

# **ITU Regional Workshop on IMT**

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## **Some Views on IMT Spectrum Aspect In a Developing Country**

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# Content

- Overview on Mobile in Viet Nam
- Some views on IMT spectrum aspect
- Conclusion

# VIET NAM ICT SECTOR

## Fixed



## GSM



## CDMA



## 3G



## BROADCASTERS



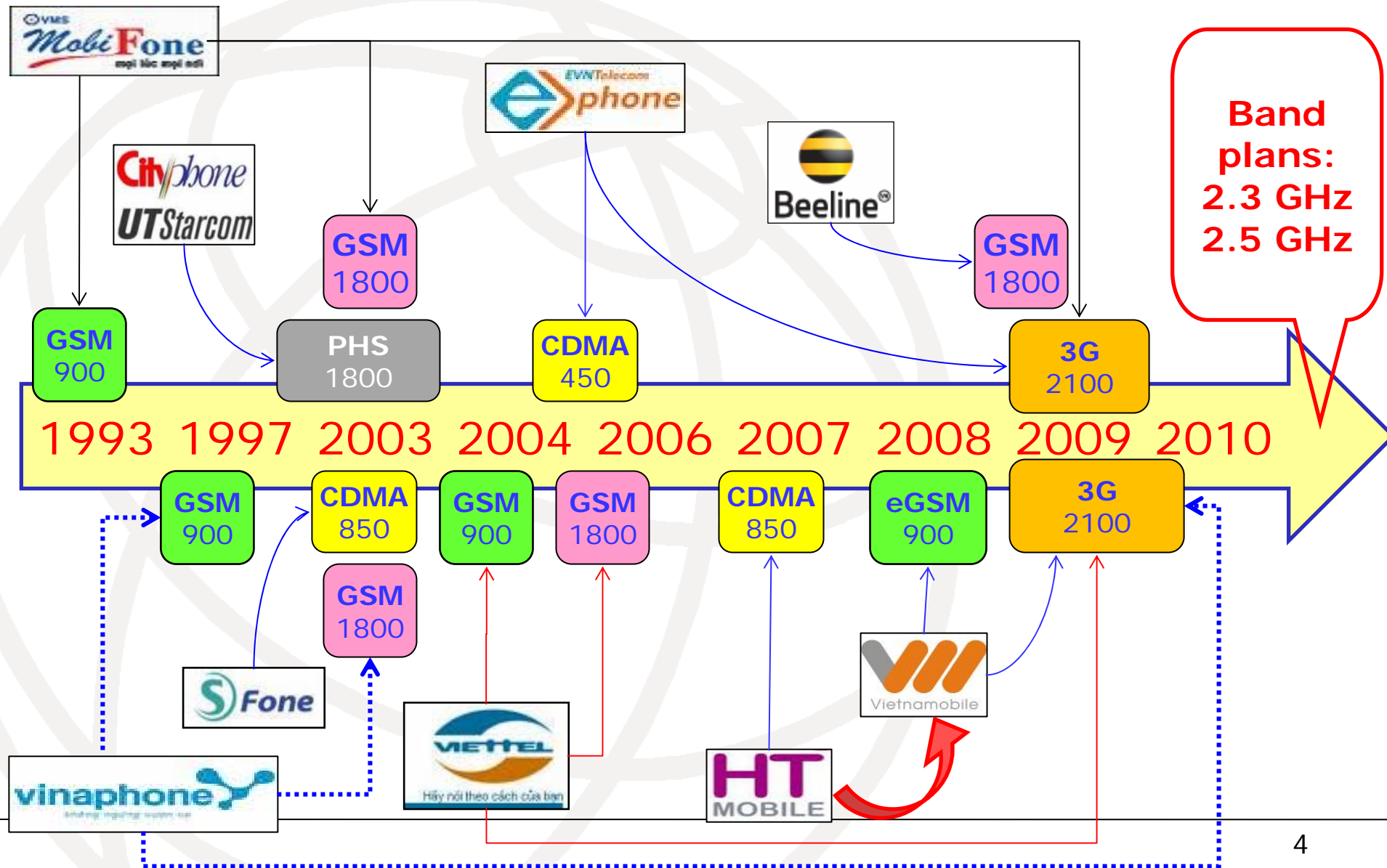
63 provincial  
broadcasters

## MVNO

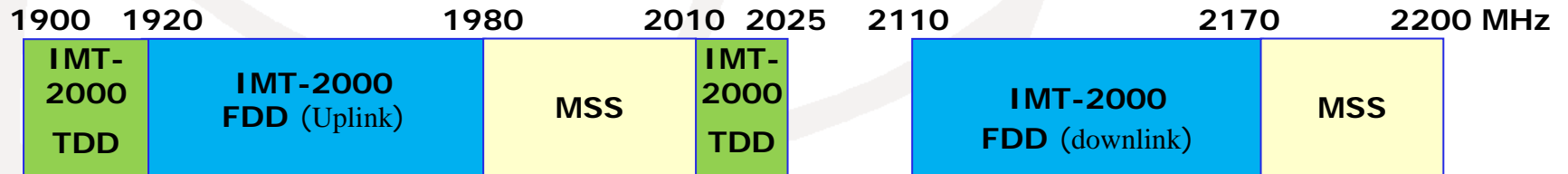
