

Technology Outlook

Wireless technology development

Excerpt from Volvo IT Business Plan – IT trends:

The basic trend over the next decade concerns wireless and mobile technologies. The driving force is to get faster decisions in order to shorten lead-times. This will help to further tighten and connect the business processes.

Wireless communication will continue to grow in volume, bandwidth, number of applications and communication types (such as Wireless LAN, Bluetooth, GPRS and hotspots).

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The Mobile evolution

A five year perspective

Mobile phone networks will continue to evolve for several years. From today's 2G up to 3G within a few years. However, it will take many years before 3G will have the same coverage as 2G today. Speed in practice: 2G is about 10 Kbps, 2.5G about 100 Kbps and 3G about 300 Kbps.

Data throughput capacity will rise considerably and the ability to determine the location of a handset will improve.

These two are the enabler for a wide range of services and applications.

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The Mobile evolution

A five year perspective

From 2nd generation to 3rd generation

	Europe	USA
Present 2G	GSM	GSM, TDMA, CDMA
Present (2.5G)	GPRS, Edge	GPRS, Edge
Future (3G)	WCDMA	(Edge) -> WCDMA

4G is currently a lab product but tested as a pilot in Japan & China

Short range Wireless

A five year perspective

Several technologies and protocols will coexist in most organisations. They have different trade-offs in terms of bandwidth, range and cost.

Examples of functions that will be supported:

Phone, Calendar, Internet, MP3 Player, Camera, Video, House/Car Key, Payment, Authentication, Biometrics, Life Saving, Stun Gunning, Inspect Repelling

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Short range Wireless

A few technologies

Wi-Fi Hot spots (Wireless-Fidelity hot spots)

Enables easy wireless connection from PC's, PDA's etc.
Currently available in airports, hotels, shopping centres etc.
The Wi-Fi protocol is continuously developed with increased capacity.

RFID (Radio Frequency Identification)

Low cost tags that sends a signal as an identity message.
For instance as a replacement of bar codes in production
"Active" RFID will also include some logic in order to send more information.

PAN (Personal Area Network)

Various personal wireless devices, such as mobile terminals and notebook PCs, connected wirelessly via a networking protocol such as Bluetooth.

Short range Wireless

Overview of some technologies

Range	Technology
1 m	RFID
10 m	Bluetooth, Proprietary PAN
100 m	Wi-Fi Hot spots – current techniques
1000 m	Wi-Fi Hot spots – new techniques

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Short range Wireless Hot spots

Hot spots offers wireless internet access at "hot spot areas" such as airports, hotels, shopping centres, public areas etc. Can be used by PC's, PDA's and other internet devices. Wi-Fi Hot spots are already in use and the number is rapidly growing

Within 5 years we will see 50-100 million users of public hot spots globally

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