

Climate Tech, Global, 2025

Top 10 Strategic Imperatives Driving the Transformation



TRANSFORMATIONAL GROWTH JOURNEY

Workshop Discussion Guide
Powered by the Transformation
Growth Engine

Our Focus Today

STRATEGIC IMPERATIVE

Why Now? Why This? Why
You?

OUR SOLUTION

The Top Growth Opportunities
Impacting Future Potential

BENEFITS & IMPACTS

Survive & Thrive:
Transformation

Next Step

Growth Workshop

How is your organization maximizing its future growth potential?

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Frost & Sullivan Analytics Methodology

Analytics Conceptualization	<p>We apply the SI 8 Framework, a strategic planning tool that identifies, categorizes, and prioritizes key trends over defined time horizons. It operates at two levels:</p> <ul style="list-style-type: none"> • Strategic Imperatives (SIs): High-level themes (e.g., digital transformation, sustainability) scored based on relevance, macro trends, and expert input. • Developments: Specific changes under each SI, evaluated by factors like historical context, technological maturity, and market response. <p>Trends are classified by time horizon, type (e.g., tech, regulatory), and certainty. A prioritization matrix maps SI and Development Impact Scores to highlight focus areas. Regular reviews ensure adaptability to market dynamics.</p>
Data Leverage Optimization	<p>We harness over 60 years of proprietary research and insight to identify industry-shaping imperatives.</p> <ul style="list-style-type: none"> • Data Procurement: Involves extensive secondary research from industry publications, ecosystem websites, databases, search engines, and generative AI tools. • Data Analysis: Data is validated with internal and external experts, then used to build quantitative models and forecasts that support strategic insights.
Frost Growth Team Integration	<p>Our cross-functional team—Growth Experts, Coaches, tech analysts, and data specialists—collaborates to analyse, prioritize, and refine key imperatives driving industry transformation.</p>
Growth Opportunities & Best Practices	<p>We identify emerging opportunities and highlight organizations leading transformation, enabling clients to anticipate change and maintain competitive advantage.</p>
Growth Expert Workshops	<p>We conduct strategic workshops led by experts and coaches to deliver actionable insights and equip clients to navigate transformation effectively.</p>
Client Interaction	<p>We foster alignment through custom discussion guides and collaborative workshops.</p> <ul style="list-style-type: none"> • Analytics Intelligence: <ul style="list-style-type: none"> ◦ Structure analytics using defined frameworks ◦ Develop qualitative and quantitative content ◦ Identify data gaps for primary research • Analytics Delivery: <ul style="list-style-type: none"> ◦ Apply quality control and editing ◦ Deliver insights in client-preferred formats ◦ Ensure clarity, accuracy, and actionability

Source: Frost & Sullivan

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Dear CEOs and Growth Teams,

Transformation is Coming!

We are entering a profound era of transformation driven by the Intelligence Revolution, which will reshape industries, redefine business operations, and impact every part of your organization—from company, customers, employees, and industry to operations and competition.

This document is designed to:

- Present a leadership-focused transformation model to help analyze change drivers and prioritize key areas for a strategic roadmap
- Empower your company to not only adapt but lead and grow in this evolving landscape

Transformation Workshops Drive Impact

Our work with leading organizations shows that real change starts with leadership alignment, best achieved through an interactive, coach-led workshop.

- This workshop sparks cross-functional dialogue, builds clarity around shared goals, and accelerates a focused transformation strategy
- An outline is included in this document and can be tailored for your team by an experienced Growth Coach

How to Use This Document

This is more than a presentation—it's a strategic guide to help your leadership team engage in meaningful transformation discussions, design an alignment-driven workshop, and apply Frost & Sullivan's decades of insights and frameworks.

- Incorporates the proprietary HIDIAI™ model, built on 60+ years of experience and global research
- Provides proven practices for driving growth through alignment, innovation, and execution

Next Steps

We invite you to review the workshop framework and consider its fit for your organization.

Connect with us at Frost & Sullivan to explore a tailored approach for your leadership team and take the next step in your transformation journey.

Thank you for your time and consideration

Sincerely yours,



David Frigstad
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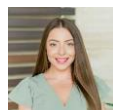
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TELLING YOUR STORY TEAM



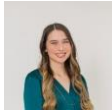
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WHY NOW? WHY THIS? WHY YOU?

1. Unprecedented Market Evolution:

- Rapid tech advancements and changing consumer expectations are transforming the global economy.
- Geopolitical uncertainties add to the volatility and complexity of the business environment.
- Businesses must adapt continuously and remain agile to stay competitive and relevant.

2. Resistance to change:

- Internal inertia and cultural resistance hinder companies from adapting to market changes.
- Legacy systems and fear of the unknown contribute to this resistance.
- Failure to embrace transformation can lead to organizational decline.

3. Hidden Growth Drivers:

- Organizations often miss hidden drivers of transformative growth.
- These include emerging customer needs, new models, or untapped markets.
- Identifying and acting on them is key to long-term success.

4. Framework Clarity Gap:

- Lack of a clear transformation framework leads to misaligned goals and priorities.
- Ambiguity in execution causes confusion, delays, and resource waste.
- Strategic clarity and defined roles are essential for impactful outcomes.

5. Survival by Strategy:

- Survival today depends on strategic choices, not chance.
- Decisive action with insight, speed, and alignment drives transformation.
- Clear, actionable strategies distinguish market leaders from laggards

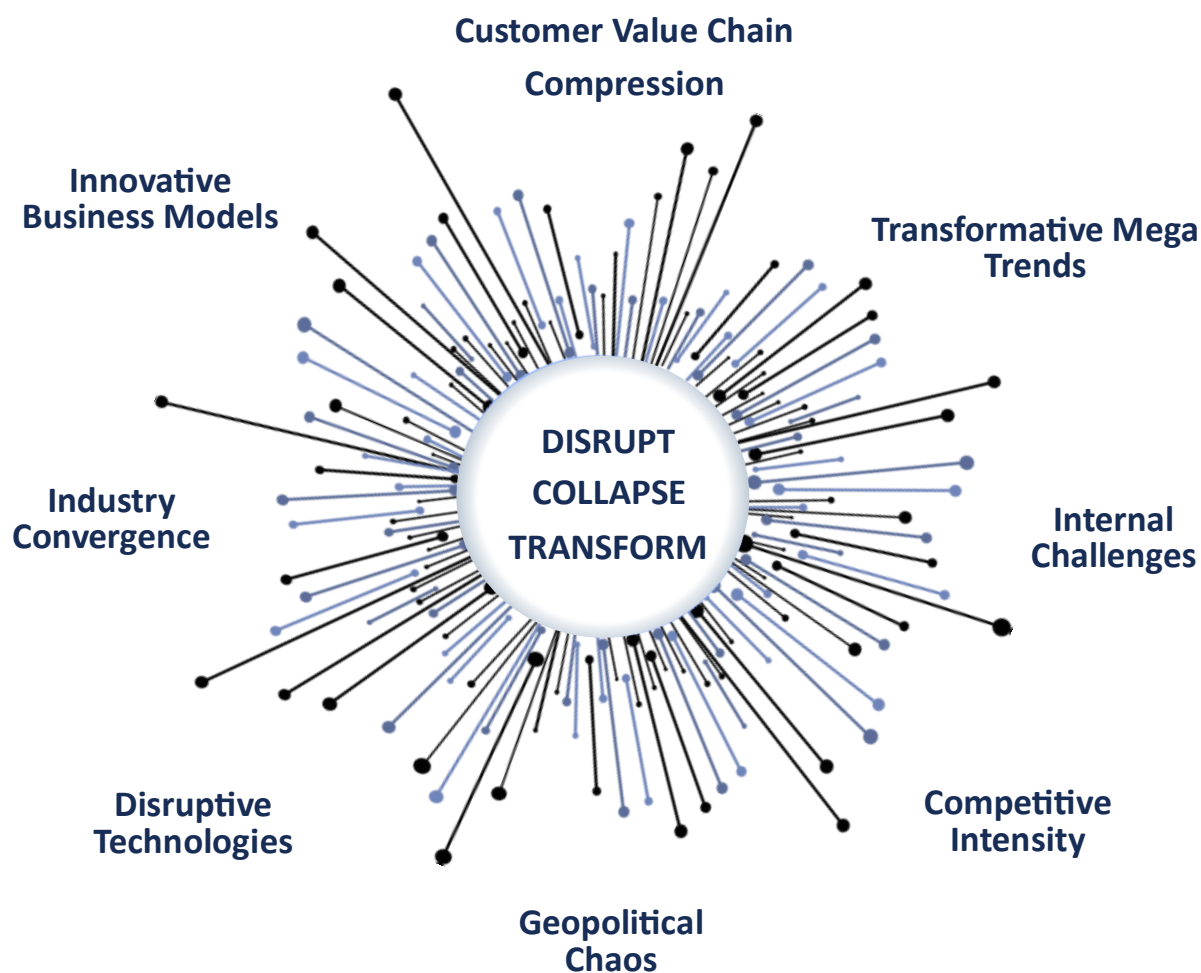
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TRANSFORMATION IN CLIMATE TECH

Why Is It Increasingly Difficult to Grow?

