

A portrait of Sari Baldauf, President of Nokia Networks, smiling. She has short dark hair and is wearing a dark blazer over a light-colored top. The background is a soft-focus office setting.


Towards the new paradigm of mobility - impacts on the telecoms infrastructure business

Sari Baldauf
President
Nokia Networks

The Nokia logo, consisting of the word "NOKIA" in blue capital letters.

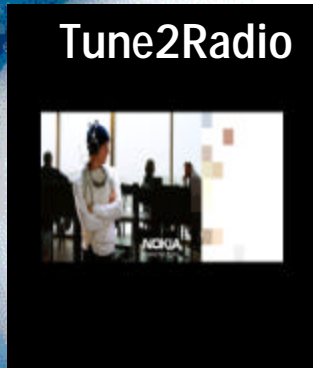
Content

- New technologies will enable service development
 ➡ network upgrades and capacity investments
- Network infrastructure market developments
- Nokia's position in the infrastructure business
- Our business model
- Summary

The Nokia logo, consisting of the word "NOKIA" in blue capital letters.



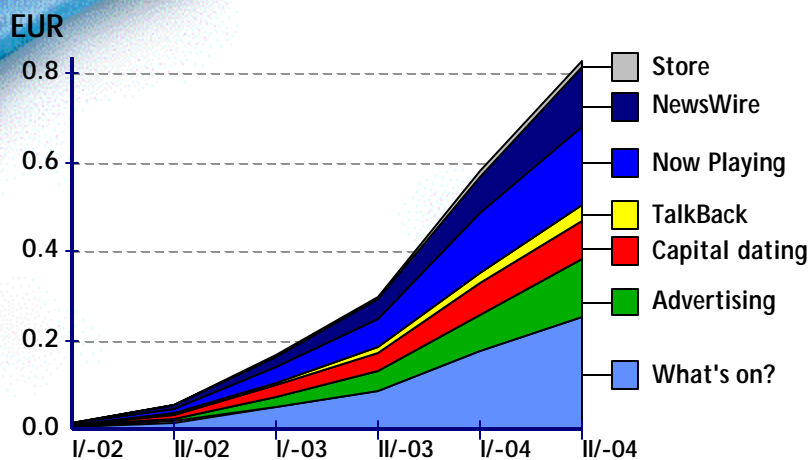
Tune2Radio interactive service concept possible today



- Personalized listing of radio shows
- Interaction with the radio station
- Voice calls generated as a result of other services
- Information related to the current broadcast
- Personalized listings of news, entertainment, travel items traffic info
- Advertising

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Tune2Radio - Impact on average monthly ARPU



The ARPU from GPRS users grows from **0.5 EUR in 2002** to **1.9 EUR in 2004** with this same split among revenue streams.

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What does it require from the network ?

Tune2Radio Deployment

Platform to host T2R service

- Solaris 8 or Linux hardware
- mySQL database
- Nokia messaging gateway
- Nokia WAP gateway
- Billing system

Bespoke service creation

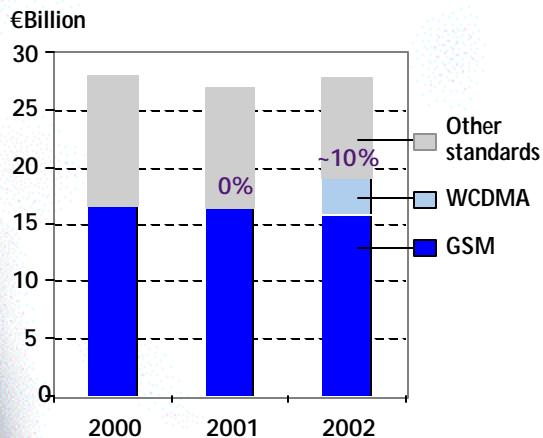
- Quality GPRS network infra
- branding
- content
- integration with existing infrastructure

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Infrastructure market developments

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Nokia-addressed technologies grow faster than mobile infrastructure markets overall



