

# Brite Semiconductor 灿芯半导体

您值得信赖的  
一站式定制芯片及IP供应商



灿芯半导体(上海)股份有限公司  
Brite Semiconductor (Shanghai) Co., Ltd.

The background features a dark, circular area on the left containing a detailed image of a microchip. To the right, a large, light gray gear is partially visible. At the bottom right, there are several light gray circuit traces extending horizontally.

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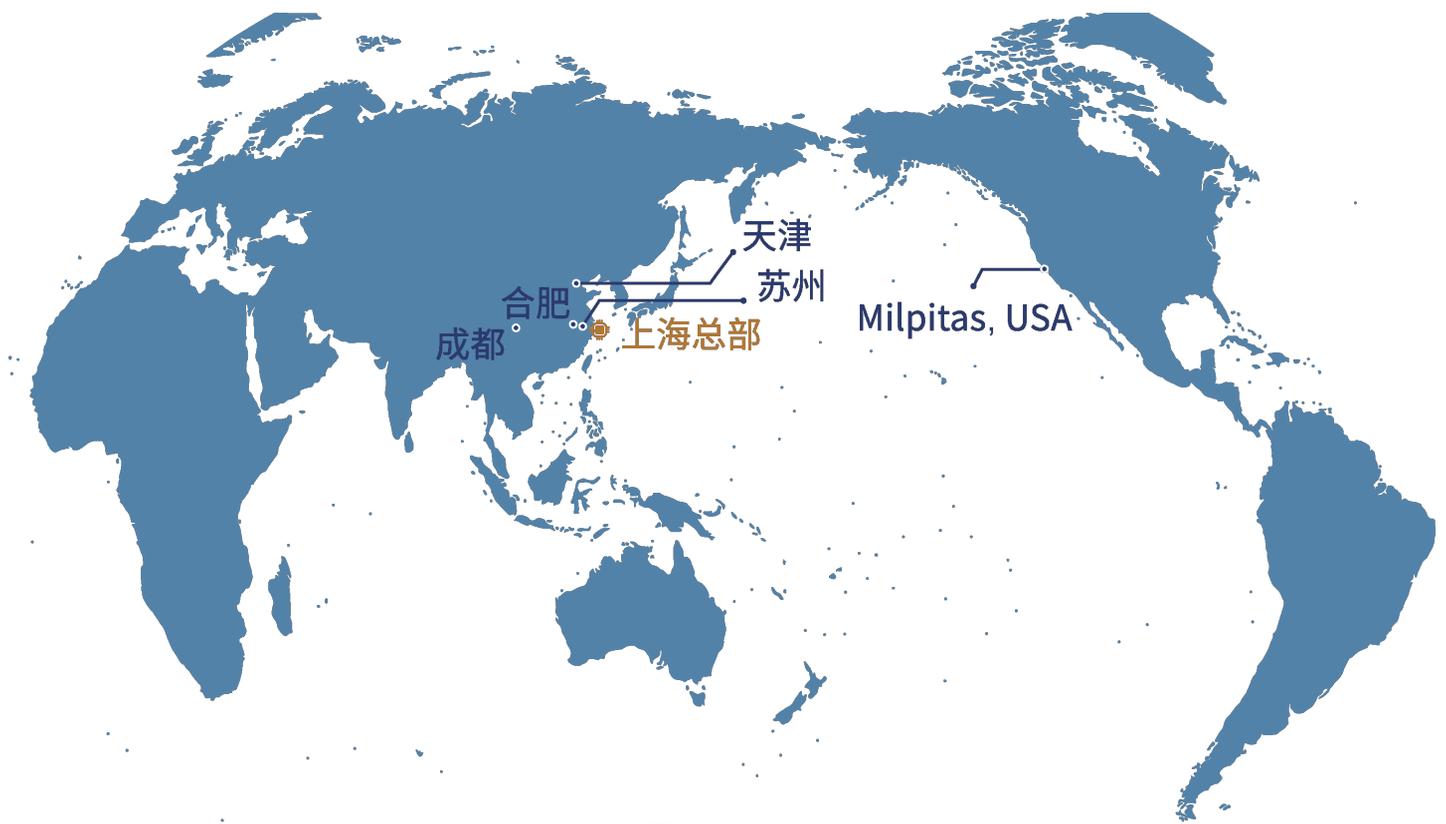
# Company Overview

