

Why Outsource?

A summary discussion of why companies decide to outsource. Simply stated, the decision to outsource is made to positively effect the profitability of an OEM.

Jake Kulp
Vice President New Business Development
MC Assembly



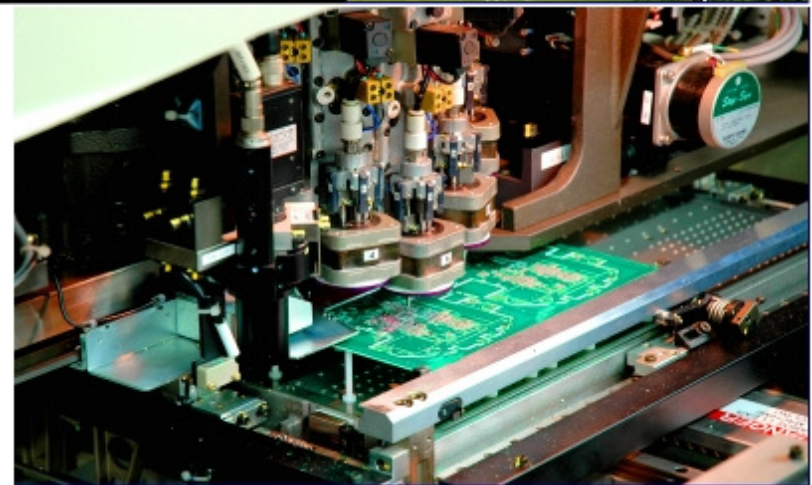
In-source vs. Outsource

- **Why outsource electronic manufacturing**
- **How to select a contract manufacturer**
- **The manufacturing agreement**
- **Obstacles to a successful outsourcing**
- **How to get started**



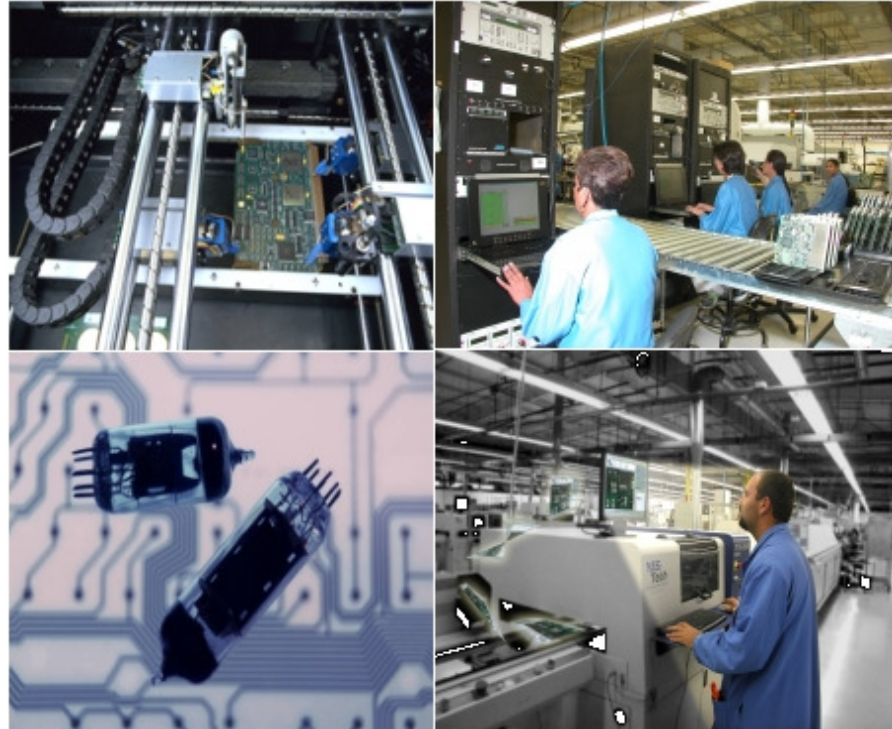
Why Outsource Electronics Manufacturing?

- **Electronic manufacturing is not one of your core competencies**
- **Your supply chain is not optimized for procuring and handling electronic components**
- **Your ROI on capital expenditures is not as high as it should be**
 - **Under-utilized assets**
 - **SMT Utilization < 70%**
 - **Equipment obsolescence**
 - **Finer pitch components**
 - **Increased placement accuracy**
 - **Outdated testing capability**
 - **X-Ray advances**



Why Outsource Electronics Manufacturing?

- **You are carrying too much working capital / cash flow improvement:**
 - **Capital Equipment**
 - **Assembly**
 - **Test**
 - **Part Prep**
 - **Material Handling**
 - **Inventory**
 - **Early**
 - **Excess**
 - **Obsolete**



Does the OEM really understand all the costs associated with buying materials, carrying employees that are not fully utilized, upgrading capital equipment to current standards, and how fringe benefit costs and burden must be applied?

