UMTS - Regulatory Strategies

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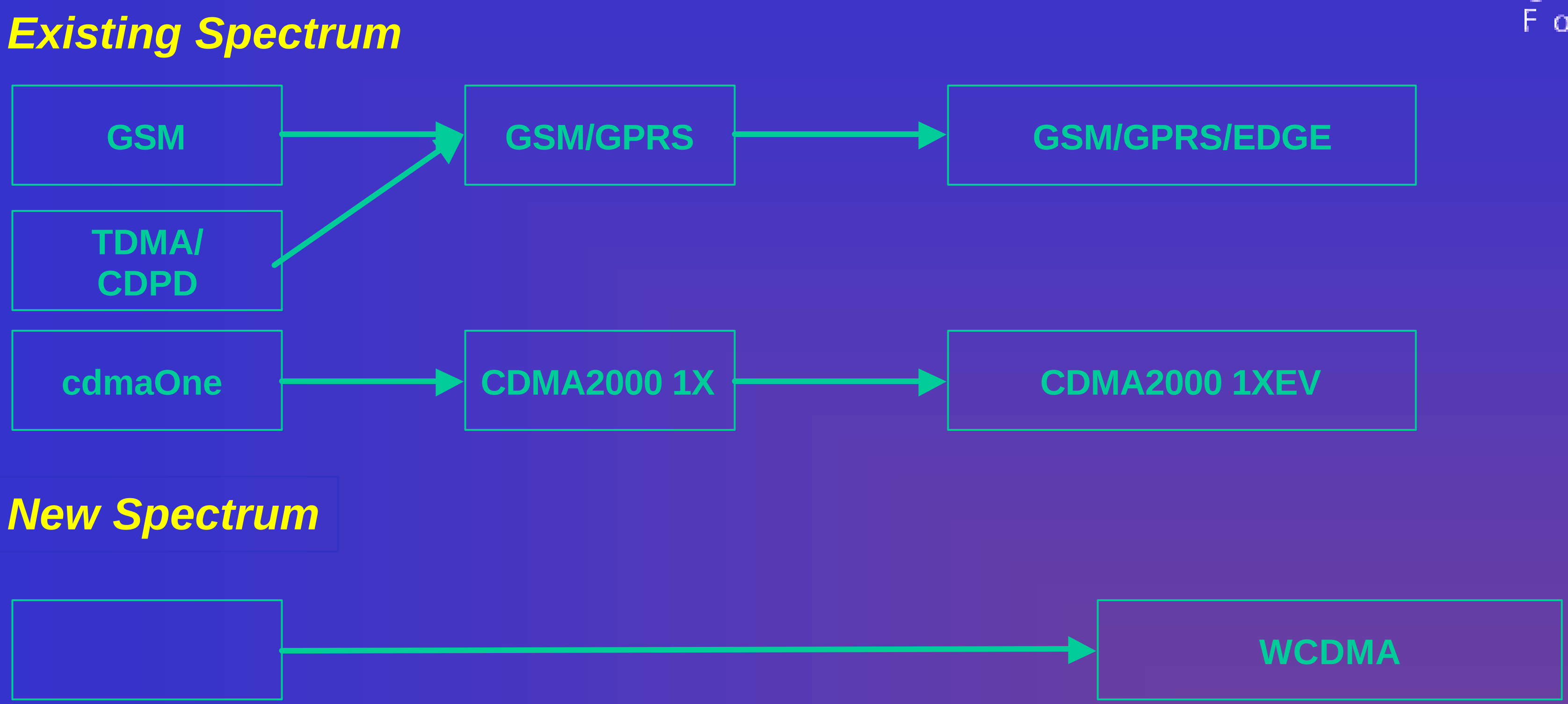
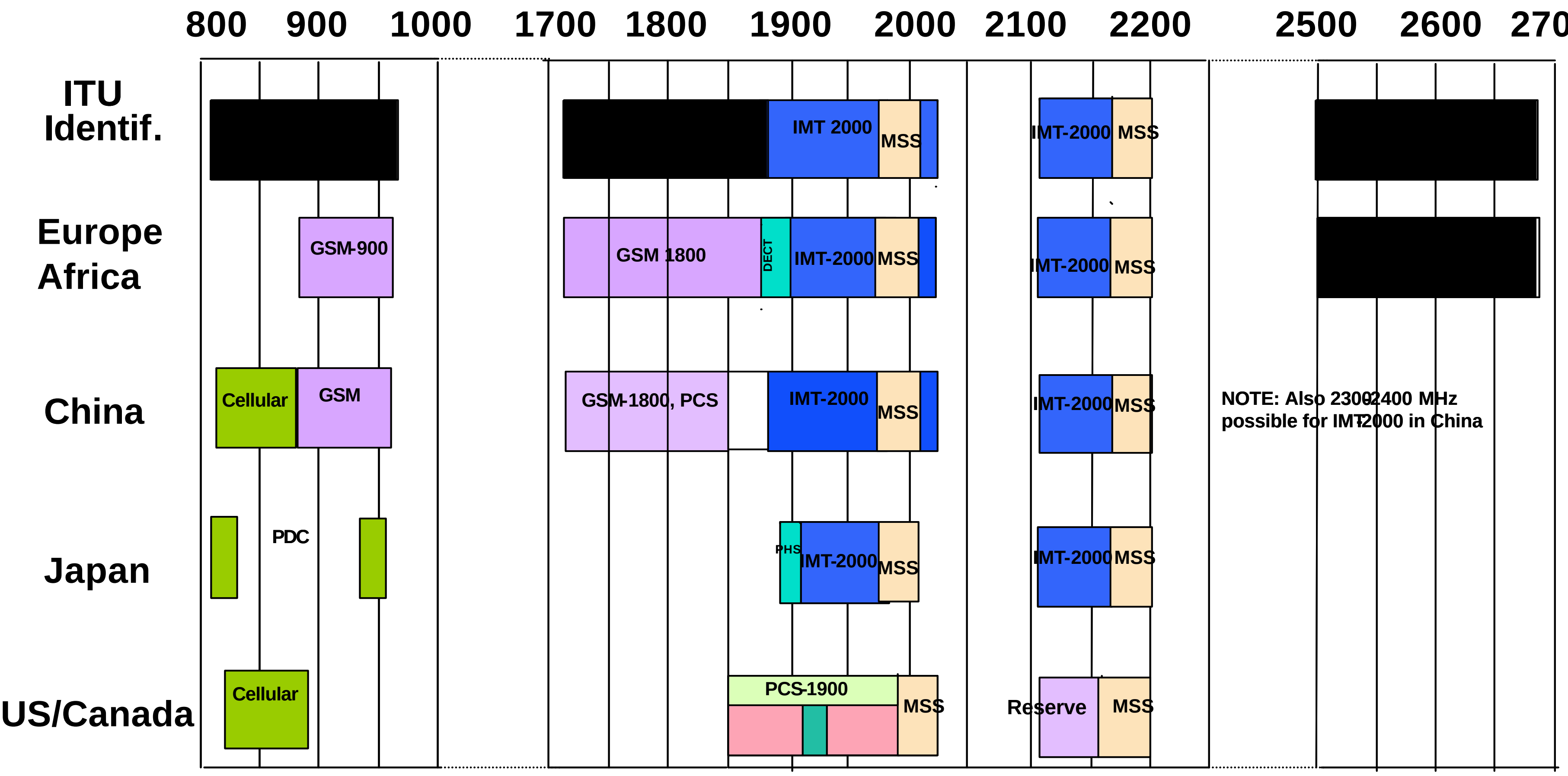
Main evolution into 3G



