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Your Global Outsourcing Authority

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Design Development
In today's competitive market, an Integrated Product Development (IPD) environment is required to reduce time-to-market and product development costs while at the same time, increasing product quality and performance. In order for simulation technology to be relevant - that is, to have an effect on the design prior to committing to tooling and manufacturing, the right processes, people, and tools need to be in place. Oracle Manufacturing is your total solutions provider for all of these services.

CAD Technology
Computer Aided Design technology is a form of automation that helps designers prepare drawings, specifications, parts lists, and other design-related elements using special graphics- and calculations-intensive computer programs. The technology is used for a wide variety of products. Although CAD systems originally merely automated drafting, they now include three-dimensional modeling and computer-simulated operation of the model. Rather than having to build prototypes and change components to determine the effects of tolerance ranges, our engineers can use computers to simulate operation to determine loads and stresses.

CAD Uses
- Stereolithography (SLA)
- Selective laser sintering (SLS)
- Casting masters
- Advanced molding simulation
- Finite element analysis (FEA)
- Tooling design
- Cutter paths for tooling

CAD Platforms Utilized by Oracle Manufacturing
- Unigraphics®
- Solid Works®
- Pro/ENGINEER®
- MASTERCAM®
- CATIA®

Simulation Analysis Tools Utilized by Oracle Manufacturing
- Moldflow®
- ANSYS®
- PATRAN®/MARC®

FEA
Oracle Manufacturing provides detailed engineering and analysis services for today's highly technical industries. Beyond classic analytical techniques, our experience in engineering analysis incorporates many fields in both linear and nonlinear Finite Element Analysis (FEA). From complex weaponry assemblies to miniature medical implants, we provide accurate solutions to engineering problems in a timely and cost efficient manner.

Linear Analysis - Oracle Manufacturing performs concurrent linear analyses to supplement our
clients' design and production efforts. We work with clients to establish models and verification tests that reflect the real world system in question. Linear models provide the most cost-effective insight into the behavior of your system. Oracle Manufacturing uses existing 2D or 3D geometry from a variety of design software platforms, and can create new models when necessary.

Nonlinear Analysis - Oracle Manufacturing's capabilities include the more difficult area of nonlinear and transient analysis. Many engineering problems exhibit nonlinear behavior that cannot be accurately simulated by a simple linear model. These problems typically include nonlinear materials such as rubber, plastics, and composites, large deformations, creep, multiple body contacts, transient loads, and boundary conditions. Proper iteration control techniques and convergence criteria must be established to ensure accurate results and efficient solution response times.

Design Optimization - Oracle Manufacturing offers design optimization through methods using FEA and automated geometry/constraint software. Often, the best design solution for a problem is a balance between competing requirements, such as weight and strength. Automated iterative FEA can help find the best solution without arduous manual iterations or physical prototypes.

Solution Verification and Validation - Verification of FEA solutions against classical analytical calculations is a core philosophy in Oracle Manufacturing's analysis services. We calibrate our models against available empirical test data, simplified models, and classical calculations to ensure required solution accuracy.

Moldflow® Analysis
Oracle Manufacturing employs powerful Moldflow techniques to simulate the plastic injection molding process, this enables us to ensure the quality and efficiency of our injection molding process.

MoldFlow simulation is usually conducted during the product design stage and the early stages of the tool design. This helps reduce or eliminate many of the problems associated with commissioning an injection mold, before construction and major investment in the tooling has even begun.

The processing characteristics of the plastic injection or die cast tools are investigated during the course of the Moldflow simulation allowing optimization of the part and tool design by adjusting areas such as gate positions, wall thickness and cooling parameters to help you achieve success.

A Mold Flow simulation highlights most quality problems including: High Fill Pressure, Short Shots, Weld Lines, Gas Traps, High Gate Shear, Poor Cooling, Long Cycle Times and Distortion.

Oracle Manufacturing's Moldflow tool kit includes MoldFlow - Filling, Cooling, Gas Injection and Warpage analysis software for full process simulation. With direct interfaces to most major Cad
systems, you have the security of knowing your design is accurately represented.

