

# Ark Electronics

## Cultivating Innovation

Electronic Manufacturing Services

## Business Overview



# Ark

# About Ark

Delivering Intelligent Innovation with Integrity



Ark provides end-to-end, turnkey services for developing a wide range of products, across a wide variety of market segments. With niche Research & Development expertise into IoT (Internet of Things), PCBA Design, Hardware Development, Prototyping Development, Product Re-Engineering, Product Sustenance & Manufacturing to several industry verticals such as Consumer Electronics, Automotive, Industrial Automation, Home Automation and Wearable Technologies.

Founded in 2011, with many F1000 clients served, and a multitude of products successfully taken to market, Ark understands the technical and time to market challenges which customers face and works closely with clients in complying with unique requirements in design, budget, & schedule.



March 2017:  
ISO 9001: 2015 (renewed)  
Standard, Quality  
Management System  
Certification



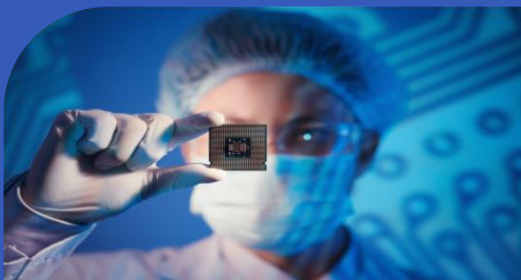
March 2017:  
ISO 14001: 2015 (renewed)  
Standard, Environmental  
Management System  
Certification



September 2017:  
NQA: IATF 16949 : 2016  
Automotive Quality  
Management System  
Certification

## Our Vision

Customizing technology for the benefit of human-kind and the environment – one customer at a time



## Our Purpose

To Deliver Intelligent Innovation with Integrity

# Where We Are

Prime Locations | Markets | Industries



Located within the Qingdao free trade zone and has trade access with more than 130 countries and more than 450 ports of around the world.

## Markets and Industries

Ark supports growth and differentiation across multiple industries. Our breadth of capabilities and experience is proven by our long-term partnerships with some of the world's largest electronics brands.

1. **Mobile Communication Devices**
2. **Television & Home Gaming Entertainment**
3. **Industrial IoT Device Solutions**
4. **Automotive, Connected Car**
5. **Personal Wearables**
6. **Home Car Security**

### International Headquarters

Ark Electronics USA, Inc.  
400 Spectrum Center Drive, Suite 1500  
Irvine, CA 92618 USA

### Regional Office

Ark Electronics USA, Inc.  
200 Main Street, Suite 201  
Hilton Head, SC 29926 USA

### Manufacturing Headquarters

Qingdao ARK Electronics Co, Ltd.  
No.70 Beijing Road  
Qingdao Free Trade Zone, China

### Manufacturing Operations

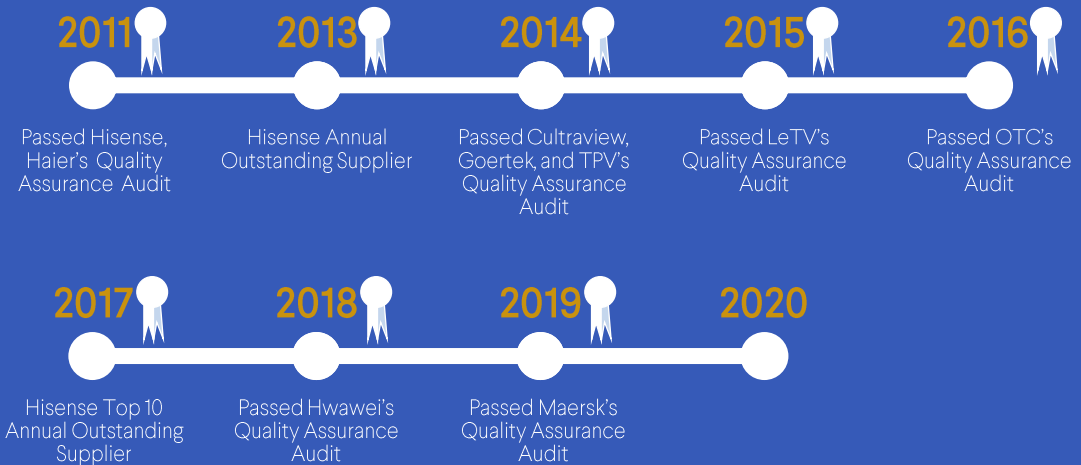
No. 2 Gaoxin Road Weifang  
Integrated Free Trade Zone  
Shandong, China

