SEMICONDUCTOR MANUFACTURER'S

IT PLAYBOOK

*A guide to ERP, CRM and BI system infrastructure to support
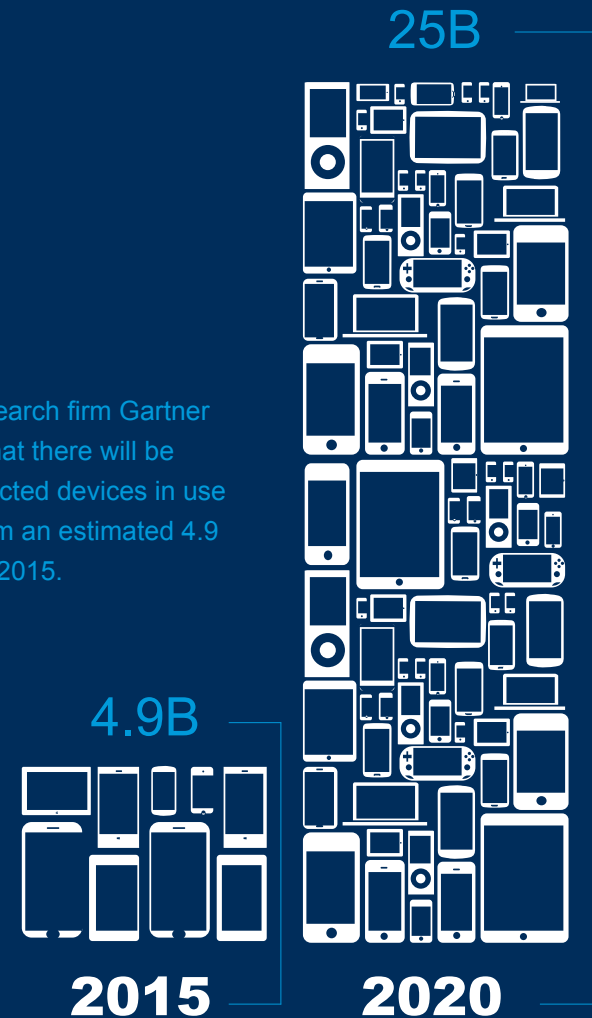compliance, profitability and supply chain excellence*

armanino

What's Inside

As device interconnectivity—aka the Internet of Things (IoT)—becomes ever more pervasive, chips are finding new applications in everything from sensor-equipped truck tires to home heating systems. This translates into a potentially huge new market for established semiconductor manufacturers and startups alike.

At the same time, the old cliché that "if you're not moving forward, you're falling behind" still holds true. Companies must continue innovating to stay competitive, and as product life cycles keep shrinking, they must get their products to market even faster—while keeping margins in mind.

To succeed in this higher demand environment, semiconductor companies need an integrated platform of core business systems: enterprise resource planning (ERP), customer relationship management (CRM) and business intelligence (BI). This comprehensive solution can help them manage more volume and continue designing new products, while reducing the burden on their IT staff. As companies evolve and grow, the right technology infrastructure can also adapt to their changing organizational, reporting and compliance needs.

Technology research firm Gartner Inc. forecasts that there will be 25 billion connected devices in use by 2020, up from an estimated 4.9 billion in use in 2015.

25B

4.9B

2015   **2020**

CHAPTER

01

Business Value at Different Life Stages

VALUE FOR HIGH GROWTH / LIFE STAGE

Although they share fundamental needs, mature semiconductor companies and high-growth new-comers have their own distinct business challenges and priorities for their technology platforms.

When you're young and growing fast, your strategy is all about execution. You establish many new relationships with vendors and suppliers in a short period of time. Your focus is on creating new products and getting them quickly through production and distribution to meet customer demand. Speed is an even higher priority than cost control, and market penetration is even more critical than profit—although profit is always important.

The semiconductor business is built on volume, so any operational weaknesses you have now will only be magnified as demand for your products increases. At this stage of the game, implementing systems that free employees from manual input of data and various external spreadsheets is most critical. You need to streamline critical processes such as supplier communication, and make it easier for your staff to manage transactions and interact with suppliers.

To succeed, you need a technology platform that enables you to:

01	Forecast demand trends and determine resource focus
02	Generate new leads and business opportunities
03	Manage marketing campaigns
04	Communicate efficiently with vendors and suppliers
05	Forecast capital requirements and cash flow
06	Manage quick product life cycles
07	Handle design revisions

Most growing companies look for a platform that streamlines management of their operational transactions—buying materials, processing receipts and shipments, paying for manufacturing services, etc. While these transactions may start at a modest volume, where the workload of manual processes can be absorbed, forward-thinking companies know that demand can surge. Laying the foundation to prepare for that growth is key to ensuring the scalability to support it. In some cases, companies will seek automation with a few suppliers initially and plan to roll it out to others over time.

Young businesses generally aren't ready to completely automate their processes. One reason is that automation of transactions through integration requires additional work on the supplier's end, and a company may not be generating enough volume for their suppliers to agree to implement automated feeds. Young companies also need to focus first on the necessities, and having the right framework in place is more critical than the integration itself at this stage.

The timeframe for implementing an integrated solution varies. Some companies can follow a template approach of best practices and business processes, and implement a platform in a rapid 4- to 6-month cycle. Others may use a more tailored and potentially customized solution that takes 9 to 12 months.

Laying the foundation to prepare for growth is key to ensuring the scalability to support it.

VALUE FOR ESTABLISHED / LIFE STAGE

If you're an established company, you also need to forecast trends, market your products and manage your supply chain through quick product life cycles and revisions. Unlike younger companies, however, you've probably reached a point where you are able to focus on maximizing your system efficiencies and reducing costs. Your growth has stabilized and now you want to get every last cent of profit from your business.

