



Industry Overview

Electronics Manufacturing  
Services

November 17, 2000

The Electronics Manufacturing Services (EMS) Industry

Below we present a table that summarizes key data relevant to the EMS industry.

The key points to take away from the table include:

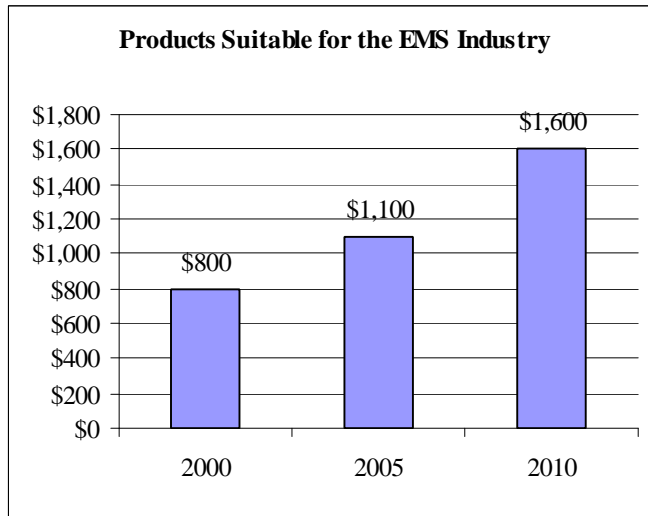
- A. The addressable market of the EMS industry is very large, and growing at twice the rate of the overall economy.
- B. Increased penetration will drive EMS growth at rates several times faster than the underlying market.
- C. Over the medium-to-long-term, the EMS market is somewhat insulated from fluctuations in end-market demand.
- D. The “Top 10” EMS firms will grow faster than the overall EMS industry.

	<u>2000</u>	<u>2005</u>	<u>2010</u>
<b>Worldwide Electronics market</b>	\$1,100	\$1,600	\$2,300
<b>Products Suitable for the EMS Industry</b>	\$800	\$1,100	\$1,600
<b>Y/Y Growth of Suitable Market</b>	12%	8%	8%
<b>EMS Revenues</b>	\$100	\$310	\$760
<b>Y/Y Growth of EMS Market</b>		25%	20%
<b>EMS Penetration of Addressable Market</b>	13%	28%	47%
<b>Top 10 EMS</b>	\$60	\$210	\$580
<b>Y/Y Growth</b>		23%	23%
<b>Market Share of Top 10</b>	60%	69%	76%

Source: Dataquest, Wit SoundView

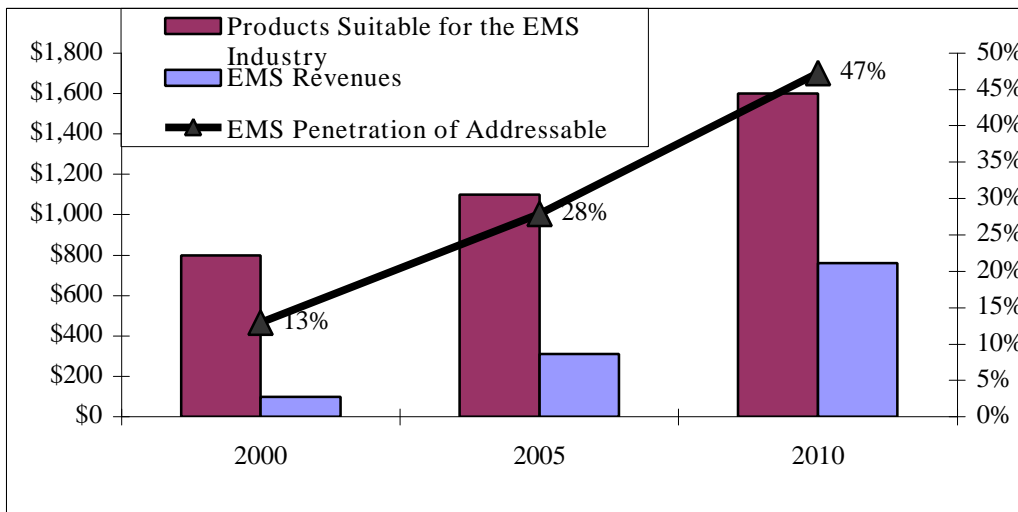
**A. The addressable market of the EMS industry is very large, and growing at twice the rate of the overall economy.**

- The addressable market is currently approximately \$800 billion, and growing at an annual rate of roughly 8%.