# Ark's Timeline

## Quality Recognitions



Since our founding, our reputation has been built on quality. In our pursuit of excellence, we are relentless. With a zero-tolerance policy for defects, our teams set the bar for quality. Having earned multiple ISO certifications, we hold ourselves to the highest industry standards. Our promise of integrity rests on quality.



## Commitment to Quality and the Environment

For each production process, from the purchasing of raw materials to finished products, Ark implements strict quality control standards with perfect physical and chemical laboratories, equipped with advanced types of equipment, in accordance with ISO quality and environmental management system testing procedures.

# Contract Manufacturing

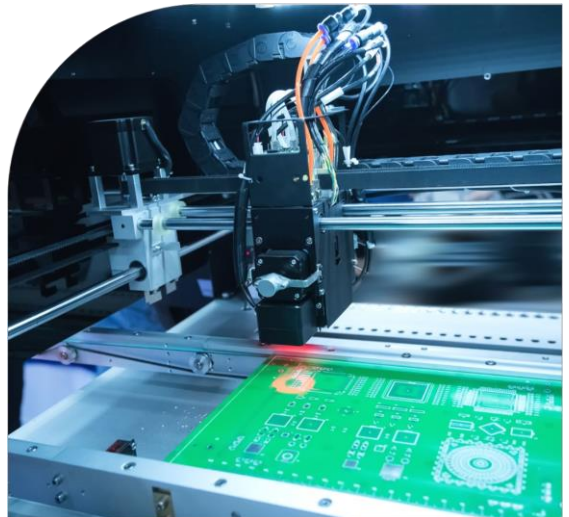


We partner with our global customers from the very beginning to deeply understand your electronics manufacturing business, ensuring clear communication and accurate translation of your needs in every way. This agile and collaborative process mitigates the pain points of manufacturing overseas and enhances the benefits to you.

We apply a rigorous combination of design, manufacturing knowledge, and the latest technology to streamline production and reduce costs. With production lines including SMT, DIP, and AI, we offer a range of capabilities.



- SMT Process
- Next Production Modular (NPM) Multifunction Machines
- Automated Optical Inspection (AOI) Systems
- Printing Process
- Environmental Material Analysis
- Reflow Soldering
- Injection Molding



---

Streamlined production with precision

---

# Contract Manufacturing

## PCB Assembly

We leverage our technical leadership to help you accelerate speed-to-market, focused on cost-effective processes to maintain the highest process quality.

Our expertise and deep technical understanding enables us to address the entire PCBA lifecycle, from component selection, qualification, test design and tooling to improve and optimize processes.

Recognized for operational excellence and quality we help you realize your vision.

We continue to invest in automation to connect our equipment, people and processes—improving productivity, quality, responsiveness, as well as accuracy of decision making throughout the product lifecycle.



# Contract Manufacturing

## New Product Introduction (NPI)

Ark offers a comprehensive set of services that enable companies to successfully innovate, create, and gain access to new markets. We offer extensive knowledge of industries that can help you pilot your product development to achieve the visibility you need to be competitive.

Key capabilities in New Product Introduction include:

- Manufacturing process development and prototyping
- Manufacturing test development
- Rapid product introduction services for first-generation products



# Engineering/Design Services

Integrated design and manufacturing services

# Ark

Integrated design and manufacturing services complement our manufacturing expertise

Design innovation can be the difference between a product that gets to market and one that defines the market. Ark's manufacturing services team works closely with our certified design partners to provide technical depth in design and engineering reducing the overall product costs and enables you to launch competitively unique products.