You can't keep throwing additional bodies at manual processes that weren't designed to scale. Rather, you can achieve product and cost efficiencies by identifying opportunities to automate your processes and better integrate with vendors and suppliers.

Although some staff oversight is still necessary, you'll save time and money by automating as many operational, reporting and compliance activities as possible, including:

- Advance shipping notices (ASNs) from vendors, subcontractors and third-party logistics providers (3PLs)
- Transfers between vendor-managed inventory locations
- Purchase order invoicing and three-way matching automation

- Rebate and royalties processing
- Sales and use tax
- Periodic standard cost calculations and roll-ups, and inventory revaluation costing
- Demand planning, forecasting and tracking to minimize excess and obsolescence (E&O)

For example, suppose a vendor ships goods to your company. With a system that enables full automation, your receiving department would get advance notification of quantity, lot and serial number information via electronic data interchange from the vendor. Instead of having to go through the shipment and manually enter all the serial numbers and other details, the receiving team only has to verify that they received them.

On the subcontracting side, automation provides instant confirmation from the supplier that they have executed an operation on a production order and are advancing the material through production, invoicing for the cost of the services and moving on to the next operation. This synchronizes both the operational and financial aspects of the outsourced manufacturing process while providing complete traceability of the material.

If you don't have an automated system, you have to rely on spreadsheets or other communication from the supplier to determine the status of their production jobs, and your staff has to manually input the financial and inventory transactions.

A company may phase in the deployment of its new ERP solution's capabilities, or it may opt for more of a "big bang" approach to the deployment and implement everything at once. Although the focus of the implementation is different in these two scenarios, the time frame to achieve full automation is similar. Typically, it can be completed in less than a full 9- to 12-month cycle.

CHAPTER
02

**Mergers &
Acquisitions**

Growth through acquisition is a hallmark of the semiconductor industry. The right integrated technology platform can make these transactions easier from organizational, reporting and operational standpoints, whether you're making an acquisition or planning the sale of a business unit

WHAT BUYERS NEED TO CONSIDER

When your company is making an acquisition, you need to be able to make quick changes to your corporate reporting hierarchy. You also need to assess whether your ERP application is capable of supporting any legacy business requirements that may come along with that new acquisition. What you don't want is to have a solution that is so inflexible that it requires a re-implementation to support the new company you're bringing in.

An integrated platform provides the necessary organizational flexibility and makes it easy to either fold the acquisition into an existing entity or adjust the corporate reporting structure. It allows you to add a new entity or series of entities—including consolidations and elimination entities—at any point in time.

On a day-to-day level, your finance team needs reporting that enables them to manage regulatory compliance and also supports a higher-level analysis of the overall business. You don't want to have to compromise your monitoring of existing reports and metrics when you bring in a new entity. Because of the acquisition, you may also need to add visibility into metrics that you weren't monitoring before, such as:

- Bookings, billings and backlog (BBB) with a focus on segment performance (regions, business units, product lines and more)
- Inventory turns
- Leads/opportunity pipeline growth or shrinkage, potentially cross-referenced against overall market performance
- Expense management and budget-to-actual indices

> **"When we looked at the technology platform of Microsoft Dynamics, we realized this was a product that would be key to our growth strategy. As we've converted acquired companies with tier 1 ERP solutions over time, we've not seen any feature gaps within Dynamics."**

Jason Thorpe
Director of Enterprise Applications & Development

Your BI structure must be capable of supporting multiple entities and adjusting to changes in corporate structure. Agility is key, and your BI strategy and framework need to support inorganic growth and allow you to fold in new business units, entities and markets for reporting, charting, trending and KPI analysis.

From a supply chain and operational standpoint, you need a robust ERP solution that allows you to handle intercompany buy-sell activity and any kind of markup involved. Semiconductor companies often make acquisitions in order to vertically or horizontally integrate their business, so having the ability to manage intercompany trade and planning is critical for operations.

For example, a company may elect to funnel all sales activity through a single "shell" entity, where all customer purchase orders are entered as sales orders. The fulfillment of these orders requires intercompany purchases from various other corporate entities, which in turn creates intercompany sales order obligations for those additional entities to fulfill. Often, the shell nature of the sales entity requires direct delivery to the actual customer without physically shipping the goods to the centralized sales entity. This means that intercompany direct delivery is necessary, but intercompany accounting must still apply, such that the purchase/sale of inventory between entities is executed financially with appropriate accounting in the relevant entities for accounts receivable, margins, commissions and so on.

WHAT'S IMPORTANT FOR SELLERS

If your strategy involves selling part of your business, you will benefit from a system that allows you to create additional entities, even when you are not required to do so for compliance reasons. This capability enables you to do reporting and analytics by business segment or practice area, and to segregate information for a particular entity. Having this focused data makes it easier to position the unit for a sale.

From an execution standpoint, a sale requires you to roll an entity out of the corporate structure. So you need a system that allows you to segregate the unit and remove it from any elimination or consolidation framework that you have in place.

You need a robust ERP solution that allows you to handle intercompany buy-sell activity and any kind of markup involved.

Fully Integrated ERP or Bolt-On Industry Solution?

Over the lifecycle of a semiconductor company, decisions must be made about which ERP solution is right for the business. In the early startup phase, prior to volume production, a company can often get by using a small business accounting package and Excel to manage its operations.

As commercial operations ramp up and the company becomes more complex, it can quickly find itself needing a more comprehensive ERP solution. At this point, companies face a choice: Invest in a fully integrated ERP solution, or continue using a small business accounting system while deploying a bolt-on supply chain solution to manage operations. There are pros and cons to each of these paths, both initially and in the long run.

A fully integrated ERP solution for the semiconductor industry represents the best-in-class option. It fully supports global financial management and real-time semiconductor operations tracking through a distributed supply chain, in a single database solution. This option can best support the company in its early growth stages and on through global expansion—with no need to implement a new solution at a later date.

