

Will Bands IV/V meet all the expectations for the Digital Dividend in Europe?

What is the Digital Dividend?

EU definition: '...the **spectrum** made available over and above that required to accommodate the existing analogue television services in a digital form...'



Analog TV transferred to digital
Digital dividend according to EU definition

GE06 Plan: 7-8 DVB-T layers per European country in Bands IV/V after 2015

Actual and Potential Uses

Improved terrestrial broadcasting services

Additional TV programmes, enhanced quality/coverage

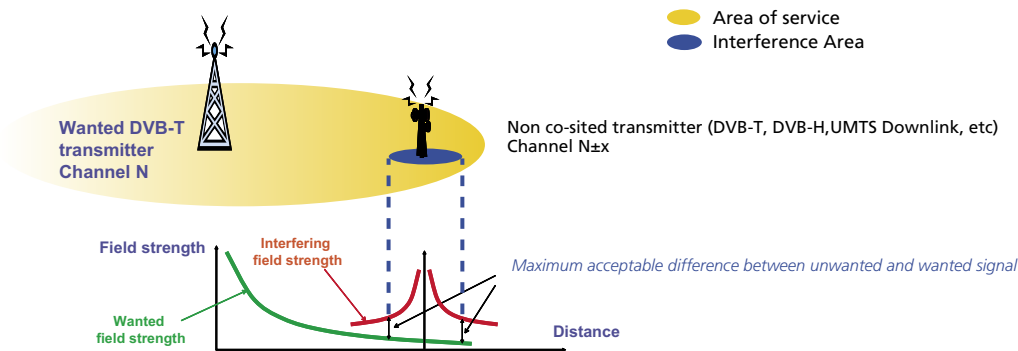
HDTV

Mobile TV

Non-broadcasting services, such as 3G mobile....?

- In Europe, the Digital Dividend will differ from country to country in the use, size, location in the frequency band and availability timescale

'Hole-punching' from non co-sited transmitters

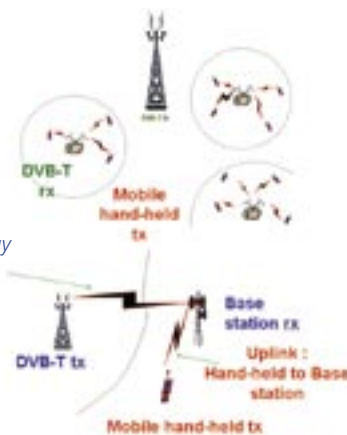


- Don't underestimate the issue of hole-punching by non co-sited transmitters. Very careful planning is needed.

Interference with Mobile Phone transmission

Mobile phone hand-sets radiate high energy locally.
DVB-T receivers are sensitive to this energy.

DVB-T transmitters can also radiate interfering energy to mobile network base stations



Mitigation difficult by

- cross polarisation or
- antenna discrimination

Mobile is, after all, moving
... so can be anywhere

Mitigation may be possible...

- cross polarisation
- antenna discrimination

...but expensive

- cross border coordination
- interference cancellation
- vertical radiation patterns

- Avoid Mobile Phone transmissions in the Broadcasting band

Digital dividend

– How big is the slice of cake?



Market expectations

- Enhanced services
- New services
- Optimum performance from all services

Digital dividend: the facts

- Available after 2015 in most countries
- Size and shape varies according to country
- Future TV additional programs, Mobile TV, HDTV.
It will require additional spectrum
- Dangers – Hole punching from non co-sited transmitters
– Interference with mobile phone transmissions

We need

- careful planning
- suitable spectrum sharing conditions