



WHITE PAPER

Emerging go-to-market models are critical to high-tech start-up success

Modern IT capabilities help high-tech start-ups—and established manufacturers—meet demand and seize market positions.

Growing customer demand for products that leverage high-tech elements is leading to a booming start-up environment. And while the appetite for nearly all things digital started well before the COVID-19 pandemic, the response to the pandemic accelerated demand even further. These new opportunities, however, are part of a rapid change and uncertainty that's crashing through long-standing industry paradigms. **The manufacturing industry is being reinvented** in nearly every segment—from automotive and material handling equipment, to consumer packaged goods, to furniture and fixtures.¹ Adding a digital element to products is part of manufacturers' desire to align with customers, provide a powerful user experience, and differentiate themselves from global competitors.

Many new entrants in high tech and electronics are capitalizing on the urgent capacity constraints for electronics components by focusing on advanced material engineering and organic components design. A wide variety of consumer, commercial, business, and industrial products are now equipped with digital screens, sensors, Bluetooth capabilities, and voice activation. These products might use recycled materials and be powered by rechargeable batteries or solar technology.

To better understand options and formulate new strategies, manufacturers can turn to technology to help them quickly adapt to this new business model. Start-ups—as well as established manufacturers—need to take a closer look at emerging go-to-market models and corresponding IT capabilities that will help them capitalize on opportunities to turn manufactured goods, machinery, and equipment into high-tech products by integrating additional sensors and analytics capabilities.

The new normal is made for start-ups

A broad range of manufacturing opportunities are emerging for agile companies as change becomes the new norm in the global economy. [StartUs Insights](#), a platform that provides industry research on nearly 8,000 manufacturing start-ups and scale-ups, states: “Although the COVID-19 pandemic made progress in manufacturing economies sluggish, the establishment of a new normal boosted the demand for finished products around the world. The current situation makes manufacturing companies invest time and money into technological innovations that reduce resource wastage and machine downtime. Startups and scaleups tackle these challenges predominantly through solutions that implement industrial automation and AI-based decision-making systems.”²

A large portion of start-ups are focusing on the high-tech market, and increasingly have the funds to move forward. According to [PitchBook](#) (a platform that tracks private financing), US start-ups raised \$342 billion in 2021, more than double the amount raised in 2020.³ [PitchBook](#) also reveals that more tech start-ups exceeded a valuation of \$1 billion in 2021 than the past five years combined.⁴

While funding may be flush, start-ups focusing on high-tech components face a steep road ahead as they compete with long-standing suppliers and must prove their reliability and ability to scale.

“ The supply chain is on the verge of a revolution, with businesses placing less emphasis on cutting costs and more on building the capacity and resilience to weather disruption. This will likely mean companies bringing their operations closer to home. In a Bank of America study, 75% of companies said they were reshoring operations to their home bases or neighboring countries.”⁵

[Forbes](#)

The impact of high-tech start-ups on the manufacturing industry

While most high-tech start-ups are digital, concentrating on Internet and platform technologies, the impact on the broader manufacturing industry is multi-faceted.

- **Disrupted supply chain**—The manufacturing industry is in an unprecedented state of flux, largely driven by supply chain bottlenecks, tariffs, microchip shortages, and inflation-driven prices. The pandemic has played a major role in the supply chain chaos. As manufacturers wait for necessary components and the coveted microchips, the inventory shortage is costing the high-tech industry billions of dollars. New alliances and new facilities are emerging to bolster chip availability, and start-ups are finding these supply chain gaps (especially around chip manufacturing) as an open niche just waiting for newcomers to bring new capabilities.
- **Green initiatives**—While answering consumer demand for green products, manufacturers are simultaneously shifting to sustainable materials and green energy sources to reduce the carbon footprint of their plants and distribution centers. This is bringing new suppliers into the mix, often pushing long-standing suppliers aside if they aren't staying relevant. High-tech start-ups are introducing new tools to track energy use, conserve energy, and recycle waste/used goods. While manufacturers may have limited resources to invest in their own facilities and assets, tools that save money or extend the life cycle of assets have a strong appeal.
- **Worker shortage**—Manufacturers have long been battling a shortage of skilled workers as baby boomers reach retirement age on a massive scale. In the aftermath of the pandemic, manufacturing companies are looking to maintain productivity with reduced manpower. Hence, start-ups and scale-ups are bringing tools to market to help fewer workers perform the tasks of many. These solutions, like robotics and co-bots, are often supplied by start-ups that make, install, and service these high-tech machines and equipment.
- **Subscription and shared models**—Rather than a traditional purchase-based approach, many products are adopting a subscription-based or shared model—from ride sharing in the consumer market to manufacturing plants leasing robotics, drones, and 3D printing equipment. Facilities are also equipping elements, such as overhead doors, lighting, and temperature controls, with sensors and remote connectivity to help reduce energy usage.

