



# *Anytime/Anywhere*

A Bi-Weekly on Wireless Infrastructure and Data Services

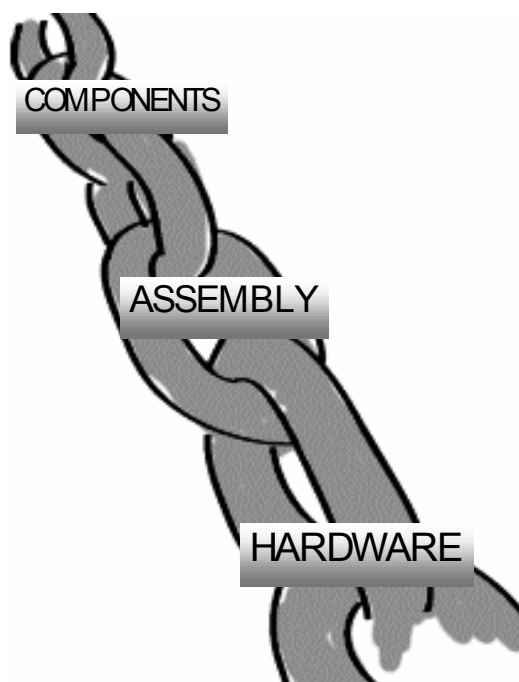
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## The Wireless Value Chain



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**Channel gives indications of orders.**

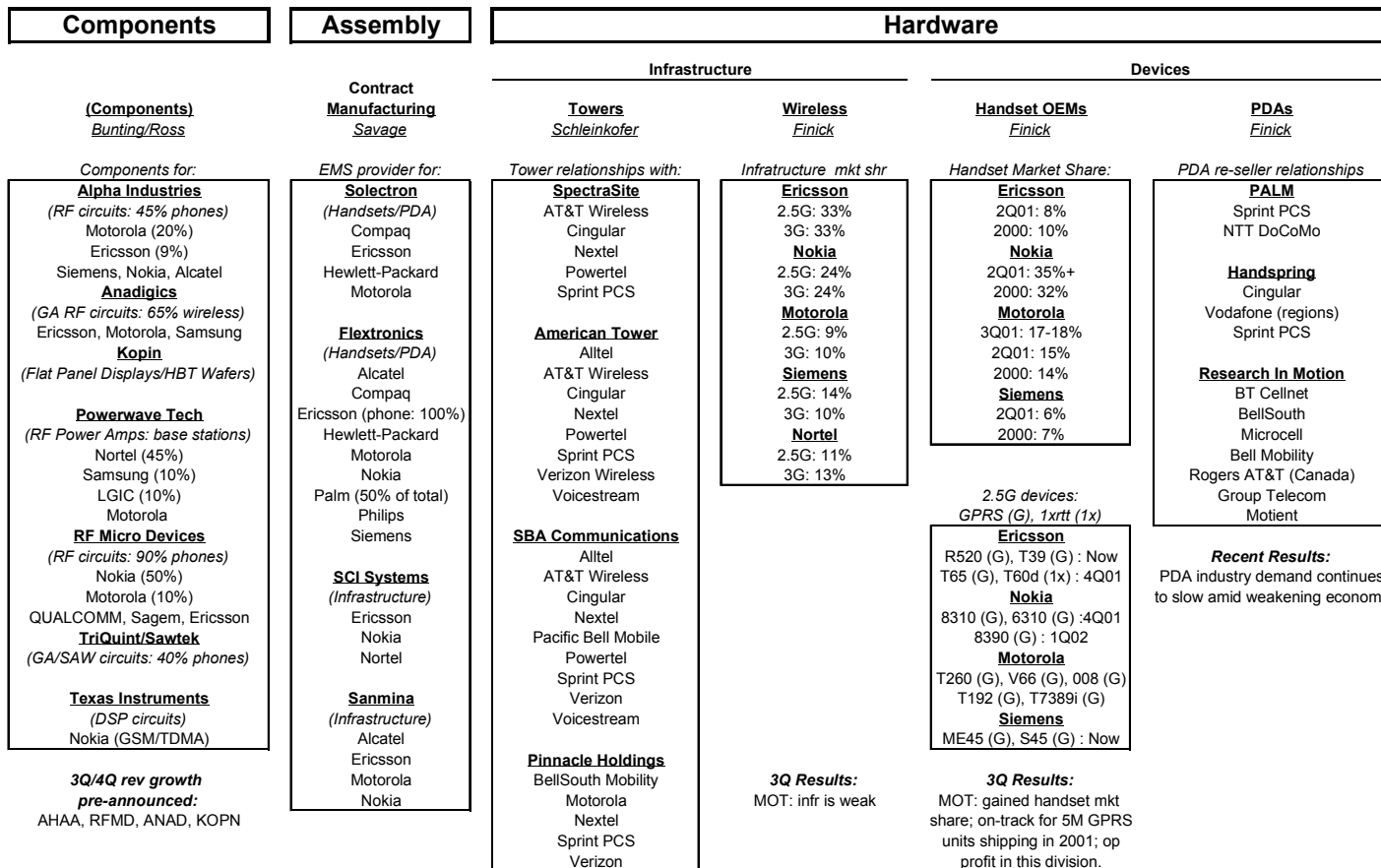
**Tracking channel relationships helps to determine the direction of fundamental drivers.** The figure below highlights major vendor relationships between component suppliers, contract manufacturers and OEMs. As we enter earnings season, we believe that this figure can be useful in tracking the growth drivers in the industry that may, in aggregate, give indications of forward-looking demand. We will update this figure over the coming weeks as more companies report quarterly results.