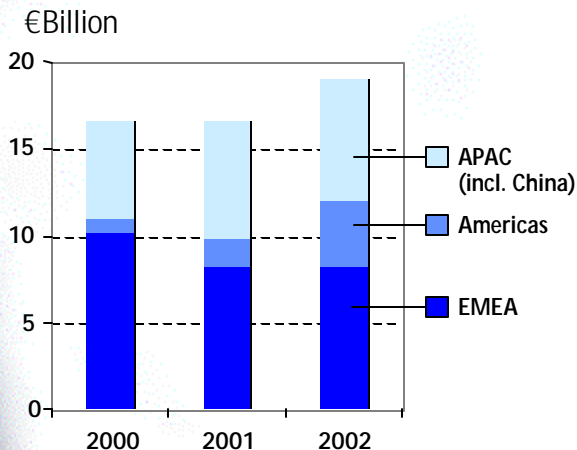
Nokia, Nov 2001

Note: Includes base stations and mobile core only

- Total market growth is flat to slightly positive for 2002. In longer term clearly positive
- Growth of the Nokia addressed market is significantly higher, both in near and longer term

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Addressable market growth



Nokia, Nov 2001

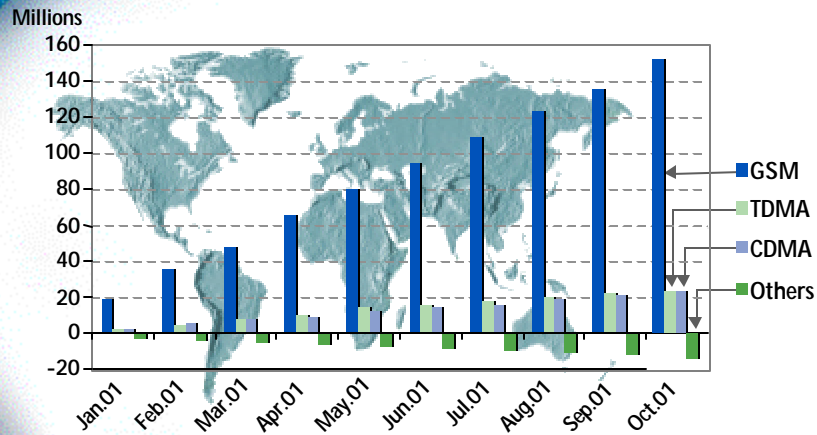
Note: Includes base stations and mobile core only

- Fastest in the Americas
- In Europe the growth is shifting to 3G networks

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WCDMA will build on the global growth of GSM, creating a 3G mobile world

Since January 2001 GSM is 78% of all new subscriptions



Source: EMC Database

Global Economies of Scale Will Drive Roll Out and Delivery, Enabling Low-cost Mass Market Services

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GSM/EDGE is becoming the dominant technology in the Americas

GSM countries in 1998:

Canada
Chile
French Caribbean
Paraguay
United States
Venezuela

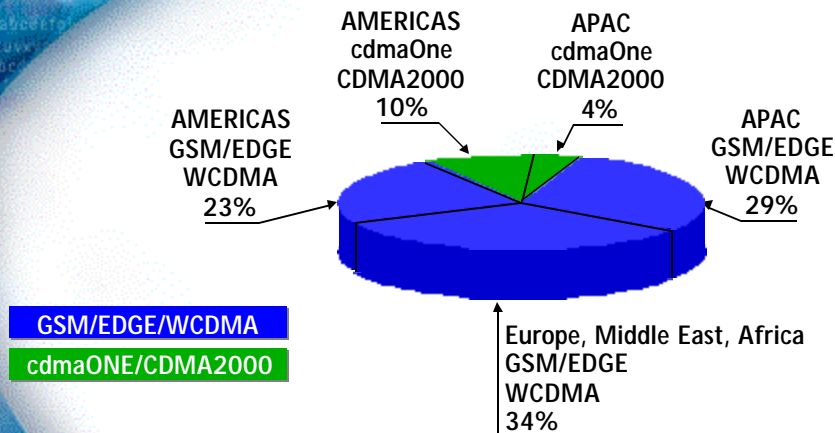
GSM countries end 2001:

Antigua & Barbuda
Argentina
Bolivia
Brazil
Canada
Chile
El Salvador
French Caribbean
Guatemala
Jamaica
Mexico
Paraguay
Peru
Suriname
Trinidad & Tobago
United States
Venezuela

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Economies of Scale Will Drive 3G Evolution

