IMS rollout challenges

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hmd.



hmo. Home of Nokia Phones, from Finland with Love

2020-2021

21%

Revenue Growth, accelerating quarter on quarter 2020-2021

47%

Smartphone revenue growth

1H to 2H 2O2O

ASP Growth

Smartphone

6 quarters of

Positive EBIT*

2021 Market growth

+29% YoY growth in Smartphone unit volume

#2 in South
Africa /w +152%
YoY growth in unit volume

Top 3 in UK /w +56% YoY growth in market value share

+91% growth in USA
Smartphone market value

* Source IDC Mobile Phone Tracker 2021

* non audited under Finnish accounting standards

Challenges

- Low in-country support of SOC vendors for issue management
 - Majority of the SOC vendors cut the field force and expect ODMs to manage the field work
- Complex interaction between Field Force, R&D, SOC SW developers and operator labs
- Fragmented IMS network configuration even within the same operator family
 - First time roll out takes 3-4 weeks intense testing and trial
 - Even receiving the configuration details from MNO and MVNO does not match to underlying SW configuration of SOC
 - Major challenges to maintain the settings for different SOC SW architecture
 - Many test cases cannot be performed in live network
 - Root cause of many issues are related to times and interaction of mobile device and backend
- <u>Switching off 2G or 3G</u> networks in some countries/channels has major impact to consumer experience
 - In extreme case the user will not even have call service

What is needed

Find ways to <u>accelerate the roll out</u> for new services

We started 5G roll out in many countries and still struggling with 4G IMS roll out

<u>Simplify the interoperability</u> of mobile unit and network

 A standardized test platform for interoperability of mobile devices vs. network would be the best approach

Jointly ask SOCs to improve their **SW architecture** and test their products against the same platform

Keep the network **configuration** setting **stable** (as far as possible)