



Aalto University
School of Electrical
Engineering

ELEC-E7830 Value Network Design for Internet Services

Case Cumucore – Final Presentation

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Agenda

- Company Case Description
- Scenario Planning
- VNC Method
- STOF Method
- Conclusion

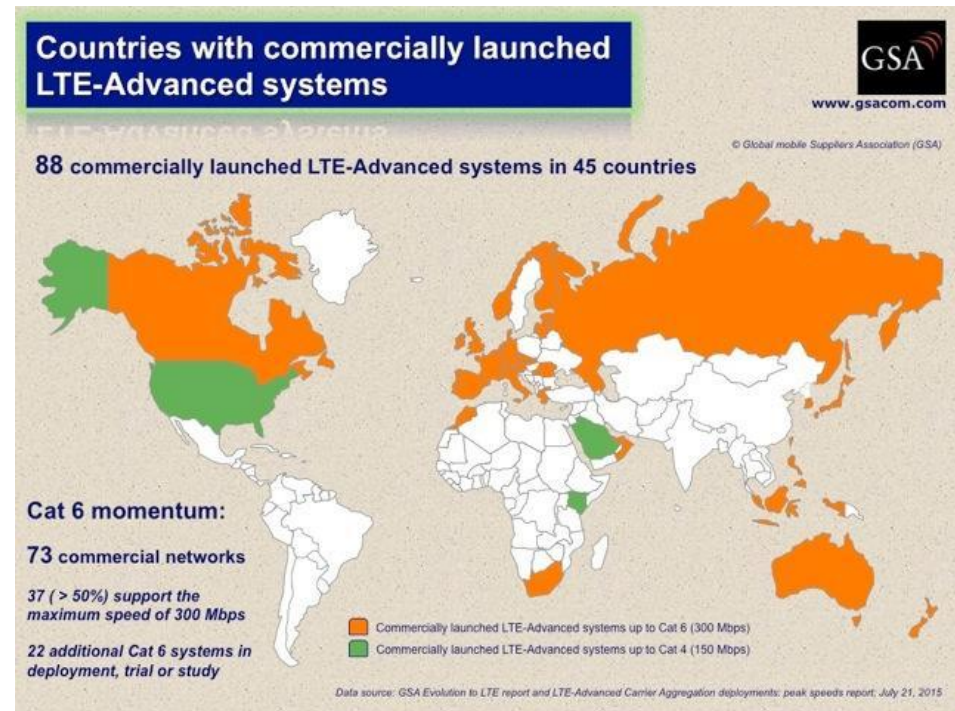
Company Case Description

Cumucore

- Originated from SIGMONA project
- Aalto startup
- Cumucore is selling vEPC
- How to bring a light-weight cloud-based EPC on the market?