A bolt-on solution approach is a relatively short-term option that helps companies quickly deploy operational management capabilities outside of their small business accounting package. By using this model, companies can meet many of their initial business requirements at a relatively low cost and on a rapid deployment timeline. The core accounting package is still designed for small business operations, however, so it has natural limitations. This means that eventually, a growing company will have to explore a fully integrated solution.

With a best-in-class industry solution, you also get the benefit of a peer-tested system that can be easily scaled to address global business requirements such as country localizations and export compliance. Small business accounting systems aren't equipped to manage the localized financials, regulatory controls or export compliance of a global business—and the bolt-on solutions can't make up for these limitations. You either need to heavily customize the system—which isn't always possible—or live without these crucial capabilities.

FULLY INTEGRATED ERP SOLUTION *VERSUS* BOLT-ON INDUSTRY SOLUTION

Fully Integrated (Tier 1) Industry Solution

PROS

- SCALABILITY TO SUPPORT ALL STAGES OF GROWTH
- GREATER ELASTICITY IN PARTNER-SUPPORT SELECTION
- GLOBAL DEPLOYMENT SUPPORT
- VENDOR VIABILITY AND ROADMAP
- FULLY SYNCHRONIZED BETWEEN OPERATIONS AND ACCOUNTING
- ADDRESSES CRITICAL SPECIALIZED NEEDS (LOCALIZED REGULATORY CONTROLS AND EXPORT COMPLIANCE)

CONS

- REQUIRES GREATER FINANCIAL COMMITMENT UP FRONT

Bolt-on (Tier 2) Industry Solution

PROS

- LESS EXPENSIVE TO DEPLOY
- FASTER DEPLOYMENT

CONS

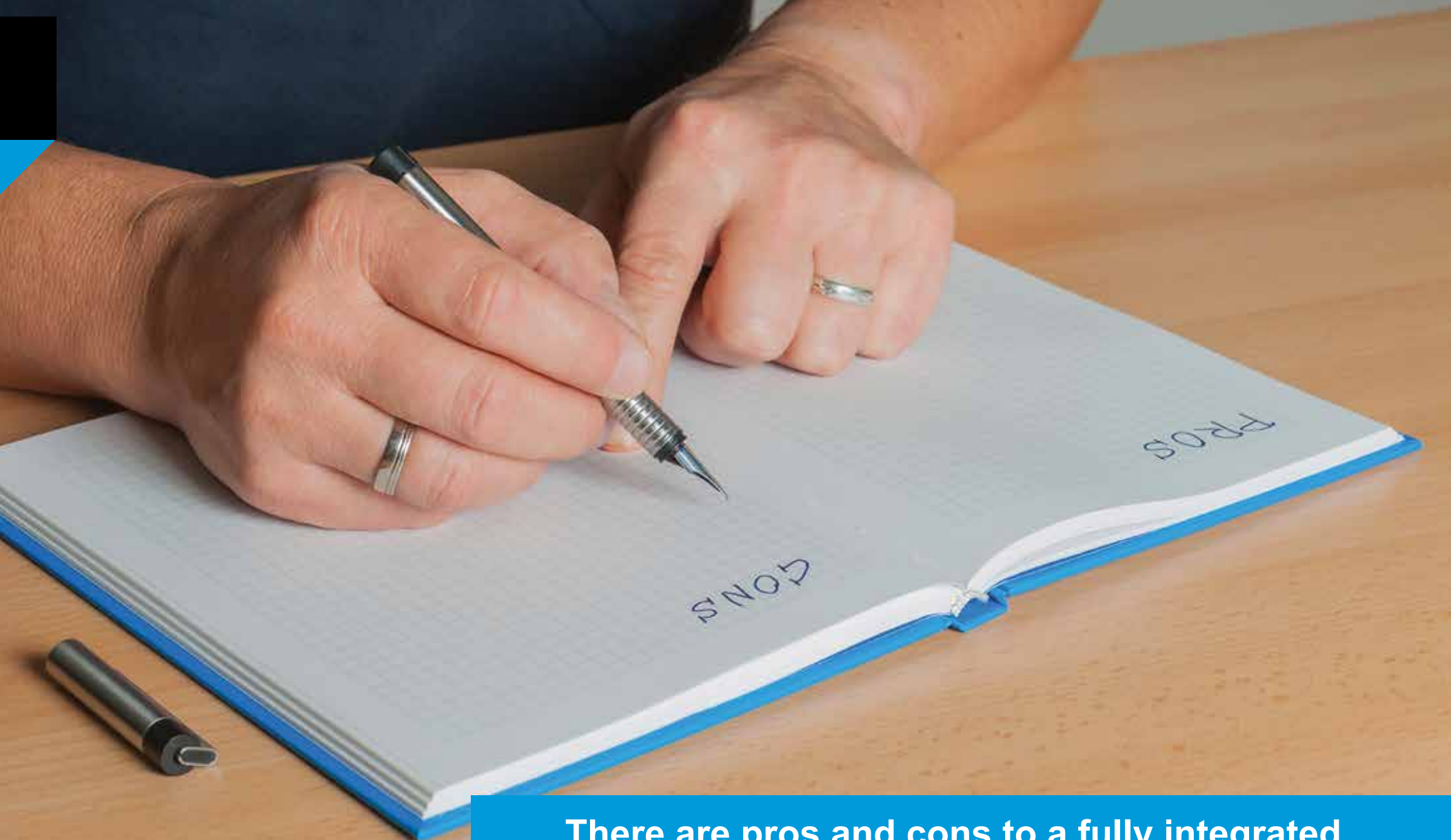- NEEDS TO BE REPLACED WITH A TIER 1 SOLUTION EVENTUALLY (DOUBLE WORK)
- REPORTING DEFICIENCIES FROM MULTIPLE DATABASE SILOS BETWEEN ERP AND OPERATIONS
- INTEGRATIONS ARE PRONE TO FAILURE
- DOES NOT ADDRESS REGULATORY CONTROLS AND EXPORT COMPLIANCE

There are pros and cons to a fully integrated
ERP solution and a bolt-on industry solution,
both initially and in the long run.

