

# Manufacturing Strategies the Contract Manufacturing Option

The decision to utilize contract manufacturing rather than investing in significant expenses to set up in-house production can provide the best value, quality and logistics for the manufacturing of a company's products. The following are some critical areas to be considered for a successful outsourced production strategy.

## Materials Management

The value of a good manufacturing partner becomes apparent well before the product reaches the production floor.

Managing the supply of components from simple passive parts through complex BGA's and electromechanical assemblies requires a **dedicated team of materials management and purchasing professionals** that can provide the best supply chain purchasing value, at the same time maintaining the integrity of the supply chain avoiding counterfeit parts, dealing with obsolescence and insuring parts will be in the factory to complete the scheduled production on time.

When evaluating a manufacturing resource, too often the focus is almost exclusively on the factory floor, technology, quality systems, etc., but does not look in depth at the procedures, MRP systems, experience and documented performance metrics of the manufacturers materials management and purchasing team which is critical to the supply chain and on time delivery.

## Production Technology and Human Resources

Does the manufacturer have the equipment and technology needed to cost

effectively produce the product? When evaluating a manufacturing resource, it is important to look at the experience of the key staff, factory engineering and management team. Successful contract manufacturing is about **repeatable results**.

The best technology, if not properly utilized will not yield the best results. Key metrics such as on-time delivery, quality (customer acceptance rates) can help clearly illustrate if the factory has the technology and expertise to produce the products on time for their customers insuring continuity in the customers supply chain, manufacturing and distribution.

## Quality

Does the manufacturer have a **proven quality program**, monitoring and reporting key metrics such as customer returns (acceptance rates), detailed tracking on key areas like workmanship problems, defective components and process related issues?

How does the manufacturer interface with their suppliers? What quality programs are in place to track the quality and integrity of the sources for the components that are purchased from the supply chain? Has the manufacturer committed to and secured industry certifications including ISO-9001-2015, ISO-13485, AS9100D and others?

Does the manufacturer view quality as a profit center? The less you have to work with defective product resulting from bad manufacturing, or deal with returns from end customers related to quality/workmanship, you will have less hidden overhead costs attributable to the supply chain.

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## Long Term Commitment to the Client

A successful manufacturing partner works hard to understand the client's business and the client's needs, to provide a manufacturing program that supports the client's growth, beyond simply booking and shipping individual orders. The manufacturer must understand the value of long-term relationships.

Building long-term relationships allow the manufacturer to optimize the value (lower costs) in the supply chain, to invest in special equipment, if needed to optimize and reduce costs of manufacturing for the client's products. The Contract Manufacturer should present "value add" scenarios for higher levels of assembly, testing, etc., to further reduce the client's manufacturing cost and associated facilities and capital equipment costs.

## Commitment to Long Term Value

A successful manufacturing partner will provide the client with a manufacturing program with the best overall value in a long-term relationship.

What are the real costs of production? Often a company choosing a manufacturer will spend more time just focusing on just the material and labor costs, than looking at the actual cost of all manufacturing related activities. The Actual cost needs to account for expenses in several areas beyond the PO. Starting of course with the cost of the PO to the factory (material, labor, overhead, profit), but to also putting a real cost on the other areas that effect "product cost."

For example if the product is built in Asia the extra costs of transportation, logistics, travel as needed to support production, minimum order sizes, inventory, (cash flow), etc. Quality, both at the point of initial shipment and long term reliability, can significantly add to the product cost of ownership. Putting together a complete supply chain costing model and understanding the direct and indirect costs are very important when understanding the value of a manufacturing partner.

When strategizing on the best production options, what are the advantages to outsourcing manufacturing compared to building an in-house manufacturing program? For many company's the answer to this question begins with a simple question. **Are you a product company or a manufacturing company?** A product company has a product that is special, unique, something that their customers need or want to buy, a product with design or feature attributes that often set it apart from other similar products. In most cases a significant portion of the company's budget went into the design of the product. When the product is ready for production a new set of dynamics enter the picture. How do you build the product in volume cost effectively with quality often requiring significant additional capital investment?

