

FSA INNOVATION AND PRODUCTIVITY SURVEY

KEY SUCCESS METRICS

FSA believes innovation and productivity define successful semiconductor companies. Therefore, it's critical for outsourcing companies to be able to measure key success indicators (KSIs) and be able to benchmark themselves to industry peers so they can identify areas of performance and dollar improvement.

To enable this, FSA developed a series of nine high-level KSIs that analyze the impact of design practices on revenue, time-to-market and profit under the guidance of leading public companies in the industry.

FSA believes that by establishing these metrics and collecting quarterly data over time, trends will become apparent and semiconductor companies can better understand the qualities of successful, profitable companies – how they utilize their R&D dollars, how many new products they develop with that R&D investment, how they reduce time-to-market windows and eliminate additional spins, etc.

These KSIs, or “dashboard” metrics, are designed to highlight innovative practices and demonstrate strong productivity measures of outsourcing companies, creating a measurable pathway to innovative practices from a senior management, top-down approach. These metrics will become the long-term substance for articulating evolutionary industry adaptations for continued success in an ever-complicated and fast-paced industry.

BENCHMARK DATA – WHAT THE TRENDS MEAN

FSA will survey all outsourcing semiconductor companies (public and private) quarterly to develop this trend-based data. Understanding the relationship between these ratios and their impact on time-to-market, revenue, and, ultimately, profitability, is key to the long-term growth and continued innovation in this industry. The data will highlight success metrics upon which benchmarks can be created to enable outsourcing companies to better understand and adapt to the new rules of evaluation developed in the past five to six years. Data collected in these surveys will help establish a solid format for documenting trends showing what the industry can expect in the future if it continues on the current path.

KSIS ARE SIGNIFICANTLY INTERRELATED

Increasing **Revenue KSIs** will result from reducing **Time-to-Market KSIs**.

Profit KSIs will be positively impacted by the combination of efficient R&D expenditures, **Revenue KSIs** and improvements to **Time-to-market KSIs**.

STRICT CONFIDENTIALITY

All data is collected, audited and aggregated by Grant Thornton LLP to ensure respondent confidentiality requirements.

PRICING & AVAILABILITY

- Participants will receive a complimentary advance copy of the survey results.
- All outsourcing semiconductor companies – FSA members and non-members – are encouraged to participate.
- Non-participating member companies and member Suppliers may purchase the report for \$1,500.
- Non-members will not have access to the analysis report unless they participate.

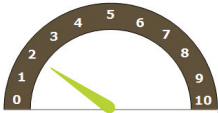
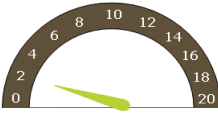
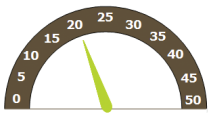
FOR MORE INFORMATION

To learn more and participate in the survey, please contact Kristen Pillans, kpillans@fsa.org.

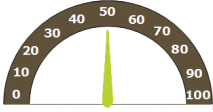

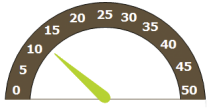
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EXAMPLE DASHBOARDS




Revenue KSI

R&D Efficiency Ratio	R&D Effectiveness Ratio	New Products/Total Revenue
<p>Expected Range</p>  <p>2x-4x</p>	<p>Expected Range</p>  <p>2x-4x</p>	<p>Expected Range</p>  <p>20%</p>
<ul style="list-style-type: none"> A ratio >1 is the target — An existing product should generate more money than a company is spending on new products. Change in revenue should be 2 to 4x average R&D spent over a 3-year period. 	<ul style="list-style-type: none"> R&D Efficiency & Effect. ratios should be evaluated together. R&D Effectiveness evaluates how companies develop new products. Need to have revenue growth while introducing new products. 	<ul style="list-style-type: none"> Rule of measure: ~20% of revenues/year should be from new products. If <20%, company is probably not introducing enough new products. Innovation is required for long-term success with new products.

Profit KSI

Gross Margin/Total Revenue	New Product Contribution	R&D Expense to Revenue
<p>Expected Range</p>  <p>45% to 55%</p>	<p>Expected Range</p>  <p>>= 1.0</p>	<p>Expected Range</p>  <p>10% to 25%</p>
<ul style="list-style-type: none"> Increase the number of new products in development Reducing Time-to-Market KSIs can increase the number of new products 	<ul style="list-style-type: none"> If creating new products, should have > gross margin in new products vs. old. If low gross margin, look for inconsistencies in product design and customer expectations. 	<ul style="list-style-type: none"> Work to maintain constant R&D-to-Revenue ratio while generating more products. Must improve R&D Efficiency and Effectiveness ratios. Improve time-to-market KSIs.

Time-to-Market KSIs

Avg. Time-to-First Revenue	Avg. Time to First Tapeout	Avg. Spins/Design
<p>Expected Range</p>  <p>18 to 24 months</p>	<p>Expected Range</p>  <p>9 to 12 months</p>	<p>Expected Range</p>  <p>2 to 4 spins (Ideal: 1)</p>
<ul style="list-style-type: none"> Reducing avg. time-to-first revenue could result in greater revenues and gross margins If companies could reduce time-to-first revenue to ~15 months, would allow time-to-first tape-out to expand. 	<ul style="list-style-type: none"> Increasing time-to-first tape-out may reduce the number of spins down to 1 & reduce TTF revenue. Option: Concentrate on reducing the number of spins and ensuring a clean, good-quality tape-out. 	<ul style="list-style-type: none"> If a company delivers a better-quality tape-out, the number of spins should be reduced. Ideal: Tape-out in 12 months, have 1 spin and lower Time-to-First Revenue to 15 months.