## Industrial Design

- New product concept and user experience

## Mechanical Engineering

- Structure and design performance integrity

## Electrical Engineering

- Develop electrical component configurations

## Firmware Development

- Hardware functions with OS and applications

## Systems Engineering

- Optimize and enhance performance

## Component Selection & Schematic Capture

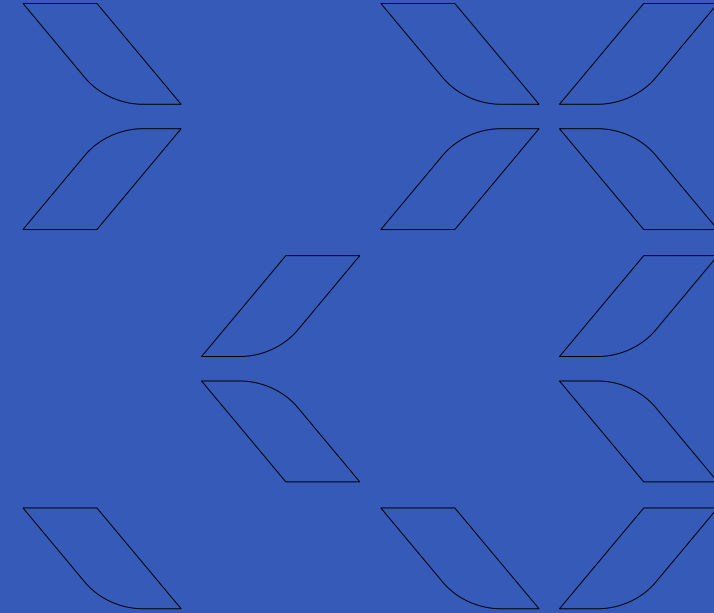
- PCB layout / architecture

## Tooling and Testing

- Tooling bring up and validation

## In-Region Project Management and Oversight

- PMO in market localization



---

Resilience through digital transformation

---

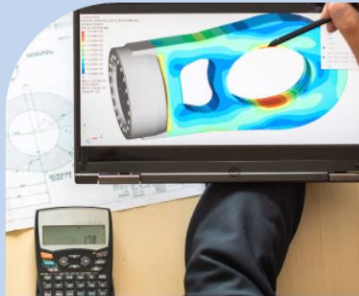


# Design and Engineering Services

R&D / Design Prototype and Test Workshop

We turn your ideas into breakthrough designs. Using manufacturing expertise and the latest technologies, we maximize efficiency, capability, manufacturability, and form factor.

- Industrial & mechanical design
- Systems engineering and analysis
- Component selection & schematic capture
- Firmware development
- Hardware / software integration
- Performance validation
- Device application development
- Operations support