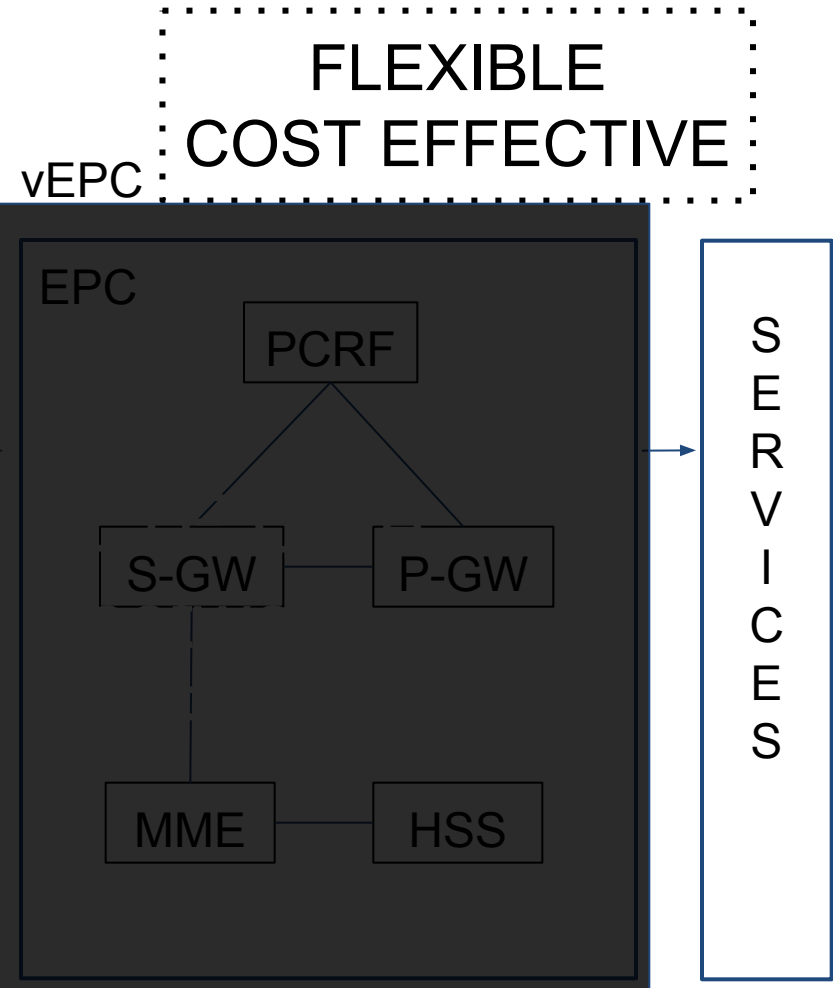
Scope Definition

- Scope
 - Virtualized Packet Core
- Time frame
 - 2017
- Markets
 - Developing countries (i.e. LATA)



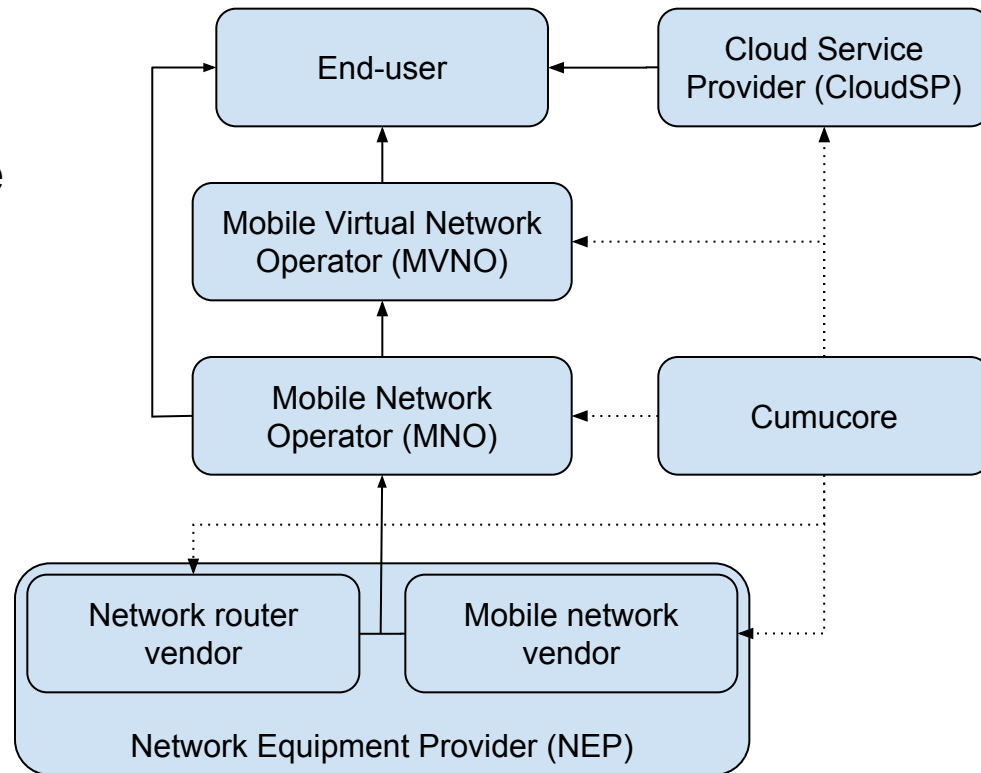
(GSA Evolution to LTE report and LTE-Advanced Carrier Aggregation deployments: peak speeds report; July 21, 2015)

