreement on cooperation in IT usage at Latvian state institutions. Kalvitis and Gates talked about further cooperation between Latvia and Microsoft. The Latvian Premier told Microsoft's President about economic growth and IT development in Latvia and they discussed a number of possible projects which Microsoft could carry out in Latvia in the future. The agreement anticipates closer cooperation on the protection of intellectual property rights and Microsoft offered to provide campaigns to support ICT education and security.

e-government

Latvia is currently carrying out several projects leading towards the implementation of e-government principles in state institutions. It is also planned to activate several additional projects during the coming years – the Latvian Information digitilisation project, Unified Municipal Information System and a project on broadband transmissions.

A national programme "Development of an egovernment Infrastructure Base for 2004-2006" has been developed in order to utilise EU structural funds in the resolution of the most important issues of egovernment and its infrastructure. 19 projects with a total value of 15.4million EUR have already been included in this programme.

An electronic procurement project is being implemented with the main goals of decreasing

corruption and bureaucracy and improving the effectiveness of budget expenditure. It includes the development of a public procurement system for the organisation of state and municipal tenders using information technologies and the Internet.

One of the of the government's pilot projects to implement an electronic document system is The Enterprise Register (ER) system recording commercial secured loans. The ER also enables Latvian companies to access the database of the European Business Register (EBR) to obtain information on existing or potential business partners. The EBR database contains information on companies registered in 10 countries.

Digital Skills

The installation of information and communications technologies in Latvia's schools is mostly being carried out under the auspices of the Latvian Education Computerisation System (LIIS) project. This is a government-financed project and was instigated in 1997. Regional school computer centres have been set up in all of the country's districts, and they serve as support facilities for the computerisation of local schools and for the training of teachers. Data from LIIS implementers indicates that the number of computers at secondary schools has tripled in the last five years.

Practically all schools already have an Internet connection. Following the implementation of the Latvian education computerisation system, more than 75% of all teachers have been trained to work with computers, a large amount of teaching material has been produced, much of which is accessible via the Internet.

The European Computer Driving Licence (ECDL) certification process has been set up in Latvia to allow non-specialists to acquire and verify their computer skills. ECDL examination centres have been established and all pupils, starting from the 4th grade, will be acquiring computer literacy skills, up to the ECDL level.

It is planned to train 180 000 new users in the use of Internet services and to provide 1000 public access points as part of the Latvia@world project. The target audience is people with little or no experience of using computers and the Internet, and both public and private sector employees who need to enhance their e-skills. The programme includes hands-on training in basic PC and Internet skills. The programme can be extended to include more specialised office skills, useful to municipal and library employees, as well as basic competency in Internet web page construction.



Lattelekom, in cooperation with Microsoft Latvia, is organising an Internet content building and proficiency competition for schools "Golden Ant". The competition's goal is to promote the development of an information society in Latvia by teaching schoolchildren how to take advantage of all the opportunities offered by the Internet – website design, keeping information current and web-searching skills. Participating pupils have designed 250 websites on a variety of subjects: their class, school, hobbies, cultural and historical places and tourism sites in their regions or towns, as well as having designed sites for businesses in their regions.

e-commerce

Access to telecommunications services, information technologies and banking transactions on data transmission networks are seen as the most important pre-requisites for the emergence of e-commerce in Latvia. Latvian residents hold 1 million payment cards and 8.6% of the population use e-banking services (compared to the CEE-10 average of 4%). This points to the huge potential for e-commerce, which remains under-utilised because online payments are offered and made by a relatively small number of Latvian enterprises. More than 10% of Latvian companies sold to other businesses via specialised Internet market places.

ICT Infrastructure

Lattelekom continues the modernisation of its public fixed telecommunications network replacing the

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ADSL. Lattelekom's current UltraDSL package also includes a number of additional services such as conference calls, call waiting and number detection. Lattelekom recently launched WiFi+ GPRS services. The number of public wireless internet hotspots is being increased. At the end of 2004, the number of such hotspots was 100.