2G	First Step into 3G	3G phase 1	Evolved 3G
£ 28.8 kb/s	64 - 144 Kb/s	384 Kb/s - 2 Mb/s	384 Kb/s - 10Mb/s+

Spectrum planning



The basis for regulation

The UMTS Forum recommends that the general competition law framework should be used for UMTS in conjunction with the existing European and national telecommunications legislation. It is unnecessary to overlay the ordinary criteria of competition law with any additional rules when sufficient competition has been established in the telecom field.

Source: UMTS Forum Report #4

Important Licensing conditions

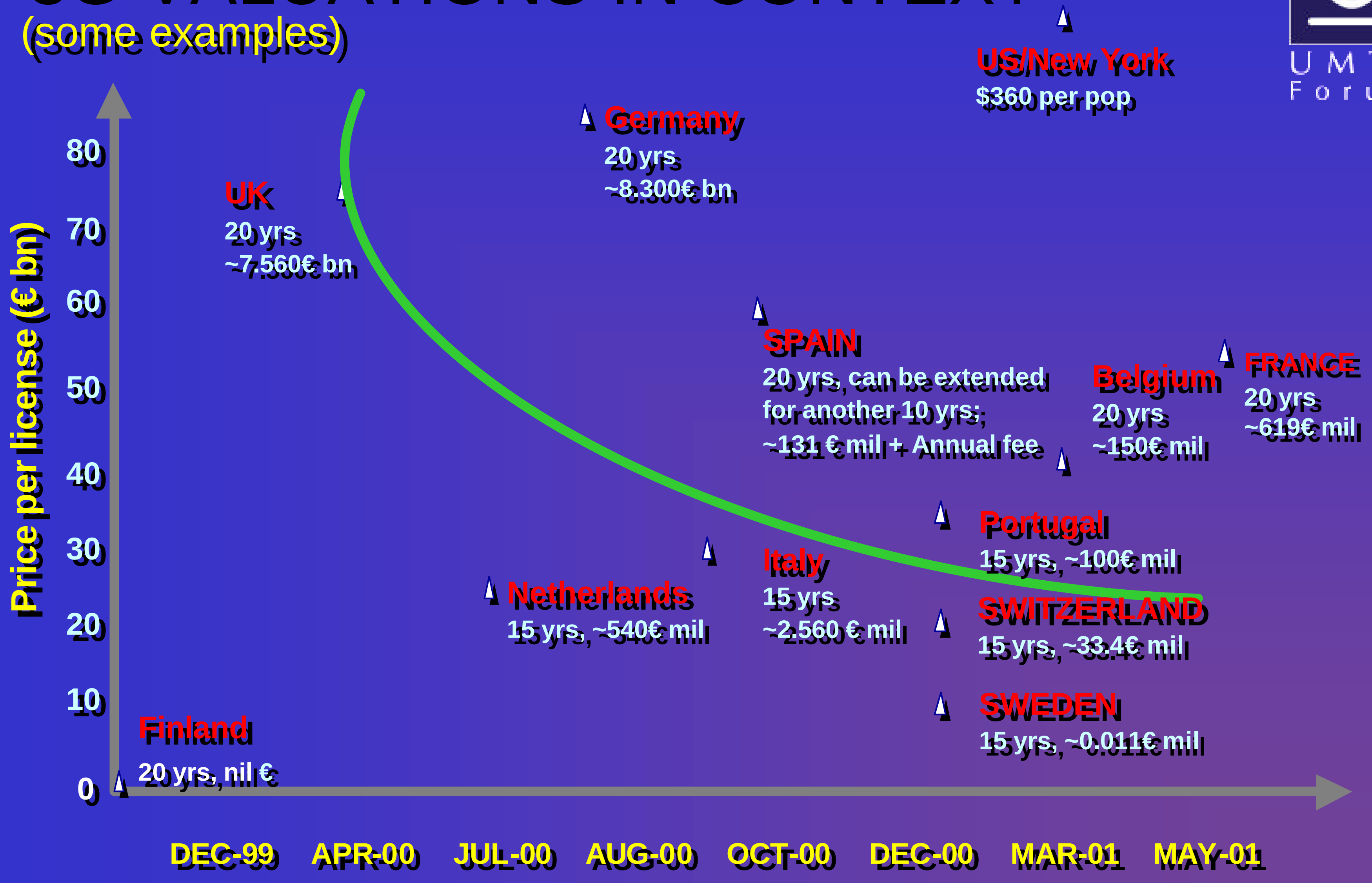
- Spectrum price and auctions
- Coverage and roll-out obligations
- Rules for sharing of facilities and infrastructure
- Rules for national roaming
- Global circulation of terminals

