

FROST & SULLIVAN

TECHVISION

GLOBAL RESEARCH UPDATE

QUARTER 1 | 2016 PROSPECTIVE TITLES



TechVision

GLOBAL RESEARCH UPDATE

2016 QUARTER I

Frost & Sullivan's global TechVision practice focuses on innovation, disruption and convergence, and provides a variety of technology-based alerts, newsletters and research services, as well as growth consulting services. Its premier offering, the TechVision program, identifies and evaluates the most valuable emerging and disruptive technologies, enabling products with near-term potential. A unique feature of the TechVision program is an annual selection of 50 technologies that can generate convergence scenarios, possibly disrupt the innovation landscape, and drive transformational growth. View a summary of our TechVision program by clicking on the following link: http://ifrost.frost.com/TechVision_Demo.

The following table of contents showcases our recently published and prospective reports.

<u>SUSTAINABLE ENERGY</u>	P 3
<u>CLEAN & GREEN ENVIRONMENT</u>	P 4
<u>MATERIALS & COATINGS</u>	P 5
<u>SENSORS & CONTROLS</u>	P 6
<u>INFORMATION & COMMUNICATION TECHNOLOGY</u>	P 7
<u>MICROELECTRONICS TECHNOLOGY</u>	P 8
<u>HEALTH & WELLNESS TECHNOLOGY</u>	P 9
<u>MEDICAL DEVICES & IMAGING TECHNOLOGY</u>	P 10
<u>ADVANCED MANUFACTURING & AUTOMATION TECHNOLOGY</u>	P 11



SUSTAINABLE ENERGY

We provides global insights and intelligence on a wide variety of disruptive and emerging technologies ranging from energy storage, advanced batteries, solar and wind energy, to unconventional oil, bioenergy, geothermal energy, and energy transmission.

RECENT RESEARCH

- D6EE [Top Technologies in Sustainable Energy in 2015](#)
- D64F [Future of Rechargeable Batteries: Beyond Li-ion](#)
- D6C2 [Technologies Enabling Biomass to Bioenergy](#)
- D6B5 [Energy Efficiency in Transport, Buildings and Industry - 6D Assessment](#)
- D6A8 [High-Altitude Wind Energy - Visionary Outlook](#)
- D697 [Innovations in Portable Renewable Energy and Its Impact in Key Sectors](#)
- D6A7 [Emerging Trends in Thermal Energy Storage](#)
- D6CA [Technology Breakthroughs Shaping the Future of Power-to-Gas](#)
- D66C [Tidal Energy: Current Status and Future Outlook](#)

UPCOMING RESEARCH

- 2016 Top Technologies in Sustainable Energy
- Power Generation Technologies of the Future
- Power Technologies for Drones and Autonomous Robots
- Dynamic Power Generation and Control for Smart Grids
- Supercharging Within Minutes - Opportunities in Key Application Sectors
- Emerging Power Supplies for Implantable Biomedical Devices
- Securing the Power Grid - Innovations in Energy Cybersecurity
- Nanotechnology Transforming Oil & Gas Sector
- Climate Change Technologies for the Oil & Gas Sector

CLEAN & GREEN ENVIRONMENT

We track developments and industry trends in technologies that contribute to the betterment of the environment or enable environmental protection and sustainability.

RECENT RESEARCH

D64D [Top Technologies in Clean & Green Environment - 2015](#)

D64E [Technology Breakthroughs Shaping the Future of Atmospheric Water Generation](#)

D687 [Emerging Waterless Innovations Disrupting Key Sectors](#)

D69B [Innovations in Water Production and Its Impact on Key Sectors](#)

D69D [Innovations in Wastewater Treatment and Its Impact on Key Sectors](#)

D6B3 [Technologies Addressing Climate Change: Atmospheric Carbon Dioxide Removal](#)

D6CB [Technology Convergence Enabling Integrated Environmental Monitoring in Addressing Climate Change](#)

UPCOMING RESEARCH

- 2016 Top Technologies in Clean & Green Environment
- Technologies Enabling Indoor Air Purification
- Emerging Trends and Opportunities in Food Waste Management
- FEW (Food, Energy and Water) Nexus
- Water Conservation Technologies in Agriculture
- Decentralized Wastewater and Solid Waste Treatment Technologies
- Air Pollution Control and Mitigation Technologies
- Point Source Carbon Dioxide (CO₂) Management
- Climate Change Adaptation in the Residential and Commercial Sector
- Disaster Response Technologies

MATERIALS & COATINGS

Our analysts track research & innovation trends and developments across specialty chemicals, plastics, polymers, chemicals, bio-chemicals, metals, coatings, thinfilms, surface treatments, composites, alloys, oil and gas, fuel additives, fibers and several other related technologies and its impact and application across industries.