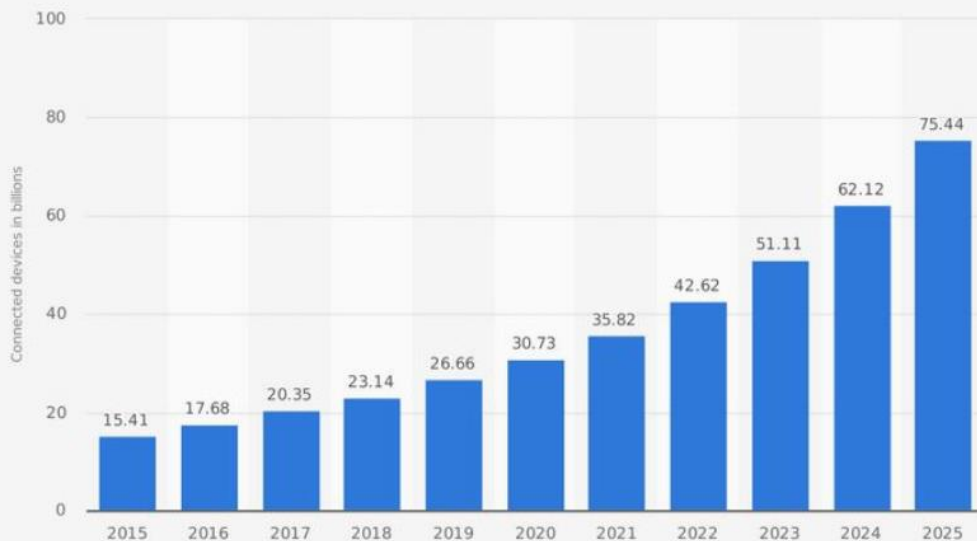


# Ark Electronics

By leveraging our success and experience with the largest consumer electronics brands, we look towards continued IoT expansion of our Agile Intelligent Manufacturing (AIM) methodology and design engineering services within the international IoT marketplace.

As IoT services and solutions become a bigger part of the overall society, IoT products and solutions are a natural extension of our core capabilities.

Internet of Things (IoT) connected devices installed base worldwide from 2015 to 2025 (in billions)



Source  
IHS  
© Statista 2018

Additional Information:  
Worldwide; IHS; 2015 to 2016

## IoT Device Market

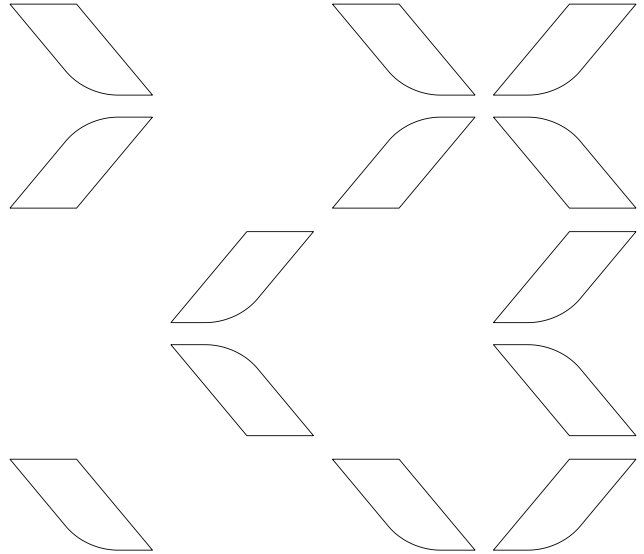
# IoT and Connected Device Services



## Connectivity / SIM Management

We help simplify multiple-market compliance by offering product testing and industry expertise to meet all relevant national and regional market standards for IoT devices. Regardless of your location, Ark simplifies the process, reduces administrative and project management costs, and accelerates access to global markets.

We work with clients' existing cellular carrier partners and device management platform providers to ensure your devices connect reliably and securely. From design and prototyping to full commercial deployment, we always consider the SIM insertion and testing validation procedures throughout the process.



Connectivity  
Partners



...and others



Managing the connected world

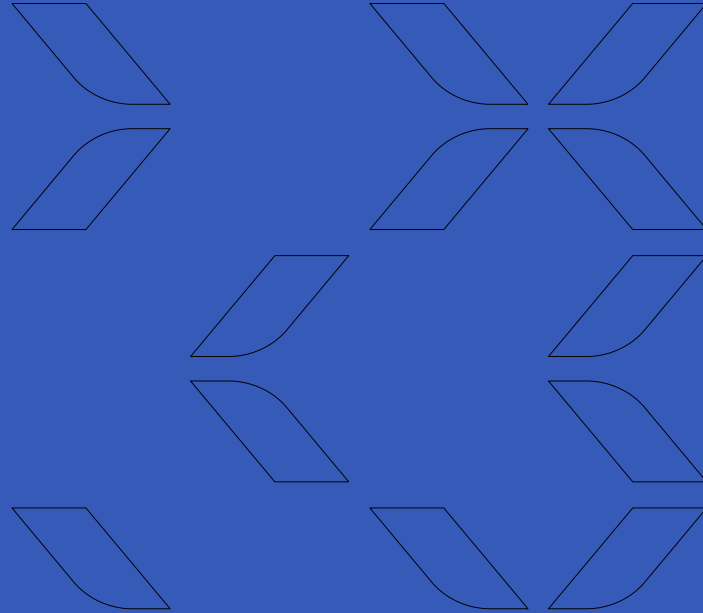
# IoT and Connected Device Services



## End-Product Certification Management

IoT products must meet regulatory and in-country network operators' requirements to be deployed on the global mobile network. Interoperability is crucial for IoT to reach its full market potential.