Spectrum price

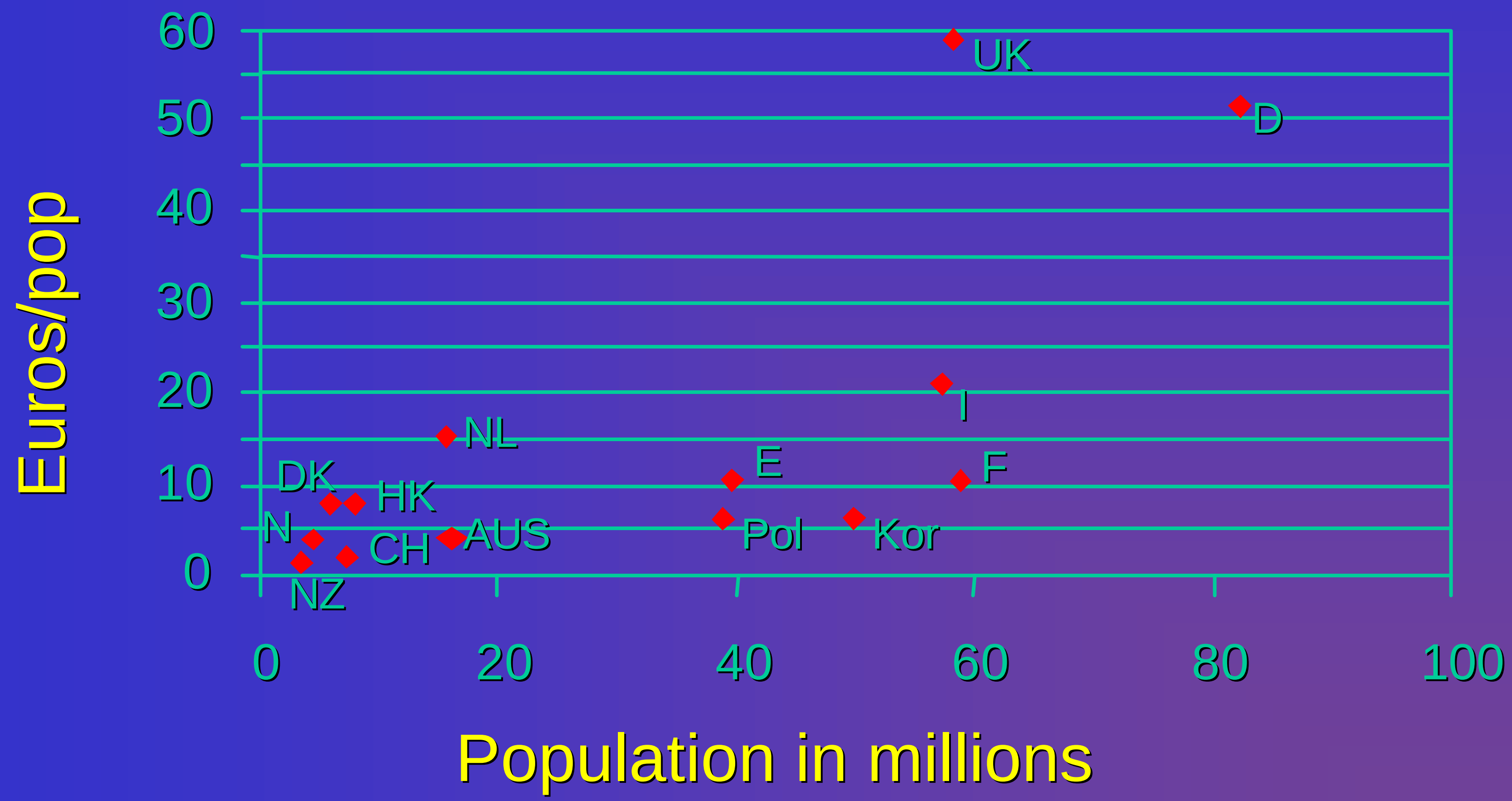
- Spectrum must be available at the right price. Large initial down-payments for spectrum will adversely affect the growth of 3 G services
- Yearly fees give better stimulus to efficient use than initial down-payments
- Intensive use of the spectrum gives better total value for society than high license fees