Supported Cad formats for FEA and MoldFlow include: Pro Engineer, Unigraphics, Catia, SolidWorks, SDRC Ideas, Parasolids, Acis, Step, STL and IGES

**Rapid Prototyping**

For very accurate form/fit prototypes or when a pattern quality surface finish is required the stereolithography (SLA) process is the industry standard. Oracle Manufacturing can produce SLA parts in four different materials:

**DSM 11120**, for clear parts and rapid tooling patterns.

**DSM 9120**, which simulates flexible thermoplastics such as polypropylene.

**DSM 12120**, for high heat applications.

**DSM 14120**, for functional assemblies with ABS production part appearance.

*Comparison Chart*, Rapid Prototyping Materials Comparison Chart.

The SLA process uses a UV laser to selectively cure an epoxy photopolymer into a solid object. SLA prototypes are finished and delivered in days after receipt of the CAD data.

**Rapid Prototyping finishes:**

**Water Clear**

Our highest quality finish is ideal for lens or translucent parts using our Somos 11120 resin. Two or more coats of crystal clear acrylic are applied with wet sanding between each coat.

**Pattern**

Excellent for tooling patterns or show pieces, each prototype passes through levels of meticulous hand sanding that is completed with an ultra-fine level of bead blasting.

**Pattern/Functional**

With the assistance of an experienced Oracle Manufacturing project engineer, this option lets you “show your best side” with a pattern finish on the outside of your part and a more functional finish on the less visible working side.

**Functional**

When fit and functionality of component parts are your primary concerns, hand sanding with a second-level finish and completed with bead blasting will do the job.
Basic
If you need it fast or you're planning to do your own finish work, our most economical choice offers light sanding to remove sharp edges on down facing surfaces where supports were previously located, plus a first-level bead blasting.

Rapid Prototyping Applications
Limited number of prototypes needed (1 - 10)
Form & Fit Testing
Functional Testing (i.e. snap-fit)
Plastic Part Rapid Tooling Patterns
Metal Part Rapid Tooling Patterns
Focus Group and Presentation Models

Characteristics
Maximum Part Size*: 20”x20”x24”
Tolerance: +/- (.005 + .001 in/in)
Smallest Feature Size: >.015”
Paint-able: Yes with primer
(Note: Larger parts can be built in sections)

Selective Laser Sintering
When part durability or high heat deflection temperature is required the SLS process can produce parts, which closely represent the physical properties of the production material. SLS parts are built in GF Accuform. The SLS process uses a CO2 laser to selectively sinter plastic powder into a solid object. The sintered prototype can be used for functional testing in almost all applications. SLS prototypes are delivered in days after receipt of the CAD data.

Electronic Manufacturing Services
Oracle Manufacturing is unique within the fast growing Electronic Manufacturing Services (EMS) industry. With years of experience in turning product concepts into world-class products, Oracle Manufacturing offers customers a comprehensive set of value-added services. Services include mechanical, electronic and software design, printed circuit board development, prototyping services, new product introduction, material procurement and management, printed circuit board and higher level assembly, test development, in-circuit and functional testing, final system box build, fulfillment and sustaining services.

This range of capability provides for the seamless transition of products from one service offering to another, reducing time-to-market and total cost. These products are used in a variety of industries including networking, data communications, medical, industrial,
computer and transportation. Oracle Manufacturing has no proprietary products, but its product development services have created complex, high-tech products for major Original Equipment Manufacturer's (OEM's) and high-tech start-ups. Oracle Manufacturing is where ideas become reality.

**EMS Overview**

### Manufacturing
- PCB - PTH, SMT
- HLA/Box Build/System
- Configure-to-Order
- Build-to-Order
- Focused Factory Concept
- Lean Manufacturing
- Dedicated Rapid Prototyping

**Focus Factories**
- DFM
- Electro-mechanical
- Photonics
- Medical Class III
- Laminates: Rigid, PCMCIA, Rigid Flex, Flex, > .250" Thickness, Low Dk

### Customer Focus
- Customer Team
- Focused Factory
- Electronic Communications
- E-Commerce
- DFX
- Cost Reduction Procedures
- Technology Roadmaps
- Multiple Locations
- Market Segmentation

### Materials
- Distributors In-House
- Point of Use
- Flexibility Models
- Global IPO's
- Direct and/or Distribution
- Assured Supply
- Custom Engineered Components
- Commodity Specialists
- Prototyping Materials Strategies