Brite Semiconductor is a leading custom ASIC and IP provider, and committed to provide flexible one-stop services from architecture design to chip delivery with high value and differentiated solutions.

Brite Semiconductor provides comprehensive silicon proven “YOU” IP portfolio and YouSiP (Silicon-Platform) solution, which can be widely adopted in 5G, AI, high performance computing, cloud and edge computing, network, IoT, industrial Internet and consumer electronics, etc. YouSiP solution provides a prototype design reference for system house and fabless to speed up the time-to-market.

灿芯半导体是一家提供一站式定制芯片及 IP 的高新技术企业, 为客户提供从芯片架构设计到芯片成品的一站式服务, 致力于为客户提供高价值、差异化的解决方案。

灿芯半导体的“YOU”系列 IP 和 YouSiP (Silicon-Platform) 解决方案, 经过完整的流片测试验证, 可广泛应用于 5G、AI、高性能计算、云端及边缘计算、网络、物联网、工业互联网及消费类电子等领域。其中 YouSiP 方案可以为系统公司、无厂半导体公司提供原型设计参考, 从而快速赢得市场。





Founded in 2008, Brite Semiconductor is headquartered in Shanghai, China with 5 design and R&D centers as well as 4 sales offices in China and the United States.

For more information, please visit [www.britesemi.com](http://www.britesemi.com)

灿芯半导体成立于 2008 年,总部位于中国上海,在中国和美国设有 5 个设计研发中心和 4 个销售办事处,为全球客户提供全方位的优质服务。

详细信息请参考灿芯半导体网站 [www.britesemi.com](http://www.britesemi.com)

## Brite's Service Offerings

 <p><b>System Integration Services</b></p>	 <p><b>IP Procurement &amp; Customization Services</b></p>	 <p><b>ASIC Turn-Key &amp; SoC Services</b></p>	 <p><b>Tape out &amp; Manufacturing Services</b></p>	 <p><b>As an important part of SMIC eco-system</b></p>
<ul style="list-style-type: none"> <li>◆ ARM CPU based</li> <li>◆ RISC-V CPU based</li> <li>◆ CEVA/Cadence DSP Based</li> <li>◆ Synopsys CPU based</li> <li>◆ Analog/ Mix-Signal</li> </ul>	<ul style="list-style-type: none"> <li>◆ Internal development</li> <li>◆ Partnership</li> <li>◆ Customer Driven</li> </ul>	<ul style="list-style-type: none"> <li>◆ Spec/RTL/Netlist to Silicon, complete hardware service</li> <li>◆ Porting/Shrinking from an existing product to a derivative product, from other Fab to Fab</li> </ul>	<ul style="list-style-type: none"> <li>◆ GDS in</li> <li>◆ Mask in and production management</li> </ul>	<ul style="list-style-type: none"> <li>◆ Platform/IP development</li> <li>◆ Design porting</li> <li>◆ PDK QA &amp; IP QA</li> </ul>

# Vision and Values

The vision and values of Brite Semiconductor is to be your exclusive ASIC Design long term partner through providing best service with flexible business model and leading position in IP & SoC Solution.