Mobile Subscriber Percentages by 2006



Over 85% of digital subscribers will be GSM/EDGE/WCDMA by end 2006

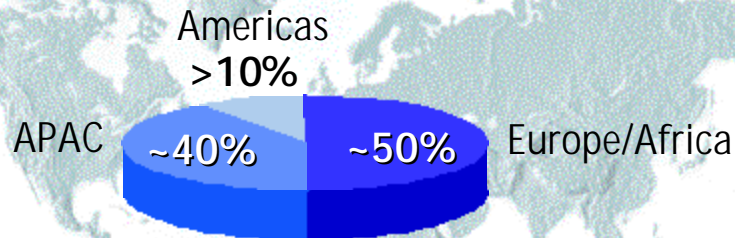
Source: Nokia

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Nokia's position in the infrastructure business

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Nokia Networks current sales



The split will change in the coming years due to our strengthening presence in the United States

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Our addressable market – GSM / EDGE

- 
- TDMA operators' migration to GSM/EDGE will increase Nokia's accessible market
 - AT&T Wireless Services, Cingular and Telemar are Nokia's major customers
 - Our market share in mobile infrastructure business in the Americas will grow significantly

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Our addressable market – 3G WCDMA

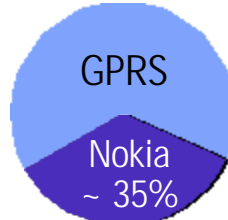
- WCDMA will be implemented not only in the current GSM countries but also in Japan and Korea
- Nokia has already scored its first infrastructure system deal in Japan and we are a significant supplier to J-Phone
- Further development of 3G architectures will create new business opportunities in horizontal sales
- We are well on track to reach our WCDMA 35% market share target

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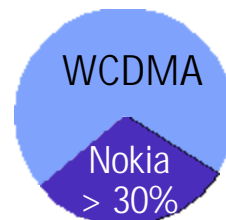
Strong GSM position will lead to a strong position in next-generation technologies



Measured by base stations and mobile core deliveries (12 months)



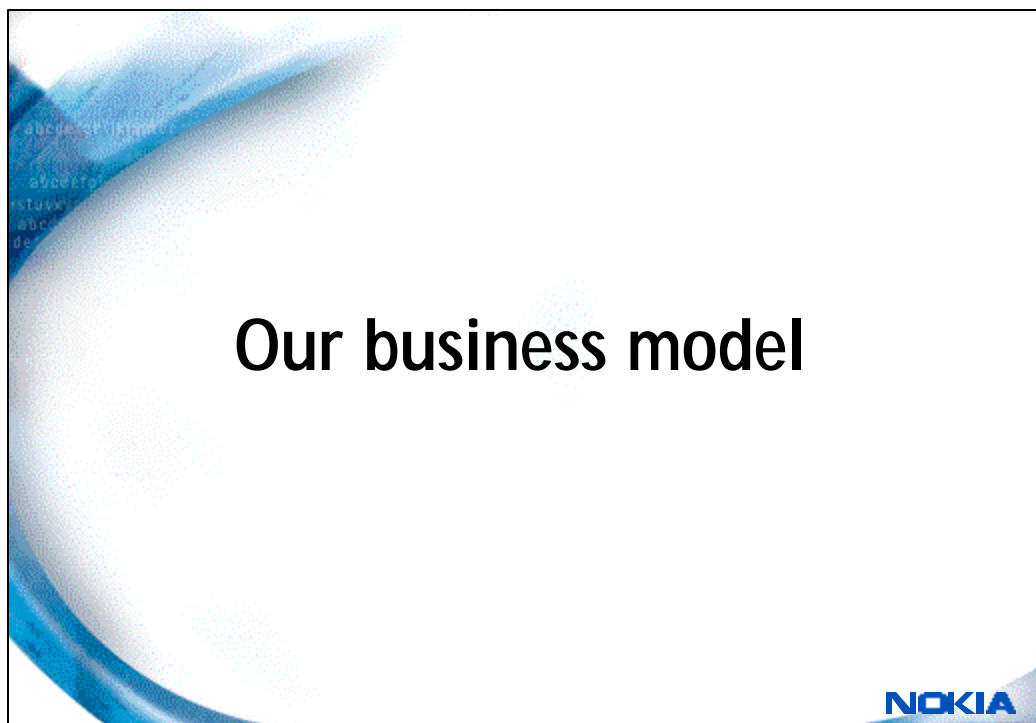
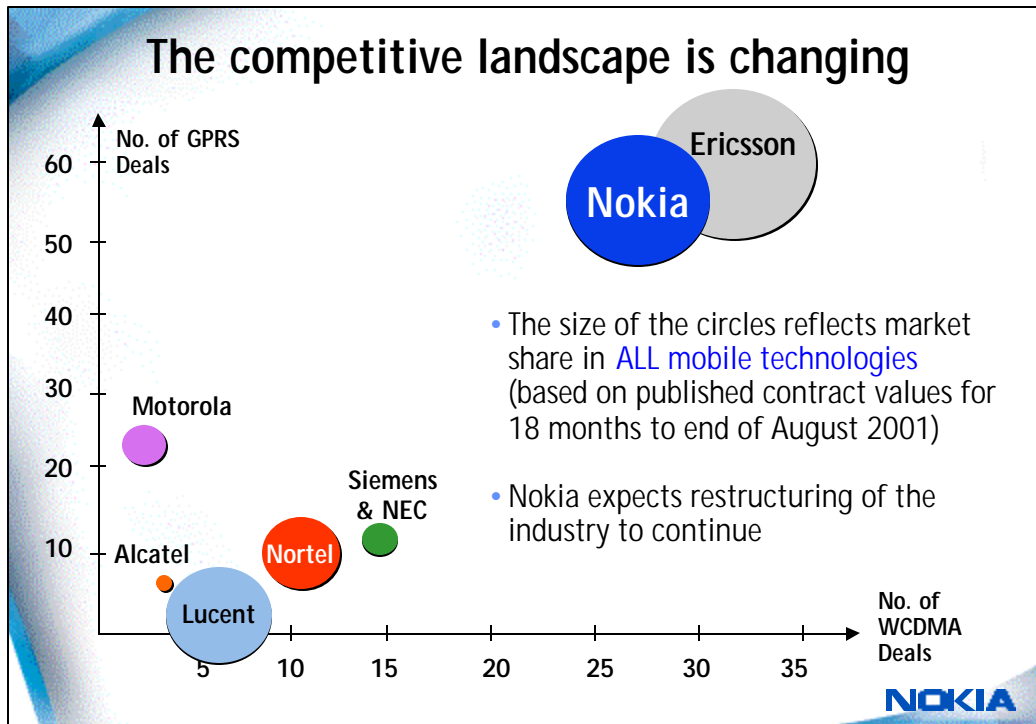
Measured by potential subscribers in commercially launched networks



