

Case Study: Estonia's "Tiigrihüpe"—Tiger Leap

"George Washington."

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Rein Krevald is using a heavy accent as he mimics his late grandmother's answers to every question on her U.S. citizenship test. The Immigration Officer had every reason to fail her. Instead, he chuckled at the grace of the lady and said, "Welcome to the United States."

Krevald, born in the United States, continues reminiscing about his family with roots in the tiny Baltic country of Estonia.

It occurs to me that my parent's success when they arrived in the United States in 1947 and Estonia's success after the fall of the Soviet Union in 1991 had a very significant common denominator: Starting with a blank slate!

When my parents arrived in the United States, they had absolutely nothing material to their names but they both had an education. My mom was a pharmacist and my father had been a lawyer in Estonia. It was almost impossible for them to aspire to their previous careers in this country. Being open minded towards any opportunity that came along, my mother launched a successful career as a cosmetic chemist (she ended up with numerous patents to her name) and my dad ended up working for CitiBank in New York.

When Estonia regained its independence, it also was starting from scratch. . . . Estonians had suffered during the Communist regime (even though the Soviets had secretly assembled their first computer and designed their first space mission in an Estonian research park), but to the best of their ability had kept up with the rest of the world especially through watching Finnish television.

The capitals of Finland and Estonia are just 50 miles away as the crow flies. Before the Soviet takeover of Estonia, the countries had roughly similar standards of living. Over the next 50 years, the Finnish per capita income was estimated at seven times as much as that of Estonia.

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Same with the country after the Soviets left—decisions had to be made quickly but starting from square one made it easier.

Jaani Tallinn, one of its founders of Estonia-born Skype, agrees with Kreveld. Skype is the company that revolutionized VoIP calling and that Microsoft bought in 2011 for \$8.5 billion. He says: “Because we started anew, we got new laws, new leaders, and new technology . . . the big winners were the start-ups.”²⁰

Continues Kreveld:

Estonians were not mired with the existing infrastructure. Do we try to fix the crappy Soviet landline phone system or do we embrace cell phones? Easy answer. In no time almost every Estonian was using a cell phone. It helped that Nokia, a Finnish company, was close by.

Western economists give a lot of lip service to a flat tax system. Estonia just went ahead and successfully implemented it.

As Erich Follath wrote in 2007: “Few countries are as crazy about the Internet as Estonia, and no capital city can keep up with Tallinn on that count. All schools are connected to the Internet; more than 90 percent of all bank transactions are conducted online; and there are more mobile phones than residents.”²¹ “You should see their electronic voting. Not like our hanging chads,” jokes Kreveld, who lives in Florida.

One of the architects of this digital society is current president (then Estonian ambassador to the United States) Toomas Hendrik Ilves, who in 1996 proposed a “Tiger Leap” for the country. The tiger moniker was in recognition of the “Asian tiger” economies that had blossomed using technology.

Kreveld grew up with Ilves and was in the same Estonian Boy Scout troop in northern New Jersey. “You could tell he was into technology even back then. He and his father would be working on radios and electronics when the rest of us were running around in the woods playing with sticks.”

The initial Tiger Leap focus was on education. Almost all the schools were supplied with computers in 1997, and a quarter of the teachers was trained on them. By the end of 1999 there was an average of one computer for every 28 students in Estonia, bringing its target of “one computer for every 20 pupils” within reach. More than half of the

total number of teachers has graduated from the Tiger Leap's beginner course.²²

Says President Ilves, "Every student's access to a computer and Internet is as natural today as having a lamp in the ceiling of the classroom."²³

Today, of course, it is way beyond education. "For citizens of Estonia, e-services have become routine: e-elections, e-taxes, e-police, e-healthcare, e-banking, and e-school. The 'e' prefix for services has almost become trite in the sense that it has become the norm."²⁴

Tiina Krevald (Rein's second cousin) has been in technology since 1994 even before the Tiger Leap initiative. She now works for Microsoft in Estonia, and describes her family's digital lifestyle:

—We have free wi-fi everywhere. In practically all public establishments, from hotels to gas stations, there is a public wi-fi that is free of charge or for a small fee. I travel around the world, and nowhere is web access so easy—and usually it costs so much.

—I can do all my banking online 24x7, even sign contracts digitally with my resident ID card (the card has a chip that not only holds information about the card's owner, but also two certificates, one of which is used to authenticate identity and the second to render a digital signature).

—My tax declaration took five minutes this year. Everything popped up on-screen prefilled (my income, my donations, my tax exemptions for my young kids). I only had to check the accuracy of data and press the confirmation button. Shows the power of a flat tax, and the level of automation of the tax system.

—Took me another five minutes to cast my vote. In the 2011 parliamentary elections 140,000 voters (25 percent of the total) used this convenience.

—I pay for parking using my mobile phone. The charge shows on my cell phone invoice. It's available all over Estonia in public and private parking zones.

—Our medical and real estate records are digitized and very easy to access in our state registries.

—Via e-School I can check on my kids' grades, their absence from classes, the content of lessons, and homework.

—Our prescriptions are digitized from the doctor to the pharmacy—so no lost paper scripts, or handwriting transcription challenges.

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In 2007, the risks of that much digitization of the economy showed up. *The Economist* wrote, “for the past two weeks Estonia’s state websites (and some private ones) have been hit by ‘denial of service’ attacks, in which a target site is bombarded with so many bogus requests for information that it crashes.

The Internet warfare broke out on April 27th, amid a furious row between Estonia and Russia over the removal of a Soviet war monument from the center of the capital, Tallinn, to a military cemetery.”²⁵ *Wired* magazine called it “Web War One”:

All major commercial banks, telcos, media outlets, and name servers—the phone books of the Internet—felt the impact, and this affected the majority of the Estonian population. This was the first time that a botnet threatened the national security of an entire nation.²⁶

NATO responded by establishing a Cooperative Cyber Defence Centre of Excellence (NATO CCD COE) in 2008, and located it in Estonia.

Having blazed a digital trail, Estonia is now poised to also lead the world on cybersecurity even as the world tries to emulate what Estonia has offered its citizens for over a decade now. It has set up a cyber National Guard. President Ilves notes, “It’s a government-funded, white-hatted hacker organization. . . . People spend their weekends or evenings and they do something defense-related.”²⁷

President Ilves looks ahead and says, “We must give the Leap new meaning so we may cope with ever-changing functions.” He honors “Tiger Achievers” on a regular basis and keeps encouraging entrepreneurs who are following Skype’s lead and companies like Microsoft to expand there with talent like Tiina. Along with its Baltic neighbors, Latvia and Lithuania, Estonia is developing a nice reputation for mobile, social, gaming, and other applications.

In the meantime, Estonian citizens and Diaspora around the world are justifiably proud of the digital prowess. Some like to call it “e-Stonia.”

Indeed, Kreveld tells an Estonian joke that goes:

At an archeological dig, Russian scientists found traces of copper wire and announced their ancestors had the world’s first telephone network. Germans later announced they had found traces of fiber-optic cable

during a dig and concluded that their ancestors already had an advanced digital network. Soon after, Estonian newspapers reported a dig in Narva had found absolutely nothing. We, therefore, have concluded that our ancestors were the first users of wireless technology.

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