The number of ISDN subscribers has risen to more than 30 000 from a zero base in 1999. The number

of fixed lines is now decreasing as in rural districts it is more cost effective to offer subscribers the use of mobile services.



Penetration of fixed and mobile users per 100 inhabitants

Around 30% of Latvia's population are mobile telephone subscribers with an additional number being pre-paid card users. Mobile operators have established and are operating nationwide mobile networks which cover 98% of the country; more than 97% of the population have access to mobile services at their place of residence. Mobile operators offer an extensive range of data transmission services – highspeed GPRS data transmission and MMS. WAP is a common service provided by both Latvian mobile operators and on-line media. At the beginning of 2005, both LMT and TELE2 commenced providing next-generation UMTS services.

Internet services ranging from simple dial-up or radio link, to leased-line connections are available from around 35 ISPs. International connections are provided by high capacity broadband optical network links to Estonia, Lithuania, Russia and Sweden.

Source: Public Utilities Commission of Latvia, Lattelekom

HUMAN CAPITAL

Human Capital

Computer and Internet Usage

The usage of computers and the Internet has risen significantly over the last few years. According to data from the International Telecommunication Union (ITU), Latvia had 145 computers per 1000 inhabitants in 2002. In autumn 2004, 81% of enterprises used computers, and 87% of them also had an Internet connection.

In households, computers are used mainly by the most socially active age groups. In terms of occupation, the highest figures for computer usage are amongst schoolchildren and students, and amongst employees and employers. Computers have mainly been used by people with higher education.

According to Lattelekom data, the number of DSL customers exceeds 19,000.

Statistical evaluations of Internet usage penetration shows quite rapid growth (according to ITU data – as much as 40% annually). The penetration level is now significantly higher than the average level for Europe, and is the highest among new EU Member States.



Internet users as % of population (2003)

According to Brainbench's Global IT IQ Report, based on on-line tests and the certification results of more than 3.5 million IT professionals around the the world, Latvia is among the countries with the highest concentration of IT-certified professionals.

Education

The number of ICT specialists in Latvia is growing continuously and many young people choose to study IT and telecommunications. Their interest is already raised at schools where they achieve computer literacy. The high level of IT education at schools and the interest of pupils in ICT is confirmed by the high results achieved in International Informatics Olympiads with entrants from more than 70 countries. Latvian teams have participated in this competition since 1992, and have achieved good results every year with at least half of the four team members gaining awards each time.

The number of ICT graduates increases every year, with the figure for 2004 reaching 24.6% growth.

HUMAN CAPITAL

Twelve Latvian higher education institutions award higher ICT education qualifications. Three universities (Riag Technical University, the University of Latvia imunications Institute)

hus have a substantial

r ICT specialists are it was estimated that d for 230 000 new specialists announce, calculating proportionally for

Latvia, that figure would be about 1100, which is quite close system.



Source: LICTA, 2004

An increase in the number of people gaining education or improving their qualifications is a general trend in Latvia. According to data from the Ministry of Education and Science, there were 550 students per 10,000 Latvian inhabitants in 2003 which is the highest proportion in Europe.

Students in tertiary education per 1000 people



As the supply of mainframe resources in Latvia was decreasing, the Exigen Group developed internal training programmes and was looking for a long-term solution that would put mainframe education into the hands of universities and other education institutes. The first course was organised in 2003. Lectures and classes were held at Exigen Latvia. Similar cooperation is developing between Exigen and Vilnius Technical University in Lithuania and with the Transport and Telecommunications Institute in Riga, Latvia.

The successof this cooperation is demonstrated by mutual satisfaction – 10% of the 120 mainframe students have already been hired by the Exigen Group. Exigen has also attained its goal of outsourcing mainframe training to universities and can focus on providing outsourcing services to its customers; the University of Latvia has augmented its curriculum with a popular course; students gained the opportunity to add an important competency to their skill set.