The right setup for start-ups: the intelligent connected enterprise

Start-ups and scale-ups are playing an important role in filling some gaps in the current high-tech value chain. They're bringing new capabilities, innovative materials, and fresh thinking. The "greenfield" approach also leverages the potential to deploy modern technologies for smart manufacturing from the onset. Smart technologies allow smaller manufacturing sites to be situated closer to the customers. However, they also bring risks—start-ups may be eager to jump into the high-tech space, but often lack the depth of experience and capabilities needed to be reliable partners.

How can producers make fundamental business decisions as to how to relocate manufacturing sites? The most important ingredient needed is good intelligence. While manufacturing organizations leverage plenty of data across the operation, the data must be linked together, consistent, and used to enable insightful business decisions.

Creating a resilient smart factory

High-tech start-ups planning for and creating a smart factory that can meet the challenges of today and tomorrow should consider these important strategic ingredients:

- **Enable increased individualization**—Customers are increasingly demanding highly personalized products, as well as an enhanced customer experience. By adopting highly agile, cloud-based solutions, manufacturing companies gain the ability to meet their individual needs and requirements for flexibility.
- **Drive agility and efficiency with modern technology**—Like all manufacturers, those in the high-tech industry are striving to boost agility and efficiency to help control costs, combat inflation, and maintain (or improve) margins. Technology provides critical tools for streamlining processes and making well-informed decisions to help conserve resources. Start-ups are boosting agility by offering manufacturers tools to improve operational efficiency—ranging from smart sensors and immersive technology gadgets to wearables that help support the workforce to remote-operated devices that eliminate the need for physical presence. The imperative to reduce the distance to the consumer is prompting organizations to redesign the manufacturing footprint, and with the support of leading-edge technologies, build smaller smart factories closer to the customer.

“**The unchecked set up of manufacturing units and the wasteful use of resources in the growing phase of each industrial revolution has done irreversible damage to the planet. Thus, the fourth industrial revolution (Industry 4.0) of smart technologies does not have a free pass to utilize resources. This is why manufacturing companies are shifting to sustainable materials, energy, and processes to reduce their impact on the environment. Due to this, green technologies are important among the manufacturing trends.**”⁶

StartUs Insights

- **Ensure visibility across the entire business landscape**—Providing green products or innovative customer experiences is not enough to earn a spot on an approved vendor list for most manufacturers. Start-ups must quickly prove they can deliver the goods—at the quantity needed, on time, and as-ordered. While tech companies and suppliers build relationships, some glitches and stock-outs are likely to occur. The most effective way to contain the risks is through supply chain tools that provide complete visibility into upstream and downstream issues. Advanced planning capabilities also help manufacturers make alternative back-up plans if needed.
- **Focus on business risk**—A connected view and streamlined processes across the order system, shop floor operations, and the supply chain help to anticipate change early and allow organizations to quickly adapt. All new ventures and partnerships require careful monitoring, sound contingency planning, and an abundance of legal advice. Prudence should not be sacrificed for speed.
- **Create visibility**—A global view and command structure enables quick reaction to supply chain challenges. A connected supply chain operating with a single view of orders, shipments, inventory, and shared digital processes, provides the visibility needed to improve velocity and the agility to respond to disruptions in a timely and efficient manner.