Technical description



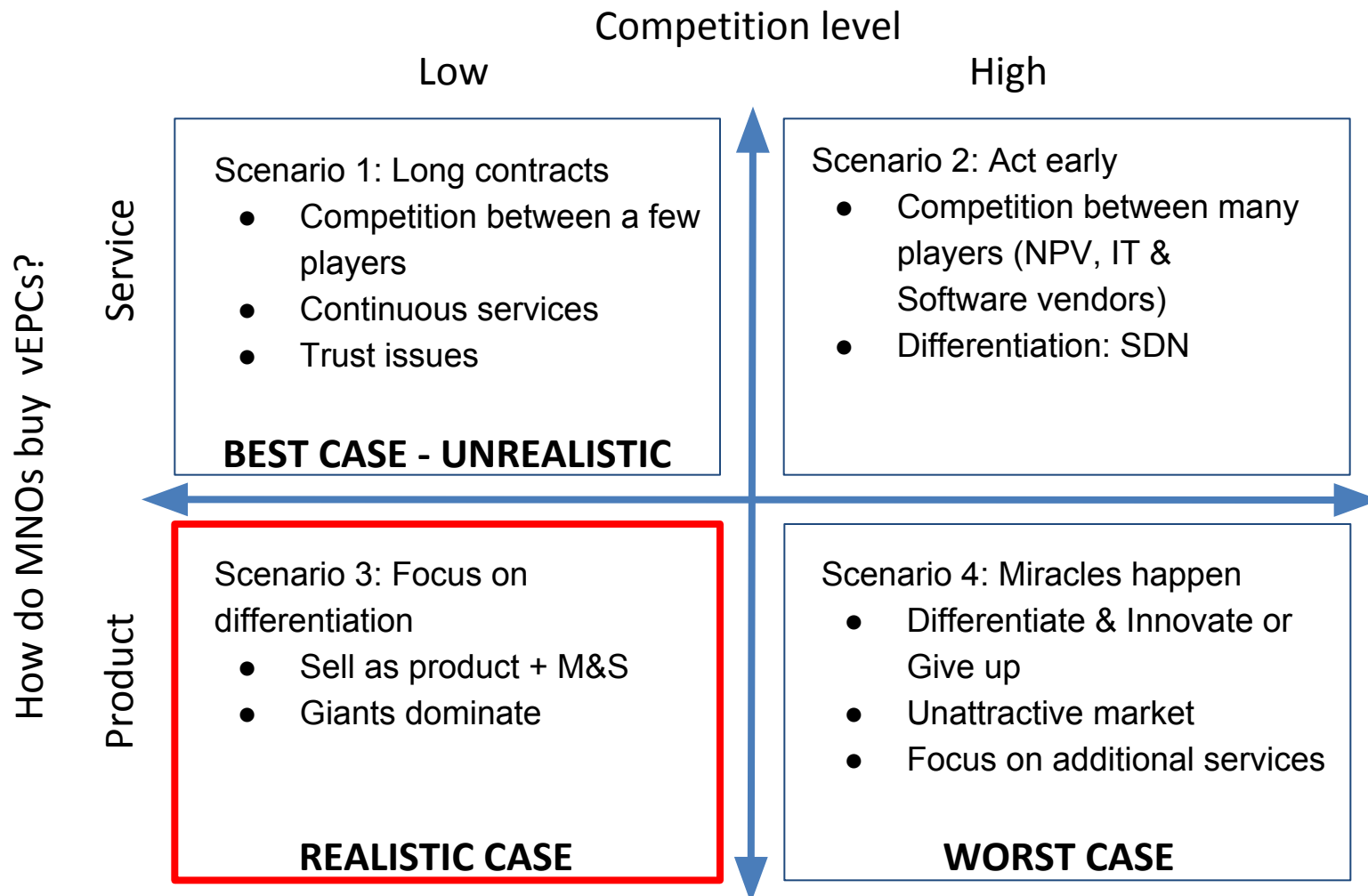
Major Stakeholders

- Customers
 - MNOs without LTE capability, New entrant MVNOs, One time operators (e.g. large scale events)
- Competitors
 - Cisco, Ericsson, OpenEPC, Comptel (Hitachi EPC)

