

From “Wood to Wap”, Finland, June 2000 by Henri Slettenhaar

Introduction

This was the 12th study tour organized by the Silicon Valley Association and the first to a Nordic country. Finland has been called the New Nordic Silicon Valley. Fourteen IT professionals, analysts and a journalist participated in this 5 day tour from 17 to 21 June 2000. It was named from “**Wood to Wap**” because of the phenomenal way in which Finland has converted from a forest to a high-tech economy. On the program were visits to government supporting research & development, and funding, telecom companies, operators as well as start-ups. When one thinks of Finland, the first thing which comes to mind is Nokia, the largest manufacturer of mobile phones in the world. Despite a modest population of 5.3 million, Finland is ahead of most countries, including the US, when it comes to Internet access and mobile phone penetration.



Visit to Satama

What is Wap?

As early as 1972 Finland had its first operator-controlled mobile service. There are still 10'000 subscribers to this service. Finland was one of the early adapters of the Global System for Mobile Communications (GSM). We are now in the second generation with GSM mobile phones enabled with Internet access (10 kbit/s) and a short message service (SMS). The latest new service is WAP or Wireless Application Protocol. WAP was announced with some fanfare during Telecom 99 in Geneva. WAP allows mobile users to access Web-based services and applications from their WAP phone browser. We were keen to learn how Finland has adapted to this new technology. However the number of Finns with a WAP phone is only around 50'000, just over one percent of the people who own a mobile phone. The majority of the people I talked to were not very enthusiastic about WAP. The problem is that WAP phone browsers operate on a tiny screen which can contain only a couple of lines of text. At this time there are few services available and they are very slow to access. Added to this is the high cost of using the service. Some call it "Wait And Pay". The dependence on your local operator for access is a problem. For instance, I could only access the WAP services of my operator in Switzerland while I was travelling in Finland and no local content providers were available to me. From the development side there is a more optimistic view. The present system will gradually be improved with better connectivity, more services and easier use. One key element is localisation. This feature, which will become available soon, identifies the cell or area where the user is and offer local services such as hotels, restaurants and "what's on" information. Compared to the French Minitel, which was introduced 20 year ago, there is a long way to go to reach the same kind of services.

In his book "Being Digital", published in 1995, Nicolas Negroponte pointed out that "a telephone handset is probably the most over-designed appliance on earth, yet remains

utterly unsatisfactory” . Endless new features are crammed into a tiny mobile phone. There are promising signs that finally the mobile telephone as we know it today will become part of a more user-friendly device. The integration of handheld devices or Personal Digital Assistants (PDAs) and GSM phones is becoming a reality. A bigger screen, a real keyboard, and all the features of a PDA are part of the Nokia Communicator which is the size and the weight of a first generation mobile phone. The phone functions can be turned off, allowing the Communicator to be used during flights. The integration of Telephone/PDA and other appliances is very promising: digital cameras, GPS, sound recorders, etc. Most of the new developments are part of the Third Generation mobile services or 3G for short. Within the next four years 3G will replace GSM in Europe and Finland is leading the way. This new service is called UMTS for Universal Mobile Telecommunication System. UMTS will offer much higher capacity networks with high-speed data (>300 kbit/s). A packet-switched service called GPRS will already be available on GSM at the end of this year. This will allow mobile users to be connected to the Internet permanently at speeds over 64 Kbps without having to pay today’s high circuit-switched costs.

Technical visits

In 1960 about 70 % of Finnish exports consisted of wood products with no electronic products at all. Today electronic products represent almost 30% of exports. This was explained to us during a visit to **VTT**, the Technical Research Centre of Finland. VTT is one of the largest government sponsored research centres in Europe with more than 3000 staff in 9 different areas of research. As early as 1968 VTT helped to develop the first electronic products for Nokia. Much of the research and development of this centre is now focussed on Internet and mobile applications. We saw a demonstration of live video reception on a color PDA via the wireless telephone network.

The success story of Finnish industry would not have been possible without **Tekes**, the National Technology Agency, which is the main state funding organization for applied and industrial research in Finland. The funds are granted from the state budget of 2 billion Finnish marks (US\$ 360 million). Two-thirds of the budget is devoted to industrial R&D, the rest is dedicated to universities and research institutes. More than 3% of the GDP of Finland goes into R&D, the second highest in the world after Sweden and before Japan. In implementing a sound national technology policy Finland has come a long way in a short time. In 1985, R&D represented only 1% of the GDP. In comparison the France spent just above 2 % annually between 1985 and 1998.

The next day was devoted to company visits to Nokia, F-Secure, Satama and WapIT. We were very well received wherever we went . The presentations were interesting covering many different aspects of mobile communications. The much expected visit to **Nokia** was a bit of a disappointment. We had hoped to learn about the future but what heard a well presented overview of Nokia's very successful past.