灿芯半导体的愿景和价值观是通过灵活的商业模式为客户提供最好的服务,用先进的 IP 和 SoC 方案为客户提供领先的竞争优势,励志成为您长期的最值得信赖的 ASIC 设计合作伙伴。

## Best service with flexible business model



Custom IC design with high yield and on-time delivery



Innovative design flow for quality guarantee



## Leading position in IP & SOC solution

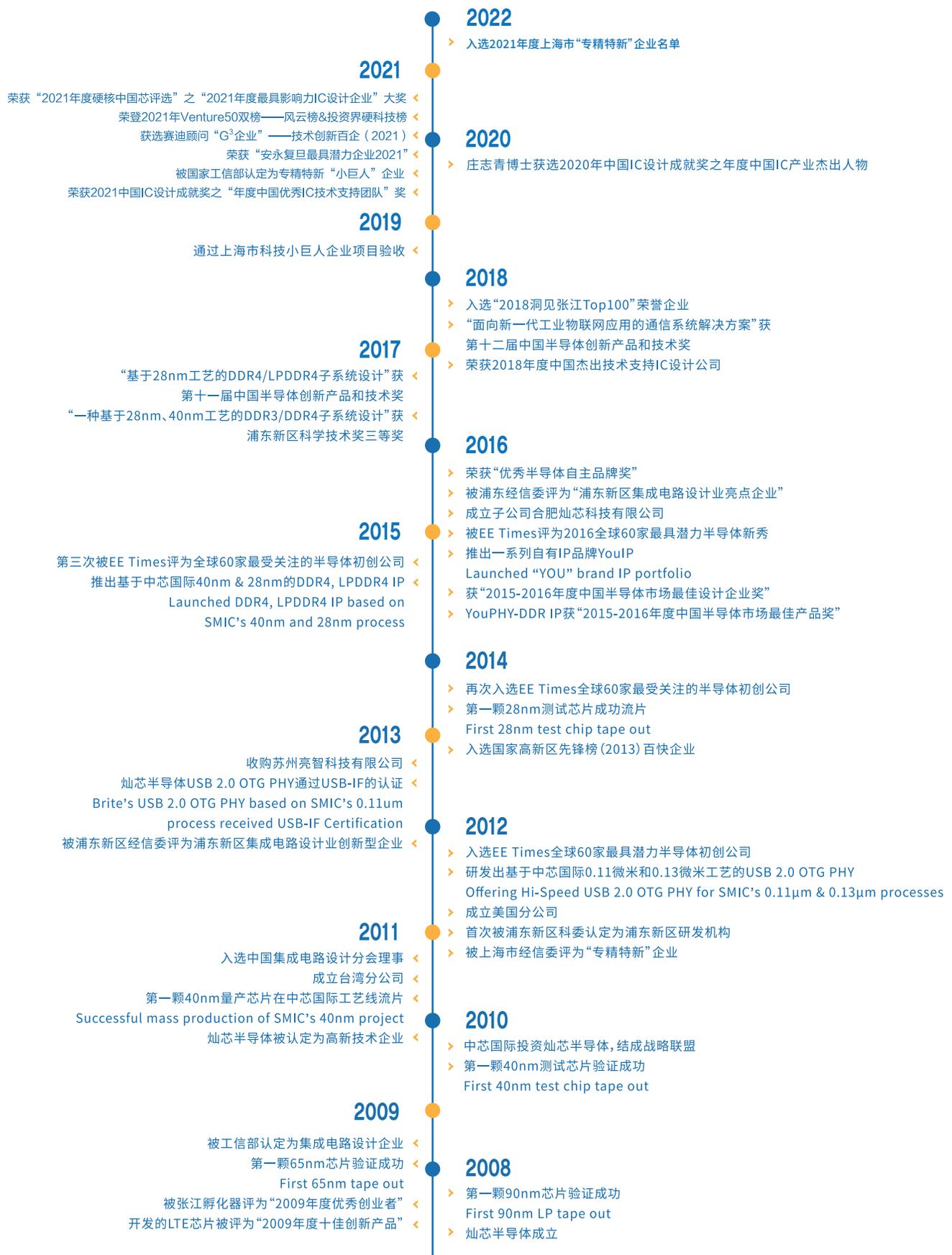


Continuous IP development in most advanced technologies, from fundamental to high speed interfaces

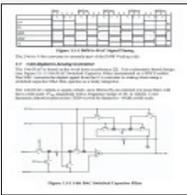


The most optimized IP & SoC solutions to balance power, performance & area.