Choosing the right technology from the start is vital to remain scalable and flexible

Cloud solutions offer several benefits for start-ups. Start-ups need software to run their enterprise, even if the business centers around one product, made in one garage, with only two people on payroll.

Start-ups also need software that can be launched quickly, is agile, and will scale for growth. Enterprise resource planning (ERP) solutions deployed in the cloud meet those requirements, and offer numerous benefits to start-ups.

- **Standardization**—Identically setting up, distributing, and operating business applications globally allows consistent structure and measures processes in the same way, independent of geographies. This helps reduce the need for expensive reconfigurations and time-consuming version updates and improves uptime and guarantees.
- **Speed**—Solutions can be operational in days, not months. Start-ups that choose a solution with built-in, last-mile functionality won't need to bother with costly and cumbersome modifications. Often, the solution can be up and running right out of the box, or with just minor personalizations made through extensibility.
- **Flexibility**—Cloud solutions are highly flexible, letting the user expand or contract storage capacity as needed to adjust to changing operational needs.
- **Agility**—Cloud solutions support agility, enabling an organization to stand up new branches and business units in other locations (even other countries) to accommodate growth or changing business models.
- **Scale**—Choosing a solution that will expand as the business grows is important. This includes the ability to add users, expand the product line, and integrate modules/capabilities for functions (such as warehouse management, after-market service, supply chain planning, and shop floor management). A solution that supports integration of third-party solutions will also help adjust to future needs.
- **Automation**—Young companies tend to be lean, with minimal head count to keep costs in line with early revenue stages. That doesn't mean there are fewer tasks to be done or details are less important. Lean companies need to rely on technology to automate processes, reducing the amount of time needed for basics tasks. When the fundamentals are managed automatically, business users can focus on more meaningful tasks like innovation and customer relationships.

Three tips to plan for fast-changing demands

1. **Build scalability**—Start-ups may not be accustomed to the rigor, scale, and strict demands of many manufacturing companies, including volatility of demand. Some can accommodate niche needs but struggle to scale for a global market. Compliance and reliability are nonnegotiables, and there are seldom second chances for the start-up that *almost* meets expectations or *comes close* to quality control and design specifications.
2. **Understand risk**—Although high-tech start-ups may be eager to gain a foothold in the market ecosystem, some caution is advisable. Consumer trust and brand equity are at stake, and are easily damaged by consumer disappointment or the need for recalls. Social media backlash over unreliable parts or service can be fatal to a young company still seeking venture backing.
3. **Be realistic**—High-tech players must be realistic and acknowledge that a large portion of start-ups won't have the staying power needed to become a long-term partner. An established company that awards a contract to a start-up supplier with a unique product and sound business plan may help the new company get off and running. But there are no guarantees in a highly competitive market. An exclusive, single-supplier arrangement can backfire, leaving the manufacturer with gaps in inventory if the new supplier folds unexpectedly. Additionally, without some incentive for loyalty, a start-up could offer its invention or intellectual property to the highest bidder, leaving behind the manufacturer that funded its early-stage development.

- **Accountability and compliance**—For start-ups, it's easy to be caught up in the excitement of innovation and pursuing new markets, while losing sight of essentials like reporting and compliance with regulations. By setting up relevant mandates in the system once, the company can rely on technology to help adhere to sound accounting, forecasting, and compliance policies. Technology can act as the vigilant watchdog.
- **Anticipating growth and trends**—Start-ups tend to be born optimistic and want to focus on the opportunities. Data helps keep the decision-makers grounded in facts and realistic projections, not hunches. Solutions with built-in artificial intelligence (AI) and machine learning (ML) will help the company make well-informed decisions. Such tools help business users create reports and analyze data to make realistic projections.

Technology can help established companies withstand pressure from start-ups

Established companies may be feeling pressure from the huge influx of start-ups jostling for a part of the emerging high-tech opportunities. But new ideas aren't reserved for new companies; with improved agility, modern manufacturing companies can better align with evolving consumer demands and emerging products.

To avoid threats to their market share, manufacturers and suppliers need to stay aligned with trends, adopt modern processes, and turn to technology to help introduce new products and support innovation. Technology, such as cloud-deployed ERP solutions, helps organizations quickly adapt to change, including starting new branches or divisions to focus on high-tech and other initiatives.