Your Contract Manufacturing partner is focused on production. Where it may have taken your R&D team several years to design the product, based on decades of experience in design engineering. Likewise, a qualified Contract Manufacturer's management team has this same high-level management experience in production, value engineering, quality assurance and will apply this knowledge and experience to the production of your product.

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## Selecting a Contract Manufacturer

In selecting a Contract Manufacturer focus on five key attributes that will be the bases for a long-term successful engagement with your manufacturing partner.

### Price

Are the Manufacturers quotation's competitive? Competitive does not always mean the lowest price, which could also be an indication that the manufacturer is missing something in the quote, or perhaps is desperate for business and will "buy the first business" to get you in their shop. Of course price is always very important, but no long-term successful sourcing strategy is based on price alone.

### Management Team, Materials Management and Procedures

Does the factory have a solid team with established procedures in place to insure consistent quality and on-time delivery? Does the Contract Manufacturer own key manufacturing certifications such as ISO-9001-2015, ISO-13485, and AS9100D illustrating their commitment and adherence to quality processes?

### Production Technology

Does the Contract Manufacturer have the Production Technology and equipment in place to build and test the product including specialized equipment to support inspection, X-ray and post-production processes like conformal coating if needed?

## Quality and References

Every manufacturer will claim they have excellent quality, but experience says there will be problems. Talk with the Contract Manufacturers references, especially ones that have been with the CM over many years. Ask about quality including if and when there were problems how they were addressed and corrective actions and continuous improvement procedures followed to promote a zero defect production strategy.

## Customer Service and Commitment to Customer Satisfaction

Get to know the team that will be working for you. It is important to have a good feeling about the Contract Manufacturers team, beyond simply the front line relationship with the sales person or product manager. In qualifying and ramping up a long-term relationship with the factory invest the time in visiting the facility, meeting key management personnel and walking the production floor.

The most successful relationships build on teamwork. Treat the Contract Manufacturer like it is your factory as well as a good Contract Manufacturer will treat your customers like they are their customers. Select a Contract Manufacturer committed to the top down philosophy of teamwork.

Teamwork is paramount in successful long-term relationships. There will always be challenges, aggressive production schedules, price pressures from the market and things that will go wrong. Teamwork resolves problems faster saving time and lost revenue from production delays.

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## The ABX Turn-Key Advantage

### Quality

At ABX our reputation for quality production is among the very best of all EMS providers, with a 99.7% shipments to returns ratio for 2024, we strive for zero defects in the product we provide to our customers.

### On Time Delivery

At ABX we understand the importance of your production schedules and commitments you have to keep to your customers.

We have a strong reputation for providing our customers with accurate production schedules, we work very hard every day to meet or exceed. For the past five years we have been able to exceed 95% on-time delivery performance to our customers.

We do this with the experience of over 39 years of materials management, a professional team, from your Sales Program Manager, to materials planning, purchasing and production management staff, and a hands-on executive team from ABX's President and Senior Executives.

### Support

At ABX we understand that designs are sometimes late, that problems will be found in manufacturing that were not anticipated. In the real world we all deal with

supply chain and component lead-time issues daily. ABX does what has to be done to get you your product. To go that extra mile to find the hard to get parts, to offer to work weekends, to offer our engineering and manufacturing folks to collaborate with our customers to find a way to get it done, rather than simply say no and move on to some other job.

We know you have trusted us with your production program and we know what we have to do to get the job done right.

### Cost/Value

If you're not building product at ABX, you may not be getting the best value in your production program. We will work very hard to provide you with a product cost that will save you money, not only in the obvious cost you pay for the product, but in the true overall manufacturing program costs for the production of your product.

### References

ABX has been serving our customers for over 40 years, our references are our best selling tool. We understand the importance of 100% customer satisfaction and everyone on the ABX team marches to that beat! Many of our customers have been with ABX for more than 25 years, some more than 35 years.

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## Please Consider Giving ABX the Opportunity to Earn Your Business

At ABX Engineering, we strive to offer our clients the best Supply Chain EMS partnerships and overall value. From Materials Management, through State of the Art Production Technology, our long term Commitment is to provide our clients with the best overall value and quality in the EMS production partnership.

ABX Engineering has been serving our customers for over 40 years, offering full turnkey manufacturing, from quick-turn FastTrack NPI, through volume turnkey manufacturing and electromechanical assembly.