# Milestone & Awards



# Brite's One-Stop Solution with SMIC Ecosystem

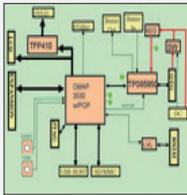


Product Specification

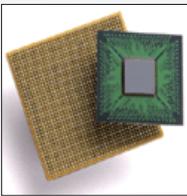
Customers



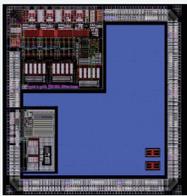
System Design



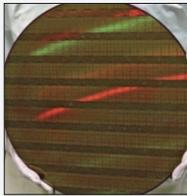
Architecture & RTL Design



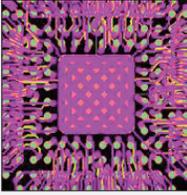
IP Selection & Integration



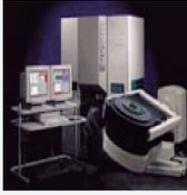
IC Physical Design



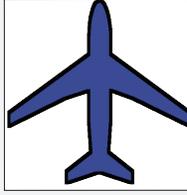
Wafer Fabrication



Package and Assembly



Test & Prod Engineering



Prod & Logistics



As a strategic partner of SMIC (Semiconductor Manufacturing International Corporation), Brite Semiconductor leverages our own design capabilities, IP, SMIC's strong technical and manufacturing support, and all the resources in the SMIC ecosystem to provide customers with flexible one-stop services from spec design to mass production.

作为中芯国际的战略合作伙伴，灿芯半导体力求充分利用本公司的芯片设计能力和 IP 研发能力，依托中芯国际强有力的技术支持、流片保证和中芯国际生态圈的资源优势，为客户提供从规格设计到量产的全方位服务。

# Win-win Partnership in Value Chain

## Design & Verification



## IP



## Foundry



## Package & Test



# Rich IP Availability

## Std Cell/Memory/IO

<b>Cell Library</b> 0.35um-12nm	<b>Memory Compilier</b> 0.25um-12nm	<b>Std. IO</b> 0.35um-12nm	<b>SDIO</b> 0.11um-12nm
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## Fundamental IP

<b>Regulator</b> 0.18um-12nm	<b>DC/DC</b> 0.18um-12nm	<b>Cap-less LDO</b> 0.18um-12nm	<b>Power On Reset</b> 0.18um-12nm	<b>Crystal OSC</b> 0.18um-12nm
<b>Frac./SS/PLL</b> 0.18um-12nm	<b>Comparator</b> 55nm-12nm	<b>Ring OSC</b> 55nm-12nm	<b>DLL</b> 0.13um-12nm	<b>Temp.Sensor</b> 0.18um-12nm

## ADC/DAC

<b>Sigma Delta ADC</b> 0.35um-40nm	<b>SAR ADC</b> 0.35um-14nm	<b>Pipeline ADC</b> 0.13um-40nm	<b>Audio/Video DAC</b> 0.18um-55nm	<b>Audio DAC/Codec</b> 0.18um-55nm
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## HS Interface

