

# **9 Oulu – new rise after Nokia Mobile Phones**

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## **9.1 Abstract**

Oulu, The Capital of Northern Scandinavia is the slogan inspired by Oulu city marketing department. The “Miracle of Oulu” has been mentioned and presented e.g. in practically all Netties conferences. The success story which started in the beginning of 1990’s, was possible due to long lasting and intensive scientific work and at the same time raised specific education which covered all levels from basic elementary schools to universities. “Nokia-tune” and the brand of Nokia were well-known throughout the whole world. The City of Oulu and its both universities: scientific Oulu University and more practical Oulu University of Applied Sciences were tuned to educate as many ICT-specialists as possible. Lots of engineers moved to Oulu from other districts of Finland and in many cases from abroad. Large number of SME’s and even bigger companies worked practically only for Nokia as subcontractors. City of Oulu got taxes more than ever. The influence of Nokia in all means was very high. Due this reason Nokia-based risks grew huge for the whole society.

After year 2010 happened several dramatic changes. Nokia started co-operation with Microsoft. Successful own operating system Symbian was replaced by Windows and finally the whole mobile phone business was sold to Microsoft with results that we all know now. At the end of year 2000 Nokia had in Finland 24500 employees. At the end of 2014 the amount was only 7000. Oulu region lost 3500 Nokia-based working places. Globally Nokia is still a big company with its more than 90 000 employees, but the best business and knowledge of Oulu, mobile phones technology, their design and production, has practically disappeared.

Many changes have been necessary after those dramatic years to keep wheels running in Oulu. Still today the amount of ICT-employees in city is higher than ever. This has been possible after strong and successful marketing of city and the huge potential of new ICT-knowledge-based products and services. Many large ICT-companies have been established to district and over 300 new small and micro-sized companies are now in rapid growth. Shortage of ICT-specialists is already reality.

State of art-report looks how this has been possible and what kind operations has been done during years 2010 – 2016. Connection to Aristotelian thinking is thin but somehow similar than his theories of causality.

## **9.2 Introduction**

Oulu, The Capital of Northern Scandinavia is the slogan inspired by Oulu city marketing department. The “Miracle of Oulu” is a slogan in many conferences and other occasions. The success story since late 1980’s is based on long lasting and intensive scientific work and at the same time raised specific education which covered all levels from basic elementary schools to universities. “Nokia-tune” and the brand of Nokia Phones were well-known practically throughout the whole world. The City of Oulu with its 200000 inhabitants has two

universities: scientific Oulu University and more practical Oulu University of Applied Sciences. Both of them educated as many ICT-specialists as possible. A great number of engineers also moved to Oulu from other districts of Finland and in many cases even from abroad. Large number of SME's and even bigger companies worked practically only for Nokia as subcontractors. City of Oulu got tax income more than ever. The influence of Nokia in all means was very high. It meant that Nokia-based risks grew huge for the whole society. It was difficult even to imagine, what might happen if major changes might happen. The growth of the business overwhelmed all questions.



Figure 1: Mobile phone innovations made in Oulu 1981 - 2015.

### 9.3 From Nokia to Microsoft

After year 2010 happened several dramatic changes. World economy was in recession. Nokia started deep co-operation with Microsoft. The own operating system Symbian was replaced by Microsoft Windows and finally the whole mobile phone business was sold to Microsoft. The result of this operation was nearly disastrous. The consequences of the operation we all know now.

At the end of the year 2000 Nokia had in Finland about 24500 employees. Instead of that at the end of year 2014 the equivalent amount was only 7000. Oulu region lost 3500 Nokia-based working places. Globally Nokia is still a big company with its more than 90 000 employees, but the best business and knowledge of Oulu, R&D of mobile phones, practically disappeared from the company. Today Nokia is a big data network-company and it tries to get big deal of growing IoT-business. Newest 5G-test networks are already in operation in Oulu area test laboratories. Numerous companies prepare new business ideas and completely new type of products based on this technology.



*Figure 2: The influence of 5G technology.*

## **9.4 Oulu after Microsoft days**

Many operations have been necessary after those dramatic years to keep wheels running in Oulu. Today the amount of ICT-employees in the city is higher than ever. This has been possible due to efficient and successful marketing of the city and the huge potential of new ICT-knowledge-based products and services. The network-based way of working together with all kind of organizations – so called Oulu collaboration model, showed its efficiency once again.

