



**New Innovation in
Mobile Terminals**

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What people are saying:

" The Cellular Market is maturing,
the party's over. "

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A Mature Market:

- Industry growth is slow or zero.
- Only a few big companies are still in the game.
- Can still be profitable, but it is harder.
- Technical innovation has slowed down or stopped.
- Product range is highly segmented.
- Product differences are small, usually "lifestyle" or even just "looks."

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Segmentation



Neo-Classical



Activity Leisure



Affordable Chic



Fun Tech, etc.

A highly segmented product range:
characteristic of a mature consumer market.

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So where is our industry ?

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An Example from History

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Portable Music Market circa 1964



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Who had the right vision in 1964 ?

Teppaz ?

or

Sony ?

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What is the right vision in 2001?

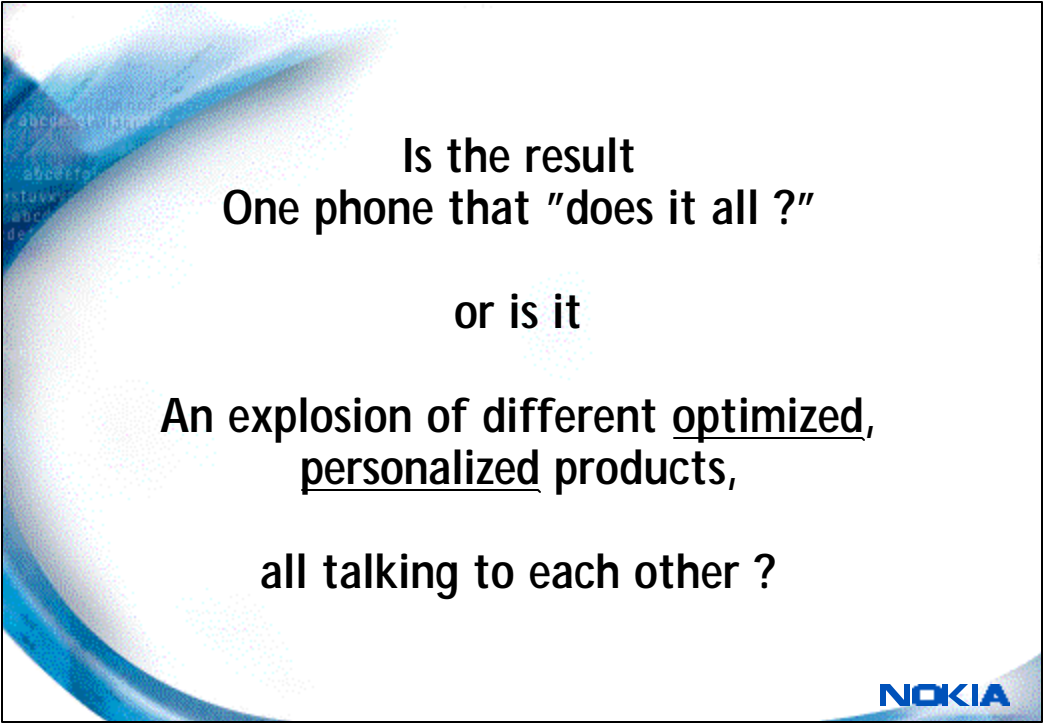
Is it personal entertainment ?

Is it connecting people to machines ?

Is it connecting people to each other?

Or is it all of these ?