Competencies

In recent years, Latvian IS service companies have become more specialised in their development through defining the niches they work in by technological competencies as well as by businessspecific knowledge and solutions. The competencies offered cover all dominating technologies. Microsoft and Oracle technologies are the market leaders, both in Related Database Management Systems (RDBMS) and Data Warehousing (DW), as well as in applications and platforms. 92% of their personnel (not including wholesalers) have competencies and skills in commercial software platforms. A relatively high number of personnel (39% excluding wholesalers) have competencies and skills in open source software platforms.

Latvia's IS Cluster has created a universal staff competence model for the ICT service sector and this is being used to develop a database of the human resources available within the Cluster. The competencies' survey does not only cover the technical knowledge of the ICT professionals, but also their business knowledge and ability to communicate in other languages, as these skills are often more important for potential international customers.

Banking, insurance, telecommunications and government have been established as the main business competence sectors – more than 70% of cluster companies have listed their knowledge of these business areas. This is logical, given the high level of ICT usage in these particular sectors and their considerable investment in ICT development. The latest survey revealed that all companies can use Latvian, Russian and English as working languages when required. German is listed as the fourth language, being available at more than half of the companies. Some companies also offer other foreign languages.

Most IT specialists have attended training courses and passed certification tests on solutions which are a fundamental part of their work. A number of international companies offer certified training programmes in Latvia, including Microsoft, Lotus, HP, Novell, Oracle and Cisco. Many companies provide courses and seminars at their own facilities, focusing on areas of activity in which the IT sevice providers have special expertise. The largest ICT companies also carry out internal training programmes for budding specialists and provide an extensive range of training materials for employees' self-education. More and more companies are demanding certificates to prove knowledge levels in specific areas of expertise.





Source: The Baltic Computer Academy, 2003

Employee Profiles

The	Latvian	ICT	convicor	contor	ir	dominated by
younę						is less than 35
years						services sector
overc						e highest in the
entire						





Source: Action line of the Northern e-Dimension Action Plan, 2003

HUMAN CAPITAL

At the end of 2004, Lattelekom and the Exigen Group, a global provider of business process software and services, announced the signing of a Letter of Intent anticipating the creation of a strategic partnership to deliver transformational Business Process Outsourcing (BPO) services to EU and eastern European markets. Lattelekom and Exigen expect to offer a range of managed business services to telecommunications and financial services organisations across Europe from a single shared-platform, or business utility structure.

Both companies will contribute services and operational and business process expertise based on their core competencies. Lattelekom will provide its current applications infrastructure and call centre capabilities as an anchor tenant for the new venture. These functions are currently managed and supported by over 600 employees. The Exigen Group will contribute Exigen® Business Process Utility[™] software and methodology, and industry-specific applications built from experience with over 200 companies worldwide. Together, the two organisations will provide configurable business solutions for the Demand Management and Operations areas of the BPO market, which include processes such as customer care, loan instigation and claims processing.



The proportion of female employees in the ICT services sector is generally in line with figures for the services sector in general, as well as with those for other Nordic and Baltic countries. The proportion of females employed in the ICT services sector varies from 27% in Norway to 37% in Latvia.

INNOVATION AND R&D

The European Innovation Scoreboard report of 2003 shows that Latvia has achieved progress in the sphere of innovation development, especially in increasing employment in mid- and high-technology manufacturing, investment in ICT, the aggregate number of students, as well as with the number of lifelong education programmes.

In April 2003, the government approved the National Innovation Programme for 2003-2006 to promote the growth of national innovation capacity, ensure a favourable environment for innovative activity, and encourage the development of a knowledge-based economy.

There are several programmes available within European structural funds administered by the Latvian Investment and Development Agency that allow companies and organisations to apply for financing to support their innovation projects. Under the Programme, it is planned for 25million EUR from the Regional Fund of Europe and Latvia's state budget to be invested in research and development over the next three years, as well as to attract more than 11million EUR from the private sector.

In the sphere of higher education, the Ministry of Education and Science continues to support the optimisation of studies within budget resources by increasing the number of students in physical and engineering sciences. A national programme has been developed to ensure that the quality of teaching in the physical and engineering sciences is improved. This will ensure that study programmes are modernised, qualifications of lecturers raised, premises in higher education institutions renovated and implementation of doctoral programmes supported.

