Technology Vision 2023 for High Tech

When Atoms meet Bits

The foundations of
our new reality

Voices of **Change**

From insights to action, the path to extraordinary value starts here.

accenture

The high tech end-2-end journey

The crucial role in a tech-driven world

High tech companies are providing new products, semiconductors, medical equipment and connectivity to improve customers experience.

They address both enterprise and consumer markets and use customer journey insights, stakeholder relationships and customer success management to grow.

The access to diverse technical and non-technical data delivers valuable insights that drive sales and enhance customer loyalty.

The journey begins with a semiconductor designed to meet the latest consumer trends and demands. Then, enterprise technology, consumer technology, medical and network equipment companies integrate it with other main components, like memory, RAM, motherboard, before selling the finished products through channel partners or directly to customers.
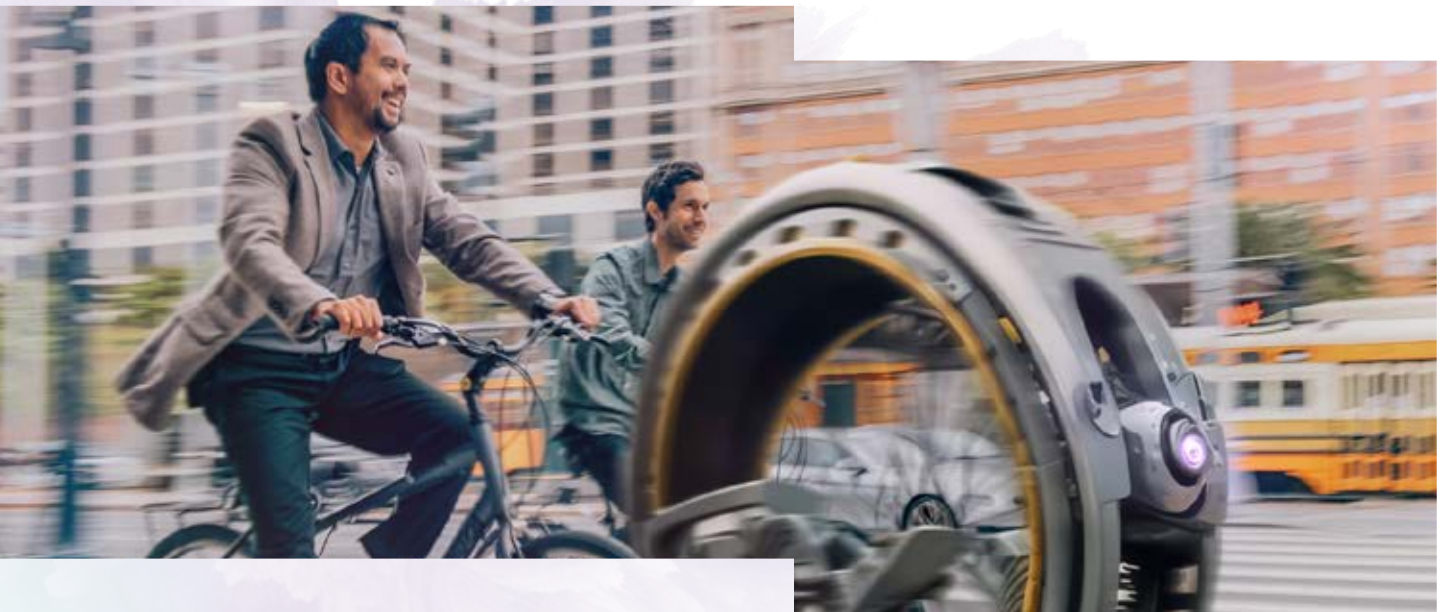
Overcoming the challenges to business growth

Supply chain, data exchange and agility

There are several issues that inhibit rapid top- and bottom- line growth. Upfront investment based on the current market insights may be outdated by product launch.

A complex value chain, complex buying patterns and limited insights into end consumers make it difficult for high tech companies to drive end-2-end synergies or effectively collaborate with other companies.

Poor data exchange, including unstructured data within CRM systems, can mean suboptimal customer experiences. Sales and marketing campaigns may not be possible and the supply chain may be inflexible.