F-Secure is a fast growing company which now has 350 employees in 17 offices world-wide. Their activity is security solutions for the mobile and distributed enterprise. Finland was chosen for its mobile Internet leadership with consumer appetite, manufacture investments and innovative tele-operators. F-Secure solutions are based on the principle that every device must be protected with a single integrated solution for both traditionally wired and new mobile devices. Their motto is “Security as a Service” making security invisible, automatic, reliable and non-intrusive to end-users. For further information visit their website: <http://www.f-secure.com>

Satama which means harbour in Finish is located in an old warehouse in the port of Helsinki. I could not stop comparing Satama with the many similar start-ups we have visited in the east of Market street in San Francisco. There were many similarities, the location, bikes for new employees, artsi environment, evangelistic PR speech and a rather vague strategy. Satama is a service oriented consultancy company which is also present in Britain, Sweden, Germany, the Netherlands, and the US. They are operating on four service segments: Mobile Internet, eCommerce, Customer management, and eBranding. The Mobile Internet service development is pursued vigorously with their “Mobile Usability Studio” lab. Finland in their opinion is the 21st century in Beta testing. Their (great) website: <http://www.satama.fi>

WapIT is another start-up in downtown Helsinki. We were received by their marketing director Mato Valtonen, a former rock star. Their mission is to provide instant, mobile access to all the information and entertainment services people want. WapIt creates mobile services and service portals. Presently much of their service is based on SMS technology. Their customers are the Mobile Network operators, Service providers and Media concerns.

We had hoped for some life Wap demonstrations, but what we got were some rather basic demos of a mobile phone SIM toolkit. Their website: <http://www.wapit.fi>

On our last day in Finland, we visited **Sonera**, the largest of the three wireless tele-operators in Finland, which has a market share of over 60%. Sonera is the old state telecom monopoly, whose privatisation was completed on June 21, 2000, the very day we were visiting. The buildings still have the atmosphere of an old company, but we were impressed with the innovative projects which were revealed. What was striking was the wide range of services which were offered to the customers. That GSM phones can become remote controllers was demonstrated with **dial-a-service**. Dial-a-Carwash, a-snack, a-tune, a-photo, rides for kids, golfballs are functioning today. Ideal applications for micro-payments via the phone bill. I used the dial-a-Pepsi vending machine, it worked perfectly from my (Swiss) mobile phone. I am now very curious to see what it cost on my next phone bill. Sonera also presented a new service called Zed. Zed brings the Internet on any mobile device through both SMS and WAP protocols. What is offered is real time information retrieval and e-commerce applications. There are over 140'000 registered users of Zed in Finland. Applications include train, boat or airplane timetables, news, betting, gambling and even downloading new ringing tones for mobile phones. This new service will be greatly enhanced by the third generation technology. The Zed technology is also available in the US, Turkey, Germany, Singapore and the Netherlands. Sonera is trying to meet customer demand through Mspace, a public test environment for new mobile services and applications. Instead of a closed laboratory environment, regular mobile phone customers have an opportunity to use and test new services in practice. Since there are no third generation devices available yet, Mspace will test new multimedia services on a platform which is a combination of a PDA and a GSM phone. This platform

is called Personal Multimedia Assistant. Many of the new applications have packet video content such as movie clips, news and sports, live camera. For more information visit <http://www.mspace.fi>



Dial-a-Pepsi

Finland, a real life laboratory

With a penetration of almost 70%, Finland has a very large mobile user base, which makes the country a test and usability laboratory. To what can we attribute this success? Finland is a large country with difficult physical communications especially during the long winters. The British travel author, Mrs Tweedy wrote in her book “Through Finland in Carts” that Finland is full of telephones. Not a very original conclusion, you might comment. However, she wrote her book in 1896 proving that Finland is a country of early adopters and innovators.

Mobile phone use is cheap compared to other countries. A subscription starts as low as FIN 20-/month (US\$ 3) for a mobile connection compared to FIN 80-/month (US\$ 8) for a fixed line. Unlike in so many countries, mobile phones are not offered for “free” when you subscribe for say six months. That is probably why the communication costs are relatively low. Twenty percent of the Finns have already abandoned their fixed line for a mobile phone. One start-up company has only mobile phones for their staff, the only fixed line is for the fax machine.

The Finns are rather shy people and do not appear to be very communicative, so it is amazing that they are such big users of the telephone. One sees them talking on the phone everywhere you go, but they are very discreet. No need to show off with your Nokia when everybody else has one too!

It is a beautiful summer day in Helsinki and there are many people on the lawn alongside the Esplanada where I approach a group of 5 high school kids and after an initial cool reaction we are soon in animated discussion. 29 out of the 30 in their class have a mobile phone and it cuts deep into their pocket money. They spent a minimum of FIN 100- (US\$ 15-)/month on their mobile and they all use the Short Message Service (SMS) which is so much cheaper than a regular call. You can send an SMS to many friends at the same time

on a Friday night to find out what is happening. Then I met Otto in the shopping street nearby. Otto is 80 years old, he and his wife Nellie have their mobile phone for more than 5 years to keep in touch with friends and with each other when necessary. Otto and Nellie only use the phones for voice calls, SMS and WAP are too hard to use for them. Their monthly phone bill for the two of them adds up to FIM 400- (US\$ 60-).



Otto & Nellie

Conclusion

A comparison between Finland and Silicon Valley is impossible. Finland is a large country, very sparsely populated with technology centres in many places across the country, even close to the polar circle in Oulu. What the two have in common is the quest for innovation and the passion for new technology. In no other place on earth, have I met such early adopters and so many new start-up companies as in Finland and Silicon Valley. With a sound government policy and investment there is much promise for the future. During one of the visits it was pointed out the what we called “**from wood to wap**” , the Fins would prefer to call “**from wood to silicon**” or in Finnish “**poo-pii**”.

24 July, 2000