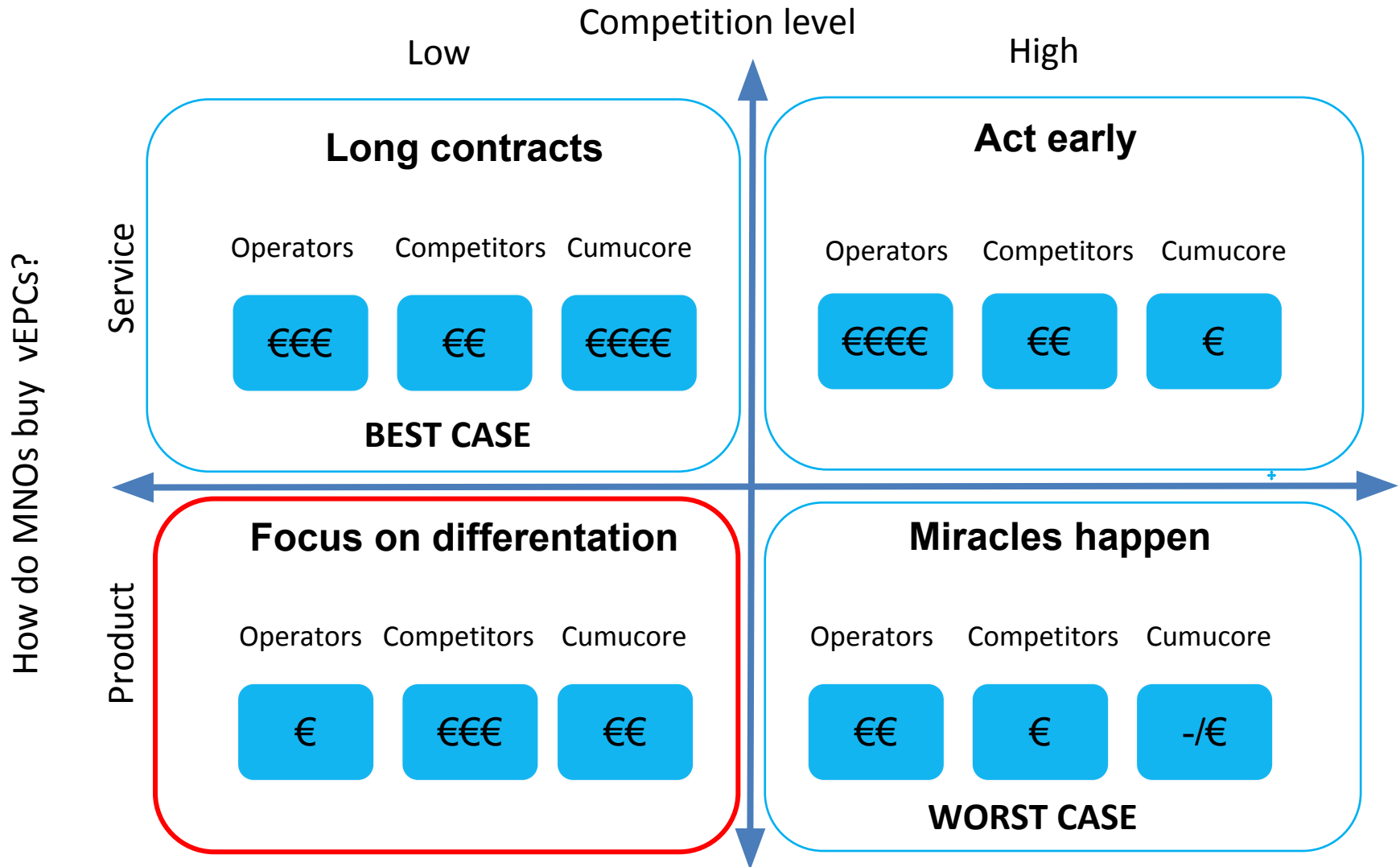


(Modified from: Bai, X. (2013). *Scenario Analysis on LTE mobile network virtualization* (Master's thesis))