The complexity of the value chain limits the ability to provide timely insights and the agility to support new business models.

These issues and poor data quality prevent high tech companies from embracing a data-driven mindset.

Nowadays, it is imperative for organizations to use marketing promotions that rely on their inventory levels, allowing customers to make direct purchases. Though many businesses have stronger supply chains after the pandemic, some still cannot guarantee a specific delivery date.

The process from pre-sales to customer support is usually very interactive, partly due to the complex customer journey, making it difficult to proactively understand and predict customer needs.

... it is imperative for organizations to use marketing promotions that rely on their inventory levels...

Revolutionizing the high Tech industry:

Incorporating cutting-edge technologies and focusing on customer needs

High tech companies are not lagging behind when it comes to using technology. They need to focus on the value chain and customer needs to achieve the best results. Many of them already automated tedious tasks, freeing up their employees to focus on more crucial responsibilities.

Recent advances in Large Language Models (LLMs) and Generative Adversarial Networks (GANs) have revolutionized the way unstructured data is analyzed. ChatGPT is an incredibly successful tool for understanding questions and generating responses in natural language.

Investing in these cutting-edge technologies can significantly benefit businesses across all operations, from sales and marketing to human resources.

Employee and customer experiences are critical to the high tech industry, especially in areas such as finance, sales & marketing, manufacturing, and customer support.

Organizations must:

- Foster cooperation among different departments
- Tackle product design and supply chain challenges
- Foster better data-driven decisions
- Shift toward as-a-service models and improve processes
- Deliver scalable 5G IoT solutions
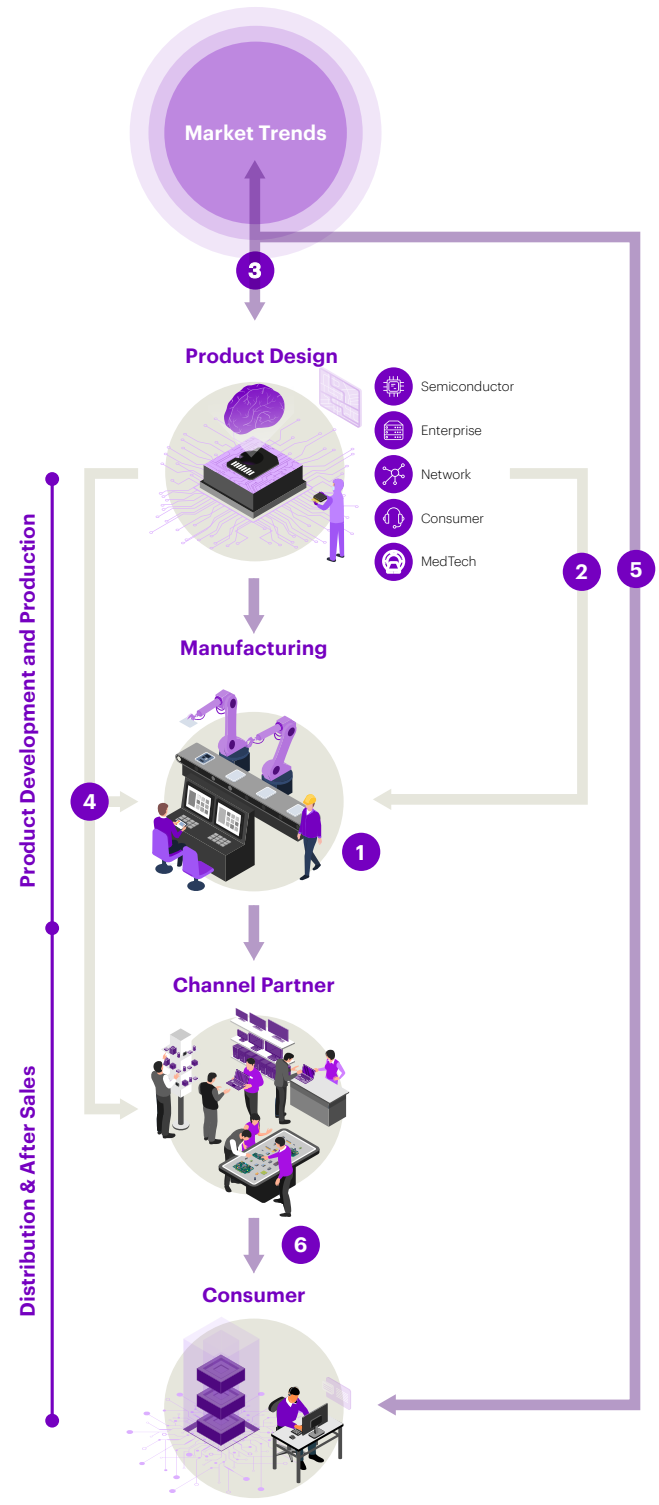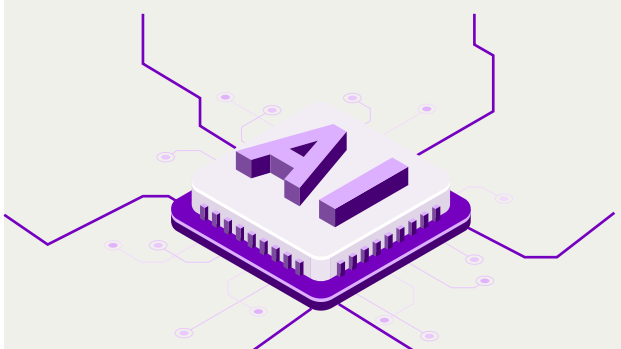- Improve manufacturing productivity