Top 15 System Challenges

Semiconductor companies struggle with a wide range of operational, financial and regulatory issues. The following 15 areas demonstrate how Armanino's High Tech Industries for Microsoft Dynamics 365 for Operations addresses these range of issues.

1 NEW PRODUCT INTRODUCTIONS

CHALLENGE
Market Visibility

Semiconductor companies must always keep innovating. The product development process is long and costly, however, companies have to get it right. They need to be able to forecast market trends and analyze ROI on an ongoing basis, and they must also be able to re-evaluate their parameters in response to market shifts.
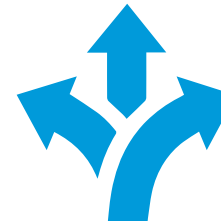
SOLUTION

Armanino's High Tech Industries for Dynamics 365 provides a more streamlined way of forecasting trends. It gives you visibility into your market and provides insights that can influence decisions from a design and engineering standpoint.

CHALLENGES ADDRESSED

OPERATIONAL   FINANCIAL

2 ROBUST SPLIT LOT, ROUTE AND END ITEM SUPPORT

CHALLENGE
Flexibility

Semiconductor companies must make frequent changes to their production process to meet shifts in demand, fill requests from customers and handle sudden capacity constraints. They need the flexibility to make fast product changes and reroute production orders on the fly.

SOLUTION

A high-tech solution provides exceptional split lot flexibility and enables you to track a single lot number and maintain lineage, no matter the number of splits, routings or changes to the lot numbering scheme. This means you can divide production orders and allocate chips to different processes, while maintaining cost and variance accounting for parent and child lots.

CHALLENGES ADDRESSED

OPERATIONAL   FINANCIAL

3 SUBCONTRACTING AND PAY POINT MANAGEMENT

CHALLENGE

Managing Sub-contracting

Subcontractors are used extensively in fabless semiconductor manufacturing, so it is important that companies manage routings, as well as "in" and "out" quantities. In addition, companies must often utilize dual sourcing of wafers and manufacturing contracts to overcome capacity limitations and meet demand.

SOLUTION

Built-in functionality in a high-tech solution enables you to define multiple "subcontract" or "service" items while maintaining routings. It also allows you to better manage in and out quantities—so if an assembly is unsatisfactory, you don't pay for it. In addition, you can leverage bill of materials allocations to designate the appropriate sourcing blend for wafer supply and route allocations, to dictate subcontracting ratios to suppliers.
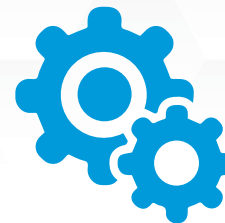
CHALLENGES ADDRESSED | **OPERATIONAL** | **FINANCIAL**

4 TRUE INVERSE BILL OF MATERIALS MANAGEMENT AND PLANNING

CHALLENGE

Manufacturing Complexity

Semiconductor manufacturing is often referred to as a "one-to-many" model and is the opposite of the "many-to-one" discrete manufacturing process, where you combine many parts to build one product. As a result, semiconductor companies need an ERP system that recognizes the wafer-to-die volume component of the manufacturing process and interprets this dual unit of measure through all supply chain activities, in terms of both cost and cycle time planning.

SOLUTION

An industry-specific solution recognizes the volume component of the semiconductor manufacturing process. It can use downstream yielding to calculate the total number of lot starts required to meet demand, and support dual units of measure on dies and wafers throughout the production and planning process. This solution also supports the additional complexity of stacked and multi-chip designs.

CHALLENGES ADDRESSED | **OPERATIONAL** | **FINANCIAL**

5 PRICING AND DISTRIBUTION COMPLEXITIES

CHALLENGE
Pricing Variation

Semiconductor companies generally sell their products through distributors, using a complicated mix of tiered pricing, rebates and discounts that may be negotiated with the distributor or with the end customer. The high degree of pricing variation makes it difficult for companies to manage discounted or bundled pricing, handle reporting and determine royalties.

SOLUTION
Using a high-tech solution, you can maintain pricing based on the end customer and manage discounts on sales orders, without "kitting." This means that all items can be picked, packed and shipped as individual parts, but then discounted later using bundled pricing. Built-in functionality also allows you to manage end customer, sold-to, ship-to, and bill-to designations for sales orders.

CHALLENGES ADDRESSED

OPERATIONAL

6 YIELD PLANNING

CHALLENGE
Hitting Production Targets

Comprehensive yield planning needs to looks beyond just raw materials. Although accurate yield planning is critical to fulfilling orders, systems often fail to factor in the relationship between resources (such as staff), machines and the expected product yields associated with the production of sub-assemblies and finished goods.
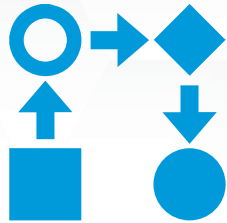
SOLUTION
A high-tech solution enables semiconductor manufacturers to more successfully hit production targets by providing suggestions, based on yield percentage, to achieve the desired outcome. Our solution also interprets the yield associated with raw materials used within the build, along with the resources and machinery necessary to meet these demands.

CHALLENGES ADDRESSED

OPERATIONAL   **FINANCIAL**

7 DESIGN-WIN ROUTING, TRACKING AND PLANNING

CHALLENGE
Managing Workflows

The design win process is long and complex, with multiple rounds of engineering changes. It's also very expensive, so companies need the process to be effective. Collaboration with the customer is critical. All activity also has to be communicated to your operations teams and integrated to your procurement, cost analysis and manufacturing processes.