RECENT RESEARCH

- D6B6 [Bio-based Solvents - 6 Dimensional Analysis](#)
- D695 [Next Generation Catalysts- Impact Assessment in Oil & Gas Sectors](#)
- D6A4 [Impact of Microspheres in Key Application Sectors](#)
- D698 [Low Temperature Coatings for Industrial Applications](#)
- D699 [Beyond ITO - Materials for Next Generation Consumer Electronics](#)
- D689 [Emerging Trends in Aviation Coatings](#)
- D68A [2015 Top Technologies in Materials & Coatings](#)
- D65B [Impact Assessment of Graphene in Key Sectors](#)
- D65C [Impact Assessment of Materials in Wind Energy Generation](#)
- D65D [Key Material Technologies for Next Generation Implants](#)
- D6C9 [Innovations in Anti Corrosion Technologies for Offshore Structures](#)
- D6C7 [Material Technologies Enabling NVH Reduction](#)
- D6C6 [Emerging Thermal Barrier Coatings Technologies in Turbines](#)
- D696 [Material Technologies Driving Future of Automotive](#)
- D65A [Breakthrough Technologies Enabling Food Safety](#)

UPCOMING RESEARCH

- 2016 Top Technologies in Materials & Coatings
- Opportunities for 2D Materials in Semiconductor Industry
- Emerging Membrane Technologies for Gas Separation
- Technology Advancements in Ionic Liquids
- Emerging Opportunities for Anodizing Processes
- Innovations in Materials for Flexible Electronics
- Advanced Insulation Materials Technologies for Building and Construction
- Emerging Applications of Nanocellulose Technology
- Impact Assessment of Anti Reflective Coatings
- Advances in Material Technologies for Personal Care
- Breakthrough Technologies Enabling Food Safety in Dairy Industry
- Application Assessment of Carbon Fibers
- Emerging Opportunities for Self-Healing Materials
- Advances in Anti Fouling Coatings
- Materials Replacing Steel in Oil & Gas Industry
- Next Generation Catalysts for the Petrochemical Industry

SENSORS & CONTROLS

The need for low power, smaller, lighter sensors with enhanced performance attributes and minimal false alarms is driving innovations in the sensors space.

RECENT RESEARCH

- D66D [Structural Health Monitoring - Impact of Technology Innovations & Emerging Opportunities](#)
- D67D [Energy Harvesting Innovations Disrupting Key Applications](#)
- D680 [Bioacoustic Sensing - Prospective Opportunities in Key Sectors](#)
- D675 [2015 Top Technologies in Sensors & Control](#)
- D686 [Impact of Sensory Tracking Technology in Consumer Electronics Sector](#)
- D684 [Technology Innovations Empowering Airport Security](#)
- D6A6 [Futuristic Outlook of Wearable Technology in Key Applications](#)
- D6A9 [Electro-Optical/Infrared Systems - Technology Trends Impacting Military and Aerospace Sectors](#)
- D6B9 [Contact-Free Monitoring - Enabling Technologies & Emerging Opportunities](#)
- D6CC [Technology Convergence Enabling Precision Agriculture](#)
- D6D3 [Technology Advances Shaping Future of Food Security](#)

UPCOMING RESEARCH

- 2016 Top Technologies in Sensors & Control
- Capacitive Sensing - Disruptive Opportunities in Key Sectors
- Large Area Sensors - Enabling Technologies & Emerging Opportunities
- Drones - Commercial Opportunities
- Next Generation Sensors for Wearables and Smart Phones
- Innovations in Image Sensors
- Advanced Sensor Technologies for Homeland Security
- Sensors for Oil and Gas Pipeline Monitoring
- Electronic Skin - Advancements and Emerging Opportunities
- Advancements in Nano Sensors
- Impact Assessment of Terahertz Technologies
- Home Security - Technology Assessment and Concerns
- Technology Advancements Transforming Environmental Monitoring
- Sensors Innovations Transforming Mining

INFORMATION & COMMUNICATION TECHNOLOGY

Our global team of industry experts continuously monitor game-changing technology areas such as big data, cloud computing, communication services, mobile & wireless communication space, IT applications & services, network security, and unified communications markets.

