



7^E TELECOM TIME

**Mobile telecom in 2020
“exploring new opportunities”**

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WTC Rotterdam | 9 december 2009



Agenda

Introduction

Current trends

Exploring the future

Opportunities

Conclusions



Intro VDVL

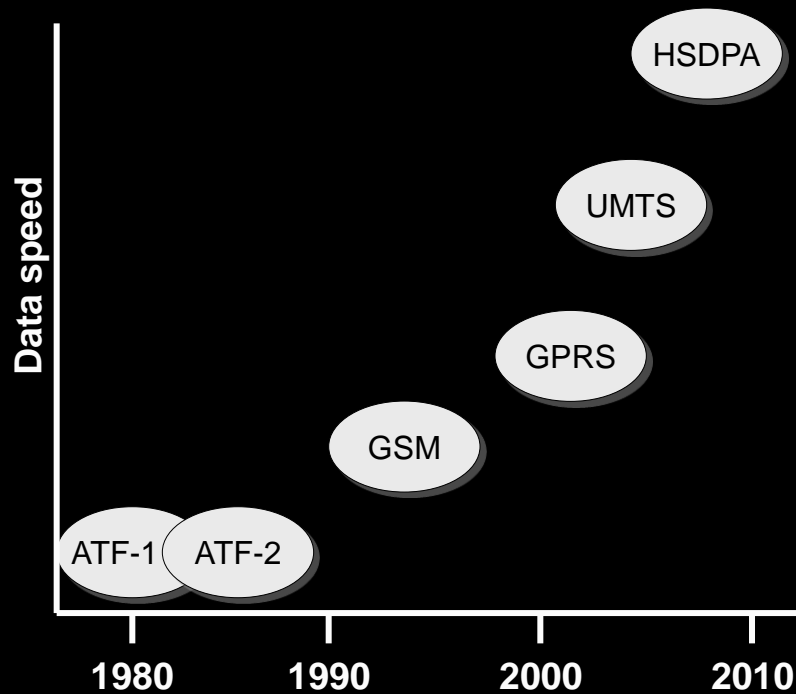
- Independent and professional Telecom-Internet-IT consulting
- 100% focus on IT-, Process-, and Service development
- Founded in 1987, located in Rijswijk, www.vdvl.nl
- 40+ employees; consultants, architects, designers, project managers and test managers
- Leading consulting roles and close customer relations with Dutch fixed and mobile Operators, Cable companies and (I)SP's
- VDVL is (preferred) supplier for CAIW, COIN, KPN, Tele2, T-Mobile and Ziggo

Visit us at the expo!