Most IoT devices are equipped with Internet-connected sensors in addition to multiple RF radios that create, send, and receive data. The certification of an IoT product confirms this real-time data processing while meeting the other necessary requirements.



---

### Regulatory Oversight and Management

---





We offer the expertise needed to design and manufacture connected, sensor-equipped wireless “finished” products in a cost-effective manner.



## Embedded RF Technology Providers

Ark works with many leading wireless embedded module and sensor technology partners to support IoT device development and manufacturing.



In many cases the RF module can be the highest cost component within an IoT device solution. Ark works with our customers and various module providers to support the optimal path to procure or consign the module provider of their choice.



---

Enabling IoT with Communication Products

---

# Risk Management



The Risk Management Methodology is our approach to minimizing the chance of costly errors on a given project. The greatest single factor in any project's success is the matching of knowledgeable team members to suit your needs from the beginning.

## Identify

We work together to identify events that may affect your business goals and objectives. Potentially negative events provide us context for assessing risk and responses to it, while positive ones represent opportunities that may further your objectives.

1

## Assess

We determine the likelihood and consequences of each identified risk based on our knowledge of the threats, opportunities, and factors critical to your success. This builds an understanding of the nature of the risk and its potential effects on your business goals and objectives.

2

## Evaluate

By ranking the identified risks by determining the risk magnitude—the combination of likelihood and consequence—we gauge the necessary response. Based on this assessment, we collaborate to determine if certain risks should be retained or transferred.

3

## Control & Monitor

We collaborate to create and implement policies and procedures that ensure the risk responses are carried out effectively. Performance of these risk management strategies should be assessed continually for context and feedback.

4

# Global Delivery and Support

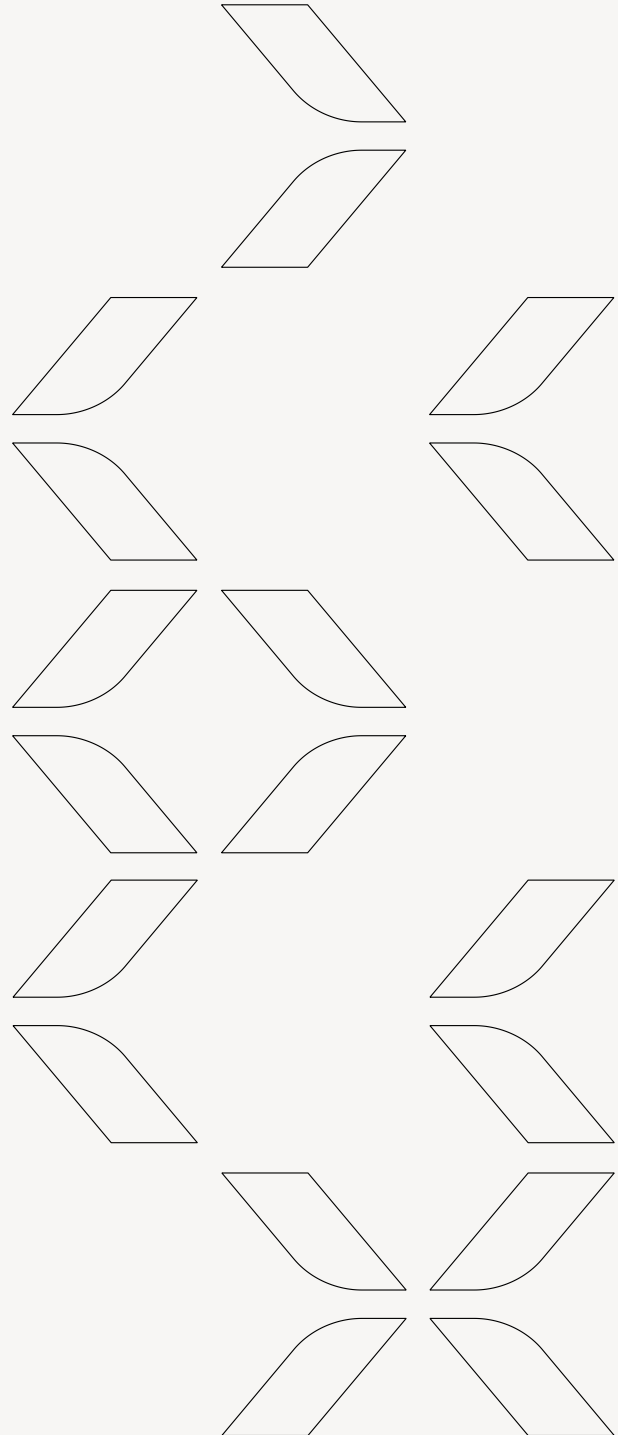
## Value-added Manufacturing (VAM) Services