Many ICT-companies settled in Oulu-area and over 300 new small and micro-sized companies are now in rapid growth. Shortage of ICT-specialists is already reality.

Ten years ago Oulu had eggs in the same basket. Nokia Phones gave work and welfare for the whole district. Education capacity prepared enough well trained new workers for the needs of ICT-industry. Research activities and research financing per capita in Oulu area was among the highest in Europe. When dramatic changes occurred media channels and newspapers were full of negative news in various media channels. ICT-sector was any more “sexy” among applicants. The result of that was that few young people started ICT-education. Not even heavy marketing did help. It took several years to change the situation nearby normal. ICT education volume in Oulu and in whole Finland is still at lower level than during most hectic years.

What actually happened? During years 2010 - 2016 Nokia diminished in Oulu 1600 employees, Microsoft 500, Broadcom 450 and Accenture 390. Together these big players fired nearly 3000 highly skilled and well-educated specialists who mainly worked in R&D. It meant that whilst sub-contractors had to fire nearly 600 workers because Nokia/Microsoft and other big players discontinued their contracts.

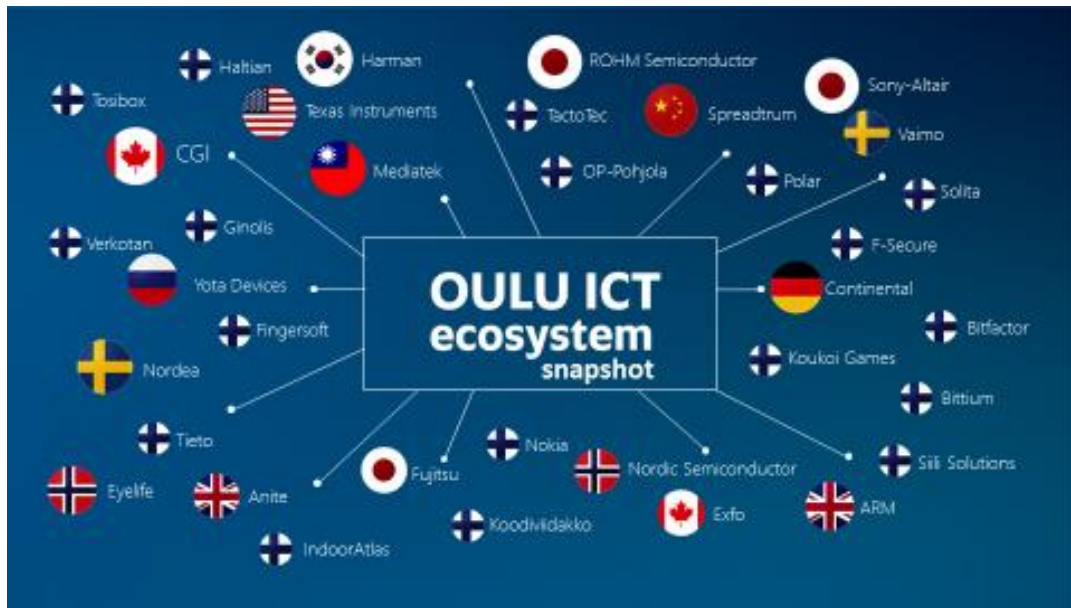


Figure 3: ICT companies and their nationalities today

## 9.5 Oulu 2.0

Oulu got between years 2010 – 2016 eight new R&D companies from abroad. Companies such as Mediatek (Taiwan), Nordic Semiconductor (Norway) and Spreadtrum (China) are big and they all came in the city because there was plenty of knowledge and highly skilled R&D staff.

More than 300 new companies have been founded during the same period. Largest ones of them have already more than 100 employees. A great number of those are still small or even micro-sized. Common features for most of them is rapid growth, strong networking and targeting to international markets. Most interesting and fastest growing ones work in game business. Printed intelligence is the core of the products in many new companies. Banking business has set up own ICT development centers in the city.

About 300 smaller start-ups have today about 900 workers. 2600 new ICT jobs has been generated during years 2010 - 2016. Skilled workers who like to stay in Oulu act like a honey pot for companies who need new and skilled staff. Existing global networks made it easy to find right knowledge and spread product development even in different continents, if necessary.