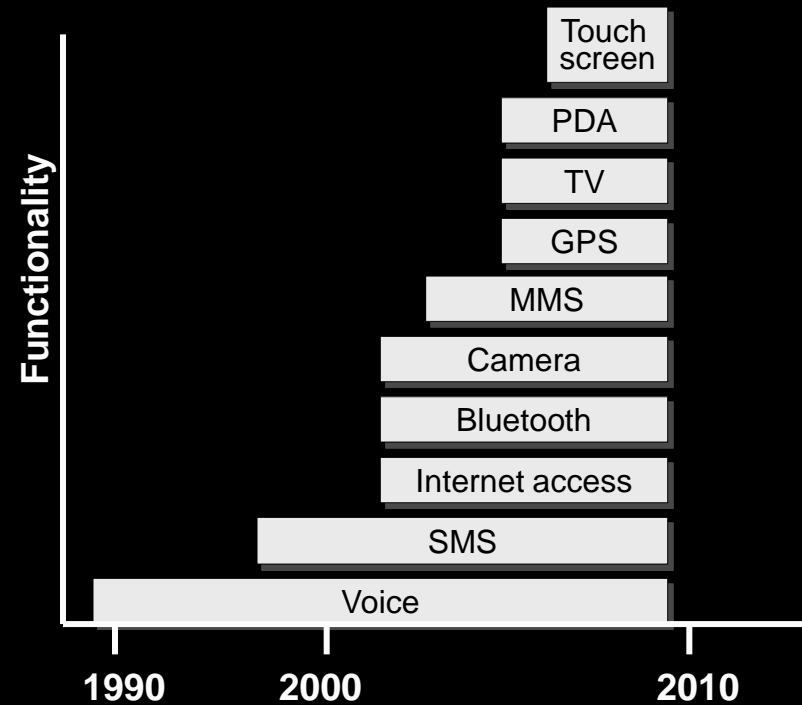


Since its introduction in 1980 Mobile has undertaken a spectacular growth

Mobile network technology in NL



Handheld development

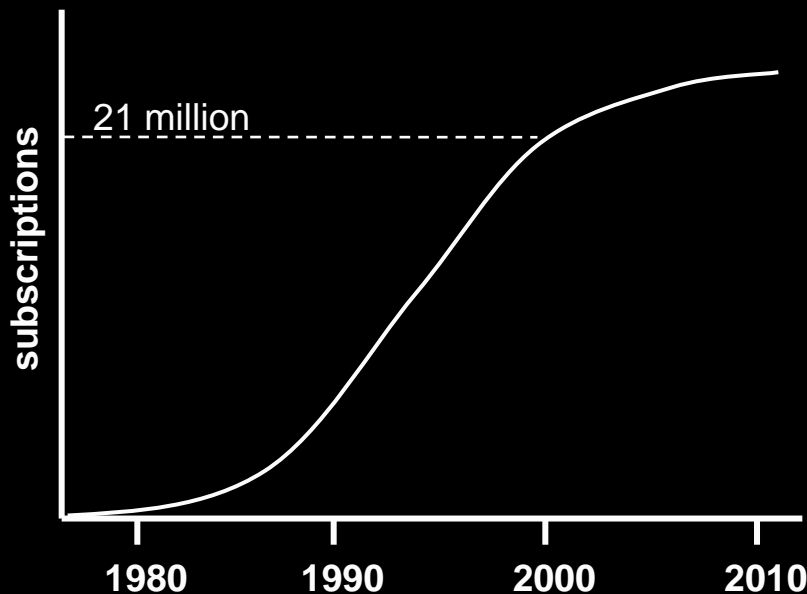


Services developed hand-in-hand with these technical developments.

