

Electronic systems are nowadays the result of the convergence of different technologies. Therefore a combination of experience, techniques, tools and a proper contact network is mandatory to meet market expectations. By working with **YOGITECH**, customers leverage on the company's solid partnership with top-tier EDA tool vendors. Years of experience dealing with world-wide customers and a proven track of right-first-time designs make **YOGITECH** reliable for any kind of IC design.

Projects at **YOGITECH** are managed by specifications, timescale and budget, previously agreed with clients. This disciplined yet flexible approach combines with **YOGITECH**'s methodology, skills and know-how, delivering customer satisfaction and business renewal. **YOGITECH** is actively involved in SoCs or ASICs design & verification, including implementation or re-use of IP blocks (digital, analogue and verification), providing point solutions and filling resource shortfalls.

Mixed-Signal Design

Today's Application Specific Integrated Circuits (ASIC) include analogue front ends, A/D and D/A, transceivers, tightly coupled with digital signal processing, memories and protocol engines. High precision analogue blocks are often close to high speed and noisy digital parts driving high voltage drivers. A comprehensive approach on specification, design, verification and testing is therefore needed to manage such increasing complexity.

Yogitech has a consolidated experience in defining system requirements and a deep understanding of standards (such as protocols, EMC/EMS standard, ESD/latch up rules). These outstanding skills in system modelling allow Yogitech to translate applications needs into ASIC specifications for a wide range of technologies from deep sub-micron (0.13 μm) to 100V DMOS processes. Yogitech's mixed-signal verification approach combines classical methods based on mix-mode simulations together with state-of-the-art functional verification techniques.

Yogitech's success stories include IC designed for automotive, biomedics, telecom and consumer, with a design track record that includes most important world-wide SIPs and OEMs. Yogitech's involvement into a project can span from specs to device testing (all intermediate steps included), working independently or in team with the customer. Yogitech is also available to design customized IPs providing highest-quality deliverables including datasheets, characterization and layout constraints.

S U C C E S S S T O R I E S

- High accuracy, fully discrete controller for 15 V Voltage Regulator for diode Rectified Alternator charging system.
- Analogue processing for potential-free inductive sensor used in ABS system.
- Inductor to time proportional output signal converter.
- Physical layer transceivers for LIN and CAN buses.
- Charge amplifier front end channel for silicon sensor signal conditioning.
- 13-bit, low noise, low offset, ultra low consumption Cyclic Algorithm A/D Converter.
- 14 bits, 20MHz SigmaDelta A/D and D/A converter for ADSL electronic front-end (CO side).
- E3/DS3 data communication physical layer between Indoor and Outdoor Units.
- Custom CMOS image sensor.

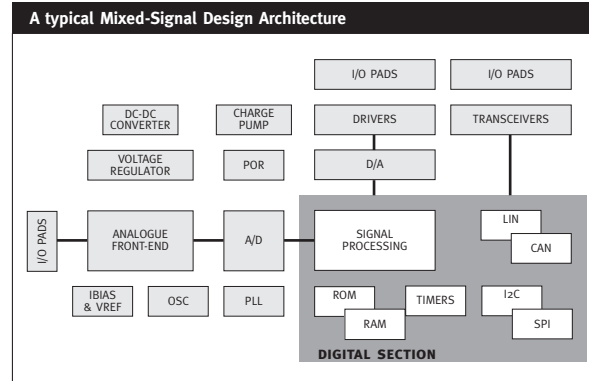
E X P E R T I S E S

- 0.35 μm BCMOS process.
- 0.7 μm 100V DMOS process.
- 0.25 μm analogue or fully digital CMOS process.
- 0.18 μm 0.13 μm high density CMOS processes.

Mixed-Signal Design

System specification and integration

Yogitech's distinguishing competency is the specification, integration and testing of embedded analogue-digital systems, from front-ends with high sensitivity signal conditioning blocks to high voltage circuits, including IO pads design (e.g. LVDS), CAN/LIN transceivers, low power, low noise and high resolution circuits (e.g. instrumentation amplifier), FIR filters and PID regulators, PWM controlled system, high side and low side high voltage drivers, integration of analogue and digital test structures.



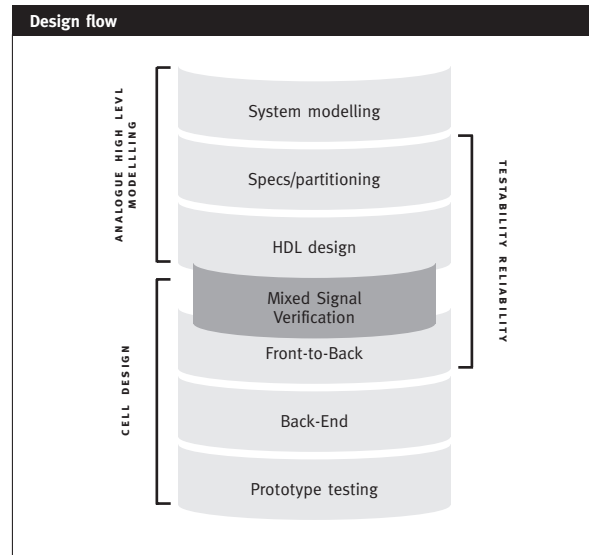
High reliability systems

Yogitech's mixed-signal expertise finds its best application in high reliability systems such as automotive and biomedical. Yogitech has a proven background in standard requirements defining the interaction between electronic devices and external environment including DPI method for EMC/EMS, IEC62132 standard Schaffner pulses and immunity based on ISO7637, Failure Mode and Effect Analysis, electronic translation of biomedical requirements such as AAMI EC11-EC13 standard.

Design flow

Yogitech's mixed-signal approach combines analogue and digital flow in a fully integrated methodology using a carefully selected and qualified mix of EDA tools from leading providers including, Cadence, Mentor and Synopsys.

It spans from system spec definition to prototype testing: analogue high level modelling (VerilogAMS, Vhdlams), RTL design and verification, cell design and characterization, Montecarlo and statistical analysis for matching, digital implementation with advanced synthesis techniques for low power and low-EMC, test insertion, ATPG and Iddq, custom layout and parasitic extraction, Physical Verification (DRC, LVS).



Business model

Different business models are available. Time & Material for services to be carried out either on customer site or in house. Per task, based on a detailed Statement of Work defined with the customer. On selected projects Yogitech can provide a full turnkey service including foundry, assembly and testing management.

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