



IoT – The Internet of Things (IoT) encompasses products in multiple market segments which have the common ability to sense the physical world around them and to provide M2M connectivity directly or via the internet.

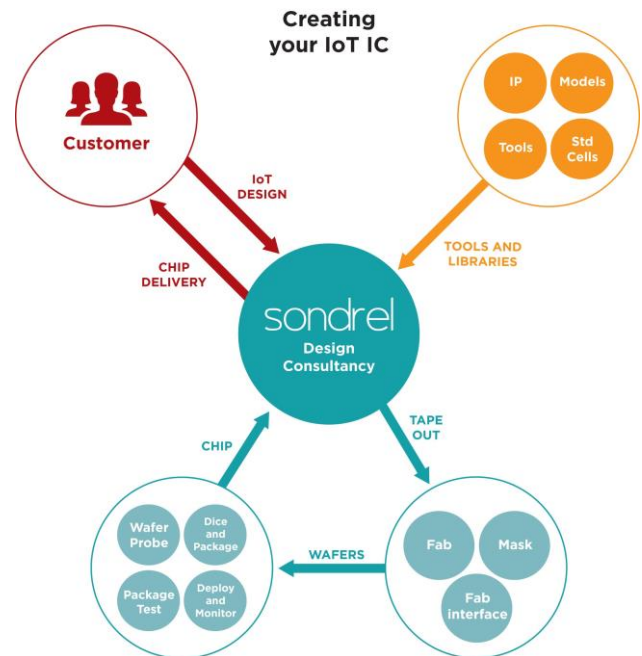
Sondrel’s expertise built up over 13 years, in digital and analogue low power design, and relationships with supply chain partners across Europe and Asia allows our projects managers to offer consultancy at the early project stage whilst key decisions are being taken impacting costs down the line.

Sondrel can then follow through with spec to silicon execution successfully ensuring the delivery of your IoT custom ASIC.

Benefits to customer

The path from design to silicon is long and complex involving many steps and many choices within each steps. Sondrel will act as your partner and guide along this journey.

- Expert advice on each element of the design through to silicon process
- Selection of foundry, node and suitable IP
- Design execution focused on achieving your SoC target cost, PPA and time to market
- Your in-house expert and supplier communication hub
- One stop shop approach.



Engagement Models

Sondrel’s involvement should start from your functional specification. From this point we can offer advisory supply chain consultancy, Spec2GDSII design or spec to silicon execution.

- Digital and mixed signal IP selection, make vs buy advice
- PPA specific process selection, for example “Always On” ultra-low leakage thick oxide processes
- IoT specific EDA flow
- Advanced low power verification and layout technique
- Shared wafer options at foundry
- Standard, flexible or embedded die substrate packaging options
- Yield focused production test

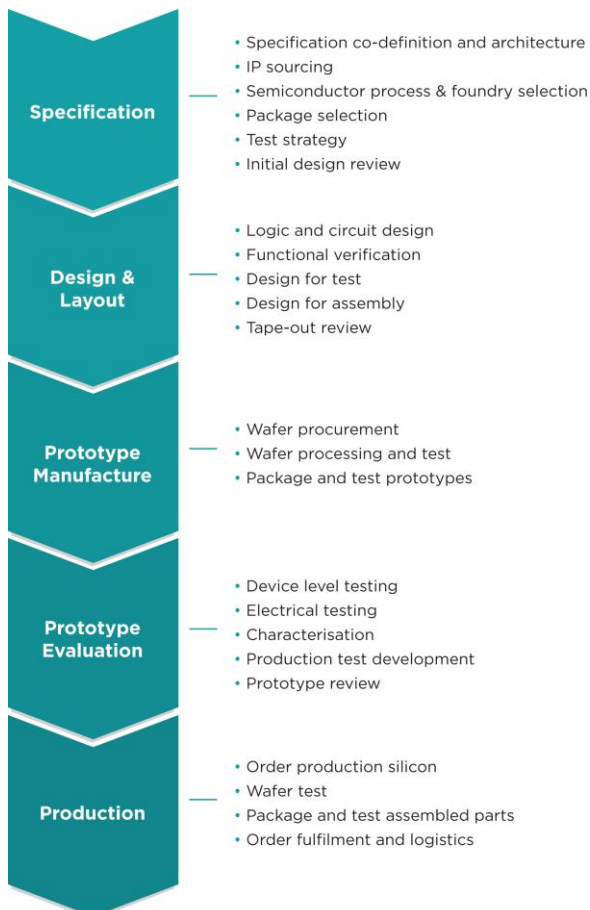
Technical Details

IoT devices are typically mixed signal ASICs consisting of wireless connectivity, power management and sensor interface circuits. A make or buy decision is required for each circuit, along with selection of an appropriate semiconductor process technology, foundry and package to meet the device cost, electrical and environmental requirements.

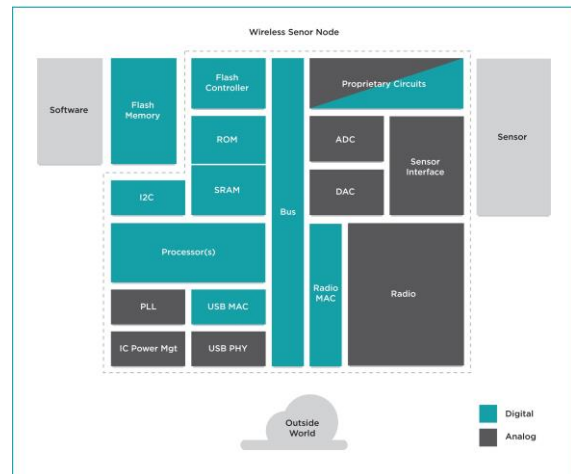
Advanced design, verification and physical implementation methodologies are required to ensure that analogue and RF circuits work reliably alongside digital circuits, minimizing interference noise. Low power operation is often critical. Low power design and verification techniques are highly specialized, with considerable opportunity for differentiation if executed well, and are used to ensure that the device can operate in all power modes whilst ensuring the device successfully transitions between power states and is fully operational only when required.

Expert cooperation between designers, IP providers and manufacturing partners is essential in ensuring that devices can be successfully designed, manufactured, evaluated and tested either in prototype quantities, using cost effect multi-project wafers (MPW's) or in volume production.

Process & Methodology



Generic IoT End Point Block Diagram



Next Steps

Call us today on
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