SOLUTION
Using the design-win functionality within an industry-specific solution, you can institute workflows to manage the lead intake from sales, prototypes and schematics from engineering, samples sent to prospects, quotes and pricing. This solution also supports "what if" analysis in the planning engine by factoring a specific design win proposal into the forecast. This enables you to determine the capacity and financial requirements of a potential design win scenario before it occurs.

CHALLENGES ADDRESSED **OPERATIONAL**

8 SAMPLING AND EVALUATION UNITS

CHALLENGE
Controlling Sample Distribution Process

Companies need to be able to ship samples to customers and prospects, and have their accounting accurately reflect their reduced margin or loss on the goods. They also need to strictly differentiate the samples from the regular sales orders, so that they can monitor and potentially limit sampling levels.

SOLUTION
Armanino's High Tech Industries for Dynamics 365 has sample-specific order types that give you better control of the sample distribution process. This allows manufacturers to set the quantity and pricing for test samples, and ensure that physical inventory is updated and accounting segregation is maintained within the general ledger.

CHALLENGES ADDRESSED **FINANCIAL** **REGULATORY**

9 SUPPLIER PERFORMANCE MONITORING

CHALLENGE
Meaningful and Actionable Reports

There is a high degree of outsourced manufacturing in the semiconductor industry, and many companies leverage multiple suppliers in order to spread their risk. In order to maintain margins and meet deadlines, companies need to closely monitor supplier yields and manufacturing cycle times.

SOLUTION
A high-tech solution enables reporting that allows you to quickly adjust to delivery, quality and yield issues, while keeping track of how each supplier is performing. Strong reporting can help you understand yield performance on a supplier-by-supplier basis and see how individual suppliers perform based on nominal expectations.

CHALLENGES ADDRESSED   **OPERATIONAL**   **REGULATORY**

10 EXPORT COMPLIANCE AND REGULATORY CONTROLS

CHALLENGE
Compliance Controls

Semiconductor manufacturers have an increasing need to see and control where and how their products are being distributed. Companies must manage a growing list of compliance and regulatory issues, such as conflict minerals regulation, denied parties lists and trade bans.

SOLUTION
An industry solution has built-in functionality that enables you to institute compliance controls around regulated products, jurisdiction exclusion or inclusion lists, the country of origin and ever-evolving regulatory reporting requirements.

CHALLENGES ADDRESSED   **REGULATORY**

11   SUPPLY CHAIN INTEGRATION AND REAL-TIME WIP VISIBILITY

CHALLENGE

Supply Chain Integration

Companies that outsource can only plan as fast as they can get data from their suppliers on the status of their orders, the yield and so on. One of the top bottlenecks they face in the planning process is the lack of insight into their supply chain. This visibility is of paramount importance for fabless companies, but it is also critical for any company that leverages other suppliers.

SOLUTION

To address the challenges associated with varied and complex supply chains, Armanino's High Tech Industries for Dynamics 365 includes a built-in supply chain integration tool that allows supply chain partners to connect to your system and send electronic updates, regardless of what systems they use. This eliminates the need for manual monitoring and purchase order line item updates, and allows you to visit transactions and activities in real time.

You can view the status of items and yields, move them through work in progress (WIP), split lots, request lot changes, see if an expected outdate moves up or down, see when products have left one supplier and arrived at another, and even get updates from third-party logistics providers (3PLs). The supply chain integration tool can be rolled out and maintained by in-house power users, which makes integration a cost-effective option.

CHALLENGES ADDRESSED   **OPERATIONAL**   **FINANCIAL**

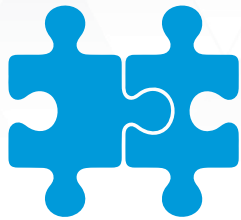"We needed a flexible, affordable ERP system that could give us visibility throughout a complex, international supply chain that involves multiple trading partners in various high-tech industries. We went with Microsoft Dynamics because it had the functionality we needed and could be implemented at half the quoted cost for Oracle or SAP."

Scott Howarth
President & Chief Executive Officer

12 MES INTEGRATION

CHALLENGE

Creating a Single System of Record

Manufacturers need to be able to take information from their manufacturing execution system (MES) and reflect that same level of detail in their ERP system. If they can't integrate the two systems, they're forced to manually input data. This is time-consuming, increases the risk of errors and can mean that they have to compromise the level of visibility they provide in ERP, from both a real-time and a reporting standpoint.

SOLUTION

Armanino's High Tech Industries for Dynamics 365 has the flexibility to enable you to integrate MES and ERP and create a single system of record. We have extensive experience with MES solutions such as Camstar and Wonderware.

CHALLENGES ADDRESSED

OPERATIONAL

13 INTEGRATION TO PLM SYSTEMS

CHALLENGE

Accurately Evaluating Errors

Because of their sophisticated engineering processes, many semiconductor companies use best-of-breed product lifecycle management (PLM) applications. They need to be able to manage bills of materials and engineering changes in PLM and then tie that information back into their ERP system, so that their engineers don't have to go into the ERP system and make manual changes. Integrating the two systems so that you have a seamless, bidirectional flow of information is critical.

SOLUTION

A high-tech solution gives you the flexibility to integrate ERP with PLM without extensive development and testing, and enables you to evaluate errors and rectify any issues. This simplifies the physical integration process and provides you with "one version of the truth."