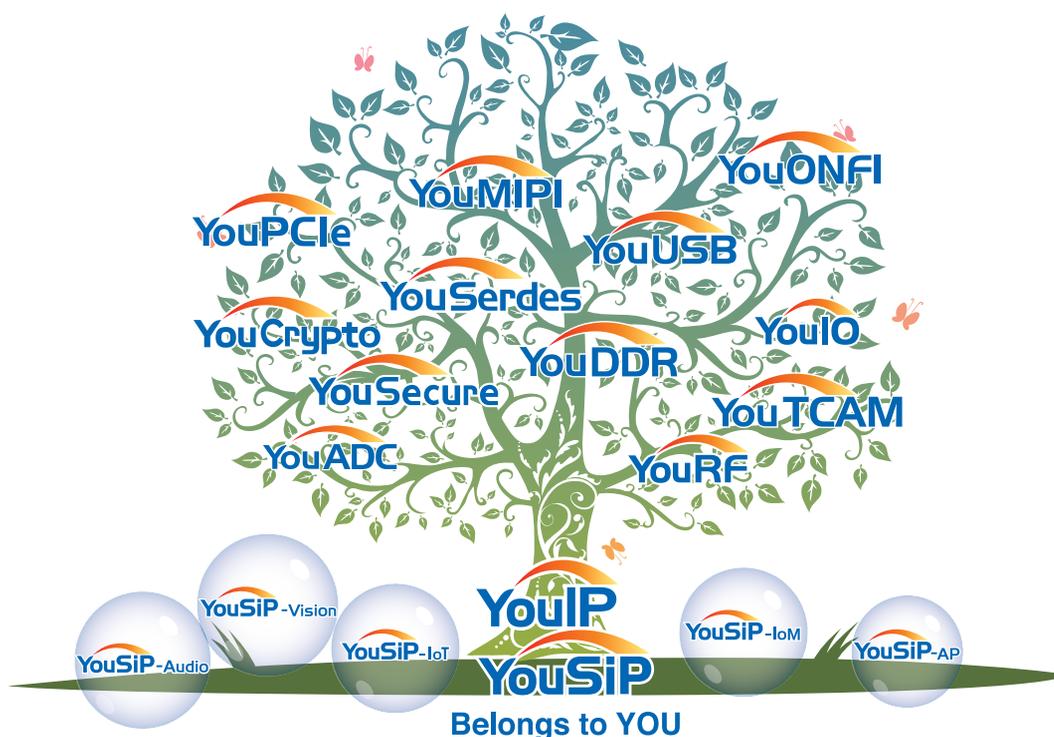
<b>USB3.0/OTG</b> 0.13um-12nm	<b>USB2.0/OTG</b> 0.13um-12nm	<b>LPDDR1/2/3/4</b> 0.13um-12nm	<b>DDR2/3/4/5</b> 0.13um-12nm	<b>PCIe Gen 1/2/3/4/5</b> 65nm-12nm	<b>LVDS</b> 0.18um-12nm
<b>MIPI DPHY</b> 0.13um-12nm	<b>HDMI2.0</b> 0.18um-12nm	<b>Display Port</b> 40nm-12nm	<b>SATA II/III</b> 0.65um-12nm	<b>Ethernet</b> 55nm-12nm	<b>SerDes (up to 32G)</b> 40nm-12nm

## CPU Solution

<b>ARM Cortex A53/A55</b> 14SF+, 1.5GHz	<b>ARM Cortex A7</b> 40nm 1.1GHz	<b>ARM Cortex A9</b> 40nm 1.3GHz	<b>ARM Cortex M0/M0+</b> 0.13um EF	<b>CEVA TL421</b> 55nm
<b>CEVA XM4 Quad Core</b> 40nm-12nm	<b>CEVA DSP Core</b> MM3101,X1643,TL420,etc.	<b>AXI/AHB/APB/Arbiter/Bridge</b> 0.18um-12nm	<b>Digital Peripherals</b> 0.18um-12nm	