Exhibit 1: The Strategic Imperative 8™: Factors Creating Pressure on Growth



Source: Frost & Sullivan

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Exhibit 2: The Strategic Imperative 8™ Defined

Innovative Business Models	A new revenue model that defines how a company creates and capitalizes economic value, typically impacting its value proposition, product offering, operational strategies, and brand positioning
Customer Value Chain Compression	Customer value chain compression because of advanced technologies, internet platforms, and other direct-to-consumer models that enables reduction in friction and the number of steps in customer journeys
Transformative Mega Trends	Global forces that define the future world with their far-reaching impact on business, societies, economies, cultures, and personal lives
Internal Challenges	The internal organizational behaviors that prevent a company from making required changes
Competitive Intensity	A new wave of competition from start-ups and digital business models that challenge the standing conventions of the past, compelling established industries to rethink their competitive stance
Geopolitical Chaos	Chaos and disorder arising from political discord, natural calamities, pandemics, and social unrest that impact global trade, collaboration, and business security
Disruptive Technologies	New, disruptive technologies that are displacing the old, and significantly altering the way consumers, industries, or businesses operate
Industry Convergence	Collaboration between previously disparate industries to deliver on whitespace cross-industry growth opportunities

Source: Frost & Sullivan

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Exhibit 3: Top Transformations Impacting Growth in the Climate Tech, Global, 2025

Rank	Strategic Imperative Category	Strategic Imperative	Impact Score (%)	Timeline	Duration Curve
1	Competitive Intensity	Increasing investment in climate tech startups, intensifying market competition	87	2039–2049	Linear
2	Disruptive Technologies	Scaling of Direct Air Capture technology by companies like Climeworks	83	2033–2050	Exponential
3	Industry Convergence	Joint ventures between automotive and tech companies to advance electric vehicle technologies	82	2025–2046	Exponential
4	Geopolitical Chaos	Impact of global trade tensions on renewable energy component supply chains	78	2042–2057	Oscillatory
5	Transformative Megatrends	Increased regulatory pressure for climate-related financial disclosures	76	2030–2046	Logistic
6	Internal Challenges	Lack of skilled workforce to implement and manage climate tech solutions	72	2038–2050	Exponential
7	Disruptive Technologies	Advancements in energy-efficient battery technologies by QuantumScape	71	2034–2045	Linear
8	Industry Convergence	Collaborations between tech and energy sectors to develop smart grid solutions	68	2045–2064	Polynomial
9	Internal Challenges	Resistance to adopting sustainable practices within legacy industries	66	2037–2050	Polynomial
10	Transformative Megatrends	Global shift towards a circular economy in major manufacturing sectors	64	2031–2050	Exponential

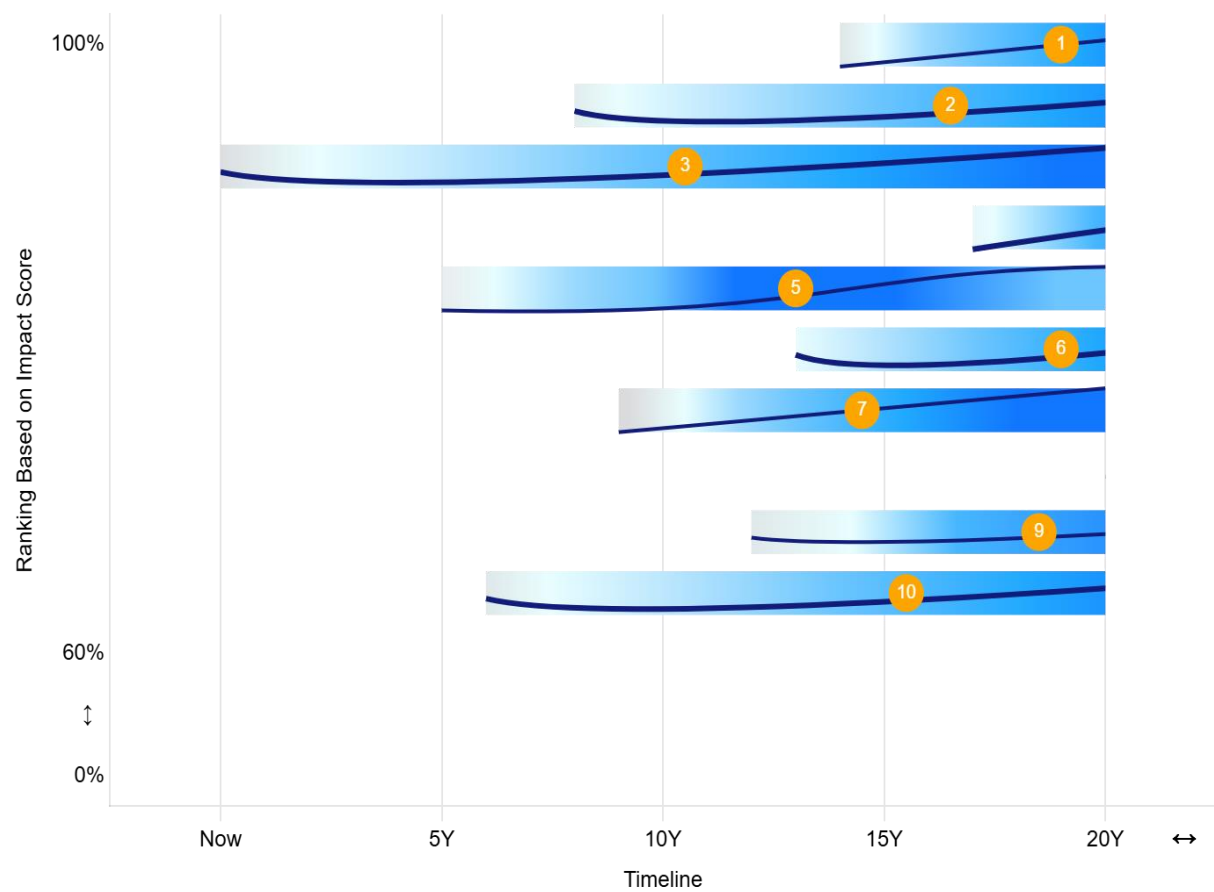
Source: Frost & Sullivan

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The x-axis represents the timeline while the y-axis represents the ranking by magnitude of impact. The color gradient indicates the impact curve changing over time between moderate and high.

Exhibit 4: Top Transformations Impacting Growth in Climate Tech, Global, 2025



Source: Frost & Sullivan

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Strategic Imperative 1: Increasing investment in climate tech startups, intensifying market competition

Intensified competitive intensity drives accelerated innovation cycles and strategic differentiation, fundamentally reshaping industry dynamics and market leadership.

- **Rapid Innovation and Product Differentiation:** Heightened competition compels companies to accelerate innovation cycles, leading to more frequent product launches and enhancements. This fosters a dynamic environment where firms continuously differentiate their offerings to capture market share, often investing upwards of 20-30% more in R&D compared to less competitive sectors.
- **Increased Market Consolidation and Strategic Partnerships:** Competitive intensity often triggers consolidation as firms seek economies of scale and complementary capabilities to strengthen their market position. Strategic partnerships and mergers are projected to increase by 15-25% over the next five years, enabling faster access to new technologies and expanded customer bases.
- **Pricing Pressure and Margin Compression:** As competition intensifies, pricing strategies become more aggressive, leading to margin compression across the industry. Companies must optimize operational efficiencies and innovate cost structures to maintain profitability, with some sectors experiencing margin declines of 5-10% in highly contested segments.
- **Talent Acquisition and Retention Challenges:** The race for innovation and market leadership heightens demand for specialized talent, particularly in emerging technology areas. Firms are investing significantly in talent acquisition and retention programs, with turnover rates potentially increasing by 10-15% due to competitive poaching and the need for highly skilled professionals.
- **Enhanced Customer Expectations and Engagement:** Competitive intensity raises the bar for customer experience, driving firms to adopt advanced analytics, personalized solutions, and faster response times. Customer loyalty becomes more volatile, necessitating investments in customer relationship management technologies projected to grow by over 20% annually.

Growth opportunities sparked by the increasing adoption of IoT devices powered by Android

- **Climate Tech Investment Surge** A surge in investments in climate tech startups heightens competition, driving rapid innovation but also challenging market stability.
- **Innovative Carbon Capture Solutions** Developing advanced technologies for capturing and storing carbon emissions, creating new revenue streams and enhancing sustainability efforts.
- **Renewable Energy Integration** Leveraging advancements in energy storage and smart grid technologies to optimize the use of renewable energy sources, improving efficiency and reducing costs.
- **Sustainable Agriculture Technologies** Investing in agri-tech solutions that promote sustainable farming practices, enhancing food security while reducing environmental impact.
- **Electric Vehicle (EV) Infrastructure Expansion** Building out charging networks and related services to support the growing adoption of electric vehicles, creating new business opportunities in urban and rural areas.
- **Circular Economy Innovations** Creating business models that focus on recycling and reusing materials, reducing waste, and promoting sustainability across industries.

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- **Climate Resilience Solutions** Developing technologies and services that help communities adapt to climate change impacts, such as extreme weather events and rising sea levels.

Companies to Action sparked by the increasing adoption of IoT devices powered by Android

- **Climeworks** A leader in direct air capture technology, Climeworks is capitalizing on the demand for carbon capture solutions to mitigate climate change impacts.
- **Tesla** Through its electric vehicles and energy products, Tesla is at the forefront of renewable energy integration and EV infrastructure expansion globally.
- **Indigo Agriculture** Focusing on sustainable agriculture technologies, Indigo is innovating in microbial seed treatments and carbon farming practices to enhance crop yields and sustainability.
- **ChargePoint** As a major player in EV charging infrastructure, ChargePoint is expanding its network to support the growing electric vehicle market, enhancing accessibility and convenience.
- **Loop Industries** Specializing in sustainable plastic recycling, Loop Industries is driving circular economy innovations by transforming waste into high-quality PET plastic.
- **AquaVenture Holdings** Focusing on water solutions, AquaVenture is developing technologies that enhance water resilience and sustainability in response to climate change challenges.
- **Xpansiv** A marketplace for environmental commodities, Xpansiv is leveraging technology to facilitate the trading of carbon credits and other sustainability-focused assets.

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Strategic Imperative 2: Scaling of Direct Air Capture technology by companies like Climeworks

Scaling Direct Air Capture technology accelerates the decarbonization of hard-to-abate sectors, enabling industries to meet stringent climate targets and unlock new revenue streams through carbon removal credits.