### Quality
- SPC
- Data Sharing

[http://oraclemanufacturing.com/]
• Six Sigma Methodology
• Mature Quality Management System
• Continuous Improvement
• BellCore TR – NWT – 000078 Compliant
• NEBS

Processes
• No-clean
• Surface Mount Technology
• Double Pass Reflow
• PTH Auto Insertion
• Pin-in-Paste (Intrusive Reflow)
• Conformal Coating
• Mechanical Assembly
• Backplane (Compliant Pin)
• Optical Fiber Fusion Splicing
• Lead-Free Processes

Component Technology
• .4 mm Pitch QFP
• Flip Chip - > 1200 I/O, .01” Pitch
• BGA - > 1500 I/O
• CBGA - > 800 I/O
• CCGA - > 1500 I/O
• PGA - > 591 I/O
• Chip Scale Package (CSP)
• Passive Discrete - 0201
• Optical Actives and Passives

Test
• DFT
• MDA – Takaya Flying Probe
• Automated Optical Inspection
• 2D & 3D X-Ray
• In-Circuit / Combinational
  - Agilent 307X, Agilent 3065
  - Genrad 228X, 227X
  - Teradyne 18XX
  - High Node Count > 7000
• Functional
  - RF
  - High Speed Communication
  - Full Custom
  - Nest Based
• Stress Screening
  - Thermal Cycle (-60 to 170° C)
Thermal Shock
- Dynamic Functional
- Vibration – Dual Axis

• System Test

EMS Facility

780,000 Square Feet
1,800 Employees
24/7/365 Operations

Manufacturing - Plastics
Our Injection Molding Division has 123 injection molding machines. Their sizes range from 18 tons to 5,000 tons. All of our injection molding machines are state-of-the-art with closed-loop computer controls and are less than 5 years old, including large-scale precision numerical control injection machines.

We have presses equipped with special screws and barrels to allow for processing glass and mineral filled materials. We also have presses equipped with special mixing sections to ensure uniform dispersion when adding color concentrate.

Oracle Manufacturing specializes in many engineering-grade materials. These include Acetal, ABS, Polycarbonate, PET, PETG, PBT, PPO, PPS, Nylon, Flexible PVC, and various Elastomers. In each size range we have presses fitted with special screws and barrels for molding glass and mineral filled materials. Our largest resin suppliers are Dupont, GE, and Chimei. We also process commodity type resins such as Polyethylene, Polypropylene, and Polystyrene.

The use of so many different materials has helped us develop relationships with a number of different material suppliers. We are often able to use these relationships to help source materials at very competitive prices and generate savings for our customers.

The experience and technical expertise we have developed in order to successfully mold all of these different resins has often enabled us to help our new customers solve problems with existing parts and tooling.
Plastics Secondary Operations
Oracle Manufacturing’s secondary operations add value to programs, regardless of volumes.

Secondary Capabilities
- Painting
- Pad Printing
- Heat Transfer and In-Mold Decorating
- Paint and Laser Etching
- Hot Stamping
- Plating
- Assembly
- Packaging

EMI/RFI Shielding
Oracle Manufacturing offers processes to meet EMI/RFI shielding requirements, including EMI tolerant polymers, conductive paint and foil, electroless plating, and vacuum metalizing. EMI/RFI experts are available to help determine the appropriate method for individual applications, based on specific program needs.

Each shielding process is selected based on a number of attributes such as cost-effectiveness, process reliability, and shielding effectiveness/attenuation. Process considerations include aesthetics, resin performance requirements, and durability.

Plating
Oracle Manufacturing offers electrolytic and electroless plating services for plastic injection molded parts requiring a metallic appearance or EMI/RFI shielding.

Electrolytic plating offers both EMI/RFI shielding and aesthetic finishes in many options, including color finishes such as chrome, chrome-vet (chrome substitute), pearl brite satin finish, dark nickel, and other color combinations. In addition, Oracle Manufacturing has access to specialty finishes such as Physical Vapor Deposition (PVD) coating with color options that include brass, gold, black, and satin.

