



# USB3.1

## Corigine

September 2017



# About Corigine



Innovations in Connectivity and Storage

**Corigine Inc. offers semiconductor products for networking, automotive, storage and smart city.**

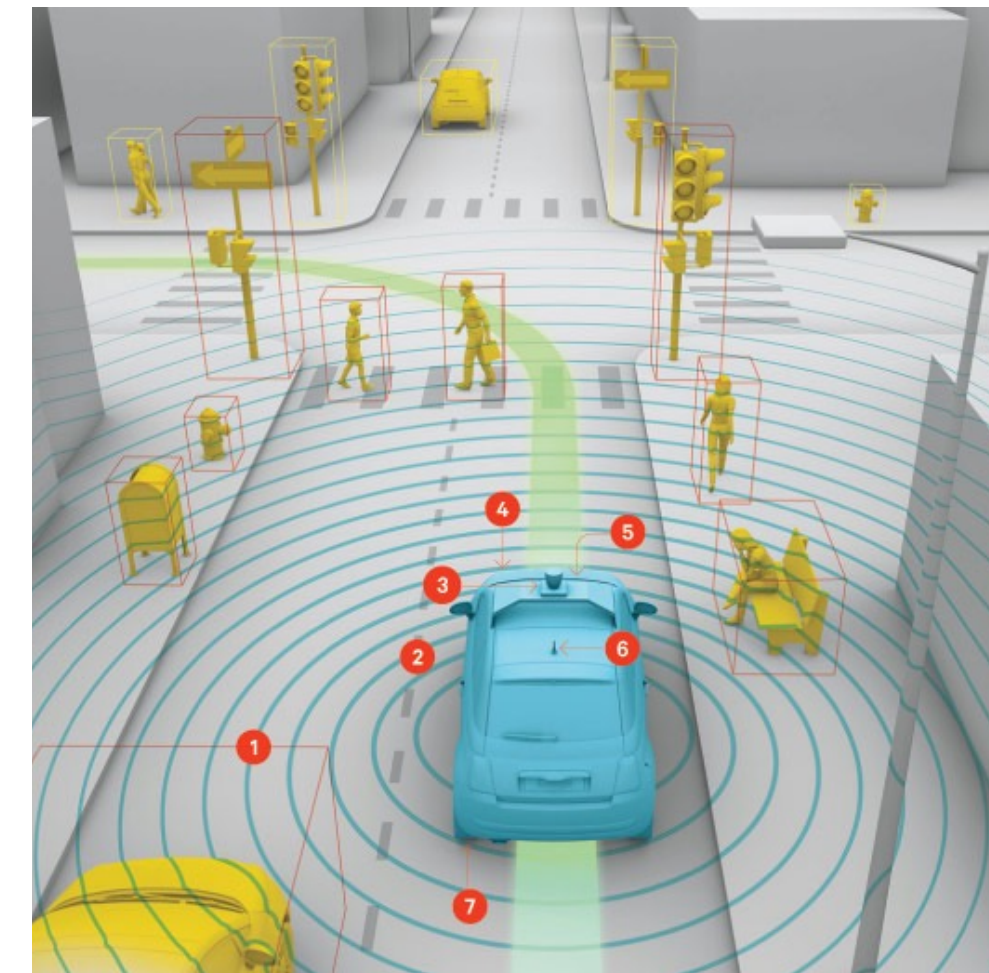
- Founder, CEO - Sheng Lu
- Fabless semiconductor & IP company
- Well funded: 2 acquisitions completed
- California corporation, a Cayco subsidiary
- R&D: Santa Clara, Shanghai, Hong Kong, Huzhou, Nanjing
- Experienced R&D, Business team