- **Carbon Emission Reduction and Regulatory Compliance:** Direct Air Capture (DAC) technologies provide a scalable solution to remove CO₂ directly from the atmosphere, enabling industries with limited decarbonization options to achieve net-zero targets. This capability is critical as governments worldwide tighten carbon regulations and introduce carbon pricing mechanisms, with some regions projecting carbon prices to exceed \$100 per ton by 2030, thus making DAC economically viable and strategically essential.
- **Creation of New Market Opportunities and Revenue Models:** The deployment of DAC fosters the emergence of carbon removal markets where companies can generate revenue through verified carbon removal credits. This market is expected to grow exponentially, with forecasts estimating the voluntary carbon market to reach \$50 billion by 2030, driven by corporate commitments to offset emissions and meet ESG goals, thereby transforming carbon management into a profitable business imperative.
- **Technological Innovation and Industry Collaboration:** Scaling DAC drives rapid innovation in capture efficiency, energy consumption, and integration with renewable energy sources, leading to cost reductions projected to fall below \$100 per ton of CO₂ captured within the next decade. This progress encourages cross-industry partnerships, including energy, chemical, and manufacturing sectors, to co-develop integrated carbon management solutions that enhance overall sustainability and operational resilience.
- **Supply Chain Transformation and Infrastructure Development:** Widespread adoption of DAC necessitates the development of new infrastructure such as CO₂ transport pipelines, storage facilities, and utilization plants, reshaping supply chains and creating demand for specialized logistics and engineering services. Investments in this infrastructure are expected to reach billions annually by 2030, fostering regional economic growth and enabling localized carbon management hubs that support circular carbon economies.
- **Enhanced Corporate Reputation and Stakeholder Engagement:** Companies adopting DAC technologies position themselves as leaders in climate innovation, improving brand equity and attracting environmentally conscious investors and customers. Transparent reporting on carbon removal efforts, supported by third-party verification, strengthens stakeholder trust and can lead to preferential access to capital, with ESG-focused funds projected to manage over \$50 trillion globally by 2025, emphasizing the financial importance of disruptive carbon removal technologies.

Growth Opportunities sparked by the Rapid Innovation Cycles by Established Brands

- **Expansion of DAC Technology** Scaling up Direct Air Capture (DAC) technology to enhance CO₂ removal efficiency and reduce costs, making it a viable solution for climate change mitigation.
- **Integration with Renewable Energy** Leveraging renewable energy sources to power DAC systems, thereby increasing sustainability and reducing the carbon footprint of the technology.

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- **Carbon Credit Market Participation** Engaging in carbon credit markets to monetize captured CO2, providing financial incentives for companies to invest in DAC technologies.
- **Partnerships with Industrial Sectors** Forming strategic partnerships with heavy industries to integrate DAC solutions into their operations, helping them meet emissions reduction targets.
- **Government Incentives and Policies** Capitalizing on government support and incentives for carbon capture technologies, which can accelerate adoption and funding for DAC projects.

Companies to Action sparked by the Rapid Innovation Cycles by Established Brands

- **Climeworks** A pioneer in DAC technology, Climeworks is scaling its operations globally to capture atmospheric CO2 and provide sustainable carbon removal solutions.
- **Carbon Clean Solutions** This company focuses on providing innovative carbon capture technologies, including DAC, to industrial clients, enhancing their sustainability efforts.
- **Global CCS Institute** An organization that promotes the adoption of carbon capture and storage technologies, including DAC, by providing resources and support to stakeholders worldwide.
- **LanzaTech** Utilizing DAC technology in conjunction with its gas fermentation process to convert captured CO2 into valuable products, thus creating a circular carbon economy.
- **Carbon Engineering** Developing large-scale DAC facilities that utilize renewable energy to capture CO2 efficiently, aiming to make carbon capture economically viable on a global scale.

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Strategic Imperative 3: Joint ventures between automotive and tech companies to advance electric vehicle technologies

Driving Industry Convergence accelerates the fusion of automotive and technology sectors, enabling breakthrough innovations and creating new competitive landscapes that redefine market leadership.

- **Accelerated Innovation Cycles:** The convergence fosters rapid development and deployment of advanced electric vehicle (EV) technologies by combining automotive manufacturing expertise with cutting-edge software, AI, and semiconductor capabilities. This synergy shortens product development timelines by up to 30%, enabling faster introduction of next-generation EVs with enhanced features such as autonomous driving and connected services.
- **Creation of Integrated Ecosystems:** Industry convergence leads to the formation of comprehensive mobility ecosystems where vehicles, infrastructure, and digital platforms are seamlessly interconnected. This integration supports new business models like Mobility-as-a-Service (MaaS), which is projected to grow at a CAGR of 20% through 2030, transforming consumer access to transportation and expanding revenue streams beyond traditional vehicle sales.
- **Enhanced Data-Driven Decision Making:** The fusion of automotive and tech sectors generates vast amounts of real-time data from EVs, charging networks, and user interactions. Leveraging big data analytics and AI enables predictive maintenance, personalized user experiences, and optimized energy management, which can reduce operational costs by 15-25% and improve vehicle uptime significantly.
- **Shift in Competitive Dynamics and Market Entry:** Convergence lowers barriers for tech companies to enter the automotive market and vice versa, intensifying competition and encouraging cross-industry partnerships. This dynamic is expected to increase the number of new entrants by 40% over the next five years, driving innovation but also necessitating strategic agility among incumbents to maintain market share.
- **Regulatory and Standardization Impact:** As industries merge, regulatory frameworks and standards evolve to address new challenges related to safety, data privacy, and interoperability. Harmonized regulations across automotive and technology domains will be critical to scaling EV adoption globally, with anticipated regulatory-driven cost reductions of up to 10% in compliance expenditures by 2030.

Growth Opportunities sparked by the Integration of Smartphones with Automotive Tech

- **Collaborative EV Battery Development** Joint ventures between automotive and tech companies to create advanced battery technologies that enhance electric vehicle performance and sustainability.
- **Autonomous Driving Innovations** Partnerships focused on integrating AI and machine learning technologies into electric vehicles to improve safety and efficiency in autonomous driving capabilities.
- **Smart Charging Solutions** Development of integrated charging infrastructure through collaborations that enable faster, more efficient charging options for electric vehicles, enhancing user convenience.
- **Connected Vehicle Ecosystems** Creating synergies between automotive and tech firms to develop connected vehicle technologies that enhance user experience and vehicle performance through data sharing and analytics.
- **Sustainable Manufacturing Practices** Joint efforts to innovate in sustainable manufacturing processes for electric vehicles, reducing carbon footprints and promoting eco-friendly production methods.

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Companies to Action sparked by the Integration of Smartphones with Automotive Tech

- **Tesla** Leading the charge in electric vehicle technology with strategic partnerships for battery innovation and autonomous driving features.
- **Ford** Collaborating with tech companies to enhance electric vehicle capabilities and develop smart charging solutions.
- **General Motors** Engaging in joint ventures to advance battery technology and sustainable manufacturing practices for electric vehicles.
- **Rivian** Partnering with tech firms to integrate advanced software and connectivity features into their electric vehicles.
- **NVIDIA** Providing AI and machine learning technologies to automotive companies for enhancing autonomous driving systems in electric vehicles.

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Strategic Imperative 4: Impact of global trade tensions on renewable energy component supply chains

Geopolitical chaos driven by global trade tensions critically disrupts renewable energy supply chains, compelling industry stakeholders to diversify sourcing, enhance resilience, and recalibrate strategic alliances for sustained growth and innovation.

- **Supply Chain Fragmentation and Localization:** Trade tensions have led to increased tariffs and export restrictions, causing fragmentation of global renewable energy component supply chains. Companies are increasingly localizing production to mitigate risks, with some regions experiencing a 20-30% rise in domestic manufacturing investments since 2022, fundamentally reshaping global supply dynamics and increasing costs in the short term.
- **Strategic Realignment of Alliances and Partnerships:** Geopolitical instability is forcing renewable energy firms to reassess and realign their international partnerships, prioritizing politically stable and trade-friendly regions. This realignment is accelerating the formation of regional trade blocs focused on clean energy technologies, potentially reducing reliance on traditional suppliers like China and increasing collaboration within Europe, North America, and Southeast Asia.
- **Increased Costs and Delays in Project Deployment:** Heightened geopolitical risks have resulted in supply chain bottlenecks, with lead times for critical components such as photovoltaic cells and wind turbine parts extending by 25-40% in some cases. These delays inflate project costs and slow deployment rates, threatening to undermine renewable energy targets and investor confidence globally.
- **Acceleration of Supply Chain Transparency and Digitization:** To navigate geopolitical uncertainties, companies are investing heavily in digital supply chain management tools that enhance transparency and traceability. Adoption of blockchain and AI-driven analytics has increased by over 35% since 2021, enabling better risk assessment and faster response to disruptions, thereby improving supply chain resilience.
- **Policy and Regulatory Shifts Favoring Self-Reliance:** Governments are enacting policies aimed at reducing dependence on foreign suppliers by incentivizing domestic production and stockpiling of critical renewable energy components. For example, the U.S. Inflation Reduction Act allocates billions toward domestic manufacturing, signaling a broader trend that will reshape global trade flows and encourage strategic autonomy in the renewable sector.

Growth Opportunities sparked by Enhancing Security Measures Against Cyberattacks

- **Supply Chain Resilience Initiatives** Developing strategies to enhance the resilience of supply chains for renewable energy components amidst trade tensions, ensuring continuity and reliability in production.
- **Local Sourcing of Components** Investing in local manufacturing and sourcing of renewable energy components to mitigate risks associated with global supply chain disruptions.
- **Diversification of Supplier Base** Expanding the supplier network to include multiple regions and countries, reducing dependency on any single source and enhancing supply chain flexibility.
- **Investment in Alternative Materials** Researching and developing alternative materials for renewable energy components that are less affected by geopolitical tensions, ensuring stable production costs.
- **Digital Supply Chain Management Solutions** Implementing advanced digital tools and platforms for real-time monitoring and management of supply chains, improving responsiveness to disruptions caused by trade tensions.