Non-aesthetic components requiring selective or encapsulated EMI/RFI shielding can undergo copper/nickel electroless plating. The electroless chemical plating process generally yields better shielding properties than conductive painting.

Manufacturing – Metals

Traditional Die Casting
Our Die Casting division, equipped with machines capable of producing 25 to 900 tons of clamping pressure, produces primarily aluminum and zinc die castings for various applications in the industrial, consumer, agricultural and automotive sectors. We have both hot and cold chamber die casting machines armed with the necessary supporting...
equipment to manufacture die castings that meet our customers rigorous quality and specification requirements.

Our employees are highly skilled and are trained regularly in support of the ongoing pursuit of continuous improvement. After each production run, our mold maintenance department fully cleans and services each die before the next production run.

Our Die Casting division specializes in producing castings of various shapes and sizes, large and small. Through inspection, die castings are constantly monitored to ensure our customers exact requirements are met and held throughout the entire production process.

Sheet Metal
Our Sheet Metal Division provides products including chassis, brackets, springs, racks and stampings. We are capable of manufacturing prototypes and production runs.

We offer complete sheet metal capabilities ranging from shearing, to forming, to punching (to 0.005" tolerance) as well as machine turning, milling, grinding and drilling.

We have in-house factory capabilities for tooling, spot welding, painting and silk-screening. Our outside process capabilities enable us to provide our customers with plating and anode oxidation.

Metal Secondary Operations
Oracle Manufacturing’s secondary solutions help deliver high-quality products to the marketplace quickly and cost effectively.

Metal Injection Molding Secondary Capabilities
- Machining
- Tapping
- Tumbling and polishing
- Heat-treating
- Black oxide coating
- Plating
- Surface grinding/lapping
- Passivation

Traditional Die Cast and Magnesium Injection Molding Secondary Capabilities
- Trimming
- Vibratory or tumble deburring
- Drilling/tapping
- Machining
- Electroplating
- Painting/decorating

**Tooling**

*Class "A" Asian Tooling - USA Engineering* In-house tooling & design, mold makers and mold designers give us the capability to build and maintain our own tooling. The design and craftsmanship of a mold is a controlling factor in quality and part cost for the life of the tool. We have built more than 250 molds for our customers and pride ourselves on our ability to optimize part and mold design at the beginning of a project before the steel is cut. We can accept virtually any electronic design database including Pro-E. Our engineers enjoy helping our customers with suggestions on part design that will improve quality and/or reduce costs.

We have the best and most reliable toolmakers. We have modern, state-of-the-art, highly automated operations with full CAD/CAM capabilities. With our facilities in China, we can be just as competitive on a simple, one cavity mold costing $3,000 as on a multi-cavity hot runner mold costing $150,000.

We place great emphasis on the design stage of a mold to ensure that our molding and design expertise is combined with our tool building expertise to produce a mold that will meet all of our expectations. Our expertise guarantees that every mold built through PBC will produce quality parts at the quoted price.

Tooling Equipment:

- CAD/CAM/CAE center
- Die and spotting press
- Precision electrical spark machine
- Precision straddle type matched mold machine
- CNC copy milling machine
- Mold machine
- EDM machine
- Numerical control machine
- 3-coordinate measuring machine

**Manufacturing Quality**

All Oracle Manufacturing facilities are ISO 9002 certified and some of them are QS 9000 certified. This guarantees that we have a consistent and effective quality system in place to meet our customers' quality needs. We place great importance on defining and documenting these needs for each part at the beginning of a project in order to minimize the learning curve once production is underway.

Mold and machine set-up and operating conditions are part of our controlled documentation system. Manufacturing quality and inspection forms are displayed at the press together with sample parts and contain all the relevant information required for our press operators and quality
inspectors to determine part consistency and quality. We work with our customers to establish appropriate SPC and SQC requirements. All of our parts are inspected in-house and specifications are verified with a Coordinate Measuring Machine (CMM).

When Quality issues do arise they are thoroughly investigated, documented, and corrective actions are initiated.

Part quality is very much dependent on the condition of the mold. At the end of each run, we clean, inspect, lubricate, and spray the mold with rust preventative. Last shots are retained and inspected. If necessary, mold repairs are initiated before wear degenerates into a quality issue.