Leveraging Generative AI:

Enhance business operations and customer experience

We have identified six key areas of opportunity to improve the High Tech value chain.

1 **Enhancing OEE from initial production through Visual Inspection**
- Rapid prototyping and product design for new market segments
- Visual Inspection using synthetic data to improve delivered quality

2 **Improving supply chain resiliency through Material Risk Management**
- Infuse LLMs for due diligence and end-2-end contract management
- Improve visibility and accurate recommendations on sourcing pathway

3 **Utilizing scenario modeling to enhance financial resilience**
- Generate real-time what-if scenarios with cross-organizational collaboration
- Identify variances and reduce time to generate reports and narratives

4 **Implementing personalized recommendations to boost low-touch sales**
- Cross-sell and upsell with complex solution recommendations with virtual assistants
- Persona-based marketing material generated from existing documentation

5 **Deliver deep insights to customer support, success and downstream organizations**
- Improve CLV by guiding Customer success managers on client discussions
- Deliver insights and guidance to SMB partners with impactful narratives

6 **Providing field technicians with methods to expedite onboarding and reduce errors**
- Context based information for tech to complete work fast and accurate
- Create self-service portals with GenAI assisted knowledge management

Market Trends

Product Design
- Semiconductor
- Enterprise
- Network
- Consumer
- MedTech

Manufacturing

Channel Partner

Consumer

Product Development and Production

Distribution & After Sales

1. Enhancing OEE from initial production through visual inspection using Generative AI

AI-driven visual inspection has given a major boost to the quality of the products shipped from the factory in the semiconductor and electronics manufacturing segments.

Generative AI takes data from the history of similar products to create low-frequency images and enriches the dataset for visual inspection models.

It can also give feedback highlighting areas of concern, potential defects and probable side effects due to later assembly.

The benefits are more efficient defect detection and classification, reduced defect redressal process and faster feedback to factory for process improvement.

Better quality also means fewer returns months later, improving resource utilization and customer experience.

2. Improving supply chain resiliency through material risk management

Supply chain processes are complex due to challenges such as difficulty in identifying material risks, difficult sourcing pathways that require extensive research and analysis or time-consuming alerts and emails to suppliers that can lead to costly delays.

Optimizing workflows remains challenging for many organizations, hindering their competitiveness in the marketplace.

Generative AI can help by generating the Expected Time of Arrival (ETA) for parts that are not available and sending personalized alerts and emails to optimize workflow efficiency.

Generative AI can also help identify material risks by analyzing large amounts of data and providing insights to supply chain managers.

It can also streamline sourcing pathways by suggesting the most efficient routes and suppliers based on various criteria, such as cost and quality and enable users to query using their native language.