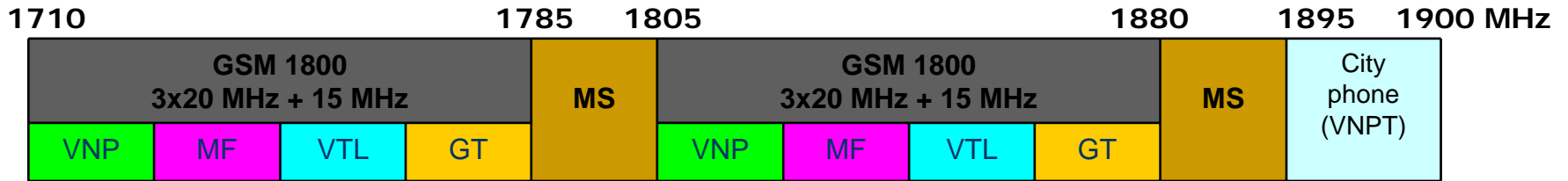
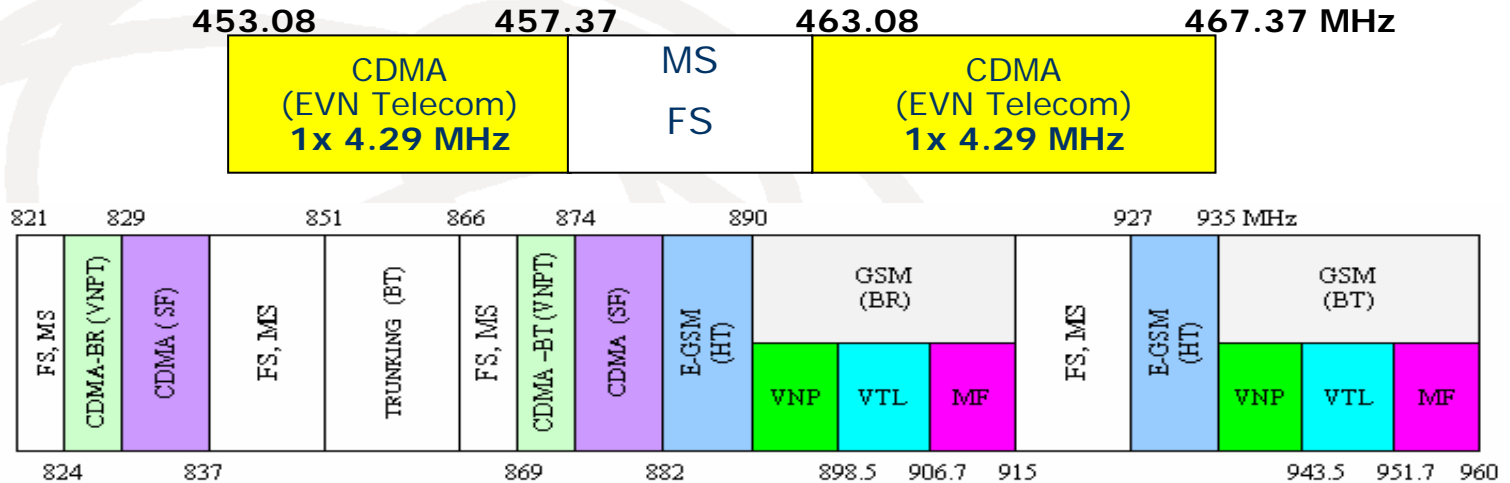
Indochina  
Telecom Jsc

New  
applications  
received

# Viet Nam mobile development history



# Bands Being Used by Mobile



# NEW LICENSING SCHEMES

**Telecom Law & Radio Frequency Law  
were passed in Nov 2009**

Service &  
facility

Open to also private company  
Foreign invested: WTO commitments

Spectru  
m  
resource

Auction, Beauty contest

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# More Spectrum for IMT?