Source: UMTS Forum Report #3

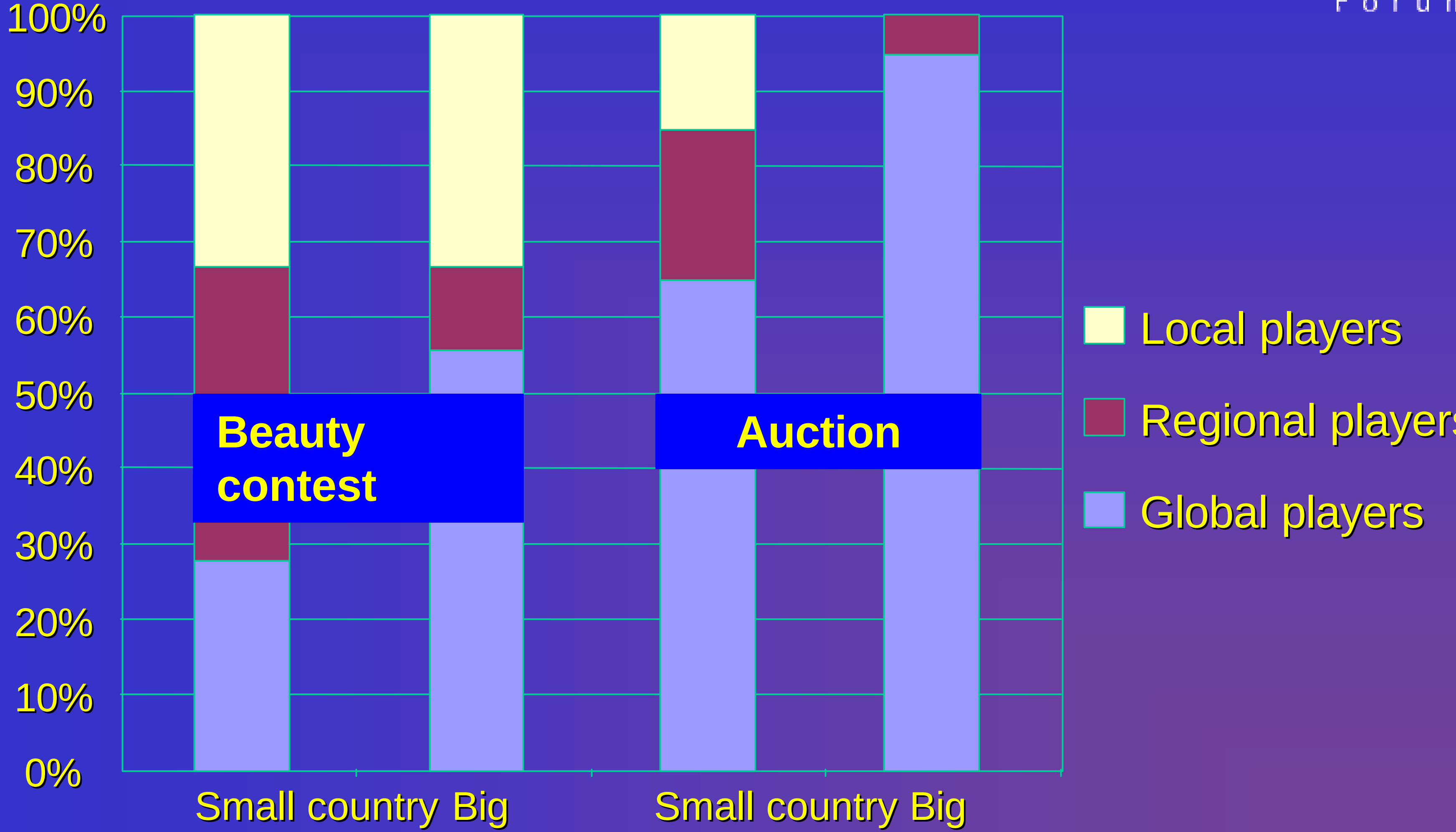
3G VALUATIONS IN CONTEXT
(some examples)



