



Wireless Java  
*Technik, Enabler, Märkte, Chancen*

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[sun.com/mobility](http://sun.com/mobility)  
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# Technik-Brille

...was Technikern Spaß macht

- ? J2ME, MIDP, Configurations, Profiles
  - ? 1.0, 2.0, CLDC, CDC, MIDP, PP, PDAP
- ? Optional APIs
  - ? WMA, MMA, Gaming, Bluetooth
- ? JCP, JSRs
  - ? JSR82, JSR124, JSR185, etc.
- ? Tools
  - ? SunONE Studio 4 [Mobile|Community|Enterprise] Edition
  - ? J2ME Wireless Toolkit(s) (1.0.4|2.0)
  - ? Device Emulatoren (SEMC, Siemens, Nokia, ...)
- ? Und natürlich die 'Devices' ...

# J2ME Devices



# More J2ME Devices



# The Java™ Platform



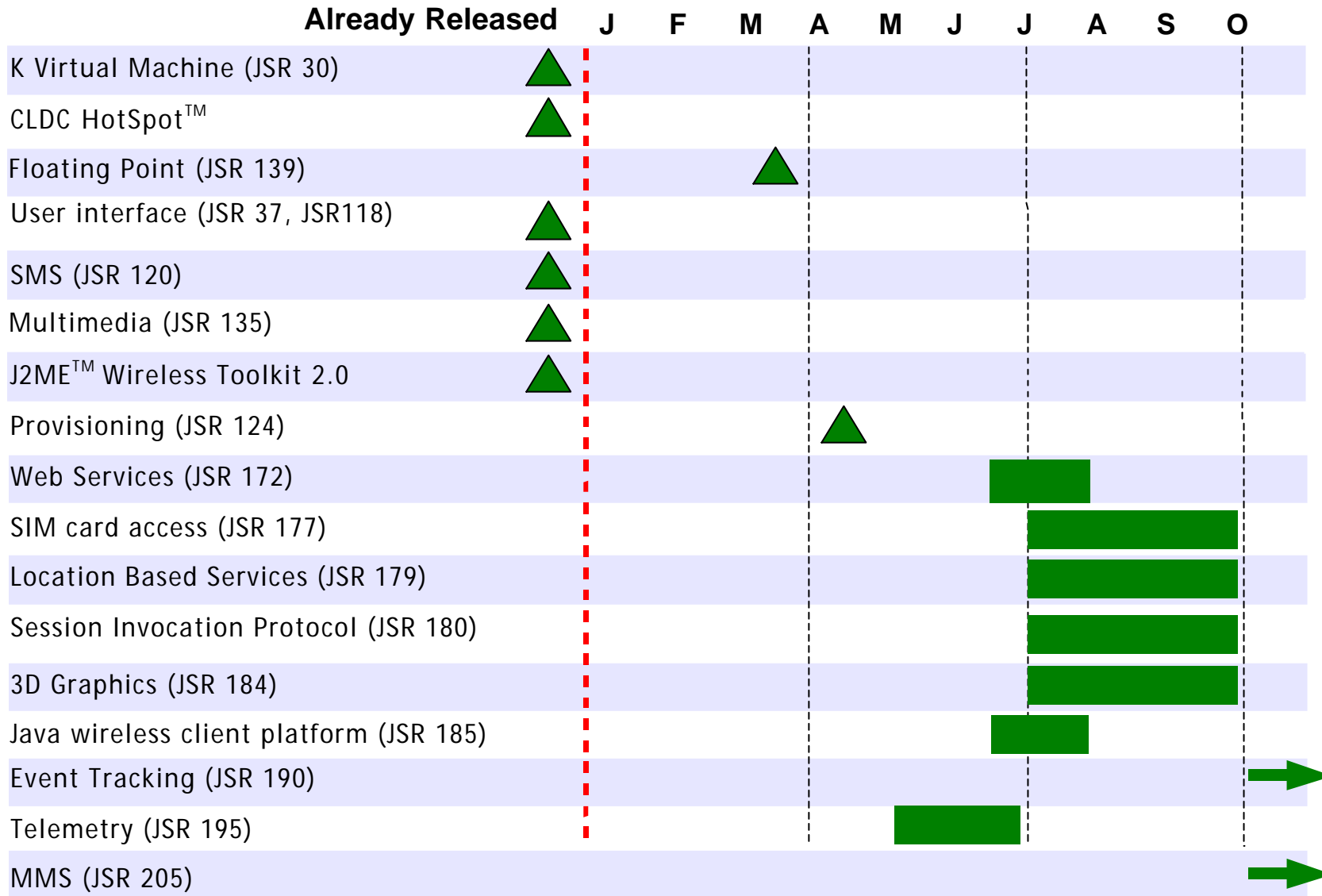


# J2ME™ Virtual Machines

Target System	32-bit ARM processor	Other 16-bit or 32-bit processors
Mobile phone Entry-level PDA	<b>CLDC HotSpot™ Implementation</b>	<b>CLDC (KVM)</b>
Smart card readers	-	
High-end PDA & Communicator	<b>CDC HotSpot™ Implementation</b>	<b>CDC or PersonalJava™</b>
Game console		
Web tablet		
Telematics system		
TV set top box	-	<b>CDC or CLDC</b>
Desktop workstation	-	<b>J2SE™</b>