Factors recognized

Real fast growths in data have been shown

Moving to broadband becomes clear trend

Estimations predict huge volume of data in mobile traffic

Envisaged technologies are more spectrum efficient but not enough to meet traffic demand

Higher financial investment required if lack of spectrum

Yes, additional spectrum needed  
Preparation for such future should be done soon

# What bands?

Long list from ITU, 3GPP, WiMAX Forum & others

For Viet Nam:

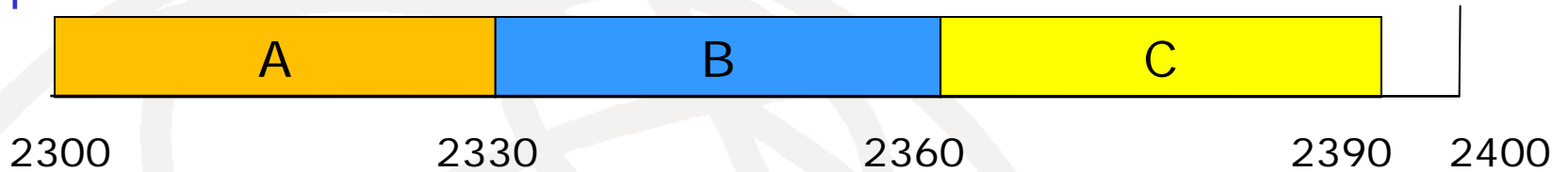
Priority given to ones with higher degree of harmonization, i.e. 2.3 GHz, 2.6 GHz & digital dividend



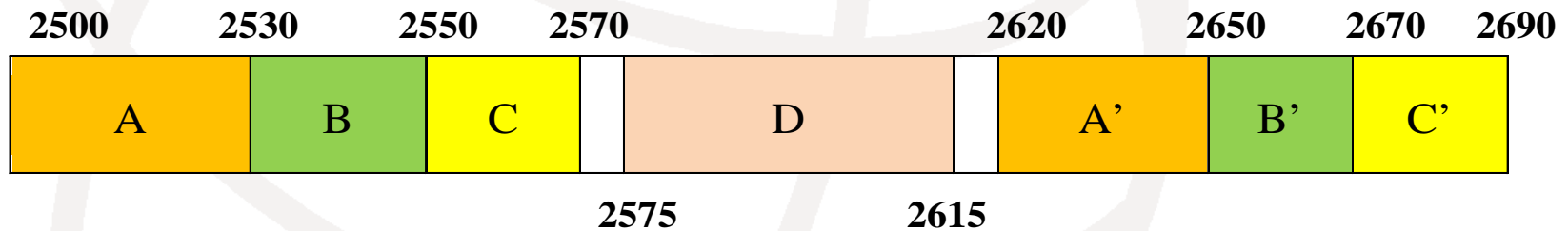
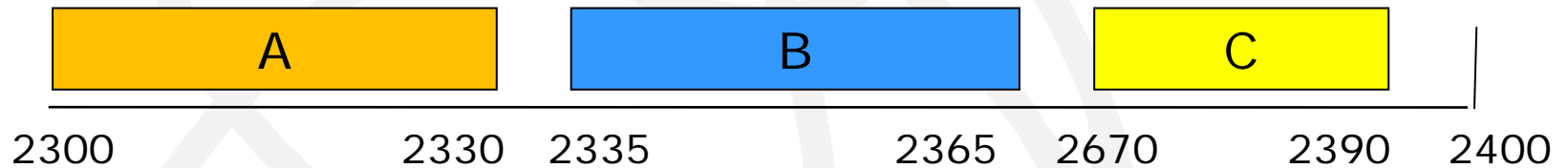
Refarming needs to start to get cleared bands

# Draft band plans 2.3, 2.6 GHz

## ◆ Option 1:



## ◆ Option 2:



# How to Perform Refarming?

ALERT existing licensees

LIMIT or Prohibit new deployment or expansion in a freq. plan

DEFINE a deadline for termination of operation

WANT to use band earlier than deadline, pay compensation

## Example 1: 2.1 GHz band

- 1996: alerting microwave licensees
- 2000: no new microwave deployment in the band
- 2009: award 3G licenses

## Example 2: 2.6 GHz band

- 2000: limit new deployment of MMDS & microwave systems
- 2009: existing systems be ceased before 2010.

