



Nokia Multimedia Messaging

As SMS evolves to Mobile Multimedia, profitable opportunities abound



Multimedia messaging at a glance



Executive Summary

The Nokia Multimedia Messaging Solution facilitates new styles of communication that respond to the needs of the Mobile Information Society – a society in which wireless-literate consumers are more mobile than ever while the division between their personal and business lives becomes increasingly blurred.

Nokia's approach is based upon a series of evolutionary steps: SMS (text), Picture Messaging (text and graphics), MMS - Multimedia Message Service (digital image input) and Mobile Multimedia (new content types). MMS is the most versatile messaging service, including all the features and content types of the preceding services. It is likely that MMS will be introduced in several phases, each adding successively more functionality.

The Nokia Multimedia Messaging Solution delivers tangible benefits to consumers and network operators alike. For the consumer, it offers every category of wireless imaging consumer benefit: simple utility, straightforward sharing of information and experience, and sheer fun.

Adaptable to a wide range of purposes, it will meet the needs of all user segments.

For network operators and service providers, multimedia messaging applications are the essential drivers of continuous growth in new services beyond voice. They promise significant increases in airtime, revenue, service differentiation and customer loyalty. Early adopters will secure a strong position and accumulate the required competencies to be the leaders in the personal multimedia era.

An "instant" culture with new communication styles and needs is emerging. The Internet is going mobile. The popularity of SMS, the emergence of "the new mobile phone generation", the popularity of sending traditional postcards, growing internet and email penetration and usage – all suggest huge market potential for multimedia messaging.

Smoothing the path to a new messaging world

Nokia's migration path in multimedia messaging builds on the well-established SMS paradigm by adding new functionality and new content types in user-understandable steps. Because consumers can relate to the new messaging services as "enhanced SMS", the barriers for adopting them will be significantly reduced, leading to rapid take-up and high penetration, and paving the way towards personal mobile multimedia.

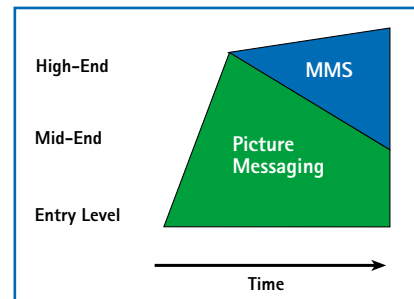


Fig. 2 Multimedia messaging migration in Nokia terminals

The application migration path comprises three evolutionary steps: Picture Messaging, Digital Image Input and Multimedia Message Service (MMS).

Short Message Service (SMS)

Originally launched in 1992, SMS has become the most successful wireless data service. By late 1998 there were approximately 30 million active SMS users worldwide. Messaging as a concept and as a data service has been very well received by consumers and it has become a very profitable business for network operators.

Picture Messaging

Picture Messaging is capable of sending a simple picture message from terminal to terminal or from a web site to a terminal via SMSC. Sending and receiving a picture message is a similar operation to that of an SMS, so consumers do not have to learn a completely new service and user interface - clearly a boost towards adoption. Picture Messaging combines the ease of use of SMS with the enjoyment of expressing oneself with pictures.

Additional advantages include familiar phone numbers as the addressing technique and instant delivery to the receiving terminal.

Picture Messaging content consists of the following elements:

- ▶ A black-and-white picture, up to 72 x 28 pixels (W x H)
- ▶ A short greeting displayed after (below) the picture. Maximum size of the greeting is 120 characters in standard GSM alphabet or 60 Unicode characters.

Nokia offers operators its Picture Messaging Application, a content-creation tool based on the Nokia Artus Messaging Platform. Picture Messaging Application includes a download of ready-made pictures, plus the possibility of drawing pictures and writing a personal greeting. Users will be supported by Nokia services, enabling personalized content creation at the terminal, the internet or PC.

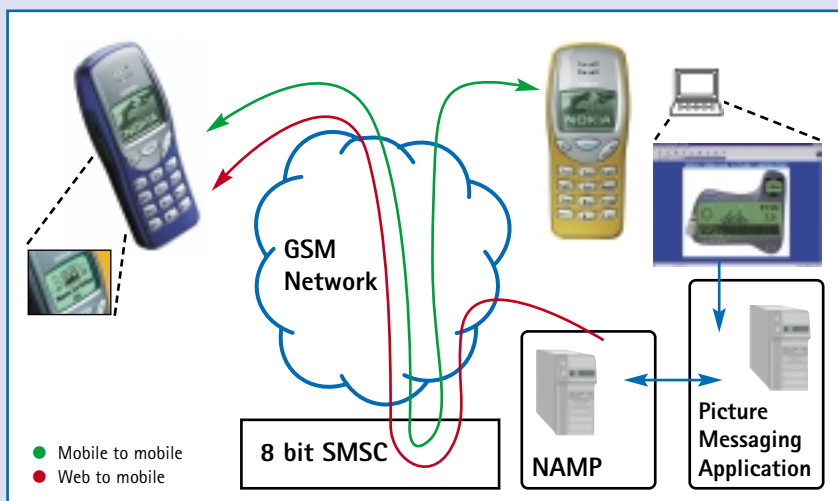


Fig. 4 Picture Messaging

Harnessing the technology

As discussed, MMS is a complete end-to-end solution for person-to-person mobile messaging, with full content versatility, delivering a location-independent communication experience.

MMS applications build on multiple technical elements, relating to both network infrastructure and terminals. Multimedia messaging is person-to-person (client-client) communication between terminals, or from terminal to email, enabled by the Multimedia Message Service Center.