Measured by estimated RAN & core equipment for next two years – mid-term target **35%** market share

Nokia, Nov 2001

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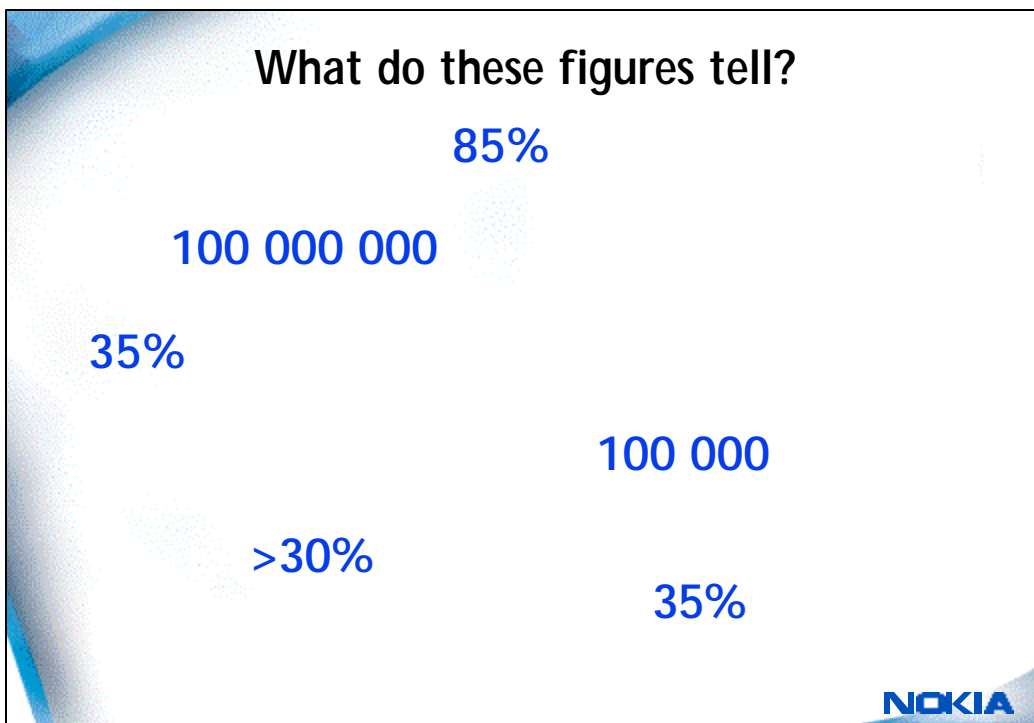
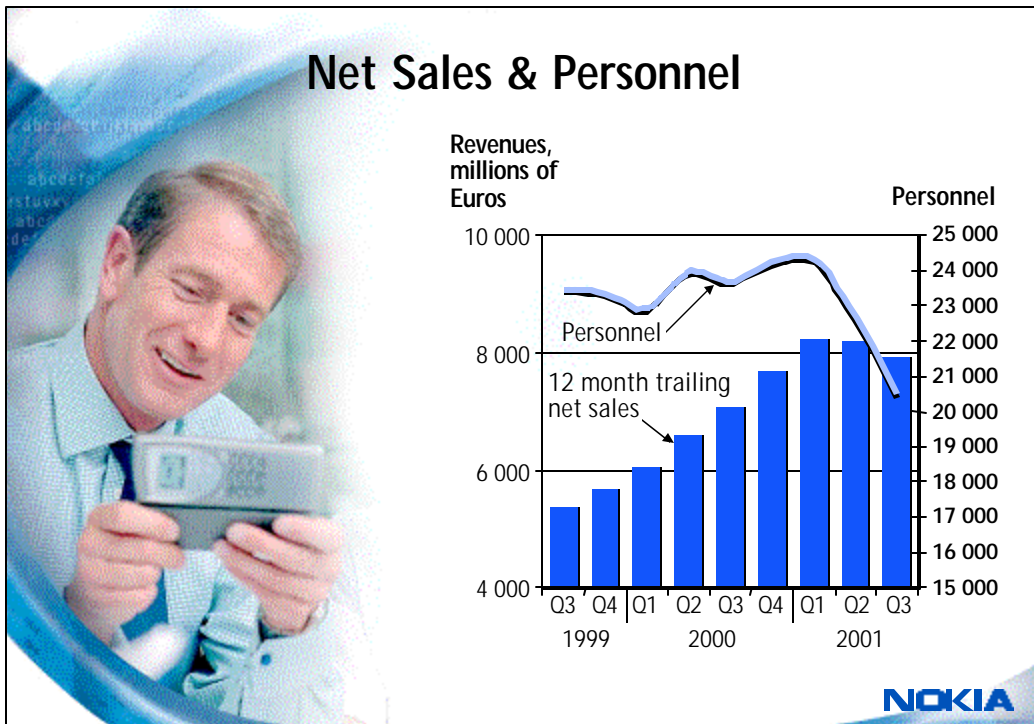












What do these figures tell?

In 2006 approximately **85%** of all networks will be based on GSM/EDGE/WCDMA

100 000 000

35%

100 000

>30%

35%

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What do these figures tell?