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- **Strategic Alliances with Local Governments** Forming partnerships with local governments to support renewable energy initiatives and secure favorable conditions for local production and supply chains.
- **Policy Advocacy for Trade Stability** Engaging in advocacy efforts to influence trade policies that support the renewable energy sector, aiming for a more stable and predictable trade environment.

Companies to Action sparked by Enhancing Security Measures Against Cyberattacks

- **Siemens Gamesa** A leading wind turbine manufacturer that is enhancing its supply chain resilience by diversifying its supplier base and investing in local production facilities.
- **First Solar** A solar panel manufacturer focusing on local sourcing and alternative materials to reduce dependency on international supply chains affected by trade tensions.
- **Vestas** A global leader in wind energy solutions that is actively pursuing strategic partnerships to secure local supply chains and mitigate risks from geopolitical disruptions.
- **Enphase Energy** A solar technology company that is leveraging digital supply chain management solutions to enhance operational efficiency and responsiveness to market changes.
- **Brookfield Renewable Partners** An investment firm that is advocating for stable trade policies and investing in local renewable energy projects to ensure supply chain stability.
- **Canadian Solar** A solar energy company that is expanding its manufacturing capabilities in various regions to reduce reliance on specific countries and enhance supply chain flexibility.
- **NextEra Energy** A major renewable energy provider that is engaging in policy advocacy to promote favorable trade conditions for the renewable energy sector, ensuring long-term growth.

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Strategic Imperative 5: Increased regulatory pressure for climate-related financial disclosures

Driving comprehensive transparency and accountability in climate-related financial disclosures accelerates industry-wide adoption of sustainable practices, unlocking new investment flows and fostering long-term resilience in transformative megatrends.

- **Capital Allocation and Investment Shifts:** Increased transparency in climate-related financial disclosures enables investors to better assess environmental risks and opportunities, leading to a projected 40% rise in sustainable investment funds by 2030. This shift redirects capital towards companies with robust climate strategies, accelerating the transition to low-carbon business models across industries.
- **Enhanced Risk Management and Resilience:** Mandatory climate disclosures compel companies to integrate climate risks into their financial planning, improving resilience against physical and transition risks. Firms that proactively manage these risks have shown up to 20% lower volatility in stock performance during climate-related market disruptions, setting new standards for risk governance in transformative megatrends.
- **Regulatory Harmonization and Global Standards:** The push for standardized climate-related financial disclosures is driving convergence among global regulatory frameworks, reducing compliance complexity and enabling cross-border capital flows. By 2025, over 80% of G20 economies are expected to adopt aligned disclosure standards, fostering a more predictable and transparent investment environment.
- **Innovation in Data Analytics and Reporting Technologies:** The demand for precise, real-time climate data is accelerating the development of advanced analytics platforms and AI-driven reporting tools. These technologies improve the accuracy and timeliness of disclosures, reducing reporting costs by up to 30% and enabling dynamic scenario analysis that supports strategic decision-making in transformative megatrends.
- **Market Differentiation and Competitive Advantage:** Companies leading in climate-related financial transparency gain reputational benefits and preferential access to capital, with studies showing a 15% premium on their equity valuations compared to peers. This creates a competitive imperative for firms to embed sustainability into core strategies, driving industry-wide transformation aligned with emerging megatrends.

Growth Opportunities sparked by the Integration of AR for Enhanced Mobile Shopping

- **Advanced ESG Analytics Solutions** Developing sophisticated analytics tools that enable companies to meet stringent climate-related financial disclosure requirements, enhancing transparency and accountability.
- **Sustainable Investment Platforms** Creating platforms that facilitate investments in sustainable projects, allowing investors to align their portfolios with climate goals and regulatory expectations.
- **Climate Risk Assessment Services** Offering services that help organizations evaluate and mitigate climate-related risks, ensuring compliance with emerging regulations and enhancing resilience.
- **Integrated Reporting Software** Providing software solutions that integrate financial and ESG reporting, streamlining the disclosure process and improving data accuracy for stakeholders.
- **Training and Consulting for Compliance** Delivering training programs and consulting services to help companies navigate the complexities of new climate disclosure regulations and implement best practices.

Companies to Action sparked by the Integration of AR for Enhanced Mobile Shopping

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- **Sustainalytics** A leading provider of ESG and corporate governance research and ratings, helping companies enhance their sustainability reporting and compliance with regulations.
- **MSCI** Offers ESG ratings and analytics that assist investors in understanding climate-related risks and opportunities, supporting regulatory compliance.
- **Bloomberg** Provides advanced analytics and reporting tools that enable companies to meet climate disclosure requirements effectively.
- **Refinitiv** Delivers ESG data and insights that help organizations assess their climate impact and improve transparency in financial disclosures.
- **Deloitte** Offers consulting services focused on climate risk assessment and compliance, helping businesses adapt to new regulatory landscapes.
- **PwC** Provides integrated reporting solutions and advisory services to assist companies in meeting climate-related financial disclosure requirements.
- **S&P Global** Delivers analytics and data solutions that support companies in their ESG reporting and compliance efforts, enhancing their market competitiveness.

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Strategic Imperative 6: Lack of skilled workforce to implement and manage climate tech solutions

Addressing internal challenges related to workforce capability is critical to sustaining innovation and operational efficiency in climate technology industries.

- **Operational Inefficiencies and Increased Costs:** A shortage of skilled personnel leads to delays in project implementation and higher operational costs due to reliance on external consultants or retraining existing staff. This inefficiency can increase project timelines by up to 30%, directly impacting profitability and competitive positioning within the climate tech sector.
- **Stagnation in Innovation and Technology Adoption:** Without adequate expertise, organizations struggle to integrate and optimize emerging climate technologies, resulting in slower adoption rates. This stagnation can reduce the pace of innovation by an estimated 20-25%, limiting the industry's ability to meet evolving environmental regulations and market demands.
- **Risk of Non-Compliance and Regulatory Penalties:** Insufficient skilled workforce hampers proper management and monitoring of climate tech solutions, increasing the likelihood of non-compliance with stringent environmental standards. Regulatory bodies are imposing fines that can reach millions annually, which threatens financial stability and damages corporate reputation.
- **Talent Drain and Competitive Disadvantage:** Internal challenges in workforce development can lead to higher employee turnover, with up to 40% of skilled workers seeking opportunities in better-equipped organizations. This talent drain exacerbates skill gaps and weakens the industry's overall competitive advantage in a rapidly evolving market.
- **Increased Dependency on Automation and Outsourcing:** To compensate for skill shortages, companies may accelerate reliance on automation technologies and external service providers. While this can temporarily alleviate workforce constraints, it introduces risks related to quality control and data security, potentially increasing operational vulnerabilities by 15-20%.

Growth Opportunities sparked by the Expansion of 5G Networks in Emerging Markets

- **Enhanced Educational Programs in Climate Tech** Developing specialized training and certification programs to bridge the skill gap in climate technology implementation and management.
- **Corporate Training Partnerships** Collaborating with educational institutions to create tailored training programs that meet the specific needs of the climate tech industry.
- **Online Learning Platforms for Climate Tech** Leveraging digital platforms to provide accessible and flexible learning opportunities for professionals seeking to upskill in climate technologies.
- **Internship and Apprenticeship Programs** Establishing partnerships with companies to offer hands-on experience and mentorship in climate tech, fostering a new generation of skilled workers.
- **Research and Development Grants for Skill Development** Encouraging companies to invest in R&D initiatives focused on developing training methodologies and tools for climate tech skills enhancement.
- **Community Engagement Initiatives** Creating awareness and interest in climate tech careers through outreach programs in schools and communities, promoting the importance of skilled workforce in sustainability efforts.

Companies to Action sparked by the Expansion of 5G Networks in Emerging Markets

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- **Coursera** Partnering with universities to offer online courses and certifications in climate technology, making education accessible globally.
- **EdX** Providing a platform for universities to create specialized climate tech courses, addressing the skill gap through online learning.
- **General Electric (GE)** Investing in workforce development programs that focus on training employees in advanced climate technologies and solutions.
- **Siemens** Implementing training initiatives and partnerships with educational institutions to develop a skilled workforce in sustainable technologies.
- **Tesla** Offering internship programs that provide hands-on experience in climate tech, fostering new talent in the renewable energy sector.
- **IBM** Launching initiatives to upskill employees in AI and data analytics for climate tech applications, enhancing workforce capabilities.

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Strategic Imperative 7: Advancements in energy-efficient battery technologies by QuantumScape

Advancements in energy-efficient battery technologies drive transformative shifts in disruptive technologies by enabling unprecedented energy storage performance and accelerating the transition to sustainable energy ecosystems.

- **Revolutionizing Energy Storage Capacity:** Next-generation battery technologies are achieving energy density improvements exceeding 20-30% over current lithium-ion standards, enabling longer-lasting and more compact energy storage solutions. This leap directly enhances the viability of electric vehicles (EVs) and renewable energy integration, reducing range anxiety and increasing adoption rates in transportation and grid storage sectors.
- **Accelerating Electric Vehicle Market Penetration:** Improved battery efficiency and faster charging capabilities are projected to cut EV charging times by up to 50%, significantly enhancing consumer convenience. This advancement is expected to contribute to a projected EV market growth rate of over 40% annually through 2030, reshaping automotive industry dynamics and supply chains.
- **Enabling Grid Decentralization and Renewable Integration:** Higher energy efficiency and longer cycle life batteries facilitate large-scale deployment of distributed energy resources (DERs) and microgrids. This supports grid resilience and stability, allowing for increased penetration of intermittent renewable sources such as solar and wind, which are critical to achieving global decarbonization targets.
- **Driving Cost Reductions and Economic Viability:** Technological breakthroughs are anticipated to reduce battery production costs by approximately 25-35% within the next five years, making energy storage solutions more economically accessible. This cost efficiency is pivotal for scaling disruptive technologies across industries, from consumer electronics to heavy industry electrification.
- **Stimulating Cross-Industry Innovation and Competitive Dynamics:** The rapid evolution of battery technologies is catalyzing innovation beyond automotive and energy sectors, impacting consumer electronics, aerospace, and industrial machinery. This cross-sector disruption compels incumbent players to adapt or risk obsolescence, fostering a competitive landscape driven by continuous technological advancement and strategic partnerships.

