



Lessons to be learned from the Norwegian 3G licensing process

1 Background

Norway has a population of approximately 4.5 million with an average population density of 14 inhabitants per sq. km. The fixed-line penetration is 73.3 per cent, and 29 % of the fixed-lines are ISDN. The mobile penetration passed the fixed in 1999, and is now 74.8 per cent. GSM accounts for 71.8 per cent, and 46 per cent of the GSM subscriptions are pre-paid. There are two GSM operators: Telenor Mobil and NetCom. (Figures from end of year 2000).

2 The licensing of 3G in Norway

- ◆ On 31 May 2000 an invitation to apply for up to four licences was issued
- ◆ Allocation method: Beauty Contest
- ◆ Bandwidth: 2 x 15 MHz paired and 5 MHz unpaired for each license
- ◆ Duration: twelve years
- ◆ Minimal requirements:
 - Coverage:
 - A. 12 densely populated areas.
 - B. 90 per cent of the homes in A) to be covered after five years
 - C. Coverage must be unbroken, and minimum speed: 144 kbit/s.
 - Roll-out speed:
 - 10 per cent after one year
 - 40 per cent after three years
 - 90 per cent after five years
- ◆ Fees and charges:
 - NOK 200 million per license up front (approx. €25 million)
 - Provider fee (annual)
 - Frequency management fee (2001: NOK 1.8 million)
 - Frequency charges (NOK 20 million for 2001)
- ◆ Special considerations:
 - The licensee may share network components with another provider. However, each provider's network must appear as a separate network.
 - National roaming from 3G to 2G network without requirements of own coverage.
 - Roaming between 3G networks is left to commercial agreements and will not be mandatory.
 - It's a right and duty to collocate with other providers.
- ◆ Seven applications were received on 14 August 2000
- ◆ Coverage and roll-out speed over the minimum requirements will be considered important.
- ◆ On 1 December 2000 four licenses were awarded to Broadband Mobile, NetCom, Tele2 and Telenor; the two incumbents and two new operators.

3 Lessons learned

One of the licensees has filed for bankruptcy and the license was revoked on 17 September. A second licensee has very high coverage requirements to be met in a few months. Below is a list of conditions that might have improved the present situation:

3.1 Infrastructure sharing

The different networks in Norway can share most of the infrastructure. Masts, antennas, power supplies, housing, transmission routes etc. can be shared. Node B and Radio Network Controllers can be shared except from the intelligent control of the frequency resources. The core network can **not** be shared. The frequencies can **not** be shared.

The licensing process specifically required the networks to meet the coverage requirements by using the licensee's own frequencies. This requirement could have been relaxed by allowing frequency sharing in parts of the country, especially in rural areas.

3.2 Roll-out

The "year-one" check for roll-out speed might have been omitted to take into account the possibility for delays in supply of equipment and stability in standards. (However, the applicants bid more than the minimum requirement.)

3.3 Duration

The duration of 12 years is shorter than in most other countries.

3.4 Roaming

The roaming conditions for new entrants can be improved.

3.5 Virtual Mobile Network Operator

The Norwegian definition of a virtual mobile network operator is an operator without a physical network but with the ability to switch his own traffic and to issue his own SIM cards. This concept of a mobile operator has not been allowed by the Norwegian parliament. The NPT believes that virtual mobile operators would increase the competition in the Norwegian market.

3.6 The licensing method

The method use to select the licensees was a beauty contest where coverage requirements were the main selection criteria. This resulted in very high bids on coverage. This again resulted in very high coverage requirements in the licenses; maybe too high roll-out obligations in a relatively short period of time.

This situation could have been improved by using additional selection criteria, but with a possible disadvantage of a less transparent and fair process.