**B. Increased penetration will drive EMS growth at rates several times faster than the underlying market.**

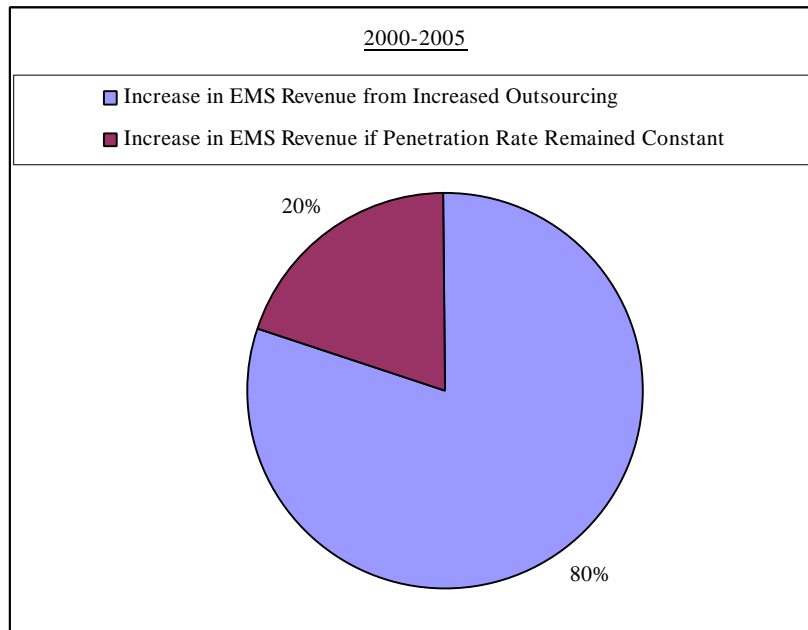
- The EMS market will grow approximately 25% per year through 2005.
- Strong growth will persist through 2010. We believe that growth of at least 20% is sustainable from 2005 to 2010.
- The EMS market has captured less than 15% of its addressable market. We believe this should increase to 28% by 2005, and 47% by 2010.



**C. Over the medium to long-term, the EMS market is insulated from ups and downs in end-market demand.**

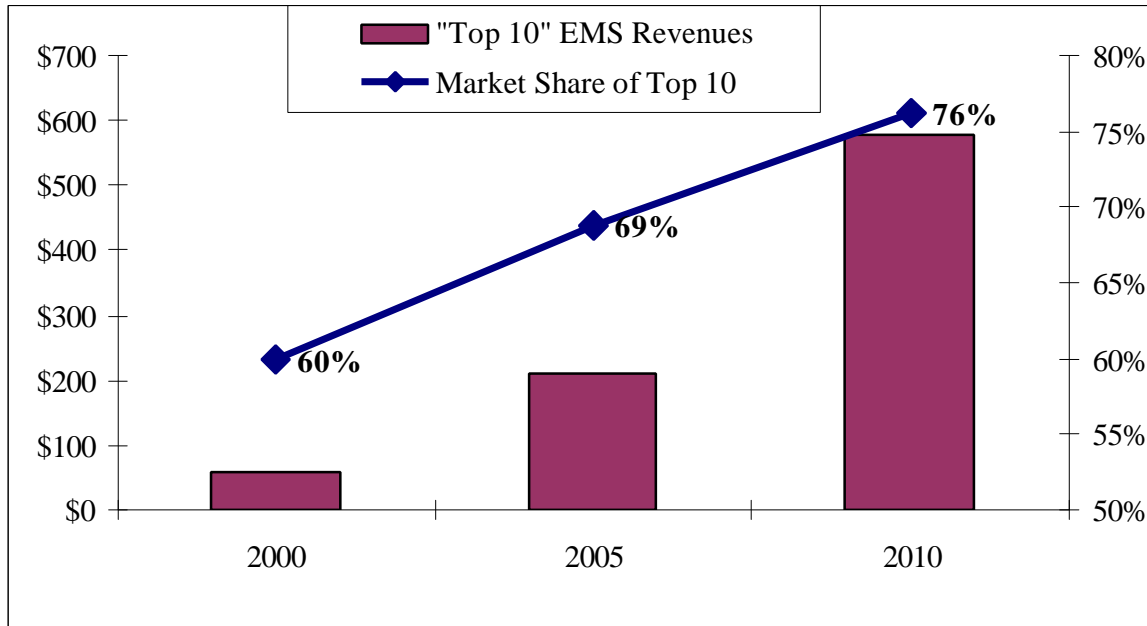
	<b><u>2000-2005</u></b>	<b><u>% of Growth</u></b>
Predicted Increase in EMS Revenues	\$210	100%
Increase in EMS Revenue if Penetration Rate Remained Constant	\$43	20%
Increase in EMS Revenue from Increased Outsourcing	\$167	80%

- We believe the secular trend towards outsourcing somewhat insulates EMS firms from direct exposure to fluctuations in end-market demand.
- From 2000 to 2005, we estimate that the EMS industry will add \$210 billion in revenue.
- If EMS penetration remained constant, revenue would increase less than \$45 billion.
- From 2000 to 2005, increased outsourcing will drive 80% of the increase in revenues.
- Only 20% of the increase in revenues are dependent on growth in the end markets.
- This leads us to conclude that regardless of the growth in end markets, EMS revenues are poised to grow as more and more OEMs outsource manufacturing services.
- In the medium-to-long term, we believe incremental outsourcing can easily absorb a slowing of growth in the end markets.
- In the short-term, we do not deny a slowing in the end markets has the potential to impact overall orders and revenues, as was the case at SCI during the September quarter.