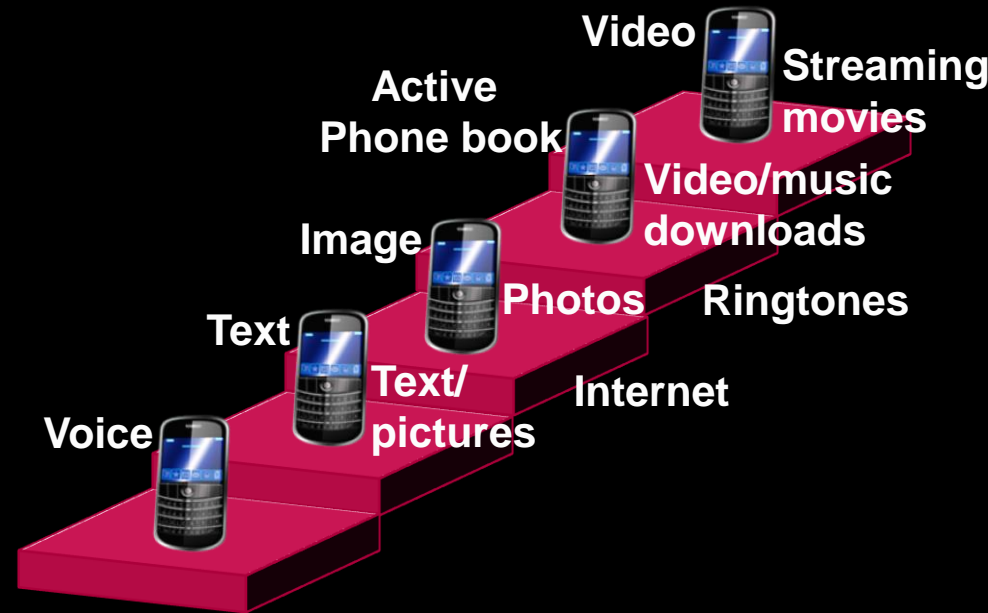


Meanwhile the Dutch market is reaching its saturation point. New services are launched to maintain the ARPU

Number of mobile subscribers



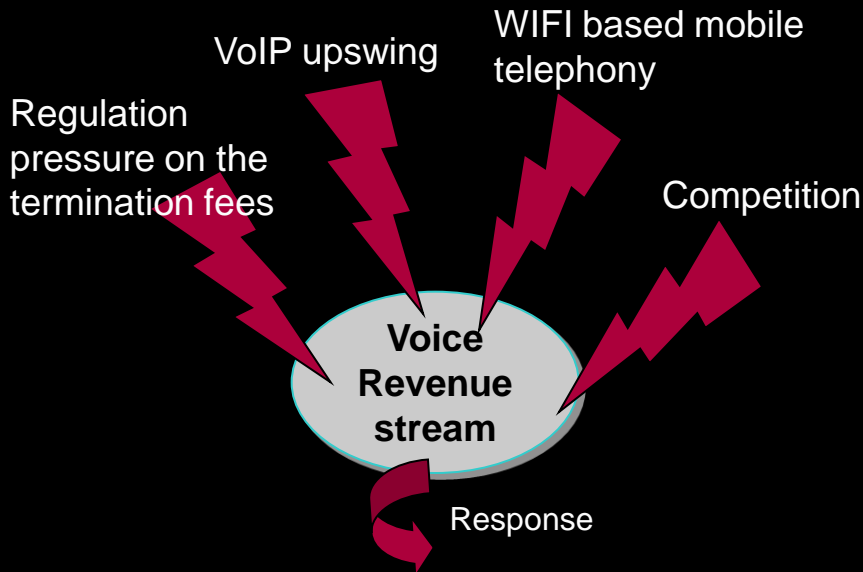
Services



Data services to compensate decreasing voice revenue.

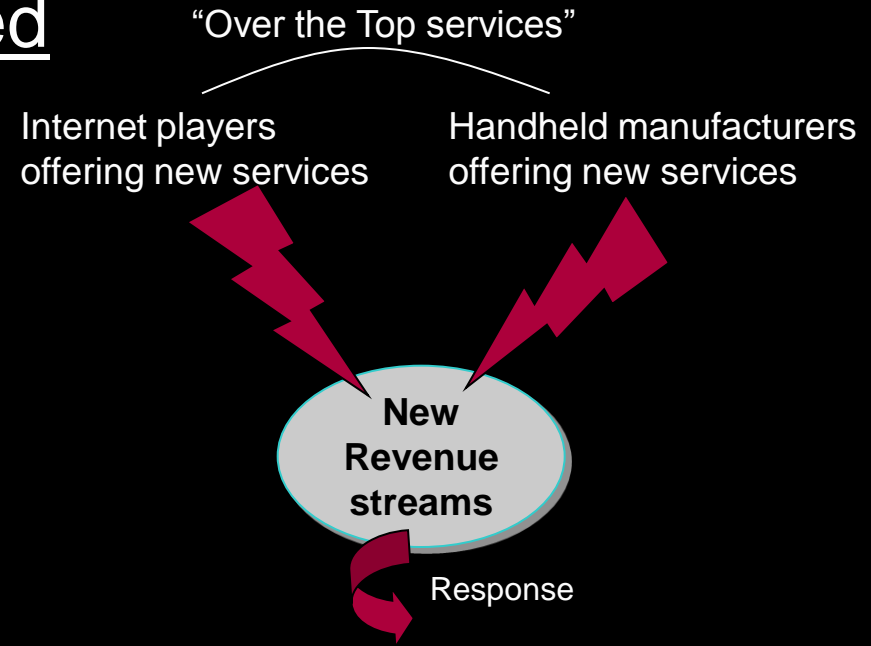


Existing Mobile Network Operator (MNO) business models are being threatened



Short-term:

- Price fighting
- Fixed Mobile substitution
- Lobbying for gradual decrease of the termination fees
- Discourage VoIP



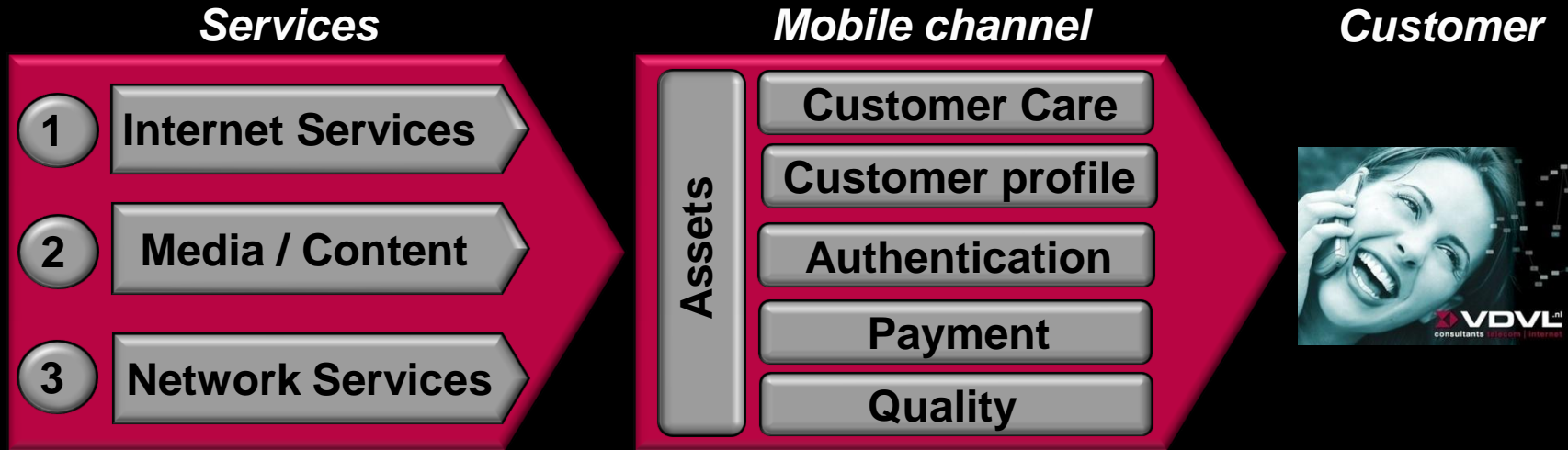
Grow data revenues by stimulating:

- Mobile email
- Mobile internet usage
- Laptop internet sticks/dongles
- Create ad-on services, like services blending, group gaming, connected car
- Create business data services, like Surveillance and E-health

Aside these short-term responses a long term strategy is needed.