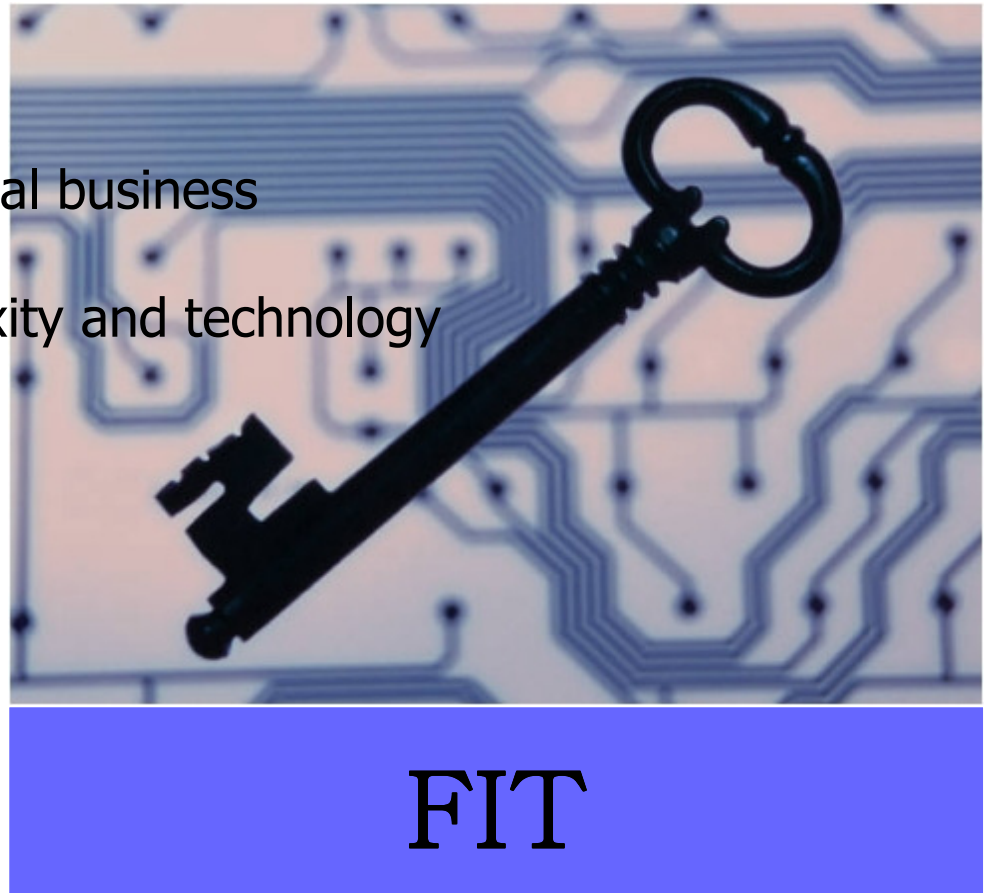
Why Outsource Electronics Manufacturing?

- **Your labor cost is too high and unpredictable:**
 - **Outdated equipment**
 - **Wrong skill mix**
 - **High wage rates**
 - **Turn-over / re-training, re-certification**
 - **Excess support personnel (Indirect labor)**
 - **Procurement**
 - **Quality**
 - **Administrative**
 - **Cost Center /vs./ Profit Center**
 - **Fixed prices**
 - **Total acquisition costs**



How To Select A Contract Manufacturer

- Manufacturing competencies – capital equipment
- Quality systems / certifications
- Supply-chain strength
- Test capabilities
- Scalability
- Size of business to EMS total business
- Market focus
- Similar customers, complexity and technology
- Financial stability
- Flexibility - Schedule
- Industry testimony
- Price competitiveness
- Engineering services
- Direct fulfillment support
- Warranty / repair support
- Executive commitment
- Cell team commitment



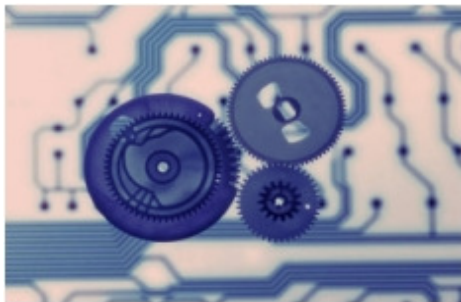
The Manufacturing Agreement

- **Clear Statement of Work**
 - Manufacturing Plan
 - Testing Plan
 - Acceptance criteria
- **Mutual Responsibilities**
 - Goal setting
 - Business reviews
 - Communications
 - Problem Resolution
- **Shared risks / returns**
 - Inventory excess / obsolescence / M.O.Q. / safety stocks / NCNR
 - Re-schedule (in or out) windows
 - Long lead items
- **Payment Terms**
- **Product end of life**
- **PO and forecast cancellations**
- **PPV**
- **Legal issues**
 - Warranty
 - Indemnity
 - Terminations (cause or without)
 - Intellectual property
 - Confidentiality

The best relationships allow contracts to remain in the OEM and EMS desk drawers.

Obstacles To A Successful Outsourcing

- **Poor “*fit*” between the OEM and the EMS provider**
- **Outsourcing poor designs effects yields and causes excessive de-bug / repairs / support costs; poor OTD / quality ratings.**
- **Poor forecasting / lead-time violations**
- **Poor communications, poor goal setting, no business reviews**
- **Lack of investment of people / time to manage outsourcing**
- **Lack of partnering: transfer problems, won't share risk & return**
- **Lack of buy-in from OEMs cross-functional organization**
- **Slow payments**



Outsourcing can be a smooth and well run process but investments of time, planning and execution must be made by both the OEM and the EMS provider.

How To Get Started?

Two Approaches

1. **Traditional Outsource model**
 - **Qualified Sources**
 - **Bid, audit, award process**
 - **Step and repeat by P/N**
2. **Divestiture: Dispose of Manufacturing Capability As Non-Core**
 - **Sell To Qualified Source**
 - **Assets**
 - **Inventory**
 - **Special capital equipment**
 - **Transfer potential human capital**