More effectivet cooperation between universities and industry is also supported with the goal to give graduates skills appropriate to their careers in industry. Employer representatives have developed standards for professional and qualification requirements. The Minister for Education and Science has approved these standards and the qualification requirements are now used by examination commissions. In the Latvian ICT sector, a Professional Education Council, nominated by the leading professional associations, is responsible for standards and qualification requirements. Educators develop and carry out study programmes. Representatives of employers (at least 50% of the commission) are present during qualification examinations and award the professional qualifications listed in diplomas.

Other forms of industry-university cooperation include industry representatives being invitated to universities, meetings with students and academic staff, career (professional) days, scholarships for students, equipment for the study process, as well as support of infrastructure. The most successful Latvian companies operating in the ICT and electronics sectors are those that have already been able to integrate into the global production network through a combination of technology transfers and their own R&D efforts. These companies have benefited from the import of materials and equipment (Siemens and ABB), training (Exigen Latvia, MicroLink Latvia), or customer networks (IT Alise, DATI, Exigen Latvia).

Latvian company SAF Tehnika develops and produces digital microwave radio equipment. Since being founded in 1999, it has achieved remarkable success in the global market, exporting more than 90% of its production to more than 40 countries around the world. Currently, SAF Tehnika holds a 3% share of the global market in their business sector. Their major success has been achieved in China as a result of the rapid development of GSM networks raising their customer base by 2-3millions monthly. Last year, SAF Tehnika also secured an agreement on the supply of equipment to Columbia's largest fixed network operator, which will result in a significant increase in export volume.

The SAF Tehnika product is a niche item, only manufactured by some 20 companies worldwide. The company's rapid growth is based on choosing an appropriate distribution strategy to boost its presence in global markets, and maintaining profitability through a low cost structure. Using sub-contractors for less important processes with low added-value allows the company to devote full attention to the most important processes: scientific research, component assembly and testing. Most of the profits are being invested in R&D – redesigning existing technologies/products, development of new technologies, and a continuous quality improvement programme for both products and customer service.



EXPORT AND INVESTMENT POTENTIAL

As a result of Latvian businesses being able to offer world level quality and lower costs, the amount of nearshore and offshore services have increased recently. The largest and most dynamic exportoriented ICT companies, and those that offer global services to 80% of the ICT market in Latvia, are IS Cluster members.

The leading ICT associations of Latvia, Lithuania and Belarus – LICTA, Infobalt (Association of Information Technology, Telecommunications and Office Equipment Companies of Lithuania) and Sciencetechnology Association "National Infopark" of Belarus – recently signed an agreement to co-operate within the Baltic Information System (IS) Cluster, evolving out of the Latvian IS Cluster, which has operated successfully since 2001.

The initial goals of the Latvian IS cluster have successfully been attained, and export indicators have been increasing on a yearly basis. Latvian ICT exports in 2003 increased by 52% over the previous year. Export growth among IS cluster companies has been much more rapid than that for the country as a whole. 17% of cluster companies have exports yielding more than 50% of total revenue. The export proportions for Exigen Latvia – 90%, and SAF Tehnika – 95% are worth highlighting.

The Baltic IS Cluster has been established in September 2004 to promote collaboration between Baltic ICT companies and related organisations to increase the compatitiveness and export growth of Baltic

international markets. ents 296 companies oyees and 2.24billion icipated that by joining the Baltics will become

one of the leading software development, integration and outsourcing centres in Europe.

Our successful cooperation with DATI began in 2001, when the first project: Re-engineering of AXA information systems (JSP and Easytrieve software transferring to COBOL 2) was started. In addition to providing successful project management and services, DATI specialists demonstrated a good understanding of AXA's requirements.

This, and the high level of quality assurance throughout the project, ensured the achievement of commendable results. All the work was carried out in Riga and implementation was via a direct communication link between Riga and AXA's systems in Cologne. As a result of our initial good experience with DATI, in 2004 we launched a BPO project in Latvia, once again choosing DATI as a contractor.



