

# Three New Leading Practices for Semiconductor Innovation

by Katherine Valentino, Devin Bedwell and Joe Dury

Semiconductor companies are always looking to deliver meaningful growth for innovation, but few actually deliver. Leading semiconductor companies have adopted a number of sophisticated processes, tools and practices to cover the full innovation process and get new products to the market faster and cheaper while delivering on growth targets.

This series will break down what processes, tool and practices leading semiconductor companies use and how they contribute to their success. Let's start with three new leading practices: first pass design success, efficient new product introductions, and improved manufacturing flexibility

**First Pass Design Success:** Focus on first pass silicon or firmware release for successful IC designs and product solutions.

A successful first pass design:

- Minimizes time to market and development costs
- Maximizes the revenue life of a new product

Without a focus on the first pass design, semiconductor firms often end up with inefficient products that require redesigns, or low quality products. This leads to increased development costs, increased time-to-market for new products, and frustrated customers. When products are delayed and miss being first to market, customers give the business to someone else. Low quality first pass designs also produce unacceptable yields which drive up cost, decrease profitability and increase the final release and qualification requirements.

**Efficient New Product Introductions (NPI):** Focus on visibility into all NPI projects.

It's critical to have the ability to see into all NPI projects in all phases from ideation through execution. Looking at the development pipeline from two perspectives - current resource load and future projects to be launched - ensures that:

- Both the monetary and human resources are allocated correctly
- Customer requirements are met
- Changes are made quickly enough to respond to an evolving industry landscape

Visibility into all NPI projects allows for quick decisions based on the most up to date information

**Improved Manufacturing Flexibility:** Focus on a flexible and comprehensive manufacturing sourcing strategy.

This allows semiconductor companies to quickly adapt to things such as natural disasters, regulatory changes, labor cost changes, and supply chain disruptions, and also provides cost leverage and flexible capacity with external manufacturing partners. When unexpected changes happen, your company can quickly reallocate capacity and maintain supply to meet customer demand.

In the next of this series, we'll discuss the new enhanced tools and capabilities semiconductor companies must adopt to support these leading practices.

For more information, download our white paper: [Comprehensive Innovation Management for Semiconductor Firms – Leading Practices, Capabilities and Tools](#)

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## About the Authors



**Katherine Valentino**

[katherine.valentino@kalypso.com](mailto:katherine.valentino@kalypso.com)

Katherine is a Freelance Content Marketing Specialist at Kalypso and Marketing Assistant at Penguin Random House.



**Devin Bedwell**

[devin.bedwell@kalypso.com](mailto:devin.bedwell@kalypso.com)

Devin brings over 15 years of experience in the semiconductor and high tech industries to Kalypso clients.



**Joe Dury**

[joe.dury@kalypso.com](mailto:joe.dury@kalypso.com)

Joe has over 30 years of industry and client service experience working as an executive and advisor at Fortune 500 companies to deliver results by combining strategic planning and implementation of new process and technology to transform the business.