Licence prices and country size



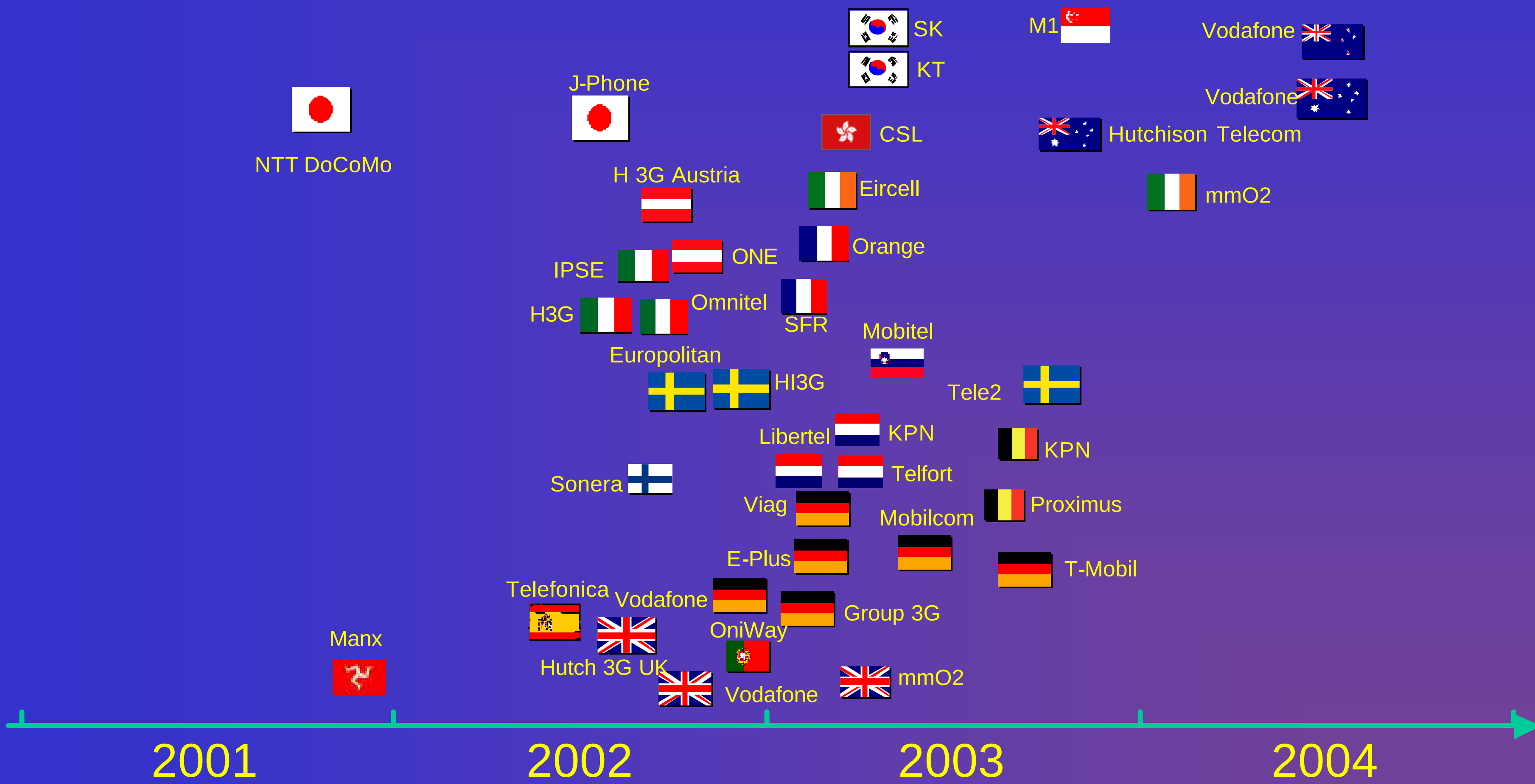
Categories of Licence holders



Signs of crisis

- Operators debt burden increases.
  Big operators capital expenditure was increased more than 50% 2000-2001.
- Free Cash Flow down 90% in two years.
- Credit ratings for big European operators down 3-4 steps.
- Financial regulators concerned with the exposure of some banks to the telecom sector.
- Downward trends in voice ARPU make growth of data ARPU necessary.

Announced & Expected WCDMA Launch Dates



Coverage and Roll-out

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- Roll out of the 3 G networks should be done according to market demand
- Coverage obligations must be linked to level of network service capability
- Ubiquitous coverage have to be achieved by satellite systems

Source: UMTS Forum Report #4

How did it turn out ?