Cloud solutions help established companies modernize and compete

As high-tech start-ups try to surpass established companies in multiple fields, cloud solutions can enhance the modernization and growth needed to compete.

- **Product lifecycle management (PLM)**—Innovations and new product introductions are critical for growth today. A PLM solution, tailored for discrete applications, will help plan and track the key milestones in the design, prototyping, testing, and roll out of new products or features.
- **Collaboration**—Some modern ERP solutions contain built-in tools to safely support collaboration among internal stakeholders, as well as third-party partners and suppliers. Many solutions support real-time conversations, enabling decisions to be documented. Decision trees and CAD drawings also can be stored and linked to the appropriate products for easy lookup and downstream sharing with engineering, tooling, shop floor planning, and sales.
- **Near-shoring and friend-shoring**—Advanced supply chain solutions, deployed in the cloud, support supply chain planning—helping to create reliable relationships with suppliers close to home or in ally nations. Visibility into the capacity of new suppliers will likely play an important role in supply chain planning for established companies entering the high-tech market.
- **Predictive analytics**—Solutions with advanced analytics, driven by AI and ML, will help an organization stay aligned with customers—even as expectations and preferences rapidly evolve. Easy-to-use reporting also helps managers delve into operational outcomes so they can fine-tune production and quality control. Machine integration and AI capabilities use easy integration tooling (such as REST APIs) to connect to manufacturing execution systems solutions or get data directly from machines.
- **Reliable data**—When executive leadership needs to make major decisions about mergers, acquisitions, investing in new plants, or forging new supplier partnerships, the leaders need access to data and forecasts they can trust. With outdated systems, leaders often complain about data plagued with discrepancies and uncertainty. As large organizations target high-tech opportunities, they need reliable reporting on cash flow and available capital.
- **Manage existing assets**—High-tech companies and suppliers responding to consumer demand for sustainability need to look beyond the products they make and to their own processes and carbon footprints. Enterprise asset management solutions, Internet of Things sensors, resource planning, and quality control solutions can all help control waste and optimize use of resources, including labor. End-to-end solutions help leaders formulate a holistic approach to sustainability.

- **Inventory planning**—Entering new high-tech markets while maintaining sales can mean diversifying inventory of raw resources, parts, and components. This can stress cash flow—and challenge physical space capacity as well. Careful planning will be necessary to monitor investment in inventory—especially for parts with rapidly evolving technology. Elements may become obsolete quickly, further taxing resources. Advanced planning solutions help turn this complexity into manageable tactics.

The right technology helps drive agility and scalability

The high-tech industry is experiencing dramatic growth in the number of start-ups looking to take advantage of booming consumer-driven opportunities. While this brings new ideas, materials, and innovation to the industry, it also perpetuates disruption and instability. Start-ups often lack the financial backing to scale as needed and may not have the mature infrastructure required to be a reliable partner.

Mature organizations may also feel pressured to compete on price and speed, rushing to market with products and materials not fully tested.

Both new entrants and mature players in the market need to retain agility and scalability. All of them can benefit from the major paradigm shift in the IT industry, moving towards modern, cloud-based technology.

By choosing a cloud-based solution with built-in industry functionality, new-comers and veterans alike will have the tools they need to make well-informed decisions and carefully plan for new product introductions, new suppliers, and new compliance mandates. While the window of opportunity may seem small, being too hasty can backfire. Technology helps control the planning, pace of execution, and risk. The well-plotted journey will lead to maximum gains for the good of the companies, investors, customers, and even the planet.

¹ "Top 10 Manufacturing Trends & Innovations for 2022," StartUs Insights.

² StartUs Insights.

³ PitchBook and NVCA, *Venture Monitor: Q1 2022*, April 13, 2022, p. 5.

⁴ Priyamvada Mathur, "The meteoric rise of US unicorns in 2021," PitchBook, January 6, 2022.

⁵ Kjartan Rist, "2022 Startup Predictions: The Trends, Sectors, And Tech Worth Watching," Forbes, Jan 5, 2022.

⁶ StartUs Insights.

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