



Transcript of podcast with Siim Sikkut: “The Making of E-Estonia”

May 23, 2018

Hello, I’m Bruce Edwards and welcome to this podcast produced by the International Monetary Fund. In this program: how technology is transforming and expanding Estonian society.

MR. SIKKUT [soundbite]: *Each week we are getting more e-residents than are babies being born.*

MR. EDWARDS: Estonians rarely stand in line for anything anymore. Estonia ranks among the most digitally advanced countries in the world, and virtually all government services are now offered online. Estonia is also where Skype was born in 2003, and the success of the country’s digitalization process can be largely attributed to a government-backed technology investment initiative dating back to the early 1990s.

Estonia has since made massive investments toward increasing its Internet bandwidth and designing school curricula to have a technology and innovation theme. Children start learning how to write code at the age of seven.

Siim Sikkut is Estonia’s chief information officer and is charged with making sure government policies make best use of the latest digital technology.

And so, to what extent is Estonian society digitalized now? And, what has been the impact on the efficiency of government services?

MR. SIKKUT: Well, we like to mockingly call ourselves “E-Estonia”, so that basically, yes, almost all things you do, you can do digitally one way or another. So, it essentially means that it has really penetrated all aspects of the life we lead here as cities and as entrepreneurs, and government officials. And, the motivation has been happening for the same reason you said—efficiency. So, we just see the improvements it makes in terms of how much time we can save, or even how much money we can save when we do things the digital way.

So, for example, as an entrepreneur, if I don’t have to spend as much time and money on accountants to get my declarations done, or reports done, that’s an immediate effect on my profit and productivity. Or, from a government point of view, the relatively less we have to

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spend on back office or even front office while delivering services for the people, if we can do it digitally and people are using self-service.

So, efficiency was the desire and has really been the fruit and outcome of this digitalization across all different fields of policy and sectors of life.

MR. EDWARDS: How much do Estonian policymakers now consider technology when making policy decisions? And, how well are the older policymakers, say, 50 or older, adapting to this?

MR. SIKKUT: Well, those who are 50 and older, they were 30 or older when we started, so they've been growing up with this and gaining experience with this. I think whatever is your priority, whatever is your age in that sense, we've been having and enjoying 20 years of buildup and with non-neglectable evidence that digital works in government and beyond. Digital signatures make companies' lives much easier, also, beyond government in business-to-business and business-to-customer interactions, for example.

So, my point is this, that we've been growing up with this and so for us the debate is rather what to do next and how ambitious to be, as opposed to should we do it or not. And it would be unfair for me to say that in each decision we make we take the best ideas of technology forward. If you ask me, we still struggle that we are not accounting for ways where technology would help us enough.

There's a lot of work I try to do with my colleagues, my fellow policymakers, for example, to make them understand the new technologies and what whole new venues it could open up for them. But, it's definitely been a journey and as technology moves forward, it's a never-ending one.

MR. EDWARDS: A lot of things have happened since Skype, and Estonia has become quite a draw for small startup companies. What is it about Estonia now that is attracting these small startups?

MR. SIKKUT: Well, a few things. First of all, I think many of the startups we have are necessarily not attracted to here, but born from here. Again, this goes back to the same skills and research base, and we've been amplifying that through the years. For example, investing more into science and engineering degrees and teaching and also relevant science, so that basically the bottom of the pyramid will be even larger.

And secondly, there's the issue that the founding of a company and running it in Estonia here is very easy in terms of the business environment and bureaucracy. And again, building up things digitally in the government has had a lot to do with that, so basically making it easier to set up and to do all the bureaucracy you need to do when you do run a company.

The third thing is that for all the Estonian companies if you want to build and do something, you have to aim internationally and globally from the start because the market is just too

tiny here. For example, if you want to build anything digital as a service or product you might as well sell it globally from day one.

