

# Improvement of Software Delivery Processes in the Telecommunications Industry

Xian Sun  
xian.sun@ericsson.com

# About

- § Carried out at Oy LM Ericsson AB, Finland
- § Supervised by Prof. Heikki Hämmäinen
- § Instructed by Petri Haapanen

# Content

## § Introduction

- Background
- Scope
- Research Problem
- Research Method
- Structure of the Research

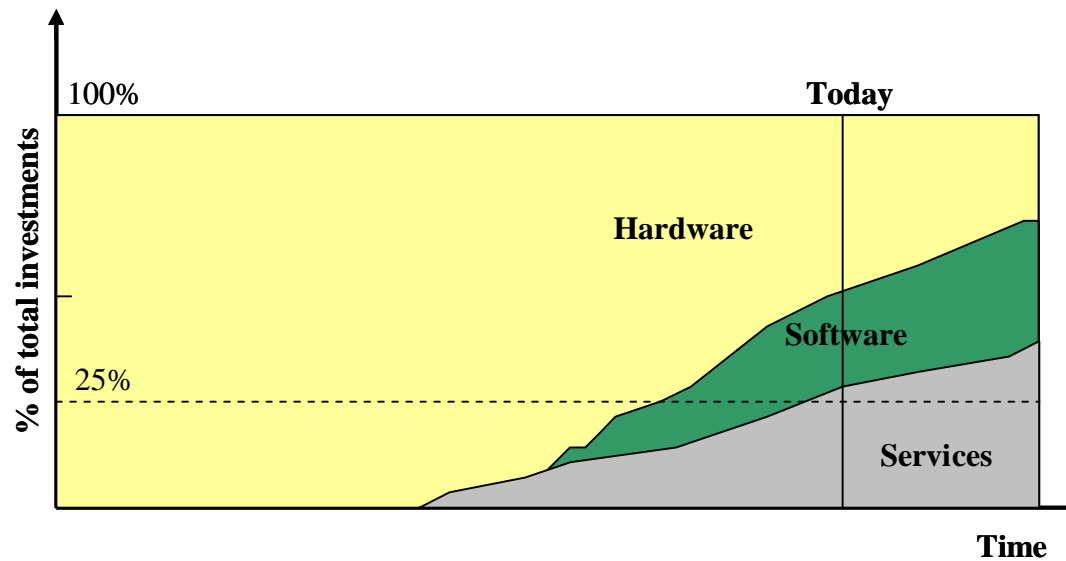
## § New Reorganized Processes

- Advantages
- Challenges

## § Conclusion

## § Future Studies

# Background

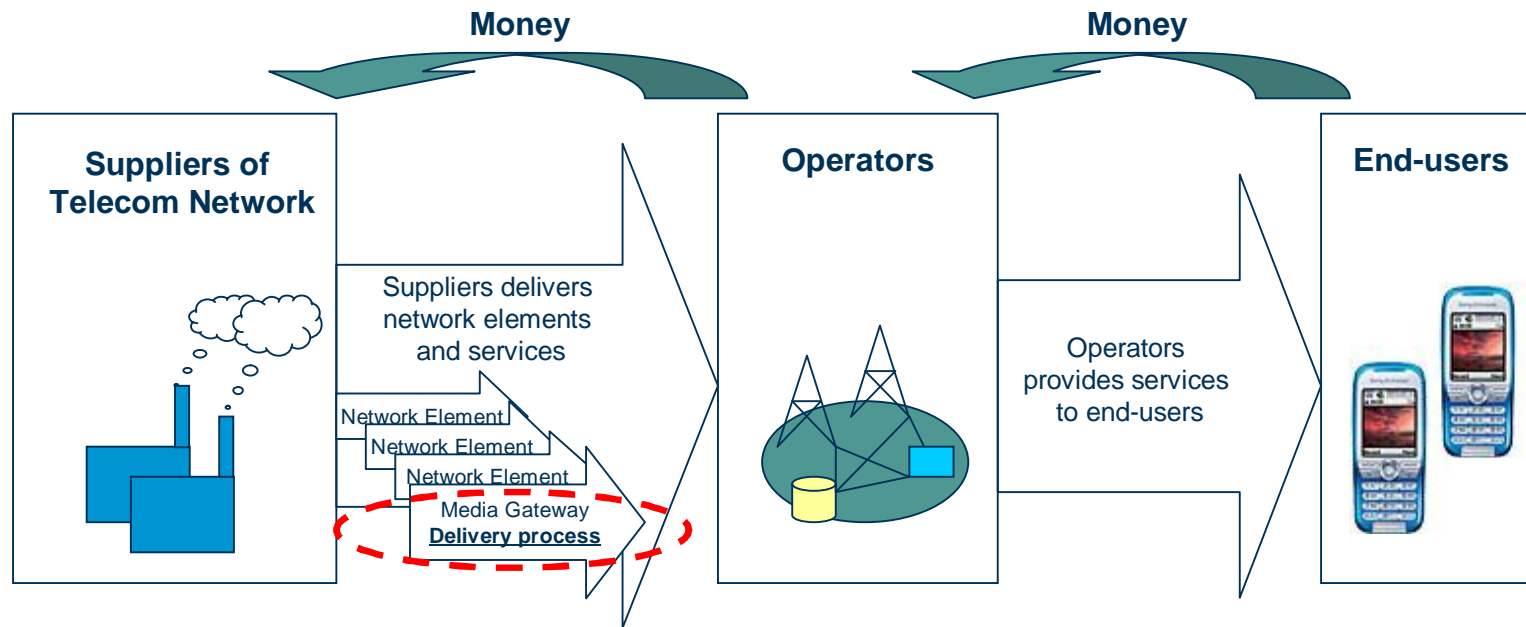


Network operators' relative investments over last 20 years  
(Accenture)

# Background

- § Software production is time consuming, expensive and brings the most value and functionalities to the current network elements.
- § As a result, network suppliers want to sell hardware, software and services as separate products.
- § Operators still want to see network suppliers as hardware vendors and are reluctant to pay for software separately.

# Scope



The red ellipse illustrates the scope of the thesis

# Research Problem

## § The main research problem:

- How to productize the network element software by changing the software delivery process?

## § This question can be further divided into the following sub-questions:

- How do the current software delivery processes function?
- What similarities, differences and challenges are in the current processes?
- How can the current processes be reorganized to productize the software?
- What kinds of advantages and challenges there are in the new reorganized processes?

# Research Methods

## § Literature studies

-books, academic ,documents,

## § Interviews

-initial interviews, target interviews,

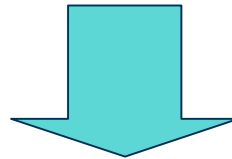
## § Observation

-process, entry meetings, closing meeting etc..