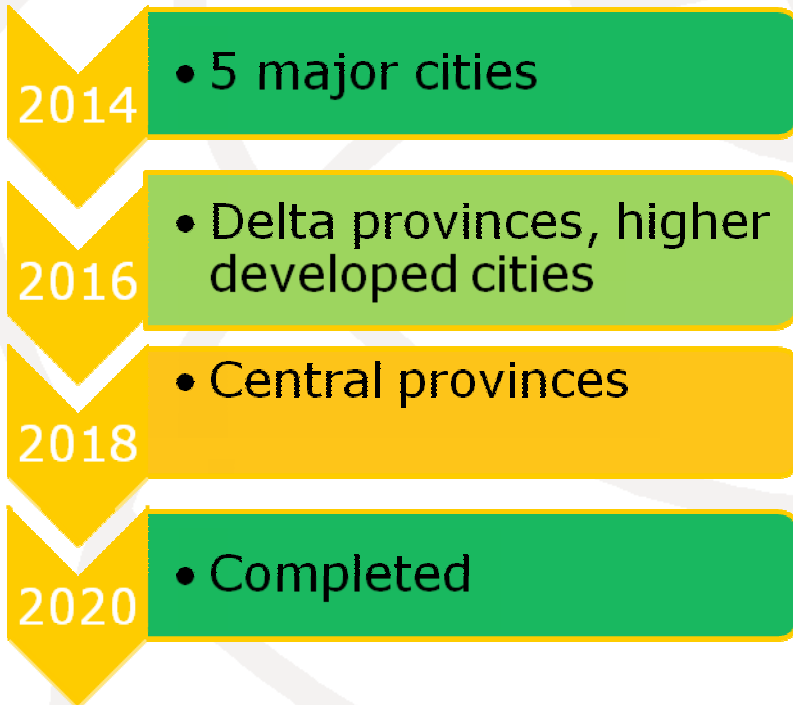
WRC result is important to prepare for refarming

News in Radio Frequency Law:

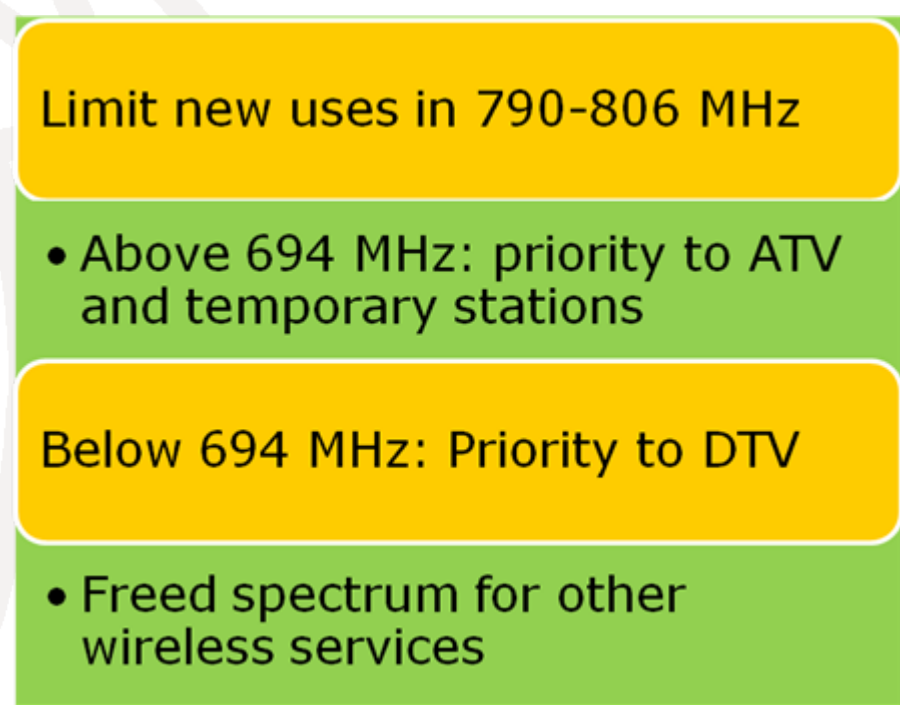
Revoke a valid license → Compensation

# TV Digitalization

## Switch-off roadmap



## Spectrum roadmap



# When licenses be awarded? (1)

Reasons recommended for being leading bird:

- Shortcut to information society
- New investments, new jobs created
- New is much better than existing
- Proud of being leading!



Licenses should be awarded ASAP !!!