Growth Opportunities sparked by Localization of Data Centers Due to Privacy Laws

- **Advancements in Solid-State Battery Technologies** QuantumScape's innovations in solid-state batteries are set to significantly improve energy efficiency and performance in electric vehicles, creating a competitive edge in the EV market.
- **Enhanced Energy Density Solutions** Developing batteries with higher energy density will allow electric vehicles to travel longer distances on a single charge, addressing consumer range anxiety and expanding market adoption.
- **Sustainable Battery Production** Focusing on eco-friendly materials and processes in battery manufacturing can attract environmentally conscious consumers and comply with increasing regulatory pressures on sustainability.
- **Battery Recycling Innovations** Creating efficient recycling processes for used batteries can reduce waste and recover valuable materials, contributing to a circular economy in the battery industry.
- **Integration with Renewable Energy Sources** Developing batteries that can efficiently store energy from renewable sources like solar and wind can enhance grid stability and promote the use of clean energy solutions.

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Companies to Action sparked by Localization of Data Centers Due to Privacy Laws

- **QuantumScape** Leading the charge in solid-state battery technology, QuantumScape is revolutionizing the EV market with its innovative energy-efficient solutions.
- **Tesla** Utilizing advanced battery technologies and focusing on energy density improvements, Tesla is enhancing the performance of its electric vehicles while expanding its market share.
- **LG Energy Solution** Investing in sustainable battery production and recycling technologies, LG Energy Solution is positioning itself as a leader in the eco-friendly battery market.
- **Panasonic** Partnering with Tesla and focusing on high-performance battery solutions, Panasonic is leveraging its expertise to enhance energy efficiency in electric vehicles.
- **Northvolt** Focusing on sustainable battery production and recycling, Northvolt is tapping into the growing demand for eco-friendly energy storage solutions in Europe and beyond.
- **A123 Systems** Specializing in advanced lithium-ion battery technologies, A123 Systems is innovating in energy density and performance for various applications, including electric vehicles.

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Strategic Imperative 8: Collaborations between tech and energy sectors to develop smart grid solutions

Driving industry convergence through integrated smart grid solutions accelerates innovation, operational efficiency, and sustainable energy management, fundamentally transforming the energy and technology sectors.

- **Enhanced Cross-Sector Innovation:** The convergence fosters accelerated development of advanced smart grid technologies by combining expertise from both tech and energy sectors. This synergy enables the creation of innovative solutions such as AI-driven grid management and IoT-enabled energy distribution, which improve grid reliability and responsiveness by up to 30%, as reported in recent pilot projects.
- **Data-Driven Operational Efficiency:** Integration of big data analytics and real-time monitoring systems leads to optimized energy consumption and predictive maintenance, reducing operational costs by an estimated 15-20%. This data-centric approach enables utilities to dynamically balance supply and demand, minimizing energy waste and enhancing grid stability.
- **Market Expansion and New Business Models:** Industry convergence opens avenues for novel business models like energy-as-a-service and peer-to-peer energy trading platforms, projected to grow at a CAGR exceeding 25% through 2030. These models empower consumers and prosumers, driving decentralization and democratization of energy markets.
- **Regulatory and Standardization Evolution:** The blending of technology and energy sectors necessitates updated regulatory frameworks and interoperability standards, which are currently evolving to support integrated smart grid deployments. Harmonized policies will facilitate faster adoption and cross-border energy exchanges, potentially increasing renewable energy integration by 40% in interconnected grids.
- **Sustainability and Decarbonization Impact:** Converged smart grid solutions significantly enhance the integration of renewable energy sources, contributing to a reduction in carbon emissions by up to 35% in regions adopting these technologies. This alignment with global climate goals accelerates the transition to low-carbon energy systems and supports national commitments under the Paris Agreement.

Growth Opportunities sparked by Overcoming App Store Monopoly Issues

- **Smart Grid Integration** Leveraging advanced technologies to create interconnected energy systems that enhance efficiency and reliability across the grid.
- **Data Analytics for Energy Management** Utilizing big data and AI to optimize energy consumption patterns and improve grid performance through predictive analytics.
- **Decentralized Energy Resources (DER)** Encouraging the integration of renewable energy sources and energy storage systems to create a more resilient and flexible grid.
- **Cybersecurity Solutions for Smart Grids** Developing robust cybersecurity measures to protect smart grid infrastructure from potential cyber threats and vulnerabilities.
- **Electric Vehicle (EV) Charging Infrastructure** Expanding the network of EV charging stations integrated with smart grid technology to support the growing demand for electric vehicles.

Companies to Action sparked by Overcoming App Store Monopoly Issues

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- **Siemens** A leader in smart grid technology, Siemens is actively developing integrated solutions that enhance grid management and energy efficiency.
- **General Electric (GE)** GE is focusing on digital solutions for energy management, utilizing data analytics to optimize grid performance and reliability.
- **Schneider Electric** Schneider Electric is pioneering smart grid solutions that integrate renewable energy sources and enhance energy efficiency through innovative technologies.
- **Itron** Itron specializes in smart metering and data analytics, providing utilities with tools to improve energy management and grid operations.
- **ABB** ABB is at the forefront of smart grid technology, offering solutions that enhance grid resilience and facilitate the integration of renewable energy sources.
- **Enel** Enel is investing in smart grid infrastructure and partnerships to enhance energy efficiency and support the transition to renewable energy.
- **Tesla** Tesla is expanding its energy products, including solar and battery storage solutions, to create a decentralized energy ecosystem integrated with smart grid technology.

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Strategic Imperative 9: Resistance to adopting sustainable practices within legacy industries

Resistance to sustainable practices within legacy industries intensifies internal challenges by escalating operational inefficiencies, increasing compliance risks, and hindering innovation, ultimately threatening long-term competitiveness and resilience.

- **Operational Inefficiencies and Cost Pressures:** Legacy industries that resist sustainable practices often face rising operational costs due to inefficient resource use and outdated processes. Recent data shows that companies lagging in sustainability initiatives experience up to 15% higher energy expenses, directly impacting profitability and reducing their ability to invest in modernization efforts.
- **Regulatory Compliance Risks and Penalties:** Internal challenges are exacerbated by increasing regulatory scrutiny and evolving environmental standards. Firms that delay adopting sustainable practices face heightened risks of non-compliance, with penalties and fines rising by an average of 20% annually in key markets, creating financial and reputational damage that can destabilize operations.
- **Talent Attraction and Retention Difficulties:** Resistance to sustainability negatively affects workforce engagement and recruitment, especially among younger professionals who prioritize environmental responsibility. Surveys indicate that 70% of millennials prefer employers with strong sustainability commitments, making it harder for legacy firms to attract and retain top talent, which in turn limits internal innovation capacity.
- **Innovation Stagnation and Competitive Disadvantage:** Internal resistance slows the adoption of new technologies and sustainable business models, causing innovation bottlenecks. This stagnation results in a loss of market share to more agile competitors; for example, companies embracing sustainability have reported 25% faster product development cycles, highlighting the widening innovation gap.
- **Cultural and Organizational Fragmentation:** Sustainability resistance often leads to internal conflicts between traditional operational units and emerging sustainability teams, creating silos and misaligned priorities. This fragmentation reduces organizational agility and decision-making speed, with recent case studies showing a 30% increase in project delays linked to internal resistance dynamics.

Growth Opportunities sparked by Adoption of Foldable Screen Technology by More Brands

- **Cultural Change Initiatives** Implementing programs that foster a culture of sustainability within legacy industries to overcome resistance and promote greener practices.
- **Sustainable Supply Chain Management** Developing strategies that integrate sustainability into supply chain operations, reducing environmental impact while enhancing efficiency and cost-effectiveness.
- **Employee Engagement Programs** Creating initiatives that involve employees in sustainability efforts, encouraging innovation and commitment to greener practices at all levels of the organization.
- **Sustainability Training and Education** Offering training programs that educate employees and management on the importance of sustainability and how to implement sustainable practices effectively.
- **Collaboration with Environmental Organizations** Partnering with NGOs and environmental groups to leverage expertise and resources in driving sustainable practices within traditional industries.

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- **Incentive Programs for Sustainable Practices** Establishing reward systems that incentivize employees and departments to adopt and implement sustainable practices, fostering a competitive spirit around sustainability goals.

Companies to Action sparked by Adoption of Foldable Screen Technology by More Brands

- **Unilever** A global consumer goods company that has integrated sustainability into its core business strategy, focusing on reducing environmental impact and promoting sustainable sourcing.
- **Siemens** A technology company that is actively promoting sustainable practices through its digital industries and smart infrastructure divisions, focusing on energy efficiency and resource conservation.
- **General Electric (GE)** A multinational conglomerate that is investing in sustainable technologies and practices, particularly in its energy and healthcare sectors, to drive greener solutions.
- **Coca-Cola** A beverage company that is working on reducing its carbon footprint and improving water efficiency across its operations, while promoting recycling and sustainable packaging.
- **Walmart** A retail giant that is implementing sustainability initiatives across its supply chain, focusing on reducing waste and promoting sustainable sourcing practices.
- **BP** An oil and gas company that is transitioning towards renewable energy sources and investing in sustainable technologies to reduce its environmental impact globally.