And the last bit is the Skype effect. Now there's more and more entrepreneurs and founders with experience all the way from Skype that you can really conquer the world, even from Estonia. And so that builds courage and experience that spills over to the next and next generation of those companies coming in and disrupting the next industries.

MR. EDWARDS: So, you are one of the founders of this program called the "e-residency program." How does that work and how many people are actually signing up for this e-residency?

MR. SIKKUT: Yes. We've been running it for 3½ years now. We have about 35,000 signups. I mean, 35,000 is nothing on the global level, but to give it context, each week we are getting more e-residents than are babies being born. So, we are growing faster in a digital space than as a physical country or a population or economy. And, regardless of population, economy was really the thing, so we saw that.

And look, we have digital identity. We have all sorts of services starting companies and running companies. You don't have to be present in Estonia necessarily to use that, we thought. And so, why don't we open it up to the whole world? Why can't anyone in the world apply and in that sense virtually become Estonian?

And it turned out that there's a lot of interest, in our sort of scale at least. And through that then, you get more jobs and revenue growth into the country.

MR. EDWARDS: And is this a way to expand your tax base?

MR. SIKKUT: Well, essentially, we don't tax and we don't stand to gain from taxes of e-residents. Tax itself is a very territorial notion or feature still. You're taxed personally wherever you reside the majority of the year, so that's not the so-called business plan. But, indeed, the tax base comes differently.

So, for example, if you're an e-resident, then the biggest use case is you want to run the company virtually from a distance and, by the way, it's a European Union company. So, you have a trusted entry into the European market through Estonia. Now, in that, you would probably still be using some sort of additional services, like a virtual office provider or sometimes an accountant or financial advisor. You might be using the services of the Estonian financial service provider here. All these things mean that behind those are jobs in the country, so that's the tax base. That's the sort of addition of revenue and jobs, et cetera, that we need to attract.

And we already see from empirical research we've been doing that this is exactly the effect we're seeing. Even from the first of 35,000 e-residents, we are bringing new revenue into the economy way more, quite a few times more, then we invest into the program.

MR. EDWARDS: So, the euro zone has broken down some of the physical borders of trade and doing business within Europe, but this digitalization process in Estonia has raised questions about the virtual borders between states. Doing business with Europe, there are some limitations as to what you can do between countries because of the digital borders. Can you see these virtual borders coming down in Europe anytime soon? And, do you think Estonia will have had anything to do with that?

MR. SIKKUT: Well, first of all, we see that on an annual or a regular basis that these borders are coming down more and more, and it's not even because of e-residency, but that Europe is built fundamentally on the notion of single markets. It's the idea and the rules and regulations that capital, goods, services, and people should be free to move, regulation-wise at least. So, as an Estonian, I could go to live and work in any country of the European Union.

And the single market, the more and more we do lead digital lives, if we still have different rules for digital services in different places, effectively this movement is really hard. Let me give you an example.

I'm just looking out of the window here, and from Tallinn to Finland is 80 kilometers, or 50 miles, away. The other capital is Helsinki (Finland). So, in those 50 miles essentially you are in another country. If I were to go to do business there, there's quite a lot of paperwork I would have to carry with me, to prove I don't have tax debt in Estonia, that I'm a registered company in Estonia, stuff like that. So effectively, fetching those papers—in Estonia we do everything digitally—bringing them over, presenting them, is a lot of hassle if I want to sell something in Finland.

Now, if we connect the two governments, then all the checks for which now I present papers could be done basically machine-to-machine—very fast. Essentially what I'm saying is that what we have seen in Europe is that we need to connect and improve and harmonize the digital side of the market and also the bureaucracy in order to facilitate the single market the way it was.

And that's why in Europe there's a whole program of "digital single market" as it is called. And Estonia has been a champion of that, especially last year when we had the honor and luxury to lead the Council of the European Union. So essentially, we were the presidency country for Europe and we pushed the agenda as much as we could.

And not by our efforts only, but also through years of build-up more and more is happening in this space, but, of course, still lots to be done.