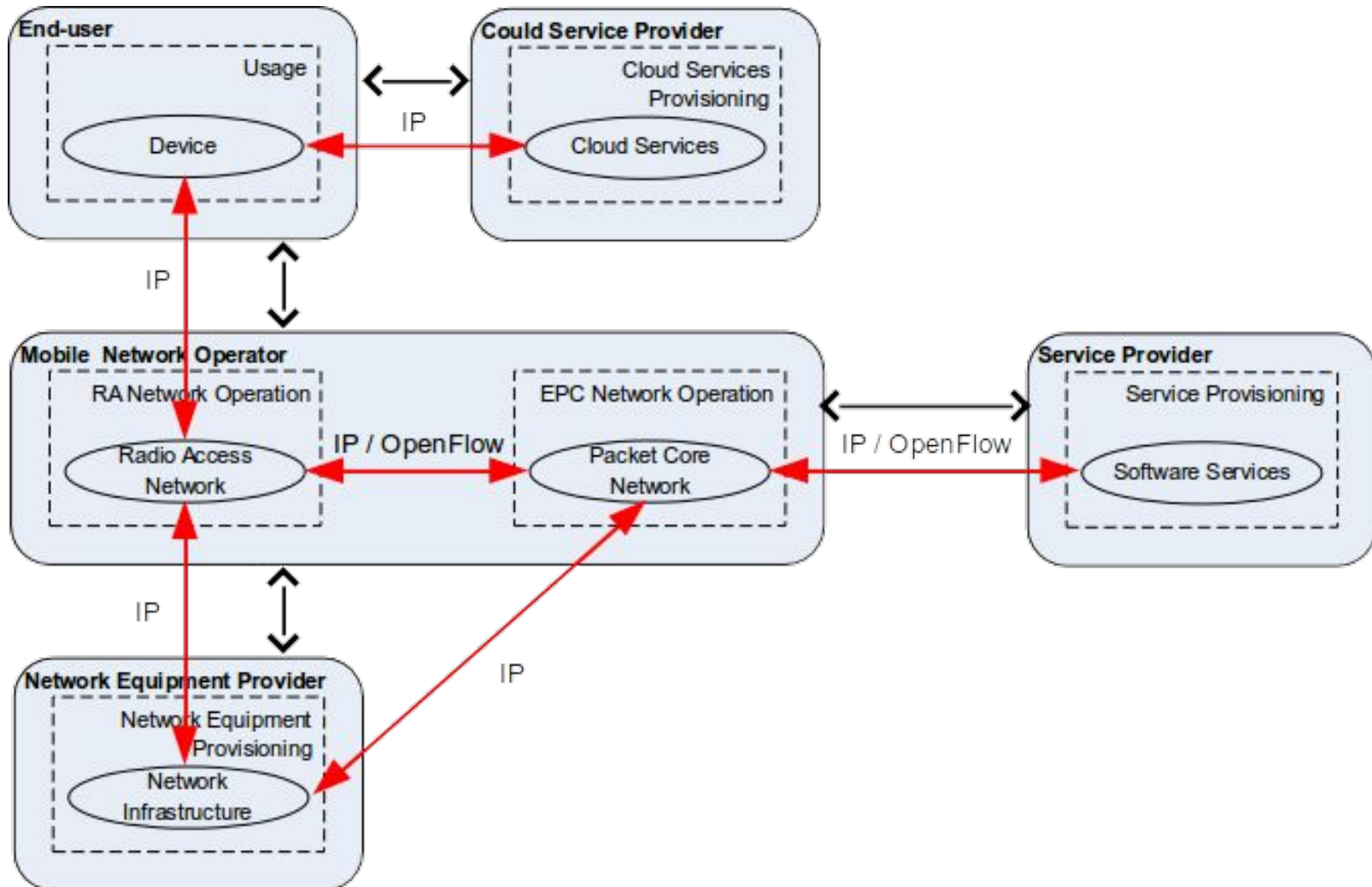
Possible Scenarios



Value Distribution in Scenarios



Focus on Differentiation Scenario VNC



STOF

Service <ul style="list-style-type: none">● Offering Cloud based LTE technology● Target customers: operators● Flexible and easy to scale, lower OpEx and CapEx	Technology <ul style="list-style-type: none">● Virtualized network functions● SDN● Work on COTS hardware
Organization <ul style="list-style-type: none">● MNOs - providing RAN, customer● NEPs - providing hardware● Cumucore - Software vendor● Aalto University - Holding the current patent	Finance <ul style="list-style-type: none">● Start-up at an early stage● Self funded● Limited resources● Low costs● IPR after one year

Evaluation of CSFs

Service domain

- Compelling Value Proposition - Lower CapEx and OpEx
- Clearly Defined Target Group - Mobile operators

Technology domain

- Better Quality of Service - Dynamic infrastructure, capable to be scaled up/down

Organization domain

- Acceptable Division of Roles - Cumucore's role is clear

Finance domain

- Acceptable Profitability - Not profitable at the moment
- Acceptable Risks - Little to lose, a lot to gain

Refining based on CDIs

- Creating value: How to create value for the customer?
- Trust: Do customers have trust in Cumucore's abilities?
- System integration: For the maximum benefit also SDN needs to be implemented
- Partner selection: Easier market entrance with large vendors
- Pricing: How to price the product?

Conclusion

Business plan:

- Focus on MNOs without LTE capability
- Developing countries
- Sell the product + M&S

Thanks!

Q & A



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