**BUT**

# When licenses be awarded? (2)

The best if majority benefited from new system

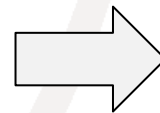
The majority can afford only if costs low enough

Handset cost (key factor)

Infrastructure cost

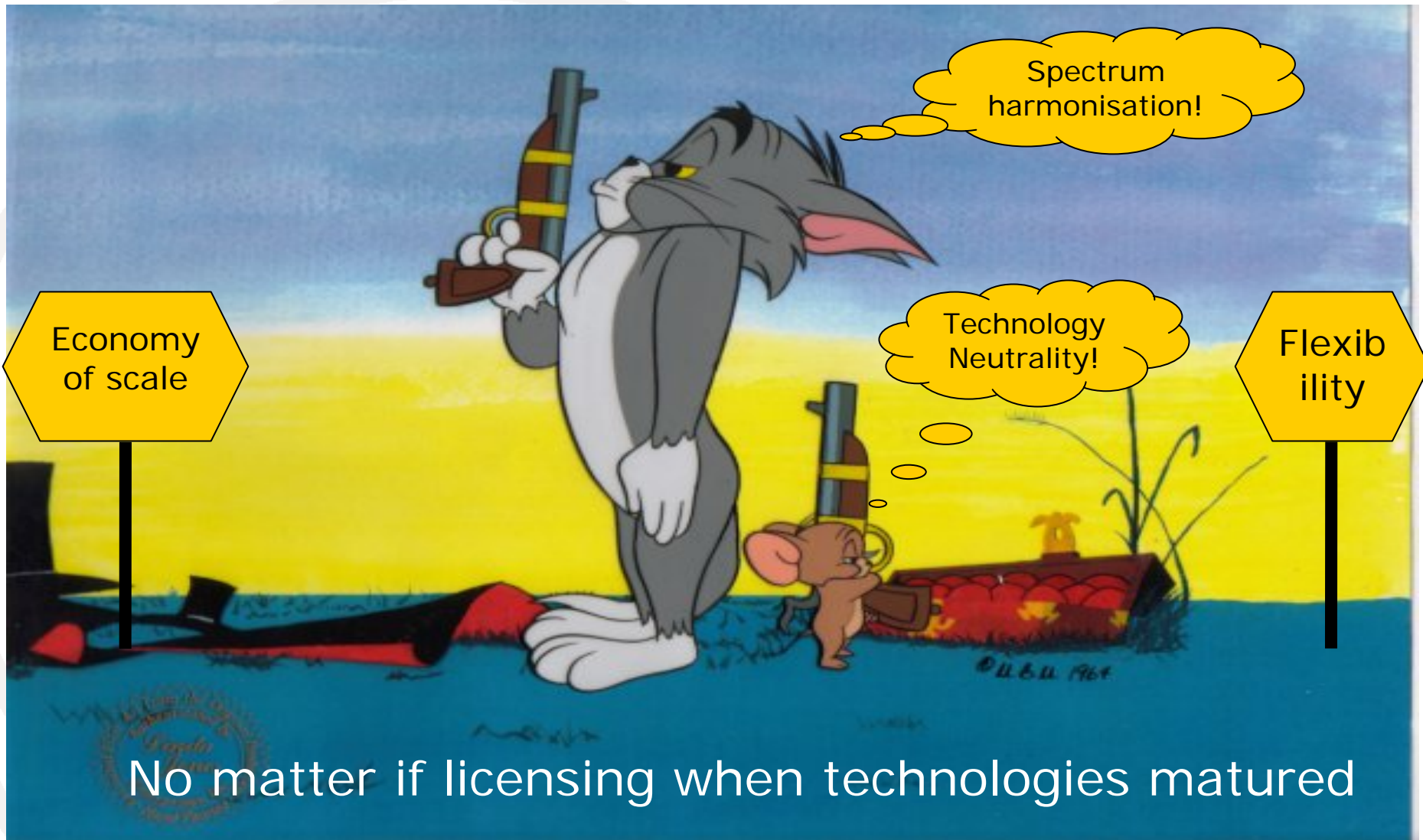
Technology matured,  
Enough number of users, i.e. 10%

Exist Gap between:  
Wish vs. Demand  
Demand vs. Feasibility  
Promise vs. Reality



Who take risk of  
making mistake?

# Technology Neutrality?



# Conclusion

- Need more spectrum for future IMT;
- Bands should be selected in manner of international harmonization;
- Refarming should be carried out soon to minimize the expenses;
- Time of awarding licenses should be thoroughly designed, may be until technologies matured



# Thank you!

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