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Strategic Imperative 10: Global shift towards a circular economy in major manufacturing sectors

Driving a circular economy within transformative megatrends accelerates resource efficiency, innovation, and sustainable growth, fundamentally reshaping competitive dynamics and value creation in manufacturing sectors.

- **Resource Optimization and Cost Reduction:** Manufacturers adopting circular economy principles can reduce raw material consumption by up to 30%, significantly lowering input costs and dependency on volatile commodity markets. This shift enhances supply chain resilience and operational efficiency, enabling companies to maintain profitability amid resource scarcity and price fluctuations.
- **Innovation in Product Design and Business Models:** Circular economy imperatives drive the development of modular, repairable, and recyclable products, fostering innovation in design and engineering. Companies are increasingly transitioning from traditional ownership models to service-based offerings (e.g., product-as-a-service), which can increase customer retention and create recurring revenue streams, with some sectors reporting up to 20% revenue growth from such models.
- **Regulatory Compliance and Market Access:** Stricter environmental regulations and extended producer responsibility laws are compelling manufacturers to integrate circular practices to maintain market access, especially in regions like the EU where circularity-related regulations are projected to reduce waste by 45% by 2030. Early adopters gain competitive advantage by aligning with evolving compliance standards and consumer expectations for sustainability.
- **Enhanced Brand Equity and Consumer Loyalty:** Sustainability-driven consumers are increasingly favoring brands that demonstrate circular economy commitments; studies show that 65% of consumers are willing to pay a premium for sustainable products. This trend enhances brand reputation and loyalty, enabling manufacturers to differentiate in crowded markets and capture new customer segments focused on environmental impact.
- **Acceleration of Digital and Industry 4.0 Technologies:** The circular economy catalyzes the adoption of digital tools such as IoT, AI, and blockchain to track materials, optimize resource flows, and enable product lifecycle management. These technologies improve transparency and efficiency, with predictive analytics reducing waste generation by up to 25%, thereby supporting smarter manufacturing ecosystems aligned with transformative megatrends.

Growth Opportunities sparked by Collaborations Between Tech Giants and Start-Ups

- **Circular Supply Chain Innovations** Developing new processes and technologies that enable manufacturers to recycle materials and reduce waste, creating a closed-loop system that minimizes resource consumption.
- **Sustainable Product Design** Creating products with a focus on sustainability, using eco-friendly materials and designs that facilitate recycling and reduce environmental impact.
- **Waste-to-Resource Technologies** Implementing technologies that convert waste materials into valuable resources, such as energy or raw materials, thereby reducing landfill use and promoting resource efficiency.
- **Collaborative Consumption Models** Encouraging shared use of products and services to reduce overall consumption and waste, fostering a community-oriented approach to resource management.
- **Digital Platforms for Circular Economy** Leveraging digital technologies to create platforms that facilitate the exchange of materials, products, and services, enhancing transparency and efficiency in circular supply chains.

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Companies to Action sparked by Collaborations Between Tech Giants and Start-Ups

- **Unilever** A global consumer goods company that is committed to sustainable sourcing and has initiatives aimed at reducing plastic waste through circular economy practices.
- **Patagonia** An outdoor apparel brand that emphasizes sustainable product design and encourages customers to repair and recycle their products, promoting a circular economy mindset.
- **Siemens** A technology company that integrates digital solutions to optimize manufacturing processes, enabling circular supply chain innovations across various industries.
- **Interface** A flooring company that has pioneered the use of recycled materials in its products and aims for a fully circular business model by 2025.
- **Veolia** A global leader in optimized resource management that focuses on waste-to-resource technologies, helping industries transition to circular economy practices.
- **Ellen MacArthur Foundation** An organization that promotes the transition to a circular economy through research, education, and collaboration with businesses and governments worldwide.

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Benefits & Impacts of aligning the Growth Team on the coming Transformation

1. Outperform your toughest competitors by moving with unmatched speed and agility.
2. Scale your impact by activating a powerful ecosystem-based community.
3. Elevate alignment through a single platform powering your transformation journey.
4. Communicate a compelling growth narrative that energizes all stakeholders.
5. Empower teams through continuous benchmarking and best-practice sharing.
6. Lead the industry with top-tier revenue growth performance.
7. Benchmark every function against world-class competitors to stay ahead.
8. Implement growth strategies that prioritize customer success and expansion.
9. Track performance and opportunities in real-time with an integrated dashboard.
10. Unify your workforce around a shared mission and collaborative execution.

Source: Frost & Sullivan

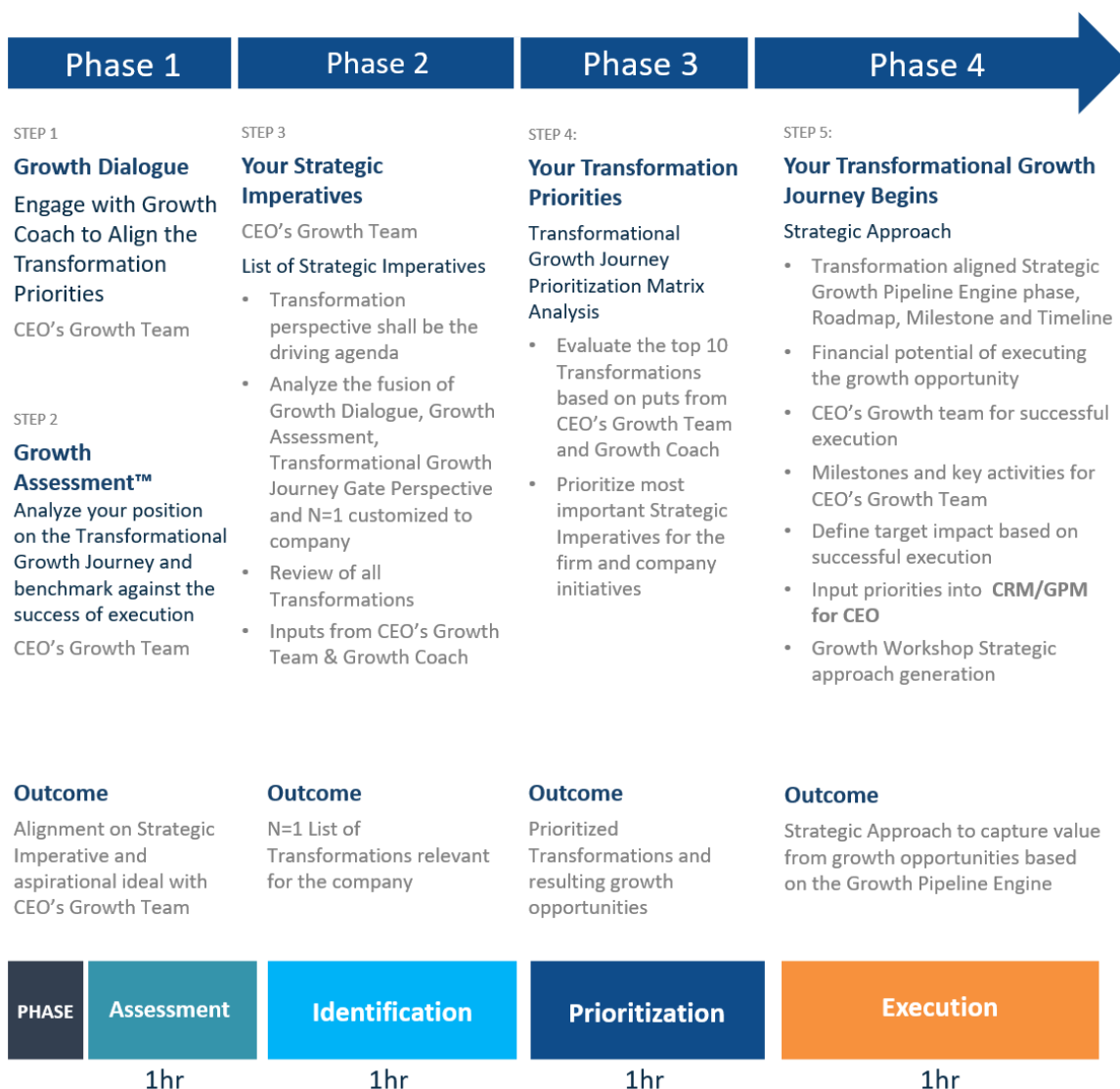
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Transformation Workshop Thrive This Transformation!

Workshop Objectives

- Understand the Strategic Imperatives driving transformation
- Align the team on strategy execution
- Build strong teamwork for successful implementation
- Leverage best practices for execution



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Transformation Workshop Agenda Thrive in This Transformation!

I. Understanding the Coming Transformation

- Overview of the Transformation Model
- Top 10 Strategic Imperatives
- Case Studies: Who succeeded? Who failed?

II. Identifying Strategic Imperatives

- Collaborative brainstorming new imperatives
- Categorize under the Strategic Imperative 8™ categories
- Final agreement on priority list & branding

III. Evaluating the Strategic Imperatives

- Identify key industry benchmarks and metrics
- Predict potential business impact

IV. Prioritization of Strategic Imperatives

- Ranking the Top 10 priorities
- Measure impact of inaction vs. proactive leadership

V. Strategy Design

- What Growth Opportunities emerge from the Top 10 Strategic Imperatives?
- Determination of partners, stakeholders, or ecosystems to engage
- Forming a “Dream Team” for transformation
- Next Steps: Building the Action Plan and Transformation Engine

Transformation Workshop Deliverables for the CEO’s Growth Team

- **Cost: \$10,000 base price**
- **Design Time: 2 weeks**
- **Format: Virtual**
- **Goals:** Gain understanding, alignment, and beginning of a strategy to address the transformation.
- **Outcome:**
 - Customized Transformation Model
 - Action Plan
 - Strategic Support
- **Impact:** Maximizing your future growth potential

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Next Steps: The Transformational Growth Partnership

Join: Frost & Sullivan [Growth Council](#)

Apply: Frost & Sullivan [Companies to Action](#)

Engage: Frost & Sullivan [Growth Pipeline Dialog](#)

Participate: Frost & Sullivan [Growth Council Think Tank](#)

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APPENDIX: Growth Dialogue: Frost Growth Coach & Experts - Talk with Team Frost

Growth is a journey. Let us be your growth coach.

