Advanced Manufacturing & Automation Technology Cluster
Value Proposition

“We Accelerate Growth”
About the Advanced Manufacturing & Automation Technology Cluster

Definition

- Covers technologies that enable clean, lean and flexible manufacturing
- Technologies that impact semiconductor, automotive, aerospace & defense, industrial and medical device manufacturing
- TI’s Technology and Innovation research spans technology domains such as wireless monitoring & tracking solutions, communications, software solutions, laser technology, sensor technology, 3D printing, 4D printing, multimaterial joining technology, composites manufacturing, atomic layer deposition

Coverage

- Multi-Material Joining Technologies
- Composite Manufacturing Technologies
- Direct Digital Manufacturing (Rapid Prototyping)
- Atomic Layer Deposition
- Advanced Laser Technologies
- Wireless Monitoring & Surveillance
- Non-Destructive Testing & 3D Machine Vision
- Roll-to-roll Manufacturing
- Collaborative Robots
- Micro-Manufacturing
Advanced Manufacturing & Automation – Key Trends

✓ Efficient product lifecycle management and design for manufacturing
✓ Improve product traceability, energy efficiency & environmental footprint, and ability to integrate product design and manufacturing for rapid new product development
✓ Improve quality control & reduce defects
✓ Reduction of cost and complexity
✓ Improve product design and decrease time to market Reduction
✓ Elimination of plant downtime
✓ Need for production of miniaturized intelligent sensors drives the need for micromanufacturing technologies
✓ Adoption of additive manufacturing technologies enables a significant reduction in lead time, product development
✓ Facilitate manufacture of innovative products with new materials
✓ Demand for printing complex electronic circuits using advanced manufacturing technologies as R2R (roll-to-roll), atomic layer deposition
Advanced Manufacturing & Automation – Research Focus Areas

**Lightweighting**
- Multimaterial Joining Technologies for plastics and metals
- Carbon fibre based composite Manufacturing

**Additive manufacturing**
- Regenerative organs
- Multimaterial 3D printing
- 3D printing and 4D printing of electronic components

**Simulation and Modelling**
- Advanced design and simulation software for layer-by-layer manufacturing
- Offline simulation and programming software for adaptive robots

**Monitoring & Control**
- Wireless Control Networks for industrial automation
- Advanced Human Machine Interfaces for industrial usage
- Efficient, real-time monitoring and control of machine or process parameters

**Smart Robotics**
- Machining
- Flexible Feeding
- Vision modules for sorting and bin picking
- Autonomous robots
What you get as part of this service

**Technology Reports**

**The Benefits:**
- Identify and analyze emerging and disruptive technologies; existing and potential applications
- Track the growth of new and incumbent technologies
- Identify complementary processes, materials, devices, systems
- Manage your R&D - Investments, portfolio and intellectual property and identify trade-offs
- Identify and contact potential partners
- Track funding of technologies
- Competitive scenarios, stakeholder interest, emerging regulations

**Technology Alert Newsletters**

**What is an Emerging Technology Alert?**
- Captures recent technology developments and innovations across the globe in an array of business verticals, on a regular basis
- Offers information on technology/business challenges and how the recent development addresses the challenge
- Analyzes the prospects of the technology/product along with specific information on intellectual property, what the patents numbers are, whether developers are seeking collaborators for a specific purpose and how to contact them
- References given for the names of journals with papers published about processes

**Benefits:**
- Keeps you abreast of emerging developments as they happen
- Information is pushed to your key people
- Bringing you technologies from outside your sphere of influence

**Our Analyst Briefings:**
These represent powerful, analyst-driven webinars that highlight the major findings from Frost & Sullivan’s ongoing research into technology, economics, and markets. These interactive events attract C-suite leaders and highlight major new opportunities for growth, strategies, best practices, and investment opportunities.
# Technology News Alerts

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* Those highlighted in red indicate content that has relevance to the Advanced Manufacturing cluster
### 2015 Technology Reports – Advanced Manufacturing & Automation

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Value Proposition

The Advanced Manufacturing & Automation Technology Cluster provides the following critical insights for the Innovation professional:

- **Adopt/Access Technology Before Your Competitor**
- **More efficiently Allocate Funds Exploit Opportunities**
- **Achieve More Accurate and Timely Due Diligence**
- **Calculate Value and Opportunity ROI**
- **Identify Investment Opportunities**
- **Discover Partners and Competitors**

**Advanced Manufacturing & Automation Technology Cluster Subscription**