ABX is an NAISC/CCR/IAE Classified Small Business, AS9100D, ISO 13485-2016 and ISO 9001-2015 Certified, ITAR registered, with fully trained staff to IPC 610 Class II & Class III and J-STD-001, with Certified Trainers on staff. ABX has over 65,000 square foot of manufacturing in Burlingame California with sales/support office in San Diego.



**To learn more about ABX visit our website:**

**<http://www.abxengineering.com>**

**3 1/2 minute Factory Tour Video:**

**<http://www.abxengineering.com/abxvideotour.html>**

**Contact ABX: 650-552-2336 / 858-583-3437**

**<http://www.abxengineering.com/contact.html>**

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## ABX Customer References

1/15/24

The following are some examples taken from our confidential customer reference list, representing a cross section of clients in the various industries we serve. Many of our clients have been with ABX Engineering for over 20 years, some as many as 35 plus years! Our client list is diverse and includes Fortune 100 companies to smaller companies in the early stages of product development and sales. References include various production relationships for manufacturing of PCBA's, full Electro-Mechanical Assemblies, Testing and Pack-Out. Detailed contact information for these references is available upon request. (note 1)

### Taken from our Customer Reference List (note 1)

#### **Scientific and Medical Instruments**

Sunnyvale, CA  
Santa Clara, CA  
San Diego, CA  
Seattle, WA  
Hayward, CA  
Rohnert Park, CA  
Valencia, CA  
Chicago, IL  
Boston, MA  
Honolulu, HI  
Aliso Viejo, CA

#### **Undersea Research & Marine Products**

San Diego, CA  
Bellingham, WA  
Davis, CA  
Rohnert Park, CA  
Denmark

#### **Optical Electronics, Photonics and Lasers**

Carlsbad, CA  
San Diego, CA  
Santa Barbara, CA  
Raleigh Durham, NC  
Boston, MA  
Ventura, CA  
Sacramento, CA  
Newberry, NJ

#### **Print & Imaging**

Orlando, FL  
Charlotte, NC

#### **Test Equipment**

Camarillo, CA  
Cerritos, CA  
Santa Clara, CA  
Seal Beach, CA

#### **Consumer and Commercial Products**

North Hollywood, CA  
Pasadena, CA

#### **Microwave and Broadcast Equipment**

San Diego, CA  
Poway, CA  
Valencia, CA

#### **Transportation & Automotive Performance**

Carson, CA  
San Diego, CA  
Indianapolis, IN  
Azusa, CA  
Portland, OR

#### **Military Electronics**

San Diego, CA  
Ventura, CA  
Honolulu, HI  
Santa Clara, CA

#### **Aerospace & Avionics**

Pasadena, CA  
San Diego, CA  
Torrance, CA  
Seattle, WA  
Rochester, NY

#### **Power Monitoring**

Sacramento, CA  
Bellingham, WA

#### **GPS Products**

Sunnyvale, CA

#### **Security Products**

San Diego, CA  
Irvine, CA  
Anaheim, CA  
Ottawa, Canada

#### **LED Lighting**

Riverside, CA  
Palmdale, CA  
San Carlos, CA

#### **Telemetry and Control**

Valencia, CA  
Honolulu, HI

#### **Environmental Monitoring**

Redwood City, CA  
Camarillo, CA  
San Diego, CA  
Santa Clara, CA

#### **Industrial Products**

Carlsbad, CA  
Burbank, CA  
Santa Clara, CA  
San Diego, CA  
Fresno, CA  
Chula Vista, CA  
Hilo, HI  
Salt Lake City, UT  
Los Angeles, CA

#### **Mobile Devices**

Valencia, CA  
Bellevue, WA

**(Note 1)** ABX Engineering, Inc., adheres to strict policies of confidentiality in protecting our clients identity, proprietary information and confidentiality. We have been given permission from selected customers in the above categories, which represent a good sampling of the industries and technologies we serve, to provide their contact information for a reference for contact by potential new clients. This contact information (contact name, phone number, web URL) will be provided, if requested, as part of the RFQ process after a mutual NDA has been executed and is on file.