85%

Over **100 000 000** subscribers connected to Nokia delivered switches

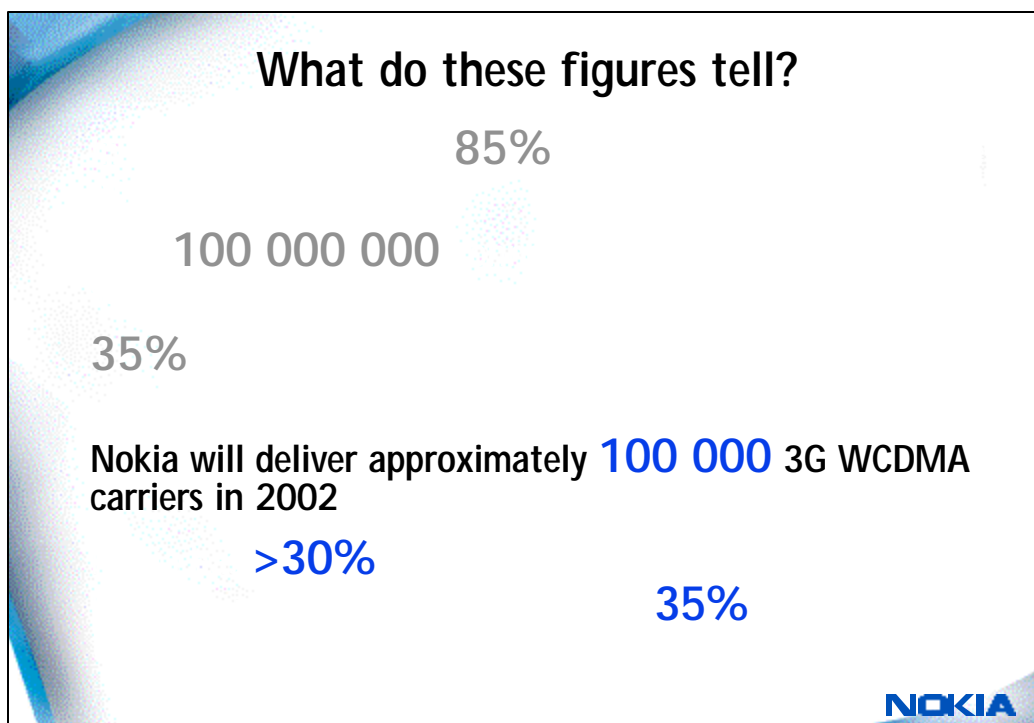
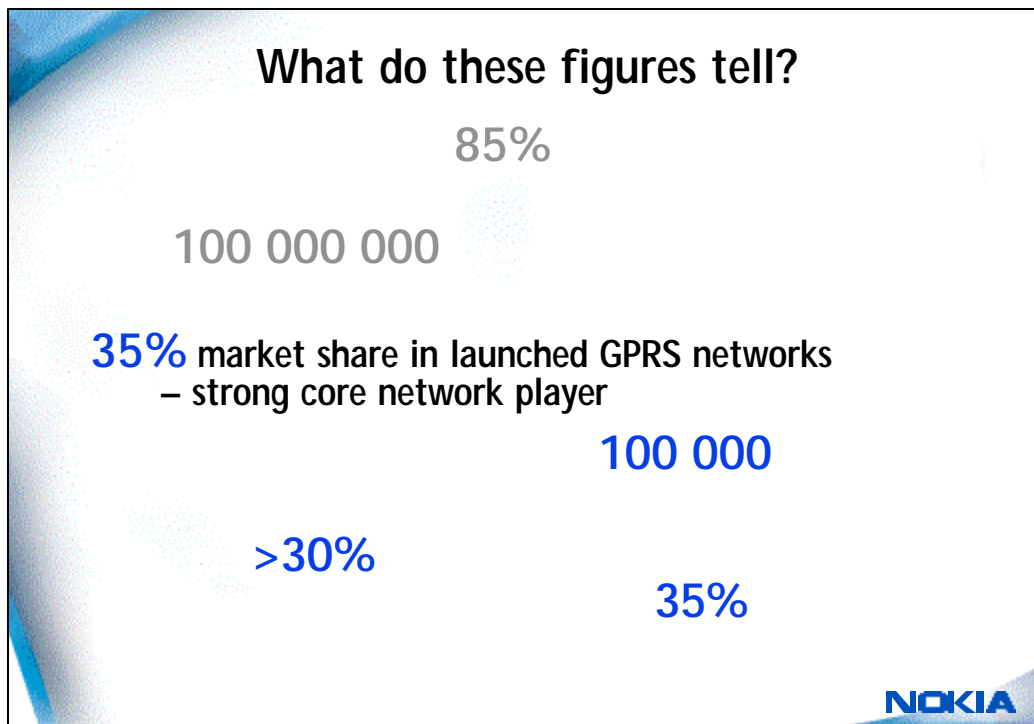
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What do these figures tell?

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Nokia has **>30%** market share in 3G –
Nokia is well on its way to reach its **35%** market share target

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What do these figures tell?

In 2006 approximately **85%** of all networks will be based on GSM/EDGE/WCDMA

Over **100 000 000** subscribers connected to Nokia delivered switches

35% market share in launched GPRS networks
– strong core network player

Nokia will deliver approximately **100 000** 3G WCDMA carriers in 2002

Nokia has **>30%** market share in 3G
Nokia is well on its way to reach its **35%** market share target

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