**Early indications: component suppliers.** The sequential revenue growth down-trend that has prevailed for the last few quarters seems to be reversing going into the September quarter (3Q01). We think that there are two major drivers of this trend: (1) inventory in the channel is near normalized levels, driving new orders and (2) initial orders for GPRS devices to “fill the channel” were received beginning in 3Q01. We believe that the first is a positive for the industry (handset OEMs) but note that the second is only positive if sell-through occurs and subsequent orders materialize. We also note that component suppliers could exhibit sequential revenue growth through new customer wins or market share gains at existing customers.

**Early indications: Motorola reports.** Motorola reported in-line results today, with profitability achieved in the handset division one quarter ahead of expectations. The company indicated that market share increased from roughly 15% in 2Q01 to 17%-18% in this quarter and that it was on-track to ship its original forecast of five million GPRS units in 2001. Motorola expects that total sell-in shipments for 2001 will be between 380 and 400 million and for 2002 between 420 million and 460 million. ASPs increased 14% sequentially and MOT expects ASPs flat into 4Q01. Unit shipments should increase 20% or so into 4Q01. In this market, we'll take good news where we can find it, and Motorola's market share gains are indicative of positive fundamentals. We believe that demand for GPRS devices beyond the “early adopter” market will be required to fuel GPRS shipments from the industry in 1H02, but we are still early and initial data points are encouraging.

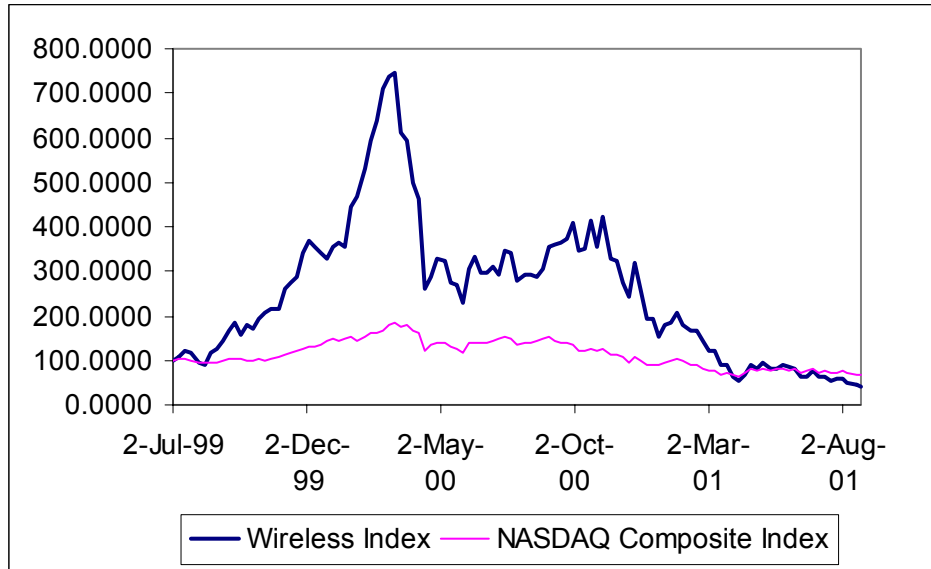
We will watch other component and contract manufacturing earnings announcements for other signs of growth in coming months. Ultimately, we believe that GPRS device price reductions will be required to re-invigorate demand in 1H02.

## Wireless Value Chain



Source: Thomas Weisel Partners and Company Reports.

## Wireless Infrastructure and Data Services Comparative Valuation



Source: Baseline

\* Our index is market cap weighted and includes Aether Systems<sup>1</sup> (AETH: Market Perform, \$6.05), AvantGo (AVGO: Not Rated), Infospace<sup>1,2</sup> (INSP: Market Perform, \$1.41), OmniSky (OMNY: Not Rated), Openwave Systems<sup>1</sup> (OPWV: Buy, \$7.11), Palm, Inc. (PALM: Market Perform, \$1.47), Puma Technologies (PUMA: Not Rated), Research in Motion (RIMM: Market Perform, \$15.51), SignalSoft Corp (SGSF: Not Rated) and 724 Solutions<sup>1,2</sup> (SVNX: Market Perform, \$1.86).