**VIC**

Using Oracle Manufacturing’s VIC system, the international outsourcing process is made transparent. Customers can track information 24 hours a day. Behind the scene, Oracle Manufacturing’s team takes care of the weak links in the process, which have the potential to cause unending frustration.

**Logistics**

**Ocean**

Oracle Manufacturing offers its customers flexible service options for ocean freight transportation. Ocean services encompass capabilities for handling less-than-container load (LCL) and full-container load (FCL) shipments, breakbulk cargoes, and charter services.

Oracle Manufacturing’s value-added services include:
- Complete FCL and LCL service
- FCL contract management
- LCL container consolidation / deconsolidation
- Through service single bill of lading
- Forwarding services
- Container management
- Single or multiple vendor consolidation and distribution
- Full document services
- Multi-modal service; full cargo transportation management

**Air**

In North America, Oracle Manufacturing employs a network of integrated air and ground services, providing pickup and delivery, and scheduled flights with consistent transit times for thousands of cities daily in the U.S., Canada and Mexico. We also offer extensive international freight forwarding services, utilizing the world's major commercial airlines, all-cargo carriers, and charters.

- Air Services
- Airport to airport
- Airport to door
• Door to airport
• Consolidation
• Door to door
• Free Domicile
• Dangerous Goods Handling

Express
Oracle Manufacturing has a perennial agreement with FedEx. We can also utilize UPS and DHL. This allows us to offer the best price and various carrier choices for our customers.

Does Global Sourcing make Sense for You?

The debate over whether it is healthy for American companies to shift manufacturing offshore is over. According to John McCarthy, Forrester Research Group Director, “This is going to be one of the biggest macroeconomic shifts in the overall U.S. economy in the next 10 years.” (1)

Gartner Research forecasts that some 80% of American corporations will have at least considered offshore manufacturing by the end of next year.(2) The reason – aggressive companies know higher profit margins can only be realized through greater cost efficiencies and better utilization of time and money.

Outsourcing manufacturing is critical to maximizing productivity. The real question is, “How long will your company remain competitive if it fails to use this proven business concept?”

Global sourcing will have as positive an effect on American business supremacy as Henry Ford’s innovative concept of the assembly line. It generates the necessary funds for increased R & D. This enables companies to remain on the forefront of their industry in the increasingly competitive global economy. The concept of “creative destruction” or being willing to constantly adapt to maximize productivity is the genius of American entrepreneurship.

Many of today’s most sophisticated companies have chosen to almost exclusively concentrate on R&D and sales, outsourcing the vast majority of their high volume and/or labor intensive assembly operations - thereby eliminating problems of production, staffing and continuing plant modernization.

Others like Wal*Mart are famous for outsourcing the manufacturing of entire product lines to cut prices, raise market share, and dominate their industry.

Finally, many firms choose to produce their higher margin, patented and/or more sensitive components in house and outsource their less critical or non-technologically sensitive items.

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The following are questions all companies must ask themselves on a continuing basis:
• Would cutting production costs 30-60% breathe new life into a marginal product line?
• Is lack of plant space preventing an expansion into new markets?
• Is customer demand outstripping production capability?
• Are increased costs of component parts threatening a major product line?
• Is it becoming more difficult to staff second or third shift operations?
• Is production problem solving taking up too much of management's time?

Let us show you how offshore manufacturing via Oracle Manufacturing’s state-of-the-art processes can dramatically reduce your production costs and overhead. Start now by contacting the Industries Leading Customer Centric Global Manufacturer at 815.733.5394.

1 Barron's Online, June 26
2 Gartner Research Group, Outsourcing across vertical markets

Reasons to consider Offshore Manufacturing

• **Gain Access To World Class Capabilities**
By the very nature of their specialization, offshore outsourcing providers like Oracle Manufacturing bring extensive world-class knowledge and resources to meet the needs of their customers. Partnering with an offshore outsourcing organization with world-class capabilities can offer access to first class, proven offshore manufacturing services in China.

• **Reduce or Control Operating Costs**
The single most important tactical reason for offshore outsourcing is to reduce manufacturing costs of high volume or labor intensive manufacturing and assembly operations. In a recent survey, companies reported that on average they realized a 20-30% reduction in manufacturing costs by offshore outsourcing.