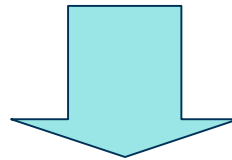


# Structure of the Research

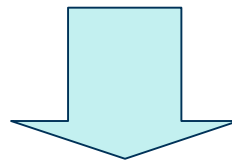
Describes the current software delivery processes



Examines the target processes



Purpose the new reorganized processes



Examines the purposed processes

# New Reorganized processes

## § Software delivery process

- Delivers a new software into new nodes

## § Feature delivery process

- Activates features in the existing nodes

## § Software maintenance process

- Provides maintenance services to the existing nodes

# Advantages

- § Filling the strategy
- § Simplified communication
- § Risks reduction
- § Cost reduction for customer
- § Maintenance cost reduction for the case company
- § Automated update system
- § Reduction of parallel processes
- § Other affections

# Challenges

- § The biggest fear of the customers is the loss of average revenue per user
- § Reliability
- § Technological challenges
- § Change resistance

# Conclusion

- § Three new processes were developed
- § They support the new strategy of the case company.
  - Selling components of the software separately.
  - By establishing different delivery processes for software and features this is fulfilled.
  - Serves the goal of software productization.

# Future Research

- § More specific measurement tools
  - To gather numerical statistics of the new reorganized processes
  
- § The same process model could be expanded to other product lines
  - Company wide studies of broader changes of delivery processes to better fulfill the strategy of the case company
  
- § Studies on the economical impact of the changes
  - Marketing strategies
  - Pricing of the new separate products
  - Economical effect on suppliers and customers
  
- § Benchmarking the software delivery processes with other companies

**ERICSSON** 

**TAKING YOU FORWARD**