



Stephen Maneatis
Chief Executive Officer

True Circuits – 10 years of timing excellence

- Leading provider of high-speed analog/mixed-signal timing IP products
- Founded in 1998, with new offices in Los Altos, CA
- Team of expert analog circuit designers who perform leading-edge R&D
- Powerful circuit characterization platform
- Automated layout generation technology
- Close technical relationships with leading foundries, IDMs and design service firms in advanced process technologies
- Fully tested PLL and DLL hard macros in a variety of processes that meet customers' exact timing requirements

PLL and DLL Product Line

- Clock Generator, Spread Spectrum, Low Bandwidth and Deskew PLLs
 - High-speed DLLs
 - TSMC, UMC, CHRT and Common Platform processes from 180nm to 40nm
 - Support latest DDR/GDDR, SerDes and video standards
 - Low-jitter and very process tolerant
 - Large multiplication factors (1-4096)
 - Wide output frequency ranges
 - Small sizes and flexible form factors
 - Pin programmable
- Fully documented and supported through production ramp



Advanced Process Experience

- 2003 – 90nm development with TI and TSMC
- 2004 – 90nm production ramp with TSMC
- 2005 – 65nm development with TI and TSMC
- 2005 – 90nm development with CHRT, NEC and UMC
- 2006 – 65nm development with CHRT
- 2007 – 55nm development with TSMC and NEC
- 2007 – 65nm/55nm production ramp with TSMC
- 2008 – 45/40nm development and deliveries

Business Model

- TCI licenses its hard macros directly to customers or through its partners
 - Licensing terms are per use/multi use and do not require royalty payments
- TCI has partnerships with other semiconductor companies that provide indirect sales and distribution channels for its licensed products
 - IDM, ASIC, Foundry and Web portal IP libraries
 - Design services firms (True Partner Program)
 - IP Partners
 - Sales representatives/distributors
- All TCI products are designed and packaged so customers can easily choose and integrate a hard macro that meets their specific needs

Why Customers Choose TCI

- Expertise developing advanced, robust and low-jitter analog/mixed-signal circuits
- Powerful circuit characterization platform for thorough pre-silicon verification
- Automated layout generation technology that accelerates analog IP development
- Large portfolio of PLL and DLL IP in advanced CMOS processes
- Close technical relationships with leading foundries, IDMs and design service firms in advanced processes
- Staff of Ph.D.-level circuit designers who offer expert pre- and post-sale support
- Track record of first-time silicon success over hundreds of IP implementations
- Impressive list of marquee and high production volume customers spanning the global semiconductor industry

Thank you

- Explore True Circuits IP at ChipEstimate.com
- Use True Circuits IP to plan your next chip!
- Please stay and talk with Stephen