Welcome to Frost & Sullivan's Growth Pipeline Dialog™: Your first step on the path to sustainable growth. This session sparks innovative thinking, uncovers high-impact opportunities, and delivers insights that drive long-term success. Growth isn't a destination — it's a continuous journey of transformation. As your dedicated growth coach, Frost & Sullivan brings over 60 years of global, cross-industry expertise to help you navigate disruption, align teams around a bold vision, and unlock strategic growth opportunities. Through the Growth Pipeline Dialog™, we turn complexity into clarity and ambition into action — helping you stay ahead in a rapidly evolving world.

What is a *Growth Pipeline Dialog™* and how will it help you?

The Growth Pipeline Dialog™ is Frost & Sullivan's proven framework to kickstart your path toward transformative growth. More than just a conversation, it's a strategic session designed to spark innovative thinking, uncover breakthrough opportunities, and align your team around a clear growth roadmap. Leveraging our extensive industry insights, this dialog provides actionable intelligence and tailored recommendations that help you overcome cross-functional challenges and implement best-in-class strategies. By engaging in this process, you'll gain:

- Actionable intelligence and innovative go-to-market strategies to position your organization ahead of competitors.
- Recommendations to successfully overcome cross-functional challenges in today's dynamic and often complex business environment.
- Visionary strategic planning that helps you implement industry best practices and secure a first-mover advantage.

With these benefits, the Growth Pipeline Dialog™ empowers you to accelerate your go-to-market plans and drive sustainable success in an ever-evolving marketplace.



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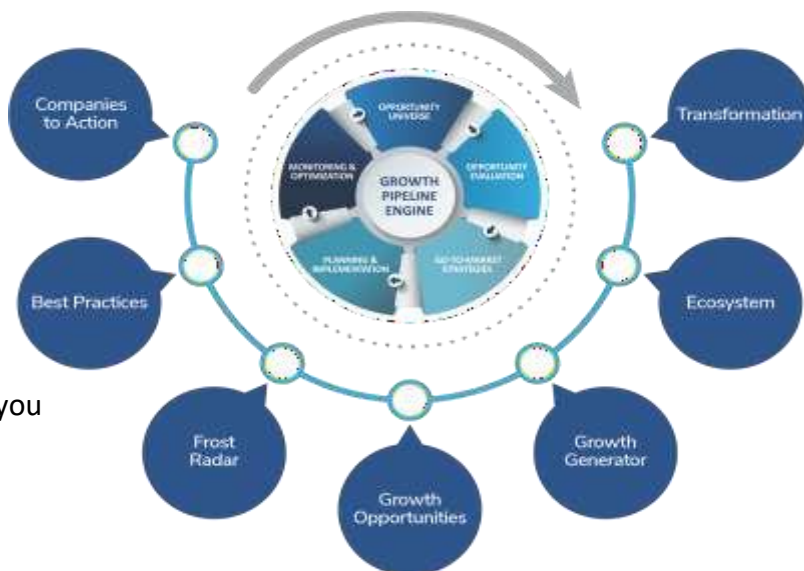
APPENDIX: Transformational Growth Engine-CEO's Growth Platform

The Transformational Growth Engine enables organizations to embark on their transformational journey leveraging:

- Frost & Sullivan's 7 Gate analytical framework
- The Growth Pipeline Engine

The 7 Gate framework provides the industry context for the transformation and identifies growth opportunities and companies to action.

The Growth Pipeline Engine prioritizes growth opportunities for your unique context and helps you implement on those growth opportunities in a systematic and continuous fashion.



OPPORTUNITY UNIVERSE	Identify the areas of focus and establish metrics to evaluate opportunities
OPPORTUNITY EVALUATION	Deep dive on specific opportunities with your Frost & Sullivan team
GO TO MARKET STRATEGIES	Identify the strategic options to drive your growth opportunities forward
PLANNING & IMPLEMENTATION	Work with our team to execute on your Growth Opportunities
MONITORING & OPTIMIZATION	Ensure systematic follow-through to drive early wins & ongoing success

Source: Frost & Sullivan

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APPENDIX: Telling Your Story: Sales Pipeline Accelerator – Brand Powering

365 days of engaging all key stakeholders and telling your story in a way that drives impact.

Transformational Promotion	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
BICEP ENGAGEMENT	DELIVERABLES					
Board of Directors			Analyst Message to Board			
Investors	Investor Email Campaign		Investor Confidence Video	Raising Capital Impact Video		
Customers	Customer Email Campaign	Customer Social Media Campaign	Appreciation Video	WP with Customer Case Studies	External Newsletter Recognition	
Employees + Leadership	Internal Email Campaign	F&S Employee Shout-out	Gratitude Video		Employee Congratulations	Award plaque
Partners	Targeted Partner Email			WP on Partnership Benefits		
Stakeholder Impact	Email Community	Social Media	Video	White Paper	Newsletter	Lobby Display
7 TRANSFORMATIONAL GATES	THINK TANK WORKSHOPS					
Transformation	THINK TANK					
Ecosystem		THINK TANK				
Growth Generator			THINK TANK			
Growth Opportunities					THINK TANK	
Frost Radar						THINK TANK
BEST PRACTICES				THINK TANK		
Companies to Action				THINK TANK		
365 Growth Transformation	TRANSFORMATIONAL TOOLS					
Growth Pipeline Dialog		Kick off SPD				
Growth Council Membership	ACTIVATED *365 VALUE ACCESS*					
Growth Generator Platform	ACTIVATED *365 VALUE ACCESS*					
Access to Published Analyst Content	ACTIVATED *365 VALUE ACCESS*					
Executive Coaching					6 month services campaign based on rolling needs	
Think Tanks		F&S		F&S		F&S
Intelligence Transformation Events		F&S		F&S		F&S
Networking Opportunities	ACTIVATED *YEAR LONG ACCESS TO NETWORK OF PEERS AND FROST & SULLIVAN INDUSTRY EXPERTS*					

Transformational Promotion	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
BICEP ENGAGEMENT	DELIVERABLES					
Board of Directors			Board Invited	Growth Workshop	Agenda Sparks	Growth Strategy
Investors	Investor Presentation		Investors Invited		Investor Impact	
Customers	Customer Appreciation Presentation		Customers Invited			
Employees + Leadership		Recognition Presentation	Executive Team Invited	Executive Brainstorm	Executive Strategy	Growth Strategy
Partners			Partners Invited	Strategy Session		
Stakeholder Impact	Event + Poster	All Company	Gala	Workshop	Think Tank	Growth Dialog
	Presentation	Meeting	Presentation			
7 TRANSFORMATIONAL GATES	THINK TANK WORKSHOPS					
Transformation	THINK TANK					
Ecosystem		THINK TANK				
Growth Generator			THINK TANK			
Growth Opportunities					THINK TANK	
Frost Radar						THINK TANK
BEST PRACTICES				THINK TANK		
Companies to Action				THINK TANK		
365 Growth Transformation	TRANSFORMATIONAL TOOLS					
Growth Pipeline Dialog	Check in SPD					SPD
Growth Council Membership						
Growth Generator Platform						
Access to Published Analyst Content						
Executive Coaching						
Think Tanks		F&S		F&S		F&S
Intelligence Transformation Events		F&S		F&S		F&S
Networking Opportunities						

Source: Frost & Sullivan

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APPENDIX: TechVision: Technology Integration Strategy - 3000 Technologies

TOP 50 TECHNOLOGIES SERVICE

- Every year we **research over 3,000 emerging technologies**.
- In an annual exercise we analyze these technologies according to:
 - *IP Activity & Funding*
 - *Market Potential & Sector Impact*
 - *Megatrend Impact*
 - *Regional Adoption Potential*
 - *Technology Disruptiveness*
 - *Technology Evolution*
- Then we look at the outcomes:
 - *Intensity and Expected Year of Impact*
 - *Disruptive Potential*
 - *Technology Cluster Evolution*
- These **technologies are assessed for their impact in the next 3 years**.



We also look at the **Future 18 Technologies** that will have potential impact in 8-10 years.

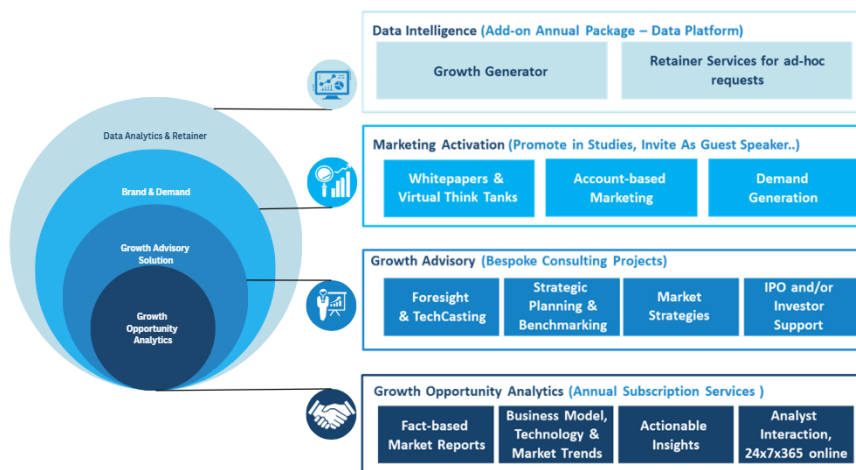
TOP 50 TECHNOLOGIES SERVICE

- Board and Executive Awareness of Impending Transformations driven by technology shifts means that the service is used in strategy vision and planning.
- Aligning Innovation, Product Development and Marketing and Sales requires a common understanding of emerging technology themes.
- Evaluating Your own Innovation and R&D Pipelines to ensure that you have not missed any critical development that can drive future competitive advantage.

