

QThink Joins the Common Platform™ Technology Collaboration

QThink has enhanced its image as an industry leader in IC design innovation by joining the Common Platform Technology Collaboration, a group of manufacturers, tool companies, IP providers and design services firms committed to developing, enabling and promoting cross-manufacturing. Jointly developed by IBM, Chartered Semiconductor Manufacturing and Samsung Electronics, Common Platform technology is comprised of bulk CMOS processes and design kits—allowing GDSII compatibility between synchronized 300mm manufacturing facilities. This technology allows foundry customers to leverage capacity and an expansive common design support network with multi-sourcing capabilities without redesign, from industry-leading manufacturing suppliers. Allowing a single-design to be multi-sourced means that clients will ultimately receive superior value, innovation and choice.

QThink's design team has proven design expertise with Common Platform technology and has shown technical proficiency through multiple customer tape-outs at 90nm.

QThink is the only design services company to be a part of this collaboration.

Common Platform Solutions (IP, tools, turnkey/backend solution or design services) are designed to help OEM customers speed time to market, reduce development risk, lower development costs, and improve return on investment. A provider is permitted to use the Common Platform Solution Provider mark when the provider has compared its offering(s) against the Common Platform™ technology criteria provided by the Ecosystem Validation Committee (comprised of members from IBM, Chartered Semiconductor Manufacturing and Samsung) and has self-validated that the criteria have been met. Technical validation criteria will be available on www.commonplatform.com.

The underlying technology that forms the basis of the collaboration between IBM, Chartered and Samsung to enable cross manufacturing of complex designs. This technology is comprised of bulk CMOS manufacturing processes and design kits - allowing GDS2 compatibility between synchronized 300mm manufacturing facilities.

IBM, Chartered and Samsung have broken new ground in the semiconductor industry with a unique collaboration focused on leading-edge, jointly developed digital CMOS process technologies and advanced manufacturing. As a result of the involvement of IDMs, systems companies, and foundries, the jointly developed processes bring a new level of system and application understanding to the silicon process. The Common Platform model is supported by a comprehensive ecosystem of design enablement and implementation partners from the EDA, IP, and design services industries. Common Platform technology features 90nm, 65nm, 45nm and 32nm process technologies developed as part of a collaboration between IBM, Chartered, Samsung and Infineon. Freescale has recently joined in the joint process development alliance (JDA) for the 45nm & 32nm technology nodes.

A breakthrough collaborative approach among industry leaders to address the needs of semiconductor manufacturing.

- ◆ One Design - Worldwide Multiple Sourcing
- ◆ Flexible CMOS Process Technology: 90nm, 65nm & 45nm
- ◆ 32nm Development Underway
- ◆ Synchronized Manufacturing at 3 Fabs
- ◆ Full Spectrum of Offerings: Foundry to ASIC
- ◆ Robust Design Enablement: EDA, IP, libraries & Design Services
- ◆ Industry-Leading DFM Expertise

The combined expertise of the Common Platform alliance partners has been instrumental in driving innovation in semiconductor manufacturing. The accelerated roadmap and deep technical offering make the Common Platform a valuable manufacturing resource for leading edge fabless, fab-lite and IDM companies around the world.

At the heart of the Common Platform technology relationship is the [bulk CMOS process technology](#) that is jointly developed by IBM, Chartered, and Samsung. The group began with joint development at the 90nm process node and has extended the joint development to 65nm and 45nm processes. There are currently over 300 process development engineers from IBM and nearly 40 process engineers from Chartered and another 40 from Samsung working together at IBM's 300mm fab in East Fishkill, New York.

On top of that, the Common Platform solution consists of a complete range of [design enablement support](#) from leading EDA, library and IP, and design services providers.

Complete solutions for 45nm, 65nm and 90nm

- Reference Design Flows
- Design Center Collaborators
- Libraries and IP
- Technology Design Kits
- Design Manual SPICE Models
- 45nm, 65nm and 90nm Process Platforms

45nm, 65nm and 90nm

At the core of the Common Platform vision is the acceleration of leading edge technology availability to foundry customers. The Common Platform has established a track record of bringing new processes up at an extremely competitive rate that tracks to the ITRS roadmap, and in fact became the first foundries to announce [silicon functional circuits at 45nm](#). By combining the expertise and research resources of all of its partners, the Common Platform is able to drive innovation and production ramps faster than by operating as individual companies.

The added benefit is the process compatibility across 3 different fabs, which improves efficiency – time, costs, design migration, capacity – while also mitigating customer risk for the manufacturing partners and their customers. Designs qualified and manufactured at one Common Platform fab can easily be sourced to another, and migration to next-generation node is also simplified.

The Common Platform's process offering span from 90nm to 65nm to 45nm, with high performance and low power variations available for each node. The process offerings are supported by robust design manuals and a common SPICE model. Production on all 3 nodes at each fab is on 300mm silicon wafers.

As process technology pushes ahead to more advanced nodes, the Common Platform is

leading the way with advances such as 193-nm immersion lithography and ultralow-k dielectrics.

Working together with third-party providers of design tools and open standards formats, the Common Platform team is assisting foundry customers in designing with these technologies, with a goal helping them to achieve success silicon at one or more manufacturing partners on the platform.

The Common Platform works with a robust ecosystem of design enablement partners that provide consistent and reliable support for designs targeting any of our manufacturing facilities. More than a dozen EDA, IP, library, DFM and design services suppliers have been qualified on the Common Platform process technology, giving customers maximum freedom of choice and flexibility. Our design enablement partners work closely with the Common Platform team and must pass rigorous qualification to ensure their tools and technology are compatible with our Common Platforms process in all three manufacturing facilities.

This broad support provides optimal design sourcing flexibility and facilitates efficient design re-use. In addition it is a cost-effective model for the complementary suppliers who make up the design enablement ecosystem as they need only work with a common underlying process technology to achieve validation at all three partners' fabs.

Design enablement support is available for design kits, IP/libraries, reference flows, design service centers, as well for an innovative DFM platform.