CHALLENGES ADDRESSED

OPERATIONAL

14 COMPLEX LOT, SERIAL TRACEABILITY AND INHERITANCE

CHALLENGE
Comprehensive Traceability

Due to the critical nature of the products that utilize semiconductors, it's essential that manufacturers have the ability to track the history and genealogy of specific parts or a set of parts, through receiving, production and distribution.
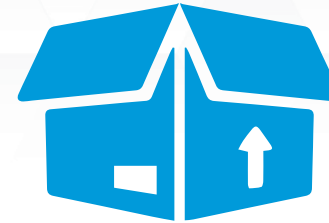
SOLUTION
With an industry-specific solution, you can achieve comprehensive traceability and assign lot and serial numbers that are inherited from the wafer stage, through assembly, to finished goods.

CHALLENGES ADDRESSED

OPERATIONAL

15 BINNING AND SUBSTITUTIONS

CHALLENGE
Inventory Visibility

Product variability is pervasive to almost every semiconductor company. Manufacturers need the framework to define, from a structural standpoint, what the bin products are and what the different grades equate to. Then they must be able to track, plan for and capitalize on these variations. Companies that dual source their materials also need to be able to track inventory for these parts and allow substitutes based on what is available.

SOLUTION
Armanino's High Tech Industries for Dynamics 365 has built-in functionality to allow you to bin different products based on dimensions or attributes. This provides complete inventory visibility and allows you to identify and utilize substitutions at the sub-assembly and wafer level during the planning process, so you can optimize your sales and marketing strategies.

CHALLENGES ADDRESSED

OPERATIONAL

Building the Business Case for a New ERP

This chapter covers three straightforward, effective ways to build your business case for instituting a best-in-class IT infrastructure. By laying this foundation, your company will be better able to manage all aspects of its day-to-day business, from sales and operations to finance.

1   LINK YOUR ERP INITIATIVE TO THE COMPANY PLAN

Armanino's annual CFO Evolution® Survey revealed that while companies' top priorities are market expansion, more efficient operations and new product launches, the average CFO spends less than 40% of her time on these priorities. All three of these major business initiatives are supported by prevailing ERP systems and optimized business processes, so link your recommendation to invest in ERP to your organization's mission and goals. This will demonstrate your grasp of, and focus on, strategic priorities.

A new ERP implementation is an opportunity for operational change and process improvement. The prospect of improved financial and operational functionality is enormously valuable to any organization preparing for an IPO or merger/

acquisition, poised for rapid growth or geographic expansion, or looking to save money through greater efficiencies. That said, in order to secure the investment necessary for this major undertaking, expect your CEO and board of directors to hold the new ERP implementation project leadership accountable for its realization.

Anticipate that bonus compensation for the key project leaders will be tied to the bottom line impact the new ERP initiative has on the entire organization. In turn, align finance and operational staff compensation and incentives around the successful implementation and adoption of the new ERP solution in support of your company's priorities.

2 INCLUDE IMPROVED INTERNAL CONTROLS IN YOUR SCOPE

Semiconductor manufacturers must manage a growing list of regulatory compliance issues, such as conflict minerals regulation, denied parties lists and trade bans. Therefore, you have an increasing need to see and control where and how your products are being distributed. An industry solution with built-in functionality that enables your organization to institute compliance controls around regulated products, jurisdiction exclusion or inclusion lists, the country of origin and ever-evolving regulatory reporting requirements is essential to the continued success of your business.

Perhaps most important to public companies or those preparing for IPO, a modern ERP system's automated controls (e.g. segregation of duties in the system,
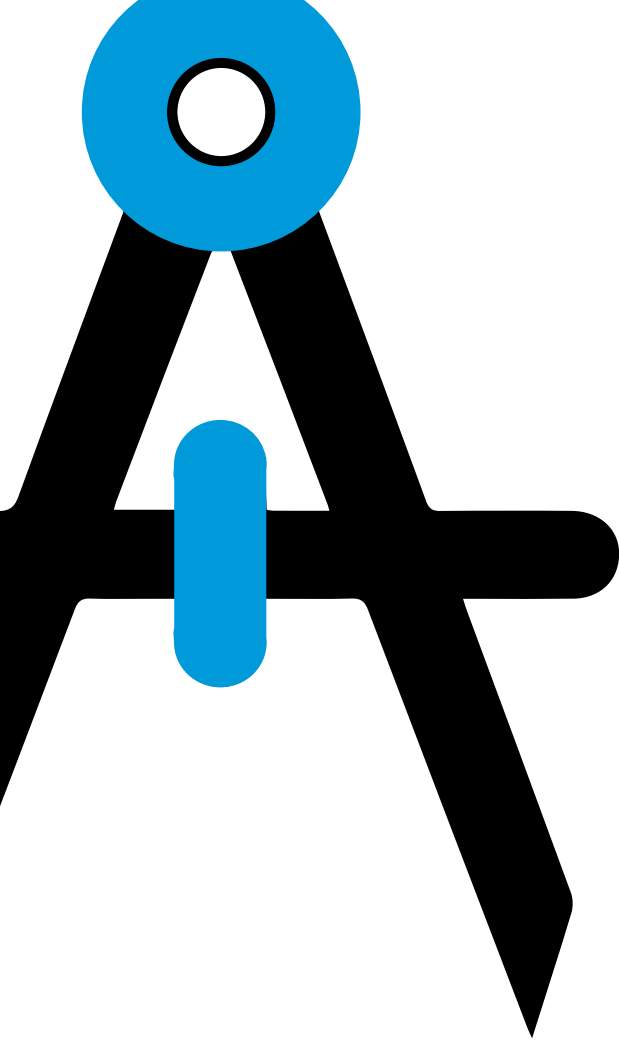
standardized processes and workflows) provide management and investors an increased level of confidence and assurance around the reliability of their financial reporting.

Adding an integration component will also be invaluable to achieving a centralized system. Ensure your team realizes that by integrating ERP with CRM, your sales team can create quotes that are then pushed into ERP for fulfillment—reducing errors and creating an end-to-end system.

