

14-Year Strategic Partnership: Scaling Semiconductor R&D

AMBITION

A **global leader in computing and semiconductor technology** operates in one of the most competitive and security-sensitive industries worldwide. As product complexity increased across silicon, firmware, operating systems, and applications, scaling global R&D quickly became a critical challenge.

To accelerate innovation across the full product lifecycle — while maintaining strict SSRE security compliance — the organization set a clear ambition: **establish a long-term engineering partnership capable of integrating directly with internal R&D teams across regions, without compromising security or quality.**

To achieve this, the organization needed to:

- **Scale R&D globally:** Expand engineering capacity across silicon, software, and systems.
- **Ensure end-to-end lifecycle coverage:** Support development from pre-silicon verification through cloud and application layers.
- **Maintain uncompromised security:** Meet rigorous SSRE compliance across all delivery centers.

ACTION

The client partnered with **Wipro Engineering – Connected Services** to build a multi-disciplinary engineering capability operating as an extension of its internal R&D organization.

Working from two dedicated, fully SSRE-compliant offshore development centers in Bengaluru and China, Wipro deployed a specialized team of **300+ engineers** across four focused areas:

- **Hardware Verification:** Delivered RTL verification, silicon bring-up, pre-silicon validation using SIMICS, and comprehensive SoC verification.
- **Validation & Automation:** Owned post-silicon validation, hardware and OS debugging, and built robust automation frameworks across Windows, Linux, and Chrome OS.
- **Middleware & Android Services:** Developed hardware abstraction layers (HAL), integrated HD audio and video codecs, optimized sensor networks, and executed Android porting and security upgrades.
- **Software & Application Development:** Delivered embedded firmware — including bootloaders and device drivers — alongside custom IoT, cloud, and web application development.

AMBITIONS REALIZED

Over a **14-year partnership**, Wipro evolved from an external delivery partner into a deeply integrated **Center of Excellence (CoE)** — unifying hardware verification, middleware integration, and software development under a single operating model.

The Business impact:

- **Preferred supplier status**, maintained since 2015 through consistent, high-quality delivery.
- **Global scale with full SSRE compliance**, enabling secure expansion across regions.
- **Faster R&D cycles**, driven by end-to-end engineering integration and reduced delivery handoffs.

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