• **Generating Money for more R&D and a Greater Sales Effort**
Aggressive companies know higher profit margins can only be realized through greater cost efficiencies and better utilization of time and money. By using offshore manufacturing services in China you will generate large savings that can be redirected to finance a much higher level of R&D and/or the development of improved sales techniques.

• **Dominating your Market**
Many companies are famous for using the cost advantages they realize from offshore outsourcing to cut the price of their products which in turn leads to an increase of their market share and eventually enables them to dominate their market.

• **Improve Business Focus**
Offshore outsourcing of all appropriate product allows companies to put their main focus on broader business and sales issues while Oracle Manufacturing deals with operational details of sourcing their product in China. For many companies, the single most compelling reason for manufacturing outsourcing is to eliminate production line issues that siphon off huge amounts of resources and attention from management.
• **Eliminating Production Upgrades**
Offshore outsourcing reduces the need to invest capital funds in non-core business functions such as facility upgrades. Consequently, more capital funds are available for your core business. Additionally, manufacturing outsourcing can also improve certain financial measurements by eliminating the need to show return on equity from capital investments in non-core areas.

Putting together a comprehensive offshore outsourcing program is not easy. This is why most companies use the services of an experienced sourcing company for guidance. Contact Oracle Manufacturing at 815.733.5394 to make an initial inquiry, or contact us by email at info@oraclemanufacturing.com. It may turn out to be the most profitable business contact you've ever made.

**Lou Dobbs: Here's Why You're Wrong!**

Is offshore outsourcing a good thing? CNN's Lou Dobbs and Senator Kerry are stoking that debate, peppering their talk with emotional arguments like the ethics of offshoring and the loss of jobs. Dobbs even coined the term "Benedict Arnold CEOs" for corporate leaders who have embraced offshore outsourcing.

From my perspective (I've spent multiple years in the outsourcing world), the debate has not been very thoughtful. It's strong on rhetoric, tapping emotions instead of dispassionately examining the pros and cons. I want to take the time to make an unemotional business case for offshore outsourcing.

First, some clarifying definitions. Outsourcing occurs when one company hands over the responsibility for a process or a part of the process to the outsourcing supplier. EDS created outsourcing in the 1960s. Most people have experienced outsourcing, even if they don't know it. Check your paycheck. If it's produced by suppliers like Paychex or ADP, then your company has outsourced its payroll function to an outsourcing supplier.

However, until the late 1990s, most of the outsourcing in the United States occurred between American buyers and suppliers. Today the debate centers on offshore outsourcing. Offshore outsourcing happens in two ways. First, American companies are sending work directly to foreign outsourcing suppliers. Second, American outsourcing suppliers are opening up offices abroad to take advantage of the difference in the price of labor. They determine the best place to send the work depending on the cost and skill levels involved. Of course, when other countries send their work to American outsourcing suppliers, that's offshore outsourcing too.

In addition, some American companies are offshoring by opening their own captive operations in foreign countries. In this instance, they are moving their operations to a less costly location. American companies have been doing this for years -- moving out of high-cost areas like New York City or San Francisco to other parts of the country that have lower costs. Going overseas is an extension of that trend. But this is not offshore outsourcing because the company still owns the operation. When a company outsources its work offshore, it's turning over responsibility for the process to another company outside US boundaries.
Here are seven myths about offshore outsourcing:

1. Outsourcing is a new phenomenon.

The original theory derives from Adam Smith's competitive advantage. He published his landmark book, The Wealth of Nations, in 1776. Offshore outsourcing is the natural evolution of the industrial and information revolutions that preceded it.

American companies have been offshoring for decades. When you get undressed tonight, read the labels on your clothes. I'd wager very few items were made in America. American apparel manufacturing has been using cheaper foreign labor for over a decade.

2. Offshore outsourcing causes job losses.

Not so, say the statistics.

It is true American jobs are going abroad. Gartner predicted at its ITxpo in Barcelona, Spain last March that up to 25 percent of traditional IT jobs in developed countries would be situated in emerging markets by 2010.