RECENT RESEARCH

- D66B [Deep Learning Interfaces: Future of AI](#)
- D66A [Future of Smart Banking](#)
- D6AC [Impact of Prescriptive Analytics in Key Sectors](#)
- D67C [Digitized Retail 2020: Capturing Emerging Opportunities](#)
- D694 [Affective Computing: Enabling Technologies and Applications](#)
- D692 [Impact of Gamification in Key Industries](#)
- D693 [Future of Customer Experience with User Interface Technologies](#)
- D65F [2015 10 Top Technologies in ICT](#)
- D6B0 [Impact of Exascale Computing Trends in Key Sectors](#)
- D6B2 [Connected Health: Mobilizing the Power of IoT](#)
- D6B1 [Technologies Enabling Intelligent Transportation](#)
- D6B4 [Innovation-Led Clusters: A Benchmarking Report](#)

UPCOMING RESEARCH

- 2016 Top Technologies in Information & Communication Technologies
- Technology Trends in Immersive Computing
- Automation & Communication Technology Innovations Impacting Oil & Gas Sector
- Applications on the Cloud: Emerging Business Models
- IoT: R&D Cluster Benchmarking
- Impact of Prescriptive Analytics in Key Sectors
- Future Applications of Virtual Reality (Immersive Computing)
- Innovations in Augmented Reality
- Technologies Transforming Business Intelligence (BI)
- Artificial Intelligence (AI) - R&D and Applications Roadmap
- Innovations in Big Data Analytics for Healthcare
- Software-Defined Anything (SDx) Driving Business Model Innovations
- Emerging Technologies and Applications of Predictive Analytics
- Next Generation Technologies for Mobile E-commerce
- Big Data, XaaS and IoT Transforming Manufacturing Automation
- Technologies Empowering Future of Identity Management
- ICT Technologies Driving Digital India

MICROELECTRONICS TECHNOLOGY

Miniaturization, a move toward lower power consumption and the need for enhanced features are driving innovations in the electronics sector:

RECENT RESEARCH

- D6C3 [Innovations in High Power Electronics Impacting Key Sectors](#)
- D6C4 [Technology Innovations Enabling Visible Light Communication](#)
- D61C [Global Review of Intellectual Property \(IP\) Funds](#)
- D6A9 [Electro-Optical/Infrared Systems - Technology Trends Impacting Military and Aerospace Sectors](#)
- D6A6 [Futuristic Outlook of Wearable Technology in Key Applications](#)
- D6AD [Design-driven Innovation - Impact on Consumer Market](#)
- D6AB [Impact of Quantum Dots in Consumer Electronics](#)
- D66F [Technology Advances Empowering Microgrids](#)
- D681 [3D Display Technology Innovations Impacting Consumer Sector](#)
- D699 [Beyond ITO - Materials for Next Generation Consumer Electronics](#)
- D67D [Energy Harvesting Innovations Disrupting Key Applications](#)
- D67F [Technology Innovations Impacting Connected Living](#)
- D682 [Super Hi Vision - Impact in Key Applications](#)
- D680 [Bioacoustics Sensing - Prospective Opportunities in Key Sectors](#)
- D684 [Technology Innovations Empowering Airport Security](#)
- D686 [Impact of Sensory Tracking Technology in Consumer Electronics Sector](#)
- D674 [2015 Top Technologies in Microelectronics](#)
- D672 [Millimeter Wave Technology: Impact in Key Applications](#)
- D675 [2015 Top Technologies in Sensors & Control](#)
- D66D [Structural Health Monitoring - Impact of Technology Innovations and Emerging Opportunities](#)

UPCOMING RESEARCH

- 2016 Top Technologies in Microelectronics
- Atomic Electronics Transforming Consumer Electronics Sector
- Developments in Screenless Displays
- Innovations in Smart Lighting
- Brain Computer Interface (BCI) Opportunities
- Advancements in System-on-Chip (SoC)
- Innovations in Implantable Electronics
- Innovations in Low-Power Electronics
- Innovations in Flexible Batteries
- Future Opportunities for 3D Integrated Circuits
- Funding Analysis of Emerging Microelectronics Technologies
- Developments in Transparent Electronics
- OLED Lighting - Global Challenges and R&D Focus Areas

HEALTH & WELLNESS TECHNOLOGY

We provide studies in a myriad of areas including genetic engineering, regenerative medicine, drug discovery and development, nanomedicine, nutrition, cosmetic procedures, pain and disease management and therapies, drug delivery, personalized medicine, and smart healthcare.

RECENT RESEARCH

- D6BD [Infectious Diseases in the Developing World](#)
- D6BE [Impact of Genome Editing Techniques](#)
- D69F [Novel Applications of Drug Delivery Technologies](#)
- D6A0 [Advanced Mechanisms in Drug Delivery](#)
- D65E [Advances in Monoclonal Antibody Therapeutics](#)
- D6A3 [Transforming Cancer Treatment with Immunotherapy](#)
- D6A6 [Futuristic Outlook of Wearable Technology in Key Applications](#)
- D6B4 [Innovation-Led Clusters: A Benchmarking Report](#)
- D69E [Advanced Techniques and Applications in Optical Imaging](#)
- D6A2 [Impact of Hybrid Imaging Platforms](#)
- D6BA [Advances in Gene Therapy](#)
- D69A [Strategic Overview of Patenting Activity in Pharma Sector of BRIC Countries](#)
- D68F [Innovations in Artificial Organs](#)
- D678 [Trends in Mammalian Cell Cultures](#)
- D680 [Bioacoustics Sensing - Prospective Opportunities in Key Sectors](#)
- D68D [Innovations in Bone Healing](#)
- D68E [Top Health and Wellness Technologies in 2015](#)
- D691 [Top Medical Device and Imaging Technologies in 2015](#)
- D673 [3D Bioprinting: Transforming The Future of Healthcare Sector](#)