The solution can reduce costly delays and increase prediction accuracy. The increased visibility results in faster decisions and a comprehensive view of the sourcing landscape to minimize resource constraints and optimize business process workflows.

3. Utilizing scenario modeling to enhance financial resilience

Scenario modeling exercises are key to understanding financial risks and opportunities.

The current process is manual, subjective and time-consuming, resulting in sub-optimal decisions which waste time and money.

Generative AI can simulate all possible scenarios and provide quantified results with descriptive insights.

CFOs and finance analysts can ask for different strategies and receive instant feedback, leading to the best decisions for the business.

... Use Gen AI to simulate all possible scenarios and make better business decisions...

4. Implementing personalized recommendations to boost low-touch sales

Buying, especially in B2B models, is often a complicated process that includes several sources, such as CRM, sales order data and past purchases.

Marketing creates communication for a broad range of users. Buyers may spend excessive time searching on a company's e-commerce website, only to give up due to the process complexity.

Sales engineers require time to bundle products and poor pricing can cause delays in purchasing.

Generative AI can create personalized content and messaging to provide real-time and contextual product advice, like providing reasons for current pricing based on the customer's contractual agreements.

It can also enable post-sale self-service options, providing a better customer experience, a higher conversion rate and reduces post-sale live customer support requests. This allows companies to shift to a customer success model.

5. Deliver deep insights to customer support, success and downstream organizations

Customers contact a company for many reasons: to learn more about their products, to check the status of their orders or to report an issue. It can be frustrating when it takes a long time to connect with the right person or their answers are not as helpful as expected.

Generative AI can quickly analyze customer sentiment and provide accurate responses to queries by using Large Language Models (LLM) and connecting them to existing systems.

When the situation requires more personal attention, they can switch to a live customer service agent to provide real-time guidance and support.

The solution helps handle problems more efficiently and reduces average call times.

It could also proactively identify and address issues - such as system problems or order status - before escalation, helping improve the overall customer experience and building stronger relationships.

6. Providing field technicians with methods to expedite onboarding and reduce errors

Dealing with customer service can be a long, drawn-out process. It involves ticket creation, troubleshooting, multiple visits and customer sign off - all of which can take time and leave customers feeling unsatisfied

Generative AI can automatically identify potential problems in customer devices through real-time IoT sensor data analysis and create service ticket requests.

It can also search for similar historical issues and provide step-by-step instructions for self-service troubleshooting and resolving issues in their ow language.

Generative AI can automatically generate a work order for high-complexity issues and suggest compatible spare parts, as well as provide instructions through augmented reality and create tests to ensure successful integration with the client infrastructure.

This means improved customer satisfaction, faster response times, fewer visits and a reduction in the average time to resolution.

Plus, it boosts field technician productivity and decreases travel costs and time spent procuring parts. It also increases service level compliance and reduces human intervention.

Conclusion & next steps

Using Generative AI and Large Language Models presents a wide range of benefits for the high tech industry.

These cutting-edge technologies have the potential to unlock new possibilities and enhance existing ones.

Their intelligent nature enables the seamless integration of subsequent use cases once the initial setup is complete.

By leveraging these powerful tools, companies can achieve greater efficiency and productivity while staying ahead of the competition.

Accenture provides various ways to start the journey with Generative AI.

With pre-defined accelerators and a strategy-driven approach, we can assist in:

- Identifying the NorthStar and prioritizing use cases.
- Quickly building a Proof of Concept (PoC) based on your data and validating its applicability to your company through an A/B time-and-effort test.
- Scaling the solution to pilot and eventually implement it across the entire stakeholder base.

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We are a talent and innovation led company with 738,000 people serving clients in more than 120 countries. Technology is at the core of change today, and we are one of the world's leaders in helping drive that change, with strong ecosystem relationshaips. We combine our strength in technology with unmatched industry experience, functional expertise and global delivery capability.

We are uniquely able to deliver tangible outcomes because of our broad range of services, solutions and assets across Strategy & Consulting, Technology, Operations, Industry X and Accenture Song. These capabilities, together with our culture of shared success and commitment to creating 360° value, enable us to help our clients succeed and build trusted, lasting relationships. We measure our success by the 360° value we create for our clients, each other, our shareholders, partners and communities.
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