- Most countries require the same speed for roll-out, 50% in 4 - 5 years. A few require significantly more.
- Site acquisition an increasing problem.
- Unclear how far co-operation may go, either via sharing or national roaming. Rules not easy to change in auction countries.

Sharing of facilities and infrastructure

- Sharing of facilities can give a rapid deployment of networks and introduction of services
- Sharing of network infrastructure may conflict with the goal of infrastructure competition
- Sharing should be commercial; mandatory sharing is normally not acceptable

Source: UMTS Forum Report #4

Infrastructure sharing in D

- Full legal control of the operator‘s network
- Sites, masts, antennas, cables & combiners shared
- SSCs shared: more than one Node B in a single SSC
- Logically (instead of physically) distinct Node Bs, but...
- Logically (instead of physically) distinct RNCs, but...
- No shared use of core network (MSC)
- No transitional arrangements

Logically distinct Node Bs

- Independent control of own Node B, no spectrum pool
- No exchange of competition/customer data
- Own seperate operational/maintenance infrastructure
- Additional own Node Bs
- no regional splitting of coverage, overlaps

Logically distinct RNCs

- Independent control of usage-sensitive cell load & power
- No exchange of competition/customer data
- Own seperate operation/maintenance infrastructure
- Additional own RNCs
- Connection of own Node Bs, operated solely by him, to own logical RNC

National roaming

- National roaming may be a way to achieve terrestrial coverage of unprofitable regions
- Licence conditions should allow commer-cially negotiated roaming agreements, if infrastructure competition is maintained
- National roaming should only as an exception be mandatory. It can during a transitionally period help new operators to establish a market

Source: UMTS Forum Report #4

Why is co-operation wanted?

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- Operators in general have a high debt burden, negative cash-flow and decreasing market capitalisation.
- Environmental concerns make site acquistion more complicated.
- Co-operation between operators may
  - facilitate deployment of network,
  - decrease investment, and
  - increase coverage and market size.

Global circulation of terminals

- The right to carry and use personal terminals, “global circulation”, is very important for many users.
- There are very few, if any, technical problems with the circulation of GSM terminals.
- The ITU has decided on a regulatory framework for global circulation. This should be the basis for national rules.

What have we learned so far?

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- Do not take out too much money to the state early in the process;
- Set realistic roll-out and coverage obligations;
- Define rules for sharing of infrastructure and for national roaming;
- Set national environmental rules;
- Service development is key to market.

What can be done by governments?

- Use the spectrum bands according to IMT-2000;
- Allow co-operation between operators in rural areas (network sharing, national roaming);
- Simplify the process of site acquisition and agree on harmonized environmental conditions;
- Support the creation of new advanced mobile services (e.g. e-government, e-learning, e-commerce);
- Support global circulation of terminals

What is the UMTS Forum?

- **A global organisation with over 200 members from more than 40 countries:**
  - Mobile, fixed and satellite operators
  - suppliers
  - consultants
  - regulatory bodies
  - IT and media content providers
- **Goal:**
  - Successful global commercial deployment of UMTS / 3G services

What are the aims?

The Forum works to identify common interests and to promote:

- Realisation of the full vision of 3G mobile services
- A sound regulatory framework for the introduction of UMTS/IMT-2000
- Timely availability of radio spectrum to support UMTS/IMT-2000
- A clear understanding of future market opportunities
- Guidance towards Standardisation Bodies
- Increase awareness amongst investment community
- Convergence and mutual understanding between all relevant industries

UMTS Forum Reports & Papers

Latest Reports (e.g. 3Q2001 to 2Q2002)

- UMTS in a Converging Network Environment (No 14)
- Key Components for 3G Devices (No 15)
- 3G Portal Study (No 16)
- UMTS Third Generation Market Study Update and Forecast (No 17/18)
- Benefits and drawbacks of introducing a dedicated TLD... (No 19)
- Charging, Billing and Payment Views on 3G Business Models (No 21)
- Public WLANs & 3G Business Revenues (No 22)
- UMTS/IMT-2000 in Central & South American Countries (No 23)

Reports under study (2002) e.g.

- (more) Wireless LAN Studies (expected 3-4Q2002)
- Research on Customers Behaviour (expected 4Q2002)

More

- Position & White Papers on different subjects (ongoing)

Thank you for your attention !

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www.umts-forum.org