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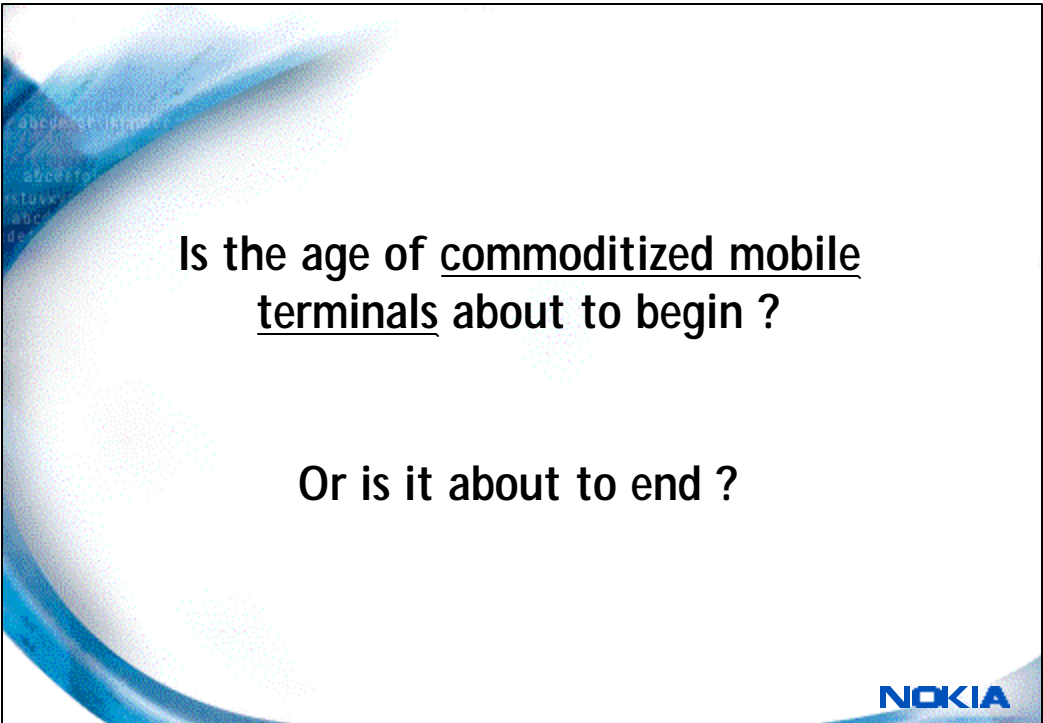
The slide features a white background with a large, abstract blue shape on the left side. The Nokia logo is in the bottom right corner. The text is centered and reads:

Is the result
One phone that "does it all ?"

or is it

An explosion of different optimized,
personalized products,
all talking to each other ?

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The slide features a white background with a large, abstract blue shape on the left side. The Nokia logo is in the bottom right corner. The text is centered and reads:

Is the age of commoditized mobile
terminals about to begin ?

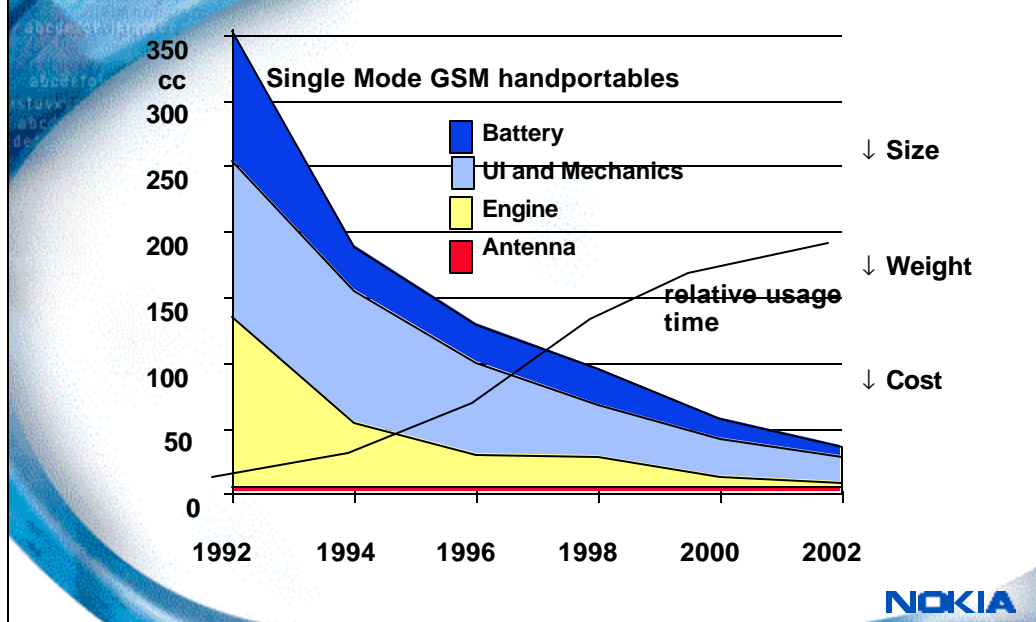
Or is it about to end ?