# Brite's YouIP & YouSiP

Advanced and Comprehensive  
"YOU" IP Portfolio and Silicon Platform Solution



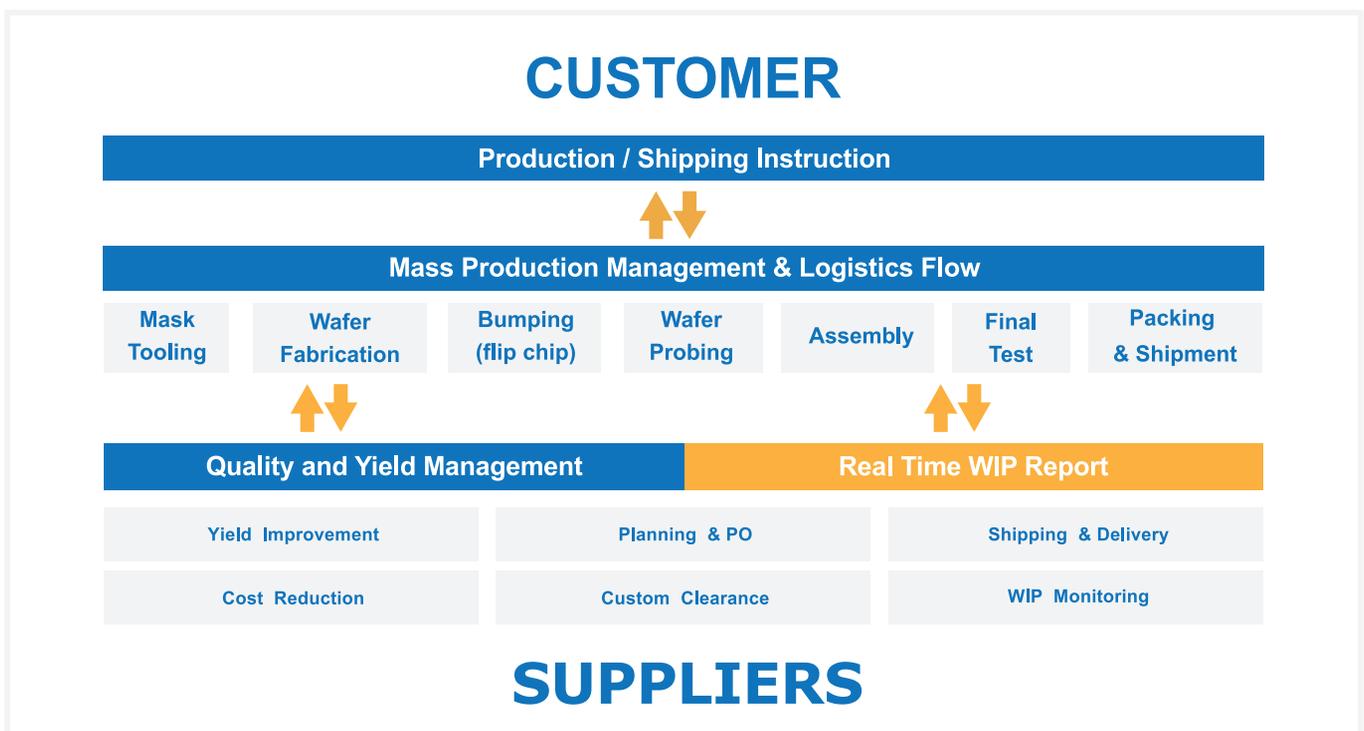
Based on more than 10 years successful experience of design service and IP development on the cutting-edge processes, Brite provides "YouIP" which means "IP belongs to YOU" Portfolio solution and silicon platform to assist customers to win emerging markets like 5G, AI, high performance computing, cloud and edge computing, network, IoT, industrial Internet and consumer electronics and so on, combining with comprehensive ASIC design service solution and trusted manufacturing partner SMIC. YouIP is an IP and platform family attributing to not only Brite, but also our customer-YOU.

YouIP provides comprehensive silicon proven IP and platform that customers can achieve their product from specification definition, design to silicon with higher one time delivery rate and shorter time to market.