UPCOMING RESEARCH

- 2016 Top Technologies in Health & Wellness
- Innovations in Proteomics Technologies
- Diagnostic Breakthroughs for Neurodegenerative Diseases
- Next Generation Technologies for Diabetes Therapy and Drug Delivery
- 3D Printing for Healthcare Applications
- Technologies Empowering Smart Healthcare
- Innovations in Cosmetic Procedures
- Therapeutic Advances in Pain Management
- Regenerative Medicine - The Future of Therapy

MEDICAL DEVICES & IMAGING TECHNOLOGY

Our research covers cutting-edge global developments in medical devices and imaging sectors such as biosensors, biomaterials, biomechanics, microtechnologies, nanotechnologies, assistive technologies and imaging technologies and platforms.

RECENT RESEARCH

- D6BF [Innovations in Wound Care and Healing](#)
- D6C0 [Trends in Nanomedicine](#)
- D6A1 [Management of Health Information - Trends and Innovation](#)
- D6C1 [Collaboration between Medical Devices, Pharmaceuticals and Biotechnology](#)
- D6A0 [Advanced Mechanisms in Drug Delivery](#)
- D65E [Advances in Monoclonal Antibody Therapeutics](#)
- D6A3 [Transforming Cancer Treatment with Immunotherapy](#)
- D6A6 [Futuristic Outlook of Wearable Technology in Key Applications](#)
- D69E [Advanced Techniques and Applications in Optical Imaging](#)
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- D68E [Top Health and Wellness Technologies in 2015](#)
- D69I [Top Medical Device and Imaging Technologies in 2015](#)

UPCOMING RESEARCH

- 2016 Top Technologies in Medical Devices & Imaging
- Innovations in Human Enablement
- Advances in Therapeutic Devices for Sleep Apnea
- Next Generation Stent Technologies
- Technologies Enabling Surgical Robots of the Future
- Impact of Nanotechnology on Medical Devices
- Technologies Enabling Hospitals of the Future
- Advances in Neuromodulation Technologies
- Advances in Cardiovascular Diagnostic Devices
- Innovations in Microscopy
- Advances in Radiological Imaging
- Innovations in 3D Medical Imaging
- Innovations in Ultrasound Imaging

ADVANCED MANUFACTURING & AUTOMATION TECHNOLOGY

The Advanced Manufacturing & Automation (AMA) Cluster covers technologies that enable clean, lean and flexible manufacturing and industrial automation.

RECENT RESEARCH

- D673 [3D Bioprinting: Transforming The Future of Healthcare Sector](#)
- D67E [Technology Trends Impacting Low Carbon Manufacturing](#)
- D676 [2015 Top Technologies in Advanced Manufacturing and Automation](#)
- D685 [Technology Innovations Enabling Manufacturing of Fuel Efficient & Low Noise Aircrafts](#)
- D6AA [Technology Innovations Impacting Future of Industrial Automation](#)
- D6B8 [Technology Innovations Empowering Ultra Low Emission Vehicles](#)
- D6D5 [Micro- & Nano- bots - Outlook of Emerging Technology Trends & Opportunities](#)

UPCOMING RESEARCH

- 2016 Top Technologies in Advanced Manufacturing & Automation
- Additive Manufacturing - Emerging Business Models
- Futuristic Outlook of Medical Manufacturing Technology Innovations
- 3D Printing for Personal Care
- Innovations in Consumer Robotics
- Manufacturing Innovations for Flexible Electronics
- Innovations for Semiconductor Manufacturing
- Advances in Digital Manufacturing
- Future of Asset Tracking in Manufacturing
- Technologies for Industrial Safety
- Adoption of Disruptive Technologies in Transforming Manufacturing

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Frost & Sullivan, the Growth Partnership Company, works in collaboration with clients to leverage visionary innovation that addresses the global challenges and related growth opportunities that will make or break today's market participants. For more than 50 years, we have been developing growth strategies for the Global 1000, emerging businesses, the public sector and the investment community. Is your organization prepared for the next profound wave of industry convergence, disruptive technologies, increasing competitive intensity, Mega Trends, breakthrough best practices, changing customer dynamics and emerging economies?

FOR MORE INFORMATION CONTACT:
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