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The number of categories is set to explode!



Smaller engines enable new concepts



A simple example



Technological opportunities are increasing

- **Radio enables:** Multimode, multiband, GPRS, WCDMA, CDMA2000, Bluetooth, WLAN
- **Software applications will spawn new industries:** messaging, games, imaging, video, music, location, 3rd party content, PIM, mCommerce, security
- **Component development enables:**
 - Batteries
 - Displays
 - Processors
 - Memory
 - Chipset integration
 - Cameras
 - MP3, ACC
 - MMC cards
 - Sensors



symbian



Is our industry going to horizontalize?

Like PCs?

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Evolution of Cars

In a segmented market only those who master the product category game will remain major players




The required skill set is more complex not less complex. Selected components commoditize but total concepts evolve. Free markets and open standards are enablers.

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A commodity is an item which can be bought from anywhere and it is always the same.

The difference is only in the price.

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Next year we will see a greater variety of products and concepts and services than ever.

Differences will be more real, not less real.

Average selling price will start increasing.

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What about Services and Applications ?

What is the role of hardware versus the role of software ?

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Are we planning to make hardware just so
that we can sell software ?

Are we planning to make software just so
that we can sell hardware ?

Or both ?

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Hardware AND Software revenues will increase



New terminals will enable software sales

Applications enable new hardware (new concepts) sales

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With new technologies,

we tend to overestimate the speed with which
they will happen.

and to underestimate their long-term effects.

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We are not just developing technology.

We are developing the market place.

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Step-by-Step

- First users bought GSM phones to get voice.
 - They got SMS for free.
 - Then they started to use it.
 - Soon they were ready for terminals which made SMS easier.
- Users bought last year's phones to get T9 and better SMS handling.
 - They got picture messaging for free.
 - Then they started to use it.
 - Now they are ready for color displays and color pictures.
- Next year they will buy color displays to get color pictures.
 - They will get color picture messaging (MMS) for free.
 - Then they are ready for phones with cameras.

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Summary of Key Trends 1/2

- 1) Technology is advancing on a broader front than ever before.
 - Engines are now small enough to allow extra things in (camera).
 - New software and applications are enabled (GPRS, Java, MMS).
 - Speed of change and innovation is increasing.
- 2) Market is growing in sophistication.
 - More experienced customers are ready for more applications.
 - The service business will grow and segment.
 - Multiple product ownership is beginning.
- 3) In under-developed markets, cost reduction will grow market further.
 - Global cellular penetration is today still only 20%.

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Summary of Key Trends 2/2

- 4) Outlicensing of technology is increasing.
 - All this does is increase the sourcing options for niche players.
 - Control-point based strategies don't work with open standards.
- 5) The total business is becoming more complex to manage.
 - Total-Product-and-Service Integration is the key competence.
 - Profitable global operations require heavy investment, large volumes, and the ability to deliver and renew a full product range.

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So, is the market mature ?

- Industry growth is slow or zero.
- Only a few big companies are still in the game.
- Can still be profitable, but it is harder.
- Technical innovation has slowed down or stopped.
- Product range is highly segmented.
- Product differences are small, usually "lifestyle" or even just "looks."
- Growth will revive as 2.5G and key applications, especially MMS, are taken into use.
- In the terminal business, very niche players may survive, but major players will take most of the profit.
- Technical innovation will accelerate as GPRS-3G bottleneck is cleared and new services start to grip.
- Next year's product range will be much wider than today's range.
- Differences will be much greater between concepts than today.

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We have only begun to have fun !

**Nokia will deliver over 20 new phones
next year.**

**Today's phones will be made completely
obsolete.**

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CONNECTING PEOPLE

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