For the mid term the threats can be faced by utilizing key assets



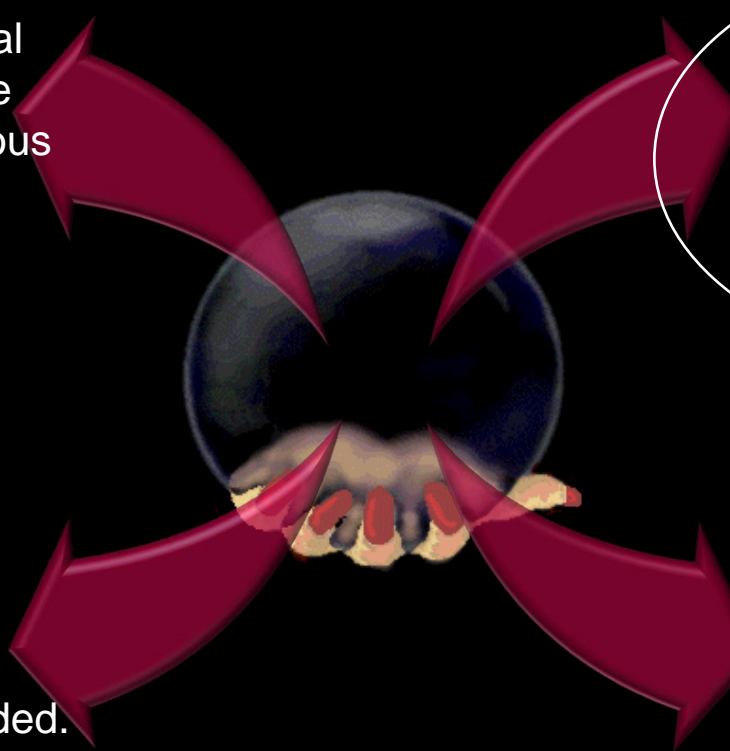
1. Mobile operators utilizing their assets to enrich the services from the internet players and handheld manufacturers. Creating new revenue streams.
2. Mobile operators & Media content providers to jointly develop 'Made for Mobile' content and interactive solutions
3. As VOIP will not disappear, embrace it. Launch low-end VOIP solutions.



For the long term.. what will 2020 bring us?

The health and environmental impacts of high speed mobile networks caused a tremendous drop of mobile telephony.

Mobile operators succeeded in being valuable service providers. Mobile has become a key communication channel for data, video, TV and voice (all IP based).



Ray Kurzweil's predictions became true; Human created super intelligence and shortly thereafter, the human era ended.

The battle in the value chain resulted that Mobile operators became Bit-Pipe operators. Limited investment power resulted in slow bandwidth growth.

Lets explore the more promising scenario.



The year 2020

Mobile phone trends

2010 - Smart phones

2020 - Introduction of the fully speech controlled Virtual Private Assistant

2015 - Intuitive All-IP phones

Network trends

2010 - HSDPA

2020 - LTE advanced

2015 - LTE commercially available

Web 3.0 - Semantic Web with Intelligence, could computing

2020 - Internet has become our collective brain and supports humans with its Artificial Intelligence

2004 - Web 2.0 including Wikipedia, YouTube, Facebook, Mash-ups ..

2020 - Convenience lovers acting in harmony with AI

2015 - Digital natives acting with shifted time and place

Now - personalized content & communities

Internet trends

Human behavior trends





Industry opportunities for the long-term

➤ **Mobile operator opportunities**

- Build high bandwidth mobile networks, starting with LTE
- Gradually move to VOIP and establish an IP interconnect platform to support this move.
- Build service creation communities together with internet players, handheld manufacturers and the media industry

➤ **Opportunities for the Internet players**

- Develop the collective brain and Artificial Intelligence functionality
- Continuous service creation

➤ **Opportunities for the hand held manufacturers**

- Continuous development of Mobile phone: Interaction with internet, standardization, human interfaces etc.



Conclusions

- Business models based on voice (charging usage) will most likely disappear in the coming 10 years.
 - New business models based on data usage and service usage will be needed
- Operators need to utilize their key assets such as customer intimacy, customer service and payment to secure their position in the value chain.
 - New revenue streams to be developed together with the internet players and device manufacturers
- Big industry challenges and opportunities are ahead; the development of the mobile phone, the high bandwidth networks, the intelligent internet and the ensuing services
 - Mobile operators to take position, to avoid being pushed aside.



Thank you for your attention!



Questions?

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