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## Wireless World Industry Highlights

**AT&T Wireless<sup>2</sup> (AWE: \$15.42, rated MARKET PERFORM by TWP analyst Ned Zachar) expands its domestic GPRS offering to three additional U.S. markets.** The wireless carrier has extended its GSM/GPRS services from a solitary market in Seattle to additional markets in Las Vegas, Phoenix and Portland. Customers can choose from a variety of AT&T Mobile Internet voice and data bundles for as little as \$50 per month.

**AT&T Wireless outlines \$2.3bn all-stock deal to buy remaining stake in TeleCorp.** The deal to purchase 23% of TeleCorp will give the carrier full ownership of the company (it already owns 77%). TeleCorp covers 32 million potential subscribers in the mid-West and South, enabling AT&T Wireless to extend its network to nearly 75% of the US population.

**Ericsson<sup>1</sup> (ERICY: Market Perform, \$3.85) launches two new phones just prior to launch of Sony/Ericsson joint venture.** Both the GPRS-enabled R600 and the T66, Ericsson's smallest handset to date, are expected to be available in 4Q01. Both phones were released just before Ericsson announced the launch of its joint venture with Sony. Sony Ericsson Mobile Communications AB, as the new venture is named, has officially been launched, but the phones themselves will not be available until next year.

**Handspring<sup>1</sup> (HAND: Market Perform, \$1.24) and Aether Systems<sup>1</sup> (AETH: Market Perform, \$6.00) enter sales and marketing relationship.** The companies will focus on delivering wireless enterprise solutions based on Aether Fusion via Handspring Visor handhelds (capitalizing on their expansion capabilities). The team will focus primarily on product certification, evaluation, testing, training and sales.

**Handspring cuts the price of yet another handheld model.** This week, the Visor Prism, the only color handheld made by the company, drops from \$399 to \$299. This follows the wave of price reductions seen earlier this month on a variety of Handspring models, including the m500 and Visor Edge. Promotions and price cuts are the direct result of a slowing consumer market and sluggish demand for handhelds.

**Motorola (MOT: Not Rated) and Siemens in talks to create a \$20bn wireless joint venture.** The new group could potentially encompass the wireless-infrastructure operations and handset businesses of both telecommunications giants. The decision is still in its beginning stages, however, and no definite details have been released.

**Nokia (NOK: Buy, \$17.78) finally launches its first GPRS phone.** Nokia delivered its first shipments earlier this month, but according to our price checks, the phone has yet to hit the general consumer market in Europe. Nokia's news follows

successful GPRS handset launches from a number of competitor manufacturers, including Motorola, Samsung and Ericsson.

**Nokia signs outsourcing pact with Hewlett-Packard.** HP will manage some of Nokia's computing operations as outlined in a \$185mn outsourcing agreement. HP's services unit will run and manage Nokia's business infrastructure operation centers in Finland, the US, China and Singapore over three years.

**NTT DoCoMo becomes the first to launch 3G service.** After numerous delays and innumerable technology glitches, NTT DoCoMo went ahead (some say prematurely) with the launch of its 3G services in Japan. The company sold about 4,000 of the next-generation phones by 5:00 p.m. on the day of the launch, at roughly US\$585 each. Although content and applications for the devices are still scarce, DoCoMo hopes to have six million subscribers in Japan by March 2004. When content developers and competitors catch up to the DoCoMo times, next-generation phones are expected to be capable of downloading music, showing video clips (including the ability to function as a videophone), and essentially transmitting data up to 40x faster than current handsets.

**Openwave<sup>1</sup> (OPVV: Market Perform, \$7.08) outlook remains bleak for upcoming 1QFY02 earnings.** The company announced that current economic conditions have made a Q1 profit next to impossible. It now forecasts revenues of between \$115mn to \$120mn and EPS of (\$0.01)-(\$0.04).

**Research in Motion<sup>1</sup> (RIMM: Market Perform, \$15.39) and PeopleSoft team up to offer mobile solution for European users.** PeopleSoft announced that its European customers will be able to execute secure enterprise transactions using RIM's BlackBerry wireless handheld. All transactions will occur across a GPRS network. By extending PeopleSoft pure Internet applications to BlackBerry users, European businesses will be able to do business securely, quickly and effectively while away from the office.

**RIM reports \$17.5 million net loss in 2Q01.** The company said an earnings shortfall resulted in part from an inventory write-down by one of its resellers. RIM announced the postponement of its launch of high-speed networks in Europe, and reduced Q3 revenue expectations in light of the sluggish economy and revenue losses at network operator Motient.

**Taiwan plans to auction five 3G licenses.** Other Asian markets, such as Hong Kong and Singapore, have cancelled license auctions in recent months due to weak demand, but Taiwan intends to go ahead with its initial plans to award the licenses by January of 2002.