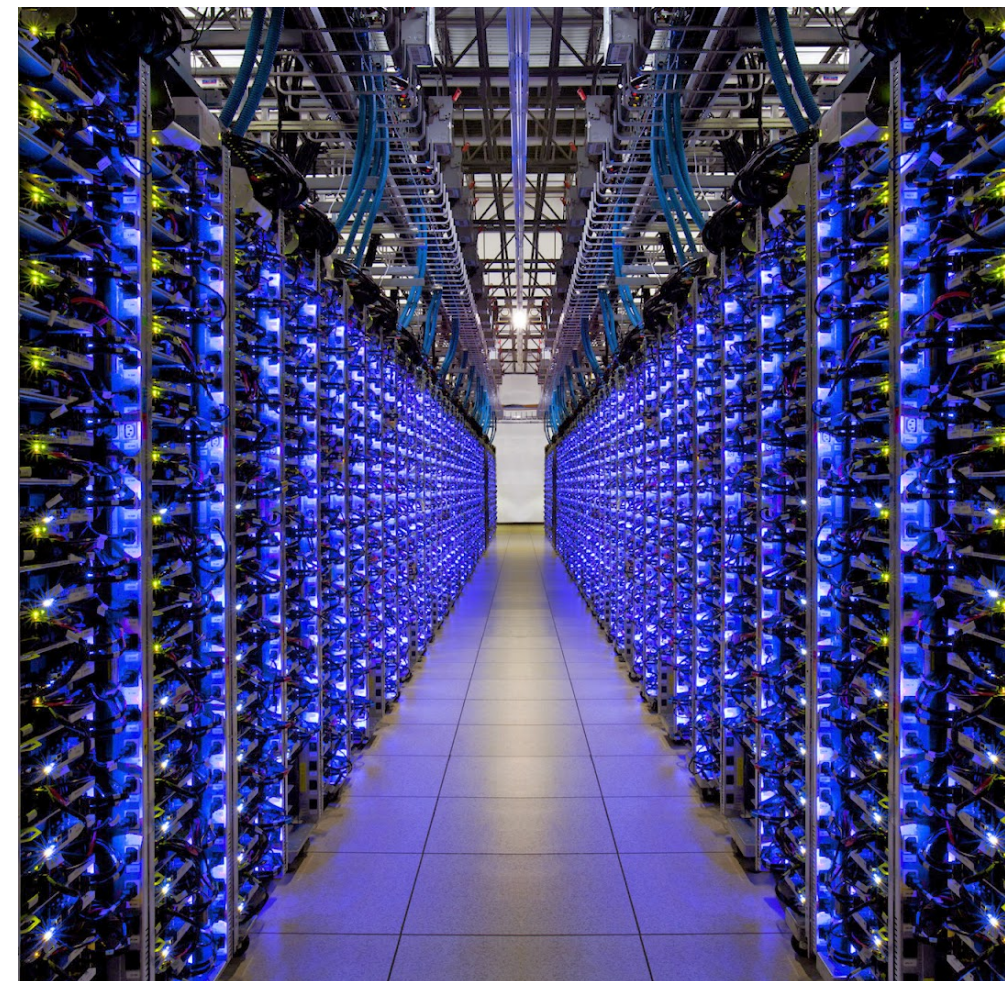
# Corigine Product Segments



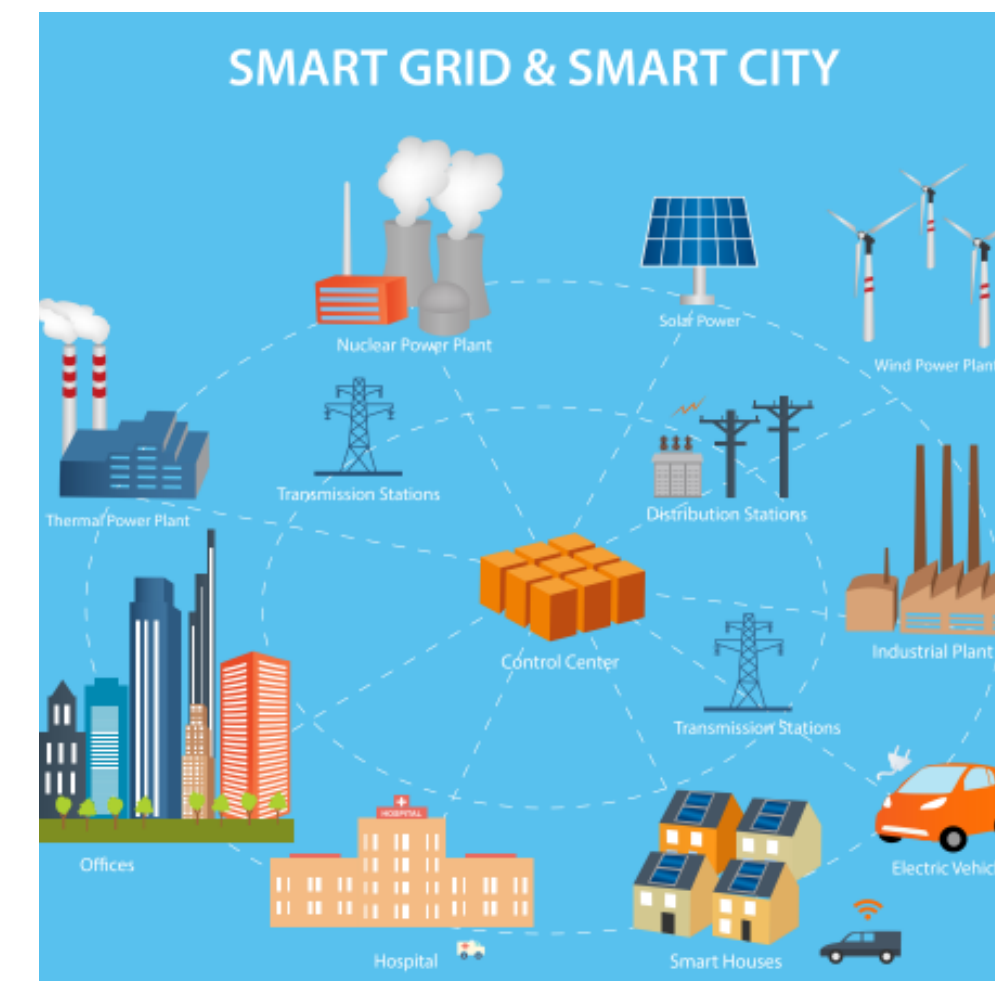
**Networking  
Connectivity**



**Automotive**



**Storage**



**Smart Grid  
Smart City**



# USB Evolution



	<u>Max Speed</u>	<u>Power Output</u>
USB 1.0 (1996)	12 Mb/s	
USB 2.0 (2000)	480 Mb/s	2.5W
USB 3.0 (2010)*	5 Gb/s	4.5W
<b>USB 3.1 Gen 2</b>	<b>10 Gb/s</b>	<b>100W</b>