Both universities and City of Oulu together with state officials were immediately ready to start and finance new education programs for newly unemployed people. Surprisingly there was very little need for larger study groups. Some people finished their interrupted studies and some of them refreshed their original graduations but only few study groups started. This was surprising. Part of the phenomena was due to "Spirit of Oulu". Most of fired workers had excellent national and international networks. Some new companies started even on the very same day when Microsoft gave the announcement of closing the whole site. Haltian is one of new companies born this way. Now they have more than 100 workers and their own new products are used form children to elderly people. Most workers came directly from original Nokia division and they had long history working together.

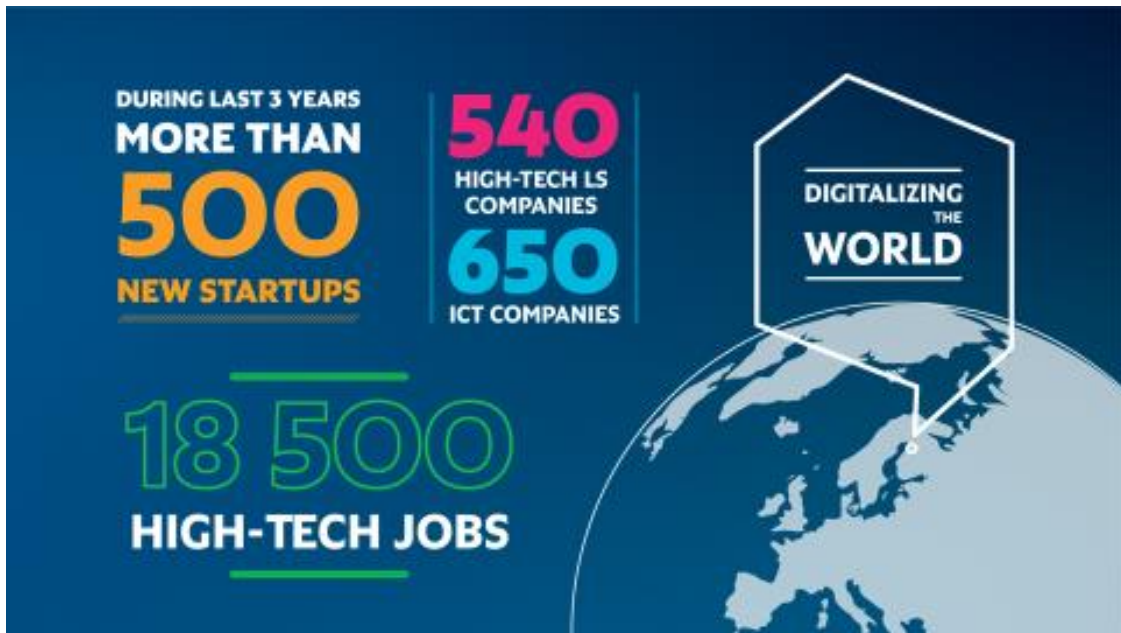


Figure 4: ICT business in Oulu today.

Before the year 2010 most ICT-companies were deeply involved in Nokia products. Only few of them, like Polar electro, had own products and own brand. This weakness was well known and often discussed but working as sub-contractor was in many cases easier. This gave work enough and there was no need for own marketing. Economically this was not very beneficial. Nokia had several contractors and price level was as low as possible. Today it is typical for nearly all new companies that they have own product families and they sell and export those widely. Naturally they don't sell their product millions like Nokia did but at the same time companies are not any more so depended of their contractors.



Figure 5: The influence of Oulu in ICT is global

## **9.6 Conclusion**

This state of art-report tells how it has been possible to survive after very dramatic changes in most important business of Oulu and what kind operations has been done during years 2010 – 2016. Connection to Aristotelian thinking is thin but somehow similar than his theories of causality. Today education and scientific research are in key position when we think various countries and districts and their resilience against big and fast crisis, which are nowadays typical in world economy.

Oulu has survived and it is going fast forward. It is very important to change information in all levels and make networking between science, education and companies. The Oulu case confirms this once again.

## **9.7 Acknowledgements**

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