President of Estonia at the opening of (innovation) conference "Baltic Dynamics" in Dorpat SPA Hotel, Tartu

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Ladies and Gentlemen, dear friends,

I am glad to be speaking here at the opening of the 13th "Baltic Dynamics" conference, an increasingly international meeting, as should be the case in the field of innovation.

This time the conference takes place amidst a global economic slowdown, a situation which is frankly unfamiliar to many in Estonia. According to some (admittedly rather dire) predictions, it may turn out to be the most severe global downturn of the last decade. In terms of our domestic economies, all three Baltic States are on the verge of a paradigm shift; the motor of rapid growth — competitive advantage based on cheap labour — seems to have stalled.

As we have all hoped it would: for a rise in wages and quality of life is, after all, what convergence is all about. But this also creates a new challenge: further development of our economies can only come from higher value added products and services. In this sense innovation is naturally the key to shifting from a slowdown to growth.

We have to ask ourselves: how did we arrive at this state of affairs? Our economic development has been rapid, but not always sufficiently forward-looking. The recent slowdown in our economy has – at least to a certain extent – been caused by overinvestment in sectors which have provided high yields in the short term (such as real estate) and which are prone to move in correlation with fluctuations in domestic demand. That said, it does not mean that some investments are less necessary than others, but in the longer term a very small economy cannot rely solely on the domestic market. Indeed, not even the second and third largest economies of the world, Japan and Germany, are able rely on domestic demand alone.

Export performance is enormously dependent on high-tech (or high value added) products and services, once the initial comparative advantage of cheap labour is gone, as it is here in Estonia, and as has happened in virtually all of the *Wirtschaftwunder* in Europe and latterly in Japan. This has been clear for some time.

High-tech and higher value added products of course require investment that will bring returns in future. But how much have we really invested in the future?
Let us compare R&D expenses as a percentage of GDP in the European Union. Estonia is ranked 15th in the EU, between Spain and Italy. However, with the size of expenditure being roughly 1.1% of GDP (the figures here and hereafter being for the latest year for which they were available: 2006; Eurostat, the source of these figures, could itself invest a little more in productivity!), the gap to leading EU countries is more than three-fold. The leaders are our neighbours Sweden and Finland, both of which invest more than 3.5% (of GDP) in innovation. Among the new EU member states Estonia is ranked third after Slovenia and the Czech Republic, both of which invest approximately 1.5% of GDP. There is an additional proviso here: one of the most capital-intensive forms of investment in innovation is in pharmaceuticals, i.e. in much of the world R&D in pharmaceuticals represents a significant portion of the percentage of GDP devoted to innovation. In Estonia there is no pharmaceutical industry, which means that comparison with other EU countries will not necessarily be to our advantage. On the other hand, this is a technical point and far from an excuse.

No less important is where investment comes from, i.e. what the division of labour is between the public and private sectors. If we take the best European performers – the Nordic countries – as a benchmark, the picture is this, based on the Nordic Statistical Yearbook for 2006: the share of government investment ranges from 33% in Iceland to 45% in Denmark. This means that in all of the Nordic countries the bulk of investment comes from the private sector. In Estonia, which as I mentioned is not doing badly at all, even among the EU as a whole, the share of private capital in R&D investment is 45% (in 2006), which in numbers terms is 'Denmark in reverse', as the government's share in innovation investment is still larger than the private sector, or 50/50 at best. So now we can ask: has our business community done enough? I should add that one company in Estonia, Skype, has contributed 10% of all investment in innovation. This means that almost a quarter of all private investment in innovation comes from just one company. While this is commendable for Skype, it should also be a lesson to the rest of the private sector.

Earlier I said we stand on the threshold of a paradigm shift, and, given the economic slowdown we face today, we are obviously being forced to alter our mindsets as well as investment priorities in order to

make the economy grow again. Meeting business leaders here in Estonia, I have stressed over and over the need to invest in new technologies when times are good, when the economy is strong. Now – after the downturn in the economic cycle – the efforts and indeed costs needed to transform the economy are that much greater. It is possible, moreover, that a change in the 'growth paradigm' will also imply, indeed necessitate, even further changes in the business environment, the education system and in labour market regulation. This could entail the facilitation of labour mobility to cover vacancies we cannot currently fill, but may be able to fill tomorrow – if we invest enough in education now.
In this sense a transformation in the 'growth paradigm' could also entail changes in perceptions of the priorities of our current and future society.