基于 10 多年前沿工艺上的成功设计服务和 IP 研发经验，灿芯半导体为广大客户提供意为最“优”IP 的“YouIP”系列解决方案，通过完整的 ASIC 设计服务，和值得信赖的晶圆制造伙伴中芯国际一起，帮助客户在 5G、AI、高性能计算、云端及边缘计算、网络、物联网、工业互联网及消费电子类电子等领域获得成功。YouIP 是一系列 IP 和硅平台的通称，它不仅是灿芯半导体的技术方案品牌，而且是属于客户的最优解决方案。

YouIP 提供完整的经过流片验证的 IP 和硅平台。采用 YouIP，客户可以获得更高的一次流片成功率和更短的上市时间，从规格定义、设计到芯片快速实现自己的产品。

# Operation – Scope of MFG Service

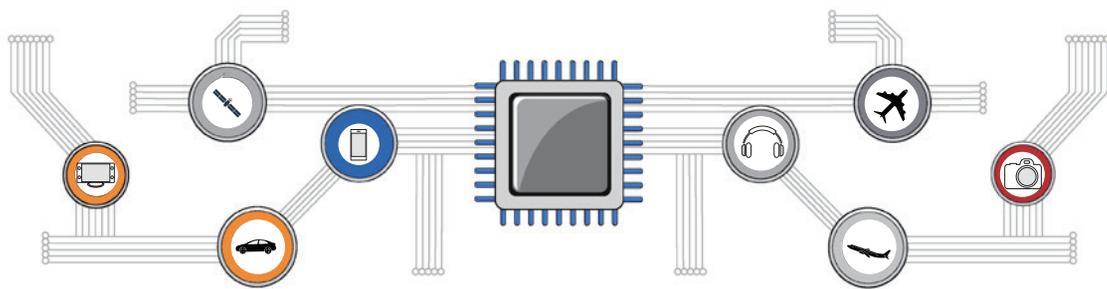


Brite’s operation team has plenty of engineering and production experience in semiconductor factories by which they can help customers on risk reduction, cost control and on-time delivery from technical solution to mass production. The customers can focus their strength on chip structure and sales channels to make win-win with Brite. We have flexible business models and can also just provide wafer manufacturing and package service for customer GDS-in projects.

灿芯半导体的运营团队具有丰富的一线生产和工程开发经验，可以利用自身在生产中积累的经验和专业知识从工程开发阶段入手，直到量产运营，达到降低风险，控制成本，及时交付的目标。同时，结合客户在芯片架构和渠道上的长处，实现共赢。我们可提供灵活的生产服务模式，对客户已经完成设计的产品，也可以提供晶圆和封测生产服务。

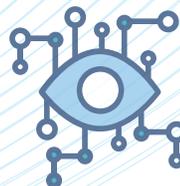
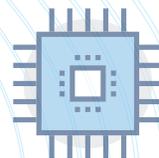
# Success Stories

	Process	Device	Application
	14nm	Quad-core A53/Quad-core R8/Dual-core B20	5G
	14nm	8-core A55/GPU/RISC-V	AI/Image Processor
	40nm	HIFI DSP/Audio Codec	Audio AI
	40nm	Cortex-A7/Base-band/10G serdes	Navigator
	40nm	Cortex-A7/Dual-core LX6	Smart Meter
	55nm EF	Cortex-M3 or M4/Flexray MCU	Industry MCU
	55nm EF	RISC-V MCU	MCU
	55nm LL	CEVA DSP/ 3 in SIP	Indoor Navigation
	130nm	Digital	Safety System
	130nm	Mix-Signal	Secure Solution
	180nm	Mix-Signal	Led Driver



Brite Semiconductor has successfully completed plenty of projects in more than 10 years, delivering ASIC/SoC chip design from 0.18um to 14nm technology and turn-key solutions. As a one-stop strategic partner of SMIC, Brite Semiconductor is committed to provide flexible one-stop services from architecture design to chip delivery with high value and differentiated solutions.

灿芯半导体成立 10 多年来已累积大量成功设计案例，涵盖 0.18um 到 14nm 的芯片设计服务和 turn-key 服务。作为中芯国际的一站式战略合作伙伴，灿芯半导体为客户提供从芯片架构设计到芯片成品的一站式服务，致力于为客户提供高价值、差异化的解决方案。



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semiconductor



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