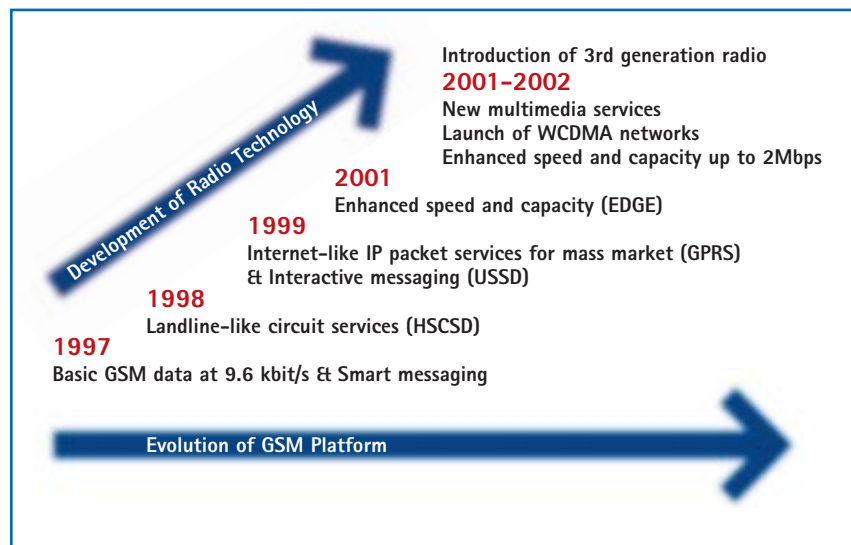


Fig. 7 The infrastructure enablers for multimedia messaging – Case GSM

High-speed cellular data services will support various wireless imaging and multimedia messaging applications, as illustrated above.

In addition to radio access technologies, developments in protocols such as WAP and TCP/IP are important technology enablers for multimedia messaging. Nokia is actively developing wireless protocols to support new messaging services, including both cellular and IP-based services.

At the same time, digital imaging technologies are developing rapidly to competitive cost levels. Digital

cameras, input and output components, coding algorithms, imaging data formats and portable processing power are all becoming available for mobile multimedia use.

As a result of pervasive digitization, large amounts of ready-made digital content, such as images, can now be produced and consumed in the mobile multimedia environment.

Open-terminal platforms enable the seamless integration, connectivity and interoperability of Nokia products with other data - and telecommunications applications in multimedia messaging.

Case history: multimedia messaging in action

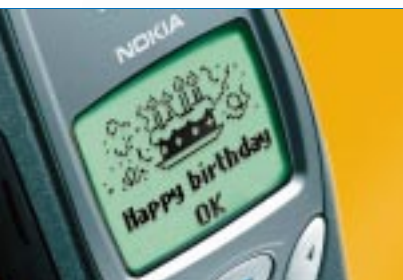
Marie von Artus, Business Development Manager with a major European company is visiting CeBIT, one of the world's biggest telecommunications exhibitions. She's scheduled meetings with her customers every day throughout the event. To be as effective as possible, she uses multimedia messaging during the meetings – receiving back-up information and concept pictures from her office assistant, writing instant memos annotated with voice and instant photos, and sending them immediately to her boss and colleagues.

Marie is also visiting competitors' booths to study their product plans, demos and latest launches. Whenever something interesting comes up, she takes snapshots and video clips, selects and edits them, annotates them with text or voice, and forwards them to her colleagues in the office for information and action. Those colleagues who do not have a fully MMS-capable terminal receive an SMS notification informing them of a downloadable message in the internet or intranet.

To add some fun to the heavy workload of meetings and visits, a colleague sends Marie the "Dilbert of the Day". When it's funny enough, she forwards it to a like-minded colleague at another company.

If Marie is lucky, she can grab some free time during which multimedia messaging again helps her to communicate. She is enjoying the fascinating city of Hanover and goes sightseeing, sharing her experiences with her family back home by sending an electronic postcard created herself by photographing some of the attractions and adding a greeting. A few minutes later, she receives a reply from home telling her that everything is OK – with a picture of her one-year-old son to prove it.

Multimedia messaging is business today





Nokia Multimedia Messaging promises enhanced personal communication for consumers, facilitating the new communication styles and needs of the Mobile Information Society. It delivers utility and ease of use, as well as sharing and fun.

For network operators, Nokia Multimedia Messaging comprises a natural application migration path from SMS via Picture Messaging and Digital Image Input to Multimedia Message Service (MMS). Natural application migration spells profitable business since value-added services and personalized applications for data will be important operator revenue creators over the next few years.

But multimedia messaging is also profitable business today. The popularity of SMS and the emergence of an instant culture suggest there is already significant demand for personal communication enhanced by visual content. Success in this new market is dependent on investing in the right technology, creating the right applications and starting with a multimedia messaging strategy now.

Why Nokia?

Nokia is the world's foremost mobile phone supplier and a leading provider of mobile and fixed telecom networks together with related customer services. Thanks to our pole position in the industry, we continue to create completely new product categories. The Nokia 7110 - world's first media phone. The Nokia 9110 Communicator - world's first all-in-one communicator product, now with wireless imaging. The Nokia 3210 - world's first phone capable of picture messaging.

To support and complete a total end-to-end solution, Nokia is continuously developing the Nokia Artus Messaging Platform.

We can provide complete solutions for the Mobile Information Society, based on terminal and infrastructure expertise, covering both telecommunications and data communications products and services. In other words, we're ready to show you how MMS can become a reality for your business right now.