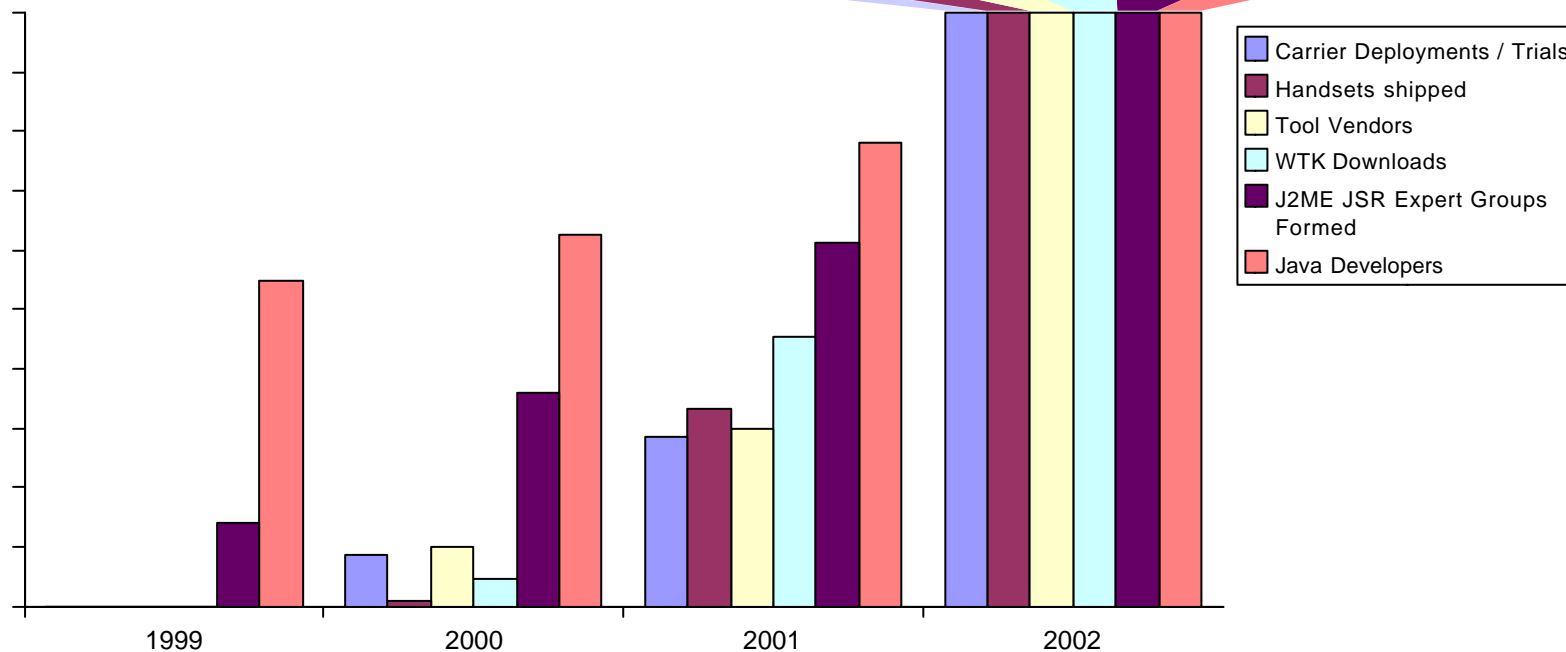
# J2ME™ Wireless Roadmap





# Java™ & J2ME™ Momentum

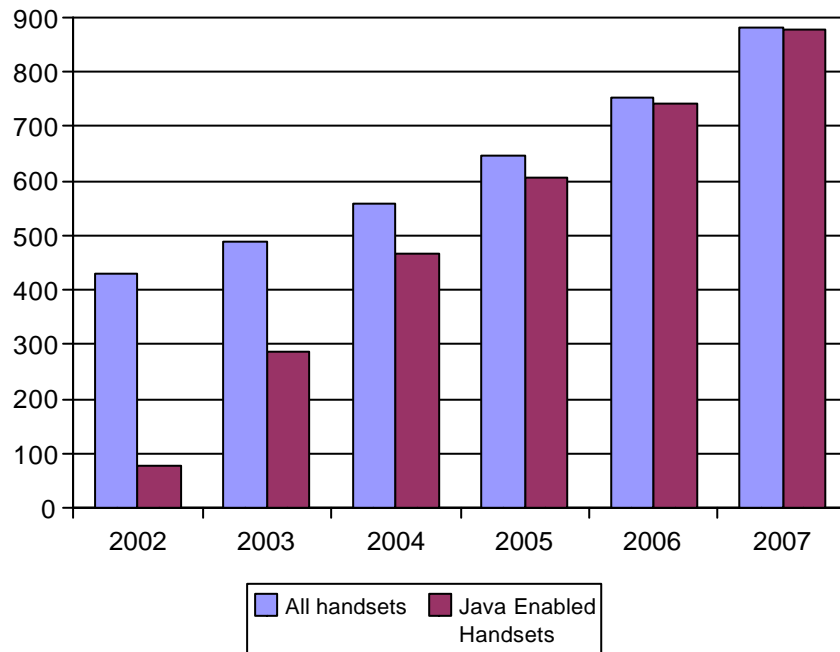
	Carrier Deployments / Trials	Handsets shipped	Tool Vendors	J2ME Wireless Toolkit Downloads	J2ME JSR Expert Groups Formed	Java Developers
2000	3	750.000	2	11.500	13	2.000.000
2001	10	25.000.000	6	128.500	22	2.500.000
<b>2002</b>	<b>35</b>	<b>75.000.000</b>	<b>20</b>	<b>336.000</b>	<b>36</b>	<b>3.200.000</b>