But is that a net job loss? The Information Technology Association of America (ITAA), an industry trade group, wanted to definitively answer the job loss question. It sponsored a study completed by Global Insight, which was published in March 2004. "The Comprehensive Impact of Offshore IT Software and Services Outsourcing on the US Economy and the IT Industry" has some eye-opening statistics.

The study predicts the US economy will create 516,000 new IT jobs over the next five years. That number would only be 490,000 jobs without global sourcing. Of the 516,000 new IT jobs, Global Insight reports 272,000 will go offshore. That leaves 244,000 new jobs that will remain in the US.

And, offshore outsourcing also creates jobs in other sectors besides IT. The report says the incremental economic activity that follows offshore IT outsourcing created over 90,000 net new jobs in 2003 and probably will create 317,000 net new jobs by 2008.

The report also pointed out that the dotcom debacle caused more IT job losses than offshoring. Global Insight estimates the number of displaced IT software and service jobs due to offshore IT outsourcing as of 2003 was 104,000. This number includes jobs US companies eliminated by replacing American workers with foreign workers as well as jobs that were never created as other US companies expanded their IT activities by going offshore directly. The study says "it is important to note" that the industry has lost 372,000 jobs since 2000. It also says that 10% of all IT software and service jobs have disappeared since 2000. But only 2.8% of the total IT jobs were lost because of offshore IT outsourcing.

The study adds the impact of global sourcing on employment varies by industry. Major industry groups expected to gain a "significant" number of incremental jobs over the next five years include education and health services, transportation and utilities,
construction, wholesale trade, financial services, professional and business services, and manufacturing.

The same is true in other economies. Canadian David Ticoll, author of The Naked Corporation: How the Age of Transparency Will Revolutionize Business, points out about 20,000 Canadians provide offshore IT services to the United States and other countries. American businesses prefer to outsource to nearshore countries like Canada, he explains. "If Canadian firms captured only 3% of the projected global outsourcing market, we will create more than 200,000 jobs by 2010. This could more than offset the 75,000 Canadian IT jobs we expect to move offshore," he writes.

3. Offshore outsourcing is bad for the economy.

Nay. Nay. Companies look at offshore outsourcing because of the labor arbitrage -- the difference in wages between US and non-US workers. The study found cost savings totaled $6.7 billion in 2003. "This represents an assumed 40% savings versus what would have been spent if domestic resources had been used," it states.

The costs savings lower inflation, increase productivity, and lower interest rates, according to the Global Insight report. This happy constellation of events "boosts" business and consumer spending. To be exact, the study said "the benefits of global sourcing" added $33.6 billion to the US gross domestic product (GDP) last year. By 2008, it calculates real GDP will be $124.6 billion higher than it would be without offshore IT outsourcing.

At the same time, the study predicts demand for US exports is increasing due to the lower prices of American goods and services and higher incomes in the offshore outsourcing destinations. Global Insight calculated real exports were $2.3 billion higher in 2003 and are expected to be $9 billion higher by 2008.


Au contraire. According to Global Insights, workers "are expected to enjoy a bump up in real wages. Offshore IT software and services outsourcing actually increases the average real wages of US workers." The report says real wages were 0.13 percent higher in 2003 with an expected increase of 0.44 percent by 2008.

5. Companies lose control of their processes when they outsource them to providers halfway around the globe.

Outsourcing, by definition, requires the buyer to relinquish control of a process to the supplier, who is an expert in the process and able to perform it better, faster, and cheaper. Strong corporate governance is required in all outsourcing transactions, including offshore ones. Careful monitoring of any outsourcing relationship ensures the buyer is getting what it is paying for.

6. Companies cannot ensure data security and privacy when they outsource offshore.

Data security is a problem whenever employees have access to sensitive information. American suppliers, however, are particularly sensitive to the issue. At a Convergys call center in India, guards search employees before they enter the building. There are no
memory cards in any computer. It keeps all its data on computers in the US. The security there far exceeds anything I've seen here in the States.

7. American companies don't have to outsource offshore.

Oh yes they do. Because their competitors are outsourcing offshore. Companies that don't look at lowering their costs become uncompetitive in the global marketplace.