"The Microsoft Dynamics product line is an increasingly attractive option for organizations looking to augment their legacy ERP systems with capable enterprise applications that are easy to deploy and integrate."

Warren Wilson
Ovum Lead Analyst

OVUM

3 ESTABLISH WELL-DEFINED, MEASURABLE OBJECTIVES

To set a clear expectation of what a successful ERP implementation will look like, define SMART (specific, measurable, achievable, realistic, time-related) objectives for each of the key solution elements. By providing the desired and needed accountability to the CEO and board, you've created a shared vision for the project team to work toward.

At Armanino, we begin our ERP implementations with a mutual understanding of our clients' critical business objectives. In order for the ERP project objectives to support the strategic plan of the business, they have to be defined at a level of detail that is actionable. Here are some examples of project objectives that are too vague and others that are quantitative.

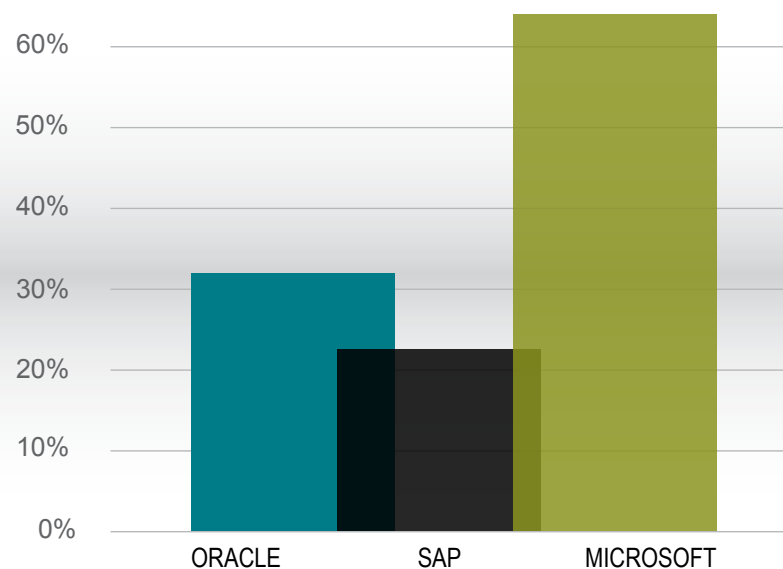| Vague Project Objectives	Actionable, Measurable Project Objectives
Improve Productivity	Automate processes prone to human errors, eliminate redundant steps, refine roles, and realign resources to perform higher value work.
Retire Old Software Systems	Consolidate 10 software applications, establish a Business Intelligence strategy, and integrate applications to the Cloud.
Meet Reporting Requirements	Produce reliable financial statements consistent with GAAP that are suitable and available for the organization and appropriate for the reporting period.

The key business objectives for your project will always be specific to your circumstances but usually fall into some common categories.

New skill development is one common example of people-related project objectives. Also keep in mind that a new ERP system implementation provides the opportunity for organizational culture change. It forces a cross-functional redefinition of core business processes and brings finance and operations teams out of their silos to develop joint approaches. As the project leader, you have the opportunity to hand pick team members to participate in the ERP implementation. They will become your change agents and champions for collaboration throughout the entire organization.
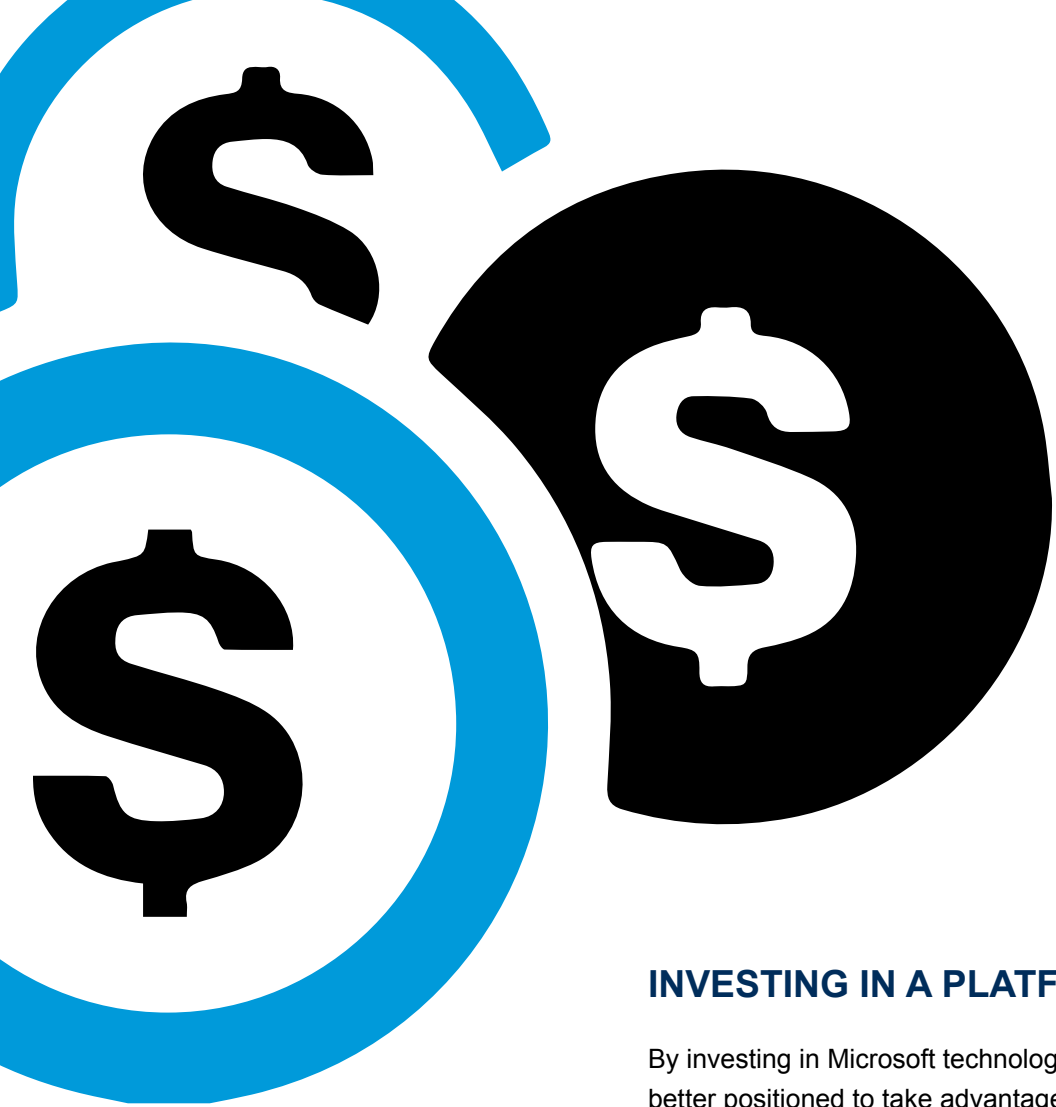
Using technology to automate new and improved "best practice" business processes is another category of relevant ERP initiative objectives. When proposing a new ERP system, it's easy to point to modern software and say that it will make your organization more efficient and productive. You might also suggest that a new ERP software solution will provide the data to help executives speed their decision making and take advantage of market opportunities. There are any number of studies to back you up. For instance, Forrester Research, Inc. completed a detailed analysis of the costs and benefits of implementing Dynamics 365 for a composite organization. The three-year risk-adjusted ROI was 92% over a payback period of 21 months. Furthermore, a recent Ovum Research study revealed Microsoft as the preferred ERP vendor for enterprise organizations.