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APPENDIX: Growth Opportunity Support – Strategy/Implementation End-to-End Industry Analytics Drive Your Growth



- **Growth opportunity analysis: Opportunity prioritization** - Comprehensive intelligence designed for forward-thinking companies, shining a light on all the growth opportunities within a given market.
- **Voice of customer: Industry voice** - Insights and perspectives gleaned directly from the end customers within a given market, providing a look into what drives behavior, and offering clues on how to optimize your offerings.
- **Economic Research** - Global and regional macro-economic research via PESTLE and other analytical tools, to identify competitiveness and attractiveness of countries and regions, and growth relationship to sectors.
- **Think Tank** - Analyst led sessions on hot topics. Quick-hitting, topical content that identifies and analyzes emerging trends and opportunities.
- **Industry research: Analysis of key industry level trends** - A comprehensive, bottom-up, top-down analysis and future casting for a given market, providing executives with actionable intelligence to achieve growth in a dynamic and evolving industry.
- **Frost Radar: Tracking competition and benchmarks** - A robust, analytical benchmarking tool that provides objective, independent perspective on companies' innovation capabilities and growth performance in a given market.
- **TechVision: Technology research** - Forward-looking intelligence on emerging technologies, innovations, investments, roadmaps, and IP landscapes that equip our customers with ideas and strategies to leverage disruptive technologies and innovation for future growth.
- **Visionary innovation research: Mega Trends** - Actionable intelligence and value-focused insights on how transformative developments across all industries will impact future markets and the world we live in.

Source: Frost & Sullivan

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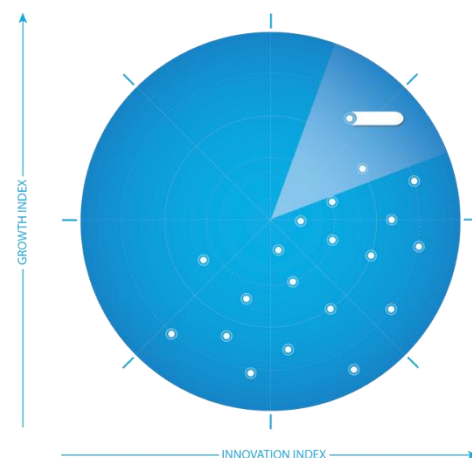


APPENDIX: Frost Radar™

Frost & Sullivan's global team of analysts and consultants continuously monitors industries worldwide to identify the companies shaping tomorrow's market landscape. The Frost Radar™ is a proprietary analytical tool that evaluates organizations based on their innovation focus and growth performance, offering a forward-looking benchmark unlike traditional static assessments.

Grounded in decades of primary and secondary research, Frost Radar™ highlights companies that:

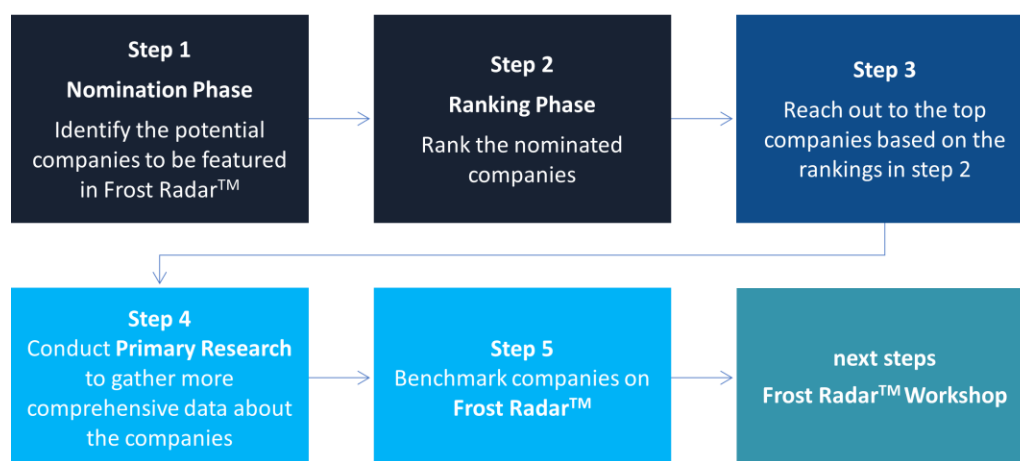
- Demonstrate a visionary understanding of the future.
- Actively address emerging challenges and opportunities.
- Are positioned to lead transformation in their industries?



As part of the Transformational Growth Journey, Frost Radar™ plays a central role in the Growth Pipeline Engine—a system used by CEOs and growth teams to prioritize strategies, allocate resources, and fuel long-term success. It is especially valuable for investors, strategists, and executives, offering clarity on which companies to watch, support, or invest in.

Frost Radar™ isn't just a benchmarking tool. It's a strategic compass that empowers stakeholders to make confident decisions in a rapidly evolving world.

Our Selection Process:



Source: Frost & Sullivan

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Frost Radar Metrics: 2 Major Indices, 10 Analytical Ingredients, 1 Platform

Vertical Axis: The Growth Index

The Growth Index is a measure of a company's growth performance and track record, along with its ability to develop and execute a fully aligned growth strategy and vision; a robust growth pipeline system; and effective market, competitor, and end-user focused sales and marketing strategies.

- **GI1: Market Share:** Market share relative to its competitors in a given market space for the previous three years.
- **GI2: Revenue Growth:** Revenue growth rate for the previous three years in the market/industry/category that forms the context for the given Frost Radar.
- **GI3: Growth Pipeline:** Evaluation of the strength and leverage of the company's growth pipeline system to capture and prioritize growth opportunities.
- **GI4: Vision and Strategy:** Assessment of how well a company's growth strategy is aligned with its vision.
- **GI5: Sales and Marketing:** Measure of the effectiveness of a company's sales and marketing efforts in driving demand and achieving growth objectives.

Horizontal Axis: The Innovation Index

The Innovation Index measures a company's ability to develop products/services/solutions with a clear understanding of disruptive megatrends and evolving customer needs.

- **II1: Innovation Scalability:** Determines whether the organization's innovation(s) is/are globally scalable and applicable in multiple markets and verticals.
- **II2: Research and Development:** Measures the efficacy of a company's R&D strategy based on its investment and contribution to the innovation pipeline.
- **II3: Product Portfolio:** Evaluates the contribution of new products to the company's annual revenues.
- **II4: Megatrends Leverage:** Assesses how a company leverages evolving long-term opportunities and new business models.
- **II5: Customer Alignment:** Evaluates the applicability of a company's products to current and potential customers over a 7-year horizon.

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APPENDIX: Best Practices Implementation with the 10 Growth Process

Competitive Strategy	Most companies appreciate the need for incorporating competitive information into decision making, but few are adept at treating it as an integral component of a long-term growth strategy.
Customer Strategy	The process of increasing revenue by better understanding, anticipating, and responding to customers' changing needs. Turn this into action and see a positive return on those actions.
Distribution Channel Optimization	We help our clients develop and implement compelling supply chain, distribution, and retail strategies integrating digital solutions.
Geographic Expansion	We examine key political, economic, cultural, legal, customer, and infrastructural issues in each country and ensure that our clients leave no stone unturned when undertaking a geographic expansion effort.
Mergers & Acquisitions	Companies looking to expand into new markets, pursue new growth opportunities, and hit aggressive targets must build mergers & acquisitions into their long-term growth strategies.
New Product Development	We understand that the path to new product development success is through the application of a rigorous, balanced process for evaluating any idea prior to entering the market.
New Product Launch	We have developed a new product launch process that is unbiased, repeatable, and focused on implementation success.
Strategic Partnerships	Strategic partnerships deliver access to new markets or customers, accelerate new product development cycles, and improve a company's competitive positioning.
Technology Strategy	We are dedicated to helping our clients foster a culture of innovation and creativity within their organizations, leveraging technology growth opportunities to define strategic goals.
Vertical Market Expansion	Successful companies consistently look beyond their current markets for new growth opportunities. Vertical markets are a compelling path to those new revenue streams.

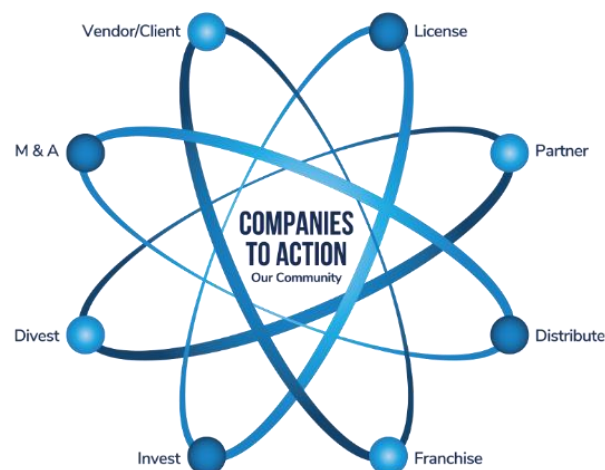
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APPENDIX: Companies to Action

Companies to Action are leaders in the industry that will shape the future of the industry. These are companies that any organization must engage with to achieve growth objectives.

- Which companies are shaping your ecosystem?
- Which companies should you be working with?
- Who should be your suppliers, customers, partners?
- Which companies should be on your radar for strategic investments?
- How are you engaging with the companies shaping the future?



Source: Frost & Sullivan

Top 10 Strategic Imperatives Driving Transformation in Climate Tech, Global, 2025



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