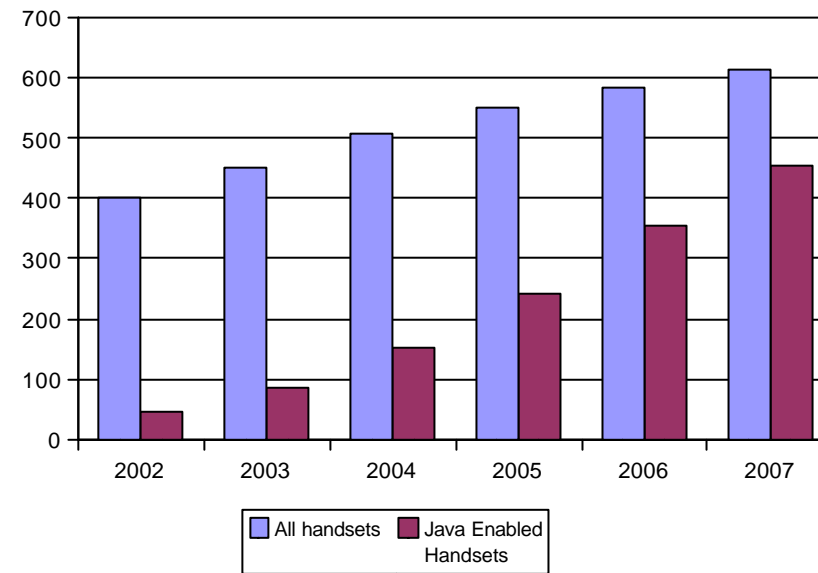


# J2ME™ Market Penetration

## Worldwide Handset Sales 2002-2007



Source: ARC Group, June 2002



Source: Zelos Group, October 2002

# Preempting Vendor Specific APIs

Standardizing APIs through the Java™ Community Process

- ? MIDP 2.0 (JSR 118)
- ? Wireless Messaging API (JSR 120)
- ? Mobile Media API (JSR 135)
- ? Other optional packages:
  - JSR 82 (Bluetooth)
  - JSR 172 (Web Services)
  - JSR 179 (Location Services)
  - JSR 180 (SIP)
  - JSR 184 (3D Graphics)
  - JSR 185 (JTWI)
  - JSR 190 (Event tracking)
  - JSR 205 (MMS)

# Wireless Applications Everywhere

- ? J2ME™ Wireless Toolkit – 500k+ successful downloads
- ? 8+ IDE or toolkits support J2ME
- ? Over 200 content companies registered with Sun
- ? Asia Mobile challenge had 1000+ entries from 23 countries
- ? NTT DoCoMo, J-Phone & KDDI have over 8000 apps
- ? Nextel has over 60 business & entertainment apps
- ? Vodafone Live launched with 160+ MIDP apps



# Wireless Java™ Deployments & Trials



    	    	   <i>Comunicare in un soffio.</i> 	         <i>Create a Simpler Life</i>	        	       
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# Markt-Brille

...was Technikern meist keinen Spaß macht

? Marktanteile, Time-to-market, ROI, ...

? Enterprise Markt

- ? kleine/mobile Frontends für Server Anwendungen
- ? FFA, SFA, CRM
- ? PIM
- ? P2P messaging
- ? News- und Informationsdienste
- ? Smartphones, PDAs, Java phones, SMS, WAP

? Consumer Markt

- ? Spiele
- ? P2P messaging
- ? Community services
- ? Billige Endgeräte, kleine Displays, wenig Speicher

# Eine Fakten/Zahlen

- ? Der europäische Markt für datenbasierte mobile Dienste ist ca. 5500 Mrd. \$ (Endkunden Umsatz)
- ? 75% entfallen auf Consumer (4100 Mrd.\$)
- ? 25% Enterprise (1400 Mrd. \$)
- ? Erwartetes Wachstum auf 3300/12000 in 2004
- ? Deutschlands Anteil sind ca. 19%
- ? D, F, I, E und F stellen ca. 75% des Marktes dar
- ? Bei Infrastruktur Invests sind PIM/Email und Informationsdienste die grössten Segmente

# Zusammenfassung: und nun?

- ? Consumer Markt vs. (>) Enterprise
- ? Enterprise Markt abhängig von Smartphones/PDAs
- ? News, Informationsdienste und Messaging am stärksten
- ? End-2-End: Einheitliche Technologie für mobile services ist wahrscheinlicher als Mischung (e.g. Microsoft/Java oder J2EE/PocketPC)
- ? Gaming heute abhängig von einzelnen Herstellern
- ? Java Developer Communities heute pro Hersteller und pro Carrier
- ? Feste Umsatz/Revenue (sharing) Modelle gibt es nicht

- **Java Wireless Developer Connection**  
... <http://wireless.java.sun.com>
- **J2ME Wireless Toolkit**  
... <http://java.sun.com/products/j2mewtoolkit/>
- **Sun ONE Studio IDE**  
... <http://www.sun.com/software/sundev/jde/>
- **Java BluePrints for Wireless**  
... <http://java.sun.com/blueprints/wireless/>

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