**Evolution: Performance, Power Delivery, Connector Size**

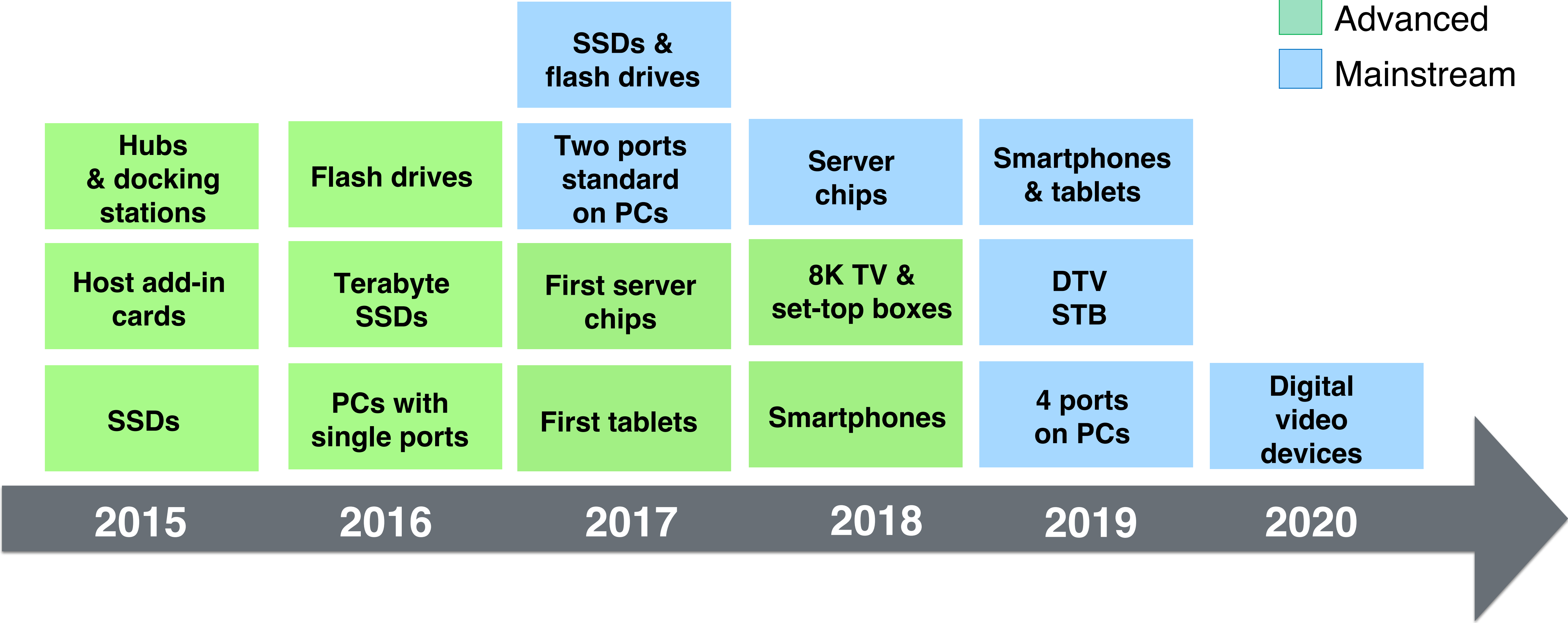
\* Also known as USB 3.1 Gen 1



# USB3.1 Market Adoption



Advanced  
Mainstream

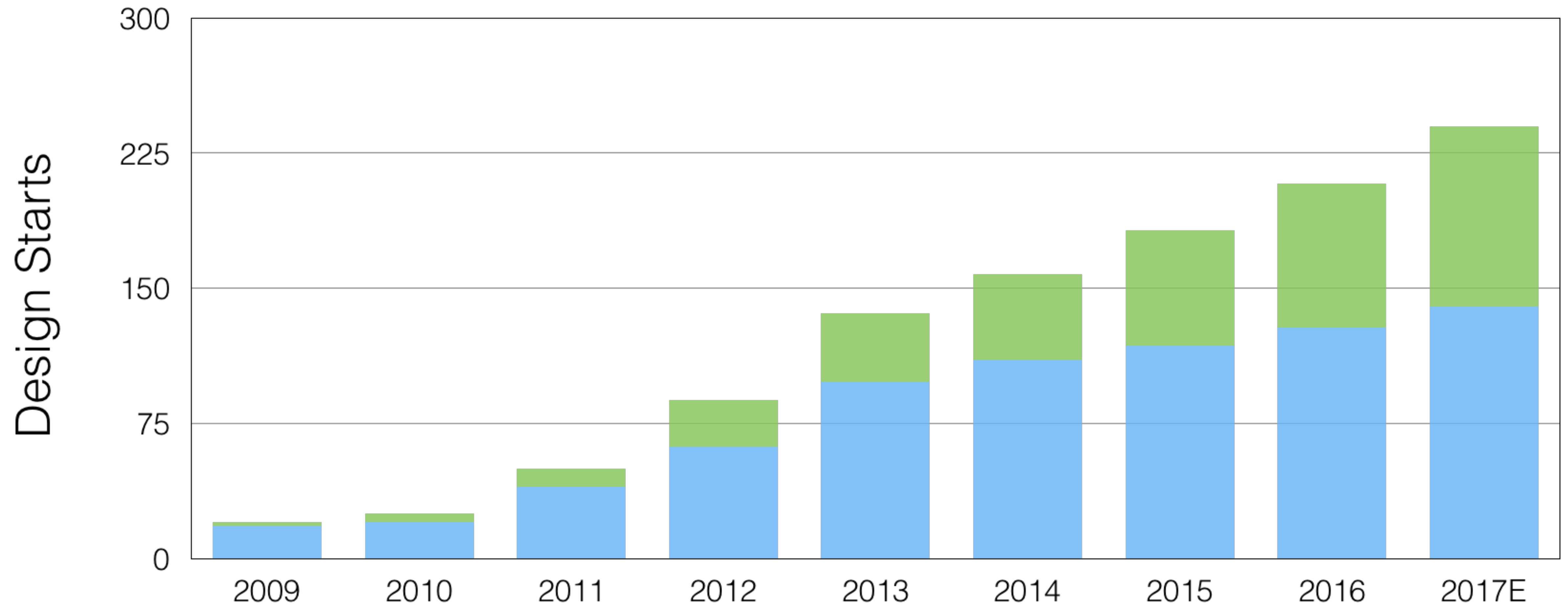




# USB3 IP Design Starts



■ Mainstream      ■ Advanced





# Corigine USB3.1



# Corigine USB 3.1 Solution

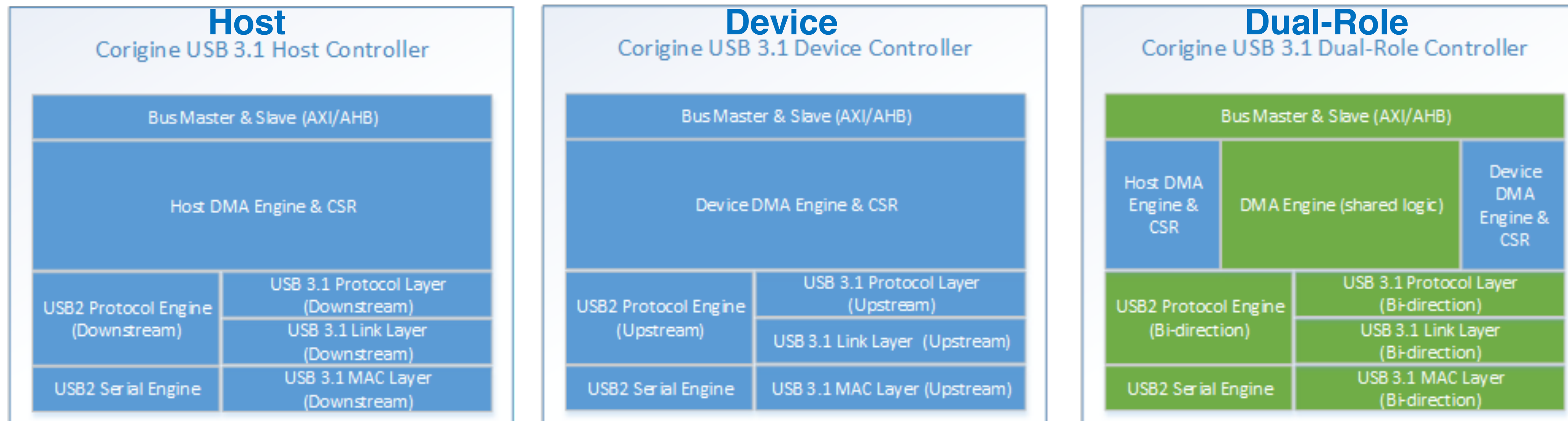


## Test Code

Corigine USB 3.1 Bare Metal Test Code & Linux Driver

## Proto Board

Corigine USB 3.1 FPGA Prototyping & Evaluation Board + Third Part PHYs



## Verification

Corigine USB 3.1 UVM-based Verification Environment



# Corigine USB3 Solution



**USB 3.1 Host - Single-port**

**USB 3.1 Host - Multi-port**

**USB 3.1 DRD - Single-port**

**USB 3.1 DRD - Multi-port**

**USB 3.1 Device**

**USB 3.1 Software - Host Bare Metal Test**
















**USB 3.1 Software - Device Bare Metal Test**

**USB 3.1 Software - Device Linux Driver**

**Evaluation Kit with FPGA Development Board and 3<sup>rd</sup> party PHY card**



# Corigine Competitiveness

	Corigine	Company A	Company B	Company C
USB3.1 Gen1 PC Host Certification				
USB3.1 Gen2 PC Host Certification	In progress			
USB3.1 Gen2 Device Certification	In progress			
IP Licensing				
All Options Included		Pay Per Option	Pay Per Option	NA



# Corigine USB3 IP



- ✓ Supports Host (PC and Embedded), Device, Dual-role
- ✓ USB Gen1 certified with USB Gen 2 certification in progress
- ✓ Architected for smallest size, lowest power, maximum configurability
- ✓ Complete IP with proto & verification, and PHY from partner
- ✓ Experienced R&D team with multiple previous generations of USB IP
- ✓ Delivers on all the goals of USB3.1 for ubiquitous uses





# Contact Us

Innovations in Connectivity and Storage



**China Sales:** [Blend.Fang@corigine.com](mailto:Blend.Fang@corigine.com)

**US Sales:** [TJ.Boer@corigine.com](mailto:TJ.Boer@corigine.com)

[www.corigine.com](http://www.corigine.com)