The 'new economy', as it is sometimes called, does not happen overnight. For it to be meaningful, it must develop like any other economy, like the so-called 'old economy'. Recall the dot.com bubble in the US at the turn of the century. The hope then, that information technology would lead to an enormous improvement in the productivity of the economy and quality of life, turned out to be misleading and led to a stock market bust and economic downturn. Yet there was also something important that went unnoticed.

As I understand it, it is not merely a question of science, information technology or the economy. It is a question of education and – perhaps – of a broader mentality in society. In this sense, the somewhat overused term 'innovation' must be approached in a broader context; it also needs to be linked to improvements in the overall quality of life, to the well-being and fundamental assumptions of society. In this regard, it is useful not only for boosting exports, but for the everyday life of the citizens of our countries as well.

Here let me briefly address three issues that normally would not form part of discussions of innovation: freedom of movement; education, in a broader sense; and quality of life. All are inter-related. First: movement. While we in Europe often take the moral high road when it comes to the United States, in one area we in Europe, and locally at the national level, are closed. Indeed even with the Union, a number of countries still restrict the free movement of labour. All of this is understandable and we could list the reasons why governments restrict immigration, but it does have one major drawback: we are reducing the number of smart, creative people available to provide innovation. The U.S. on the other hand is very open to talent from abroad and is thus maintaining its lead over Europe. How open the U.S. is also leads to the second point: education. While the figures vary from year to year, for over two decades the percentage of non-native PhDs in the sciences and mathematics in the U.S. has hovered around 80%. I draw two conclusions from this: one, that the U.S. has a very good higher education system in science and mathematics, which is a surprise to no one; and two, more importantly, that the rest of the world places greater emphasis on primary and secondary education in science and maths than the U.S. If you do not have kids who are interested in programming in high school, who are intrigued by the double helix at an early age, you are not going to get good adult software developers and gene technology experts. Here Estonia does rather well, ranked second in Europe and fifth in the world on the OECD Pisa test in quantitative and logical reasoning. This in turn leads to the third problem: with smart, well-educated kids at home who you want to keep here, and smart, well-educated people you want to attract to your innovative company, how do you do it? Is a high salary enough?

Are low corporate and personal income taxes the motor? I recall a lecture by the Nobel laureate and economist Amaryat Sen I heard several years ago in which he pointed out that the highest corporate and personal income taxes in the U.S. were in Massachusetts and California and the lowest in Alabama and Mississippi. But where were the innovative companies? Not in Alabama, and not in Mississippi. They were on Route 128 in Massachusetts, and in Silicon Valley in Palo Alto, California. Why? Certainly not because companies like high taxes. But that's where the best schools are, the best public schools. Because if you want to attract brains, the sine qua non of successful innovation where everyone is competing to attract that most precious of commodities, smart people, you need to make sure you can offer quality of life.

To make it crystal clear: if you are a bright software developer from India, Pakistan, Turkey, where will you go if the choice is between Tartu and Boston? The weather is more or less equally dismal, and the salaries might even be competitive, at least with companies like Skype. But these things being equal, where do you go? This is the broader and more ineffable challenge in promoting innovation.

Thus it is good to note that the topics of this conference range from Internet security and technology parks to environment and energy, international competitiveness and other relevant issues. No less important is that the topics are not parochial but rather of a truly global nature. Therefore there is one more important sub-topic – European cooperation, including interregional cooperation in the Baltic Sea region and beyond. I very much hope that in discussions here particular attention will be paid to the opportunities afforded by the latter. Next year during the Swedish Presidency of the EU we hope to see a comprehensive programme launched with the goal of increasing innovation in the region – and if I have learned anything about successful innovation, it is that it includes a strong regional component. You can incubate in a cocoon, but once you break out of it you need a broader environment.

To conclude, I am glad that the conference is taking place here in Tartu, for at least two reasons. First, it is a city with rich intellectual and scientific traditions, thanks to the central role played here by one of the oldest universities in Northern Europe. And second, a new era of technology is making productive living and working possible outside metropolitan areas, which is of course very welcome.

I wish the conference and all of you every success. Thank you for your attention.