Norbert Reichmann Director, AXA Service AG

Major export directions for the IS Cluster, 2003



Source: LICTA

Statistics show that exports have increased to the other Baltic States (24.9%), the European Union (1.5%), to CIS countries (26.7%), and to the United States (3.7%). Significantly, the largest increases were to regions of Asia and the Middle East. This increase in exports to Asia and the Middle East required more than just technical competence, but adaptation to different cultures and traditions, and therefore demonstrates the highly developed ability of Latvian companies to adapt to working in very different environments – technical, business and cultural.

EXPORT AND INVESTMENT POTENTIAL

In late 2003, financial IT company TietoEnator signed an agreement to implement a payment system solution as part of a national loyalty card project in Kuwait. TietoEnator developed a solution for the Co-operative Societies Union (CSU) of Kuwait which owns a network of co-operative supermarkets – typical in Arab countries – throughout Kuwait. The customer's goal was to introduce an unprecedented payment card solution, serving not only as a payment tool, but also accumulating loyalty points – all in accordance with the particularities of Islamic traditions and laws. The number of cardholders was projected to be as many as 500 000.

The TietoEnator software implemented in Kuwait also allows for the introduction of a number of additional devices or channels such as mobile phones and the Internet to make payments for purchases or services. The network accepting these cards can also be extended by involving other organisations from both private and public sectors. Thus co-branding programmes can be created to enable card use and loyalty point accumulation at a number of different merchants and service points.

This is the the Middle East's first project involving a loyalty programme combined with a payment card for transactions at retailers.

As the ICT sector continues to develop rapidly, there is still huge potential for export and for investment to enable further expansion and the building of cooperation with countries all over the world.

Latvian companies are eager to cooperate and the universal staff-competency model created for the ICT service area can be used to share resources or to undertake joint projects. This information is also very useful for potential customers and partners seeking a clear understanding of the resource pool in Latvia's ICT service sector.

The successful foreign investment projects already carried out here prove that Latvia is an appropriate place for investment and doing business. Latvia provides substantial competitive advantages to ICT investors, as the following factors demonstrate clearly:

- favourable geographic location the Baltic Sea region: Europe's fastest growing market of more than 90 million people, spanning the wealthy economies of Scandinavia and Germany, the rapidly expanding economies of the Baltic States and Poland, and the vast potential of the northwest Russian market
- Availability of highly skilled ICT professionals with international project experience (including project management), good language skills. and

a combination of western culture with knowledge of the Russian market

- Highly developed communications and logistics infrastructure
- A high level of government support and attractive taxation policy

"Latvia's history in research and technology has created an IT industry with strong experience in R&D and software development. Within the IT community, the Latvian culture of team work, commitment, and high quality creates a unique position for Latvia within the knowledge economy. We believe that the present and future of Latvia's IT community is an important part of Exigen's success as we leverage its IT strengths within Latvia and globally."



Greg Shenkman CEO, Exigen Group

ICT ASSOCIATIONS AND ORGANISATIONS

LICTA (www.litta.lv)

The Latvian Information and Communication Technology Association - LICTA has been of great importance in the development of an Information Society and in the growth of the relevant sectors in Latvia. LICTA is a non-government professional association that embraces more than 60 significant ICT and electronics product and service providers and educational institutions, as well as more than 150 individual professional members from Latvia's ICT industry. LICTA's member organisations employ more than 20 000 people.

LICTA's principal objective is to promote and further the development of an Information Society in Latvia. LICTA works toward increasing e-awareness in society by organising conferences and educational events, and takes an active part in preparing professional study programmes for ICT specialists. LICTA also provides expert advice to government on legislative and other matters related to ICT and electronics, and maintains close links to other industry associations and corresponding organisations abroad. LICTA is actively involved in discussing legislation and in monitoring public procurement procedures for ICT products and services.