MR. EDWARDS: How vulnerable is this system to cyberattacks? What kind of backups do you have in place, and are they in Estonia or do you have some outside of the country, as well?

MR. SIKKUT: Well, that's an excellent question because, this is really what's mostly on people's mind when they hear about doing things digitally in any place, not just the government. So, we realized from early on that trust has to be there. And trust means that

privacy has to be kept as well as social security looked after. And without trust, we won't have the users and we can't build up these efficiency gains we have seen.

And so, we work on cybersecurity daily and on a few fronts. First of all, whatever we build as a system, as a service, we try to build as secure as we can, using the latest technology and encryption, but also the process and business-wise, figuring out how to enable things in a secure way.

I can give you one example. So, you can even vote online in Estonia and the security trick there is not just technology, but, for example, there's a simple thing that you can re-vote.

MR. EDWARDS: You can change your vote?

MR. SIKKUT: You can change your vote, exactly. So, for example, if you're being coerced into voting a particular way or you have a suspicion that it wasn't counted the correct way technologically, you can re-vote all the way to showing up in the booth at the election on the last day. This is a completely procedural measure, nothing to do with technology as such that helps to make it secure in the end.

Secondly, we do invest and pay a lot of attention to defense because we still know that nothing is fully unhackable and unbreakable. Technology breaks all the time, so we want to be there to detect it fast, be able to react fast. That's like the steward thing, the emergency response thing we do. And we do it on a very national level, also together with the companies in the private sector in this space.

And the very last bit is exactly like you say, for ultimate backup we don't just keep copies and versions in Estonia. We are now building up what we call "data embassies." So, we're piloting this first concept and the first data embassy is with the government of Luxembourg, where we keep the most fundamental records and systems in their safe government data center, so that we could always boot up from there if, for some reason, we lose a service in the backups we have domestically here.

So, essentially, our government decision-making and our processes are fully digital only, there's no paper backups anymore. We have figured out a new way to basically ensure that we will always be able to function as a country, as a government.

MR. EDWARDS: Well, that's really interesting. You have essentially a server room in Luxembourg that serves as a data embassy.

So, Estonia has taken a different path in terms of handling personal data than, say, the U.S. or North America, and most other countries in Europe. Do you think the success of Estonia's digitalization has helped restore faith and trust in the government? Is there something that other countries should learn from this process?

MR. SIKKUT: From what I've seen, trust and faith in government depends on so many factors that it's still difficult to really be fully sure about this, but I'll tell it this way. I hope

we're seeing it as our delivering better as a public sector, then at least we are not losing faith like many other governments of the world.

And it's basically that when people want to get what they have a right to, they want to be helped out if necessary, and we see how digitalization can allow us to do that much better, faster, and more personalized. And that's the expectation that they legitimately have because that's the sort of service they get from the private sector often, right? So, it's basically our way to remain relevant, even if faith and trust is a bigger issue.

And the other thing I can safely say as to why we have been able to build up many things we have in Estonia and why we have been trusted a lot is that fundamentally there's a lot of trust in the state, per se, as an institution, and a politically neutral one. You may dislike the particular politicians and parties, but ultimately the government and the rule of law is there and the government is ours. And, that matters a lot to us.

MR. EDWARDS: Thank you very much, Siim. I really appreciate your taking the time out of your busy schedule to tell us about the digitalization process in Estonia.

MR. SIKKUT: Well, my pleasure. Thank you.

MR. EDWARDS: That was Siim Sikkut, Estonia's chief information officer. Take a look at the [March 2018 issue](#) of *Finance and Development* magazine if you want to read more about Estonia's remarkable digitalization process. That's imf.org/fandd, or you can download the F&D app to read it on your mobile device. And if you like this podcast, subscribe on iTunes or on your favorite podcast app; just search for "IMF podcasts." You can now also follow us on Twitter: @IMF_podcast.

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