### Product Life-Cycle Support

Ark Electronics USA offers a full suite of 3PL value-added on-demand warehousing, transportation, distribution and fulfillment services to select customers. We understand the importance of 3PL services and the overall value and impact it has on a positive customer experience.

We oversee a seamless product delivery experience to our customers' channel partners and/or end-user customers. Our goal is to build long-term strategic partnerships with our customers by actively listening and understanding their business.



**Order Management** –Ability to integrate with e-commerce platforms and EDI systems

**Just-in-Time Configuration** –Pre-shipping configuration, power supply configuration, custom kitting, promotional packs, and more

**Custom Labeling / Custom Packaging** –Custom labeling, RF sealing clamshell packaging, shrink wrap, etc.

**Product Fulfillment, returns** –management and reverse logistics –RA/RMA ID capture and processing

**Warehouse and Fulfillment Solutions** –Scan-based order/inventory tracking

**Transportation Solutions** –Freight management and tracking. Routing guide management, with global reach and cost structure. Deliver anywhere in the world.

**Web-based management and reporting**

## Warehousing and Fulfillment



---

## Packaging Solutions

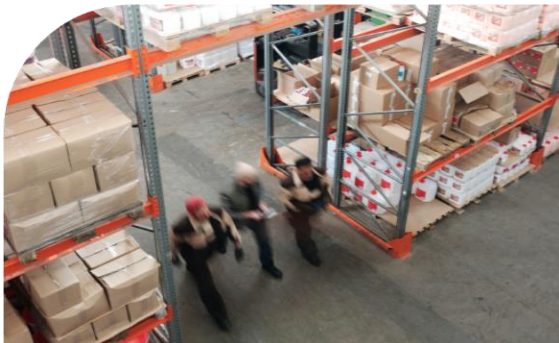
Ark Electronics provides comprehensive printing and packaging solutions uniquely designed and manufactured for our customers. Ark has enjoyed long-term partnerships with many well-known printing companies. Collective experience includes packaging for brands such as Samsung and Apple. Our partners are in close proximity to Ark's main factory location in Qingdao, China.

---

### Industrial / Retail Packaging Solutions

---

- Packaging Design Services
- Packaging Engineering Services
- Packaging Technical Services
- Packaging Quality Control
- Box Seal and Prep. Test
- Serial Number and Labeling Procedures
- Final Assembly Pack-out Requirements and Procedures
- Packaging Documentation and Design Files





# Customer Partnerships



The company's products are widely used across industries by esteemed clients, including:



**Hisense**

**Cultraview**

**Haier**

**Goertek®**

**Letv**

**SAMSUNG**

**SONY**



# Ark