A key aim of LICTA is to encourage the growth of a vigorous ICT and electronics industry in Latvia and to lend support to the selling of ICT and electronics products and services abroad. LICTA is the coordinator of the Information Systems Cluster, comprising export-oriented ICT enterprises.

Latvian Internet Association (www.lia.lv)

The Latvian Internet Association (LIA) is a public organisation that unites Latvian companies working in the diverse Internet suppliers' sphere and is committed to the development of Latvia's Internet environment. LIA's objectives are to develop, secure and popularise a widely accessible Internet environment in Latvia. LIA is working towards the stabilisation, tweaking and development of Latvia's Internet environment and brings together for social activities companies and individuals operating in that environment. LIA collaborates with Internet-related non-government organisations in different countries, promoting bilateral and multilateral exchange of comprehensive information. The association fosters the increase of product and service quality provided by its its membership, represents its members and provides them with information.

Association of Computer Technologies of Latvia (www.itnet.lv)

The Association of Computer Technologies of Latvia (LDTA) is a non-profit organisation that represents the majority of Latvia's IT industry – solution development and implementation as well as IT product wholesalers. Currently, the members of LDTA are taking part in processes that foster the creation of an Information Society infrastructure and are actively using and promoting the principles of the New Economy. The major goals of LDTA are representing the IT industry at governmental and international institutions, supporting an infrastructure beneficial to IT development, involvement in education programme development and implementation, and close cooperation with other associations and state institutions.

Telecommunications Association of Latvia (www.telecom.lv)

The Latvian Telecommunications Association unites communications enterprises and individuals who are in favour of market liberalisation and the development of telecommunications. The association works on improving legislation, stimulating cooperation between organisations and enterprises, informing society and taking part in education, market research, scientific and development projects and developing international contacts.

Latvian Association of Electronic Communications

The Latvian Association of Electronic Communication unites about 70% of registered electronic network operators providing cable TV and Internet services via cable TV networks. The association represents its members at state and international organisations, supports cooperation and the exchange of information between them. It ensures better observance of contractual obligations and the provision of necessary services. The association also collates information about Latvia's cable television industry.

Business Software Alliance (www.bsa.lv)

The Business Software Alliance (BSA) is the foremost organisation dedicated to promoting a safe and legal digital world. BSA is the voice of the world's commercial software industry and its hardware partners before governments and in the international marketplace. BSA educates consumers on software management and copyright protection, cyber security, trade, e-commerce and other Internet-related issues. The Business Software Alliance concentrates its activities in three directions with the common goal of protecting the owners of software copyright: education - stipulating usage of legal software and teaching the essence of copyright protection; politics - cooperating with government, police, customs and courts; action - initiating audits and police raids, launching court proceedings against resellers and end users of illegal software.



LATVIJAS INVESTĪCIJU UN ATTĪSTĪBAS AĞENTŪRA LATVIAN INVESTMENT AND DEVELOPMENT AGENCY

The objective of the Latvian Investment and Development Agency (LIDA) is to promote business development by facilitating more foreign investment, in parallel increasing the competitiveness of Latvian entrepreneurs in both domestic and foreign markets.

Having more than 10 years experience in the attraction of foreign direct investment to Latvia and promotion of foreign trade, the Agency has worked constantly to improve the business environment and provided services appropriate to the needs of business.

At the same time LIDA has been evaluating its own performance, comparing it with world best practices, and subsequently introducing new services and solutions for our customers.

The main priorities of the Latvian Investment and Development Agency are to increase the competitiveness of entrepreneurs and promote further of foreign investment.

An ability to anticipate the rapidly changing needs of businesses and markets by offering new services characterizes the Agency's own competitiveness, built on the knowledge and competencies of our experienced specialists.

LIDA has representative offices in London (UK), Hamburg (Germany), Stockholm (Sweden), Paris (France), Amsterdam (the Netherlands), Oslo (Norway), Copenhagen (Denmark), Alma-Ata (Kazakhstan), and Moscow (Russia), and an established network of representatives in Germany, Israel, Australia, USA, Ukraine and China.

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