Witness the story of eFunds, which is fielding calls at a call center in India for the Utah Department of Workforce Services. When the word got out, the supplier was caught in a political firestorm. EFunds agreed to bring the work back to the States, but the move would cost Utah $63,000 more, according to John Nixon, the state's director of finance. If the state of Utah moved the call center in-house, Nixon predicted it would cost the department over $1 million to run it 24x7. Overall, Nixon told the Deseret News the outsourcing contract is saving the state $420,000 over the five year contract.

How to begin a successful outsourcing program

The key to setting up a successful global manufacturing service is to do it in a way that limits risks and makes any transition as seamless as possible. These are the steps we suggest you take to start manufacturing globally as quickly, and efficiently as is possible.

1. Select one of your existing products that has a long cycle time and requires the most labor, assembly work and/or packaging costs. Remember, commodity prices (for plastic resin, metal, etc.) are similar around the world. Therefore, the best items for offshore manufacturing are those that require the most cycle time, labor or require multiple steps to produce.

2. Send us an RFQ for a partial run of that product sales@oraclemanufacturing.com. Include with it, electronic drawings and 1-2 samples of the product so we can gauge the exact quality standards and requirements you expect. Also include the yearly volume figures you will be ordering once the initial test runs prove successful.

3. Next, we will set-up a VIC account for you and upload the electronic drawings and pictures within our system so the collaborative quotation process can begin. A key Oracle Manufacturing differentiator is that we also send the samples to the factory so they will know the exact quality standards required. This process typically takes ~two weeks.

4. Once the quote is generated, we will review it with you and will assist in calculating the return on investment to move to an offshore model. Nearly all companies decide that they want to proceed.

5. If production and/or prototype tooling is required, a 50% deposit is required. You will find that global tooling prices are extremely competitive.

6. Once the first article samples are approved, the balance owed on the tooling is collected and we begin a limited first run of the product.
7. Upon successful delivery of the limited first run product, you can begin increasing the runs of your product until it is completely made through offshore manufacturing, thereby maximizing your cost savings.

8. Once we are successfully manufacturing one of your products, we will begin assessment of other potential products for global sourcing. We will advise you on which products make the most sense to outsource with our factories, and will provide detailed ROI calculations to easily justify this movement.

By using this strategy, you keep your risks to an absolute minimum. You also avoid disturbing your production schedule, as you will initially only be making a portion of the product you use each year, with a gradual ramp-up to full global production.
Outsourced Manufacturing – FAQ’s

Question: You claim that sophisticated companies use your global manufacturing and Design services rather than sourcing product directly because you save them money. How do you do it?

Answer:

• Competitive Bidding and Pricing: When an American company negotiates with an Asian vendor, it rarely gets a "Chinese price." Knowledgeable companies understand that sourcing product manufacturing in China is far more complicated than finding one or two factories to make product offshore. To get the best pricing, you need Asians with a thorough knowledge of the local business culture on your side of the bargaining table. This is the premier strength of our Chinese offices staff. Additionally, we have a network of 16 world-class manufacturers in the most strategic low cost regions of China, and an office centrally located in Zhejiang. This enables us to get the most competitive pricing for almost any product manufactured globally. This strategy saves our clients an additional 10-15% in manufacturing costs.

• Guaranteed Quality: We are ISO-9002 and QS-9000 compliant and stand behind the quality of the products we manufacture. If the product doesn’t meet the standards of the pre-production samples we deliver— it is our responsibility to reconcile the matter. We take the worry out of quality control.

• No Liability Issues: By working with a U.S. company, you will not incur the legal liability of working with a foreign company. We also eliminate all currency issues.

• Product Confidentiality: Oracle Manufacturing has partnership agreements with a dedicated group of 16 manufacturers. Our partnerships have the strictest provisions for intellectual property as well as business information confidentiality. And our agreements extend all the way down to the subsidiaries employees. We have never had a product confidentiality breach on any program.

• Local Servicing of our Clients: “Source globally, Service locally.” We believe strongly in servicing our clients at the local level through dedicated Project Management and Engineering representatives.

• Lastly, we provides a centralized environment for managing all production and logistics data to our customers.

If you are ready to think differently about how to design and manufacture your products, we can help. View some of our recent success stories, and start putting our experience to work for you. Begin now by calling 815.733.5394, or visiting us online at http://oraclemanufacturing.com for more details.