Governance objectives are your internal controls objectives (as described above). These include ERP-related, implementation and operations, best practice and regulatory compliance, financial, operations and IT controls. Objectives specific to the ERP implementation project itself (like on time, on budget, high quality as expected) fall under the IT project objectives sub-category.

MICROSOFT PREFERRED VENDOR FOR NEXT INVESTMENT IN ERP FOR GLOBAL ENTERPRISE ORGANIZATIONS (>$1B)

Excerpt from Ovum Research: ICT Enterprise Insights study of 6700 companies across geo & segment

INVESTING IN A PLATFORM

By investing in Microsoft technology, companies are better positioned to take advantage of a wide array of business applications that work alongside each other to build unparalleled value for manufacturers.

Because Microsoft uses the same framework for core applications, IT can eliminate the need for specialized skillsets often required to support a wide variety of disparate technologies. This also enables easier user acceptance throughout different Windows applications by centralizing authentication and security across the network, using single sign on and user profiles for BI, ERP, CRM, SharePoint, Office and more.

Benefits can also be realized at the user level. With a familiar look and feel throughout applications, you can reduce training time and increase adoption rates while providing a seamless user experience.

IT investments, particularly large-scale ones like ERP implementations, are often regarded as risky at best. A new ERP solution will have a long-lasting impact on the culture, productivity and profitability of your organization.
By taking the three steps outlined in this chapter, you are making the commitment to your CEO, your board of directors, and—perhaps most importantly—your entire finance and operations team that you will work hard to achieve the clear bottom-line objectives for your ERP project's success.

"Microsemi has chosen to align with Microsoft partners that are strong in our vertical space, like Armanino. These partners are working with us and almost ahead of us in developing solutions for our industry."

Jason Thorpe
Director of Enterprise Applications & Development

Microsemi

ABOUT ARMANINO^{LLP}

Armanino is a Gold Certified Microsoft Dynamics 365 ERP and CRM Partner with a reputation for developing innovative solutions for semiconductor and fabless semiconductor manufacturers. Let us bring industry knowledge, Dynamics 365 expertise and business strategy to your next project. At Armanino, we deliver the tools you need to focus on your customers and grow.

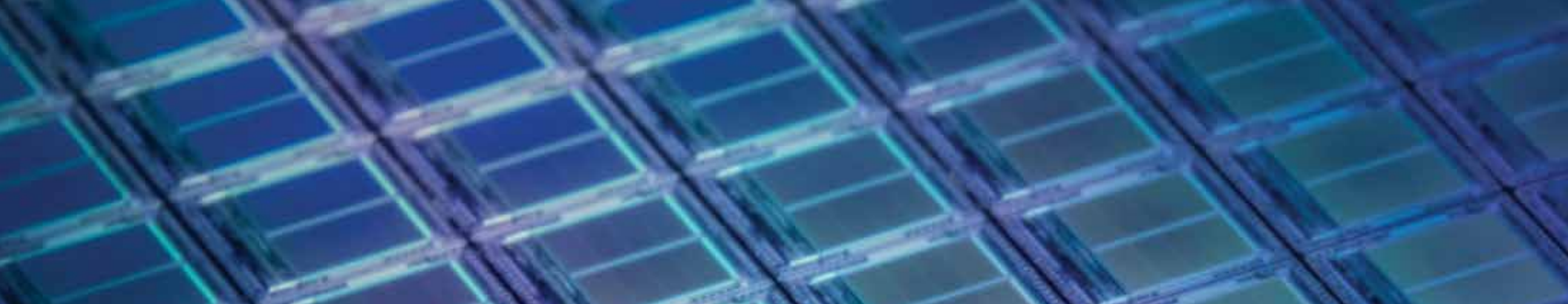For further information contact:

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"We successfully transitioned the business from simple processes using legacy tools to a much more complex business using an enterprise ERP."

-Chris Stewart, VP of Finance, Entropic