**D. The “Top 10” EMS firms will grow faster than the overall EMS industry.**

- The “Top 10” EMS firms are poised to grow 30% per year through 2005, and 23% per year through 2010.
- The “Top 10” EMS firms currently capture roughly 60% of all EMS revenues. This should increase to 69% by 2005 and 76% by 2010.



**Why are OEMs embracing outsourcing?**

**Outsourcing of manufacturing delivers a competitive advantage to OEMs, and is a long-term secular trend.**

We believe there are many compelling reasons why outsourcing makes sense, and why OEMs that strategically outsource manufacturing to EMS firms gain competitive advantage relative to those that retain manufacturing in-house. We also believe the EMS industry will eventually manufacture over 50% of the electronics products produced worldwide.

**Supply Chain Optimization**

The single, overriding reason why OEMs outsource to the EMS industry is to improve their overall supply chain and gain a competitive advantage. By outsourcing key parts of supply-chain management to the EMS industry, OEMs can improve quality, reduce costs, and accelerate time to market. Relative to an “in-sourced” model, this leads to higher customer satisfaction, higher profit margins, and market share gains.

Other related reasons for outsourcing, include:

- **Faster time to market**
- **Global location of factories**
- **Higher utilization rates**
- **Improved return on capital**
- **Profit improvement**
- **Transformation of a fixed cost to a variable cost**

- **Reduced capital investment requirements by OEMs**
- **Component purchasing leverage**
- **Access to manufacturing expertise and leading edge manufacturing technologies and processes**

### **Why are the top EMS providers gaining market share?**

**We believe the top 5-10 EMS firms will eventually capture 80% or more of EMS revenues for several reasons. These include the following:**

- In any single product segment, the Top 5-10 OEMs usually control 75% or more of the market. These are large, multi-billion dollar OEMs that prefer to outsource to large, global, well capitalized EMS firms
- The top EMS firms offer global infrastructure capabilities to OEM's
- The top EMS firms are best positioned to absorb large programs and asset divestitures from the worlds leading, multinational OEMs
- OEMs want to outsource to only a few suppliers, and OEMs do not want to account for "too much" of any EMS provider's revenues. Thus, we believe that the top firms are best positioned to win new business.
- Diversification of revenues by products and OEMs is an important factor that drives the overall efficiency and success of EMS firms. Large EMS firms are best positioned to achieve a balance of revenues across product segments and OEMs.
- "Capital is king" as strong valuations create a "momentum effect" beneficial to highly valued EMS firms. The e EMS firms have the easiest and least expensive access to capital for Greenfield Expansion, OEM asset acquisitions, and acquisition of other EMS firms

### **The Stocks**

- It's still early in the outsourcing story. **Less than 15% of the addressable market is outsourced today.**
- We believe there is upside to our EPS estimates, and anticipate a large wave of outsourcing over the next several years. **We believe that large communications and computing firms such as Alcatel, Ericsson, Lucent, Marconi, Motorola, Nokia and Siemens will accelerate their rate of outsourcing during the next several years.**
- Longer term, Japan represents an incremental opportunity for the EMS industry. **Our estimates for the next several years do not factor in any significant outsourcing within Japan.** We believe that Japan will remain less than 10% of the worldwide EMS market for the next several years.
- **In a fast growing EMS sector, where invested capital requirements is strongly correlated with revenue growth, "capital is king".** Firms with the best return on capital, the richest valuations, a stronger "currency", and a better ability to raise new capital are best positioned to gain market share and post strong EPS growth.
- **Jabil, rated "strong buy" remains our favorite stock in the sector. The stock is up 36% year-to-date, compared to the NASDAQ, which is down 22%.**
  - We believe that Jabil remains well positioned to post strong EPS growth and superior return on capital during the next several years.
  - We also believe Jabil's organic-oriented growth strategy, complemented by selective acquisitions, positions it to maintain its superior manufacturing platform, customer base, and management team.
  - We believe that Jabil's superior return on capital supports our position that it has the best manufacturing platform in the industry.

- We reiterate our “strong buy” rating on Jabil, and our 12-month price target of \$85, which is up over 70% from current levels.
- **We remain constructive on Flextronics, SCI and Solectron, all rated “buy”, and Viasystems, rated “strong buy”.**

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