

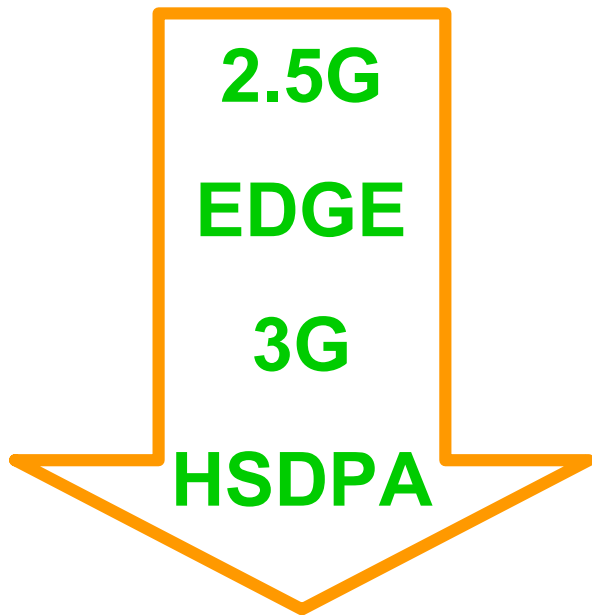
Delivering Mobile TV Today and Tomorrow

Dr Chrys Meewella

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NEC Streaming to Broadcast

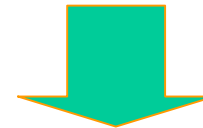
Streaming



Broadcast

Analogue mobile

TV in Japan



DTV: ISDB-T

Japan



DTV: DVB-T/H

Europe

Development of Mobile TV

A positive Mobile TV experience may stimulate HSDPA streaming as well as MBMS multicasting/broadcasting ~ encourage 3G usage

HSUPA

New media services (e.g. Chat, exchanging of video clips while watching movies...) ~ more demand for capacity in the uplink

HSDPA

Recording (storage) facilities on the network will create higher DL traffic

MBMS

Complementary to DVB-H, suited to smaller groups of recipients
May be suited for third tier operators

IMS

Presence and messaging can be integrated with TV services

Interactive Digital services

- **ESG/EPG**
- **On-device recording – time-slip**
- **Network based recording – PVR. Record on network and stream to mobile or PC.**
- **Voting – interactive tv programmes: Big Brother 3 (5.4 million SMS votes, 13 million total SMS messages)**
- **Chatting - TV station RTL in Germany opened SMS chatting on Teletext service – 5 million SMSs (€150k)/month**
- **Selling over mobile – advertisement over broadcast channel with purchasing transaction over 2.5G/3G channel. Big Brother 4 – 30,000 requests for ring tones, Logos and Java games.**
- **Subscription payments**

Handsets

Content Protection

- **NEC has a commercial OMA DRM2.0 solution for protecting content**

- **NEC supplies analogue TV handsets to the Japanese and Chinese markets**
- **NEC will provide ISDB-T Digital TV handsets to the Japanese market for the launch in 2006**

TV Transmission and Access network

- **NEC has supplied over 6000 transmitters for both analogue and digital TV networks worldwide**
- **Supply of TV transmission equipment for 49 years**
- **Analogue transmitters supplied to 79 countries**
- **Digital transmitters supplied to 21 countries**
- **NEC is a major supplier of Microwave access links**

Streaming

- **NEC has a streaming server currently deployed in mobile networks**